Advanced call analytics
for large multi-site organisations

Product Documentation

Last Updated: August 2013

Table of Contents

1. Home . . . 5
  1.1 Legal & copyright notices . . . 5
  1.2 System requirements . . . 6
  1.3 Setup . . . 7
    1.3.1 Obtaining and installing TIM Enterprise . . . 7
    1.3.2 Connecting to your PBX . . . 8
      1.3.2.1 3COM . . . 8
        1.3.2.1.1 3COM VCX . . . 8
      1.3.2.2 3CX . . . 11
        1.3.2.2.1 3CX PBX . . . 11
      1.3.2.3 Aastra . . . 14
        1.3.2.3.1 Aastra BP . . . 14
        1.3.2.3.2 Aastra Intelligate Series . . . 17
        1.3.2.3.3 Aastra MX-ONE . . . 22
      1.3.2.4 AGFEO . . . 24
        1.3.2.4.1 AGFEO AC-AS Series . . . 24
      1.3.2.5 Alcatel . . . 25
        1.3.2.5.1 Alcatel 4200-4400e . . . 25
        1.3.2.5.2 Alcatel OmniPCX Enterprise . . . 28
        1.3.2.5.3 Alcatel OmniPCX Office . . . 32
      1.3.2.6 Asterisk . . . 37
        1.3.2.6.1 Asterisk PBX . . . 37
      1.3.2.7 Avaya . . . 39
        1.3.2.7.1 Avaya BCM up to v3.x . . . 39
        1.3.2.7.2 Avaya BCM v4.0+ . . . 45
        1.3.2.7.3 Avaya Communications Manager . . . 47
        1.3.2.7.4 Avaya EuroGeneris . . . 51
        1.3.2.7.5 Avaya INDeX . . . 53
        1.3.2.7.6 Avaya IP Office up to v5 . . . 55
        1.3.2.7.7 Avaya IP Office v6+ . . . 58
        1.3.2.7.8 Avaya Matra 65xx series . . . 60
        1.3.2.7.9 Avaya Meridian Option Series . . . 62
        1.3.2.7.10 Avaya Network Alchemy . . . 65
        1.3.2.7.11 Avaya Norstar . . . 68
        1.3.2.7.12 Avaya Tenovis . . . 70
      1.3.2.8 AYCTelecom . . . 71
        1.3.2.8.1 AYCTelecom IPcts . . . 71
      1.3.2.9 BT . . . 74
        1.3.2.9.1 BT Inspiration . . . 74
        1.3.2.9.2 BT Monarch . . . 76
        1.3.2.9.3 BT Pathway . . . 78
        1.3.2.9.4 BT Versatility . . . 79
      1.3.2.10 Cisco . . . 82
        1.3.2.10.1 Cisco UCM (below v5) . . . 82
        1.3.2.10.2 Cisco UCM / Business Edition (Call Manager) version 5+ . . . 85
        1.3.2.10.3 Cisco UCME / UC500 (AKA Call Manager Express) . . . 90
      1.3.2.11 DrayTek . . . 98
        1.3.2.11.1 DrayTek UG-Vigour . . . 98
      1.3.2.12 Ericsson . . . 100
        1.3.2.12.1 Ericsson BP . . . 100
      1.3.2.13 Fujitsu . . . 101
        1.3.2.13.1 Fujitsu Rhapsody Rio . . . 101
      1.3.2.14 GEC . . . 102
        1.3.2.14.1 GEC BTEX . . . 102
      1.3.2.15 Inter-Tel . . . 104
        1.3.2.15.1 Inter-Tel Axxess up to V7.x . . . 104
        1.3.2.15.2 Inter-Tel Axxess V8 plus . . . 104
      1.3.2.16 Iridiacom . . . 105
        1.3.2.16.1 Iridiacom Telrad . . . 105
      1.3.2.17 IPCortex . . . 106
        1.3.2.17.1 VoIPCortex . . . 106
      1.3.2.18 LG . . . 109
        1.3.2.18.1 LG GDK . . . 110
        1.3.2.18.2 LG iPECS . . . 111
        1.3.2.18.3 LG IPLDK . . . 119
      1.3.2.19 Lucent . . . 125
        1.3.2.19.1 Lucent EuroGeneris . . . 125
      1.3.2.20 Matracom . . . 126
        1.3.2.20.1 Matracom Matra 65xx series . . . 126
      1.3.2.21 Mitel . . . 126
        1.3.2.21.1 Mitel 3100 . . . 126
        1.3.2.21.2 Mitel 3300 . . . 127
        1.3.2.21.3 Mitel 5000-7000 . . . 130
        1.3.2.21.4 Mitel Imagination . . . 133

1.3.2.21.5 Mitel SX50 135
1.3.2.21.6 Mitel SX2000 137
1.3.2.22 NEC 138
1.3.2.22.1 NEC Aspire 138
1.3.2.22.2 NEC DXE 145
1.3.2.22.3 NEC NEAX 146
1.3.2.22.4 NEC XN120 150
1.3.2.22.5 NEC SV8100 156
1.3.2.23 Nortel 160
1.3.2.23.1 Nortel BCM up to v3.x 160
1.3.2.23.2 Nortel BCM v4.x+ 160
1.3.2.23.3 Nortel Meridian Option Series 160
1.3.2.23.4 Nortel Norstar 160
1.3.2.24 Panasonic 160
1.3.2.24.1 Panasonic DBS Series 160
1.3.2.24.2 Panasonic ICX/S-ICX 162
1.3.2.24.3 Panasonic KX-TA/E 164
1.3.2.24.4 Panasonic KX-TDA/E/NCP500/1000 166
1.3.2.24.5 Panasonic KX-TD Series 172
1.3.2.25 Samsung 174
1.3.2.25.1 Samsung DCS 174
1.3.2.25.2 Samsung iDCS 177
1.3.2.25.3 Samsung OfficeServ 183
1.3.2.26 ShoreTel 186
1.3.2.26.1 ShoreTel PBX 186
1.3.2.27 Siemens 189
1.3.2.27.1 Siemens HiCom-HiPath 189
1.3.2.27.2 Siemens OpenOffice 192
1.3.2.27.3 Siemens HiPath 4000 195
1.3.2.27.4 Siemens HiPath DX 197
1.3.2.28 SpliceCom 200
1.3.2.28.1 SpliceCom Maximiser 200
1.3.2.29 Swyx 202
1.3.2.29.1 SwyxWare 202
1.3.2.30 Tadiran 204
1.3.2.30.1 Coral 204
1.3.2.31 Toshiba 206
1.3.2.31.1 Toshiba CIX/CTX 206
1.3.2.31.2 Toshiba Strata DK 209
1.3.2.32 VoiSpeed 211
1.3.2.32.1 VoiSpeed PBX 211
1.4 Accessing the system 212
1.5 Root account 213
1.5.1 Root account overview 214
1.5.2 System settings 214
1.5.3 Engineering 218
1.5.4 SQL 221
1.6 Main screen 221
1.6.1 Overview 517
1.6.2 Summary graphs 222
1.6.3 Quick call search 225
1.6.4 Most recent calls 228
1.7 Reports 231
1.7.1 What are reports? 231
1.7.2 Running reports on demand 232
1.7.3 Scheduling reports 234
1.7.3.1 How to schedule a report? 234
1.7.3.2 Scheduling parameters 236
1.7.3.3 Editing the report definition 239
1.7.3.4 Editing the report delivery 240
1.7.3.5 Suspending a scheduled report 241
1.7.3.6 Deleting a scheduled report 242
1.7.4 Saving reports 242
1.7.5 Report parameters 244
1.7.5.1 Entity 244
1.7.5.2 Period 248
1.7.5.3 Filters 250
1.7.5.4 Options 394
1.7.5.5 Format 264
1.7.6 Report types 265
1.7.6.1 Account Summary 265
1.7.6.2 Busy Channels 268
1.7.6.3 Busy Times 273
1.7.6.4 Call Analysis 277
1.7.6.5 Call Geography 280
1.7.6.6 Call Scoring 284
1.7.6.7 Call Volumes 288
1.7.6.8 Custom 293
1.7.6.9 Daily Activity 296
1.7.6.10 Enterprise Overview 300

1.7.6.11 Frequent Numbers . . . 306
1.7.6.12 Inbound Call Performance . . . 309
1.7.6.13 Missed Calls . . . 313
1.7.6.14 Phone Bill . . . 317
1.7.6.15 Random Call Selection . . . 320
1.7.6.16 Target Response . . . 323
1.7.6.17 Top Calls . . . 327
1.7.6.18 Unused Devices . . . 330
1.7.6.19 User Activity . . . 333
1.8 Directory . . . 339
1.8.1 Understanding the Directory . . . 339
1.8.2 Organisation units . . . 343
1.8.2.1 What is an Organisation unit? . . . 343
1.8.2.2 Channel Group . . . 345
1.8.2.3 Cost Centre . . . 349
1.8.2.4 Division . . . 353
1.8.2.5 Group . . . 356
1.8.2.6 Reporting Collection . . . 360
1.8.2.7 Site . . . 364
1.8.3 Other objects . . . 367
1.8.3.1 What are Other Objects? . . . 367
1.8.3.2 Alarm . . . 369
1.8.3.3 Channel . . . 380
1.8.3.4 Magic Box . . . 382
1.8.3.5 PBX . . . 385
1.8.3.5.1 What is a PBX? . . . 385
1.8.3.5.2 Adding a PBX . . . 385
1.8.3.5.3 Configuring a PBX . . . 386
1.8.3.6 User . . . 394
1.8.3.7 Display Boards . . . 398
1.8.3.7.1 What is a display board? . . . 399
1.8.3.7.2 How are display boards populated? . . . 400
1.8.3.7.3 Accessing a display board . . . 401
1.8.3.7.4 Creating a display board . . . 402
1.8.3.7.5 Designing a display board . . . 410
1.8.3.7.6 Display Board panels . . . 412
1.8.3.8 Question . . . 458
1.8.3.9 Billing Charge . . . 464
1.8.3.10 Stats Collector . . . 467
1.8.3.10.1 What is a stats collector? . . . 467
1.8.3.10.2 Adding a stats collector . . . 468
1.8.3.10.3 Configuring a stats collector . . . 470
1.8.3.11 LCR Plan . . . 476
1.8.3.12 Tariff Modifier . . . 479
1.8.3.13 Web User . . . 482
1.8.3.13.1 What is a web user? . . . 482
1.8.3.13.2 Adding a web user . . . 483
1.8.3.13.3 Configuring a web user . . . 484
1.8.3.14 Directory Sync . . . 496
1.9 Call View . . . 500
1.10 Tariff Editor . . . 502
1.10.1 Configuring a tariff table . . . 502
1.10.2 Adding a code . . . 508
1.10.3 Finding a code . . . 509
1.10.4 Adding a band . . . 511
1.10.5 Finding a band . . . 514
1.11 Alerts . . . 516
1.12 Integration . . . 517
1.12.1 Call audio masking . . . 517
1.12.2 Programmatic Audio Retrieval . . . 519
1.13 Knowledgebase . . . 521
1.13.1 Amending call charges . . . 521
1.13.2 Automatic web login . . . 524
1.13.3 Blacklisted users . . . 525
1.13.4 Cisco specific . . . 529
1.13.4.1 CDRs were being sent but have now stopped . . . 529
1.13.4.2 Importing historic data from Cisco UCM . . . 530
1.13.5 Connect BCM v3.7 or below with NetPBX . . . 531
1.13.6 Directory context menu doesn't work with Firefox 8 . . . 534
1.13.7 Migrating TIM Enterprise . . . 536
1.13.8 Re-running data . . . 543
1.13.9 Security hardening . . . 545
1.13.10 VAT rate adjustment . . . 549
1.14 Glossary . . . 550

Home

Legal & copyright notices

Software license

When you purchase this software, you are actually purchasing a license to use it.

One license covers one installation, although one installation may cover up to five sites.

Your support contract, if applicable, will cover all sites logged by this TIM Enterprise installation.

Disclaimer

Tri-Line Network Telephony Ltd (hereafter named "Tri-Line") makes no warranties nor representations (neither expressed nor implied) with respect to the contents or performance of the product or this documentation. It particularly disclaims any warranty of fitness or merchantability for any particular purpose.

The product is sold "as is" with any faults. Any claims made by sales literature or salespersons do not constitute warranties.

Because of the diversity of hardware, software and conditions under which the system may be used, Tri-Line cannot make any warranty of fitness for a particular purpose. The entire risk of using the product must be assumed by the user. Accordingly, the user is recommended to thoroughly test the product before relying on it. In any event, any liability of Tri-Line is limited exclusively to a refund of the purchase price of the product.

It is the user's responsibility to ensure that the product or its use conforms to any laws concerning the provision of data protection in their organisation.

Tri-Line reserves the right to revise and make changes to the software and/or the hardware and/or this documentation without incurring any obligation to notify any person of such changes and/or revisions.

By using the software you agree to be bound by these terms and conditions.

Copyright

The contact details of the copyright holders are:

```
Tri-Line Network Telephony Limited
9-10 Telfords Yard
The Highway
London
E1W 2BS

Switchboard: +44 20 7265 2600
Technical Support: +44 20 7265 2626
Website: http://www.tri-line.com/
```

Free upgrades

We operate a free upgrade scheme for customers who purchase maintenance at the same time as purchasing a license; whilst a maintenance contract is in place, minor software updates and enhancements are made available free of charge.

Free upgrades are solely at the discretion of Tri-Line and are usually delivered by electronic means over the internet. It is the customer's responsibility to ensure that these updates can be received.

Customers without a maintenance contract will be charged for any software upgrades they require, as well as for any technical assistance needed during the upgrade procedure.

System requirements

Hardware

A computer with the following specification will comfortably run a single copy of TIM Enterprise:

- **CPU:** 3 GHz Dual-Core x86/x86-64
- **Memory:** 3 GB
- **Hard disk:** 160 GB
- **Operating system:** Windows XP SP3 - Windows 7 (inc. Server editions)
- **Network:** Ethernet TCP/IP
- **I/O:** Dedicated serial RS232-C port for each PBX (if required)

Software

The TIM Enterprise service is accessed solely through a web browser and, whilst any modern standards-compliant browser should be sufficient to access the service, we always test on the following browsers:

- Microsoft Internet Explorer 6+
- Mozilla Firefox 2+
- Apple Safari
- Google Chrome
- Opera

The browser must have Javascript enabled when accessing the TIM Enterprise service.

Network

The operating system must have a TCP/IP network subsystem and the computer must be connected to such a network.

> For automatic licensing during installation of the software, a connection to the internet is also required. For best results, ensure that the PC can access external websites on TCP ports 80 (HTTP) and 443 (HTTPS) without the need for a proxy login.

Automatic e-mails

To enable TIM Enterprise to send automatic email notifications, such as missed call alarms or scheduled reports, you must provide an SMTP interface to an existing email server accessible from the PC running TIM Enterprise.

Summary

- TIM Enterprise must be installed on a Windows PC but can be viewed from any web browser running on any operating system without the need for additional client software

- TIM Enterprise comes with its own in-built web server, so a server edition of Windows is not required nor is an external web server such as IIS or Apache
- TIM Enterprise can utilise one of three flavours of SQL server:Microsoft SQL Server, Oracle MySQL, Native (SQLite).

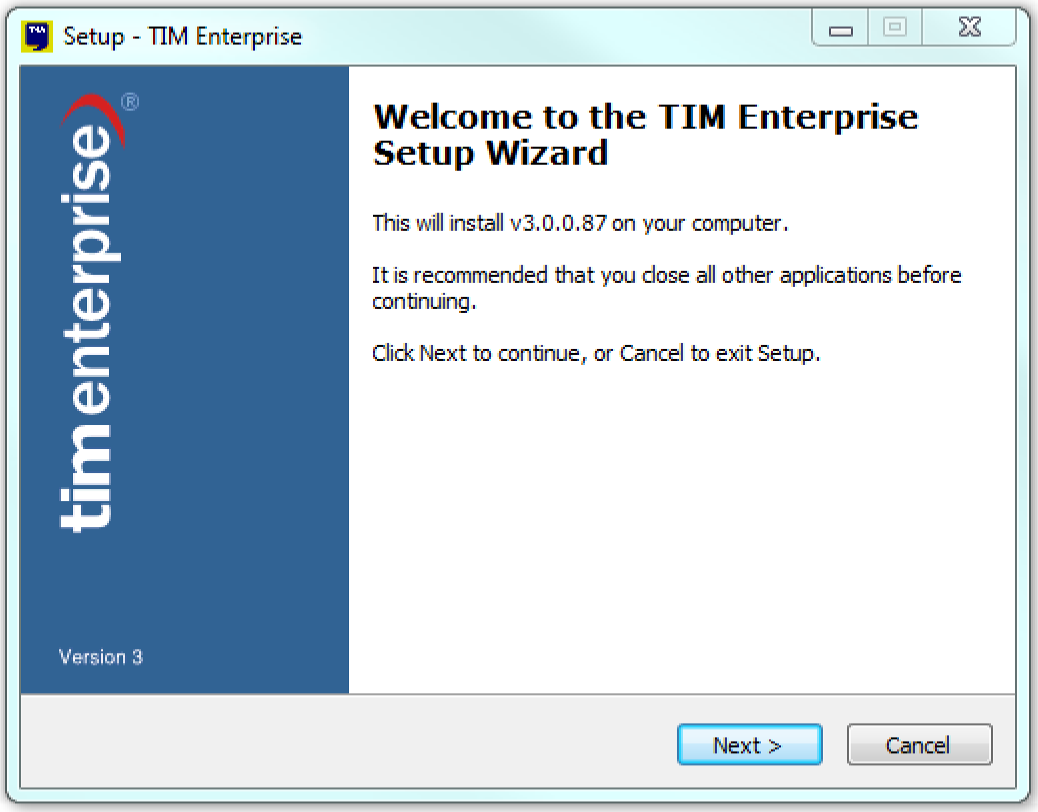
Setup

Obtaining and installing TIM Enterprise

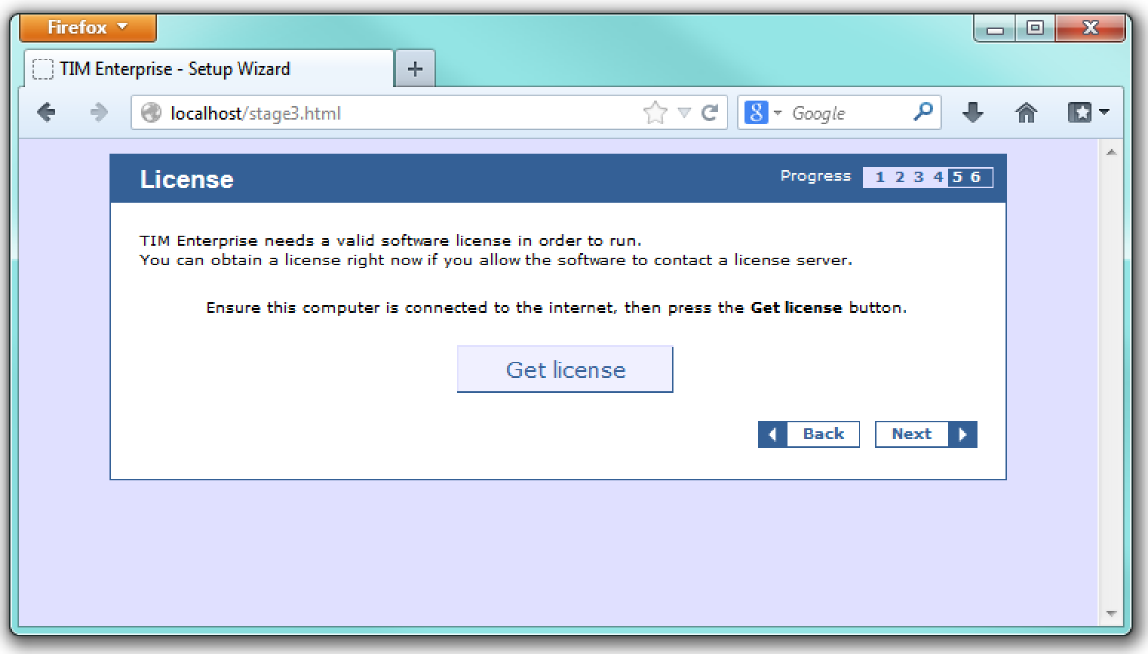
Log on to the Tri-Line Gateway using the credentials you created when you first enquired about TIM Enterprise. Once logged on, you will be directed to your **Home** page, from where you can download your personal copy of the software.

It is important that you download your software only from this location, since each installation package is tagged with an unique ID bound to your account.

When you have downloaded the setup package, double-click on it and follow the setup wizard in order to complete the installation.



When asked to provide a license certificate, click on the Get license button to retrieve this automatically from our servers.



Obtaining a license manually

If you cannot update your software license automatically, you can apply this manually by following the steps below:

1. In the `Get license` window, click on the Next button and copy the product key displayed in the `License` box, as shown below:

```
--- BEGIN PRODUCT KEY --------------------------
UAAAAHicAVAAr/9s8zxjdyBcmwqLZ8IknMhQr3UETojj9j3DJ
O36fheDXOz5PAFW9GWpPDffai6UUh1tu06+HqtIXrPK6PaAV
yy/arfUj1Avz8EOx5xNkp2qOLRhgJ/c=
--- END PRODUCT KEY ----------------------------
```

2. Log in to the Gateway using your username and password.
3. In the `Products` panel, click on the `TIM Enterprise` product.
4. In the `Software license` panel, click on the `Activate now` link.
5. Paste the product code in the text box provided.
6. Enter the number of users you intend to log and the version number of the software, then click on the Activate Now to obtain the license certificate.
7. Copy and paste the certificate in the `License` box of the setup wizard.

Connecting to your PBX

3COM

3COM VCX

These instructions help you configure your 3COM VCX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise receives FTP transfers from this PBX.

Support Files

`3Com VCX-NBX.TDT`

`3Com VCX-NBX.TDS`

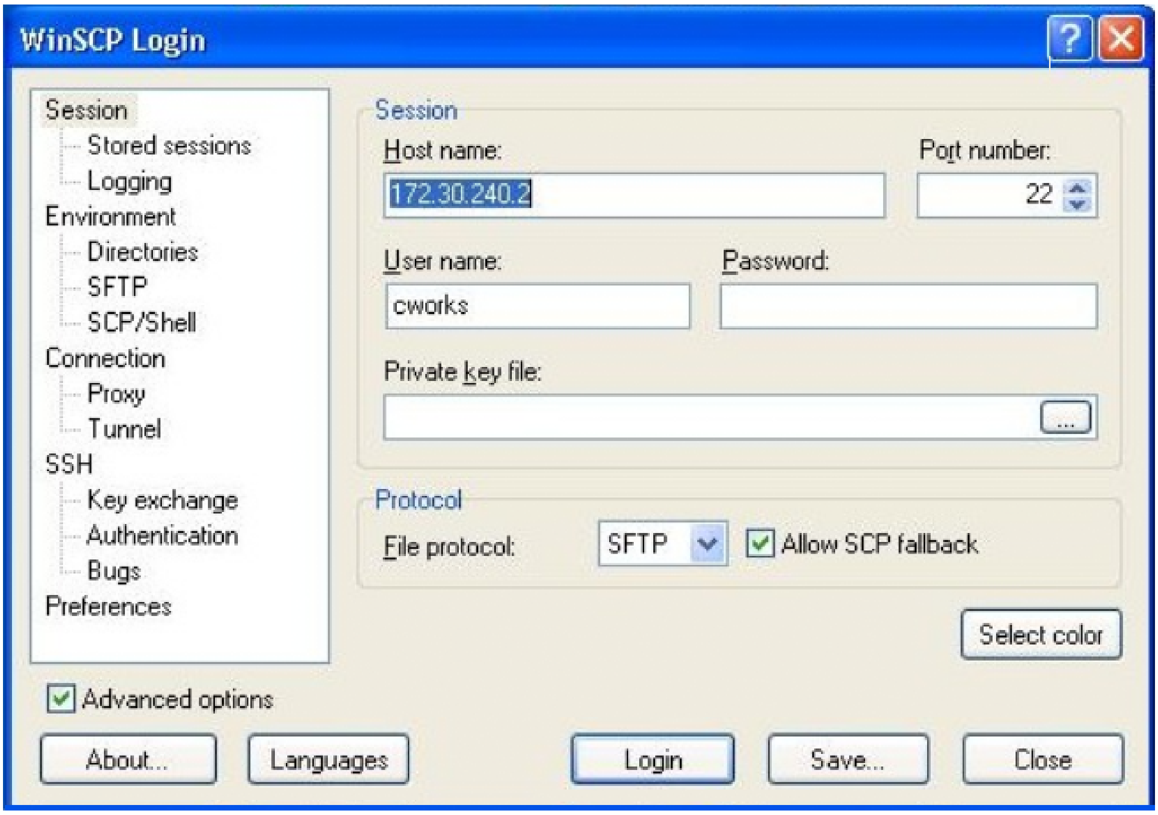
Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

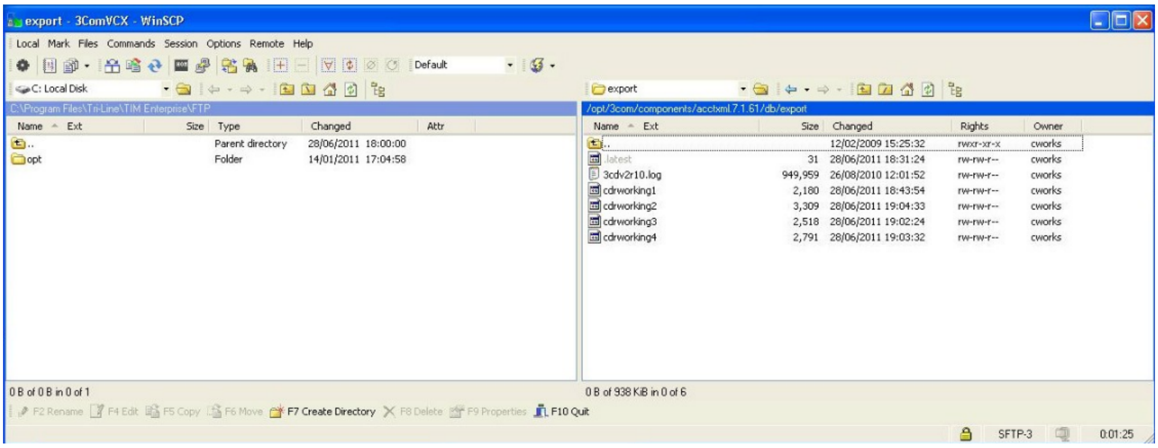
To retrieve call logging data from your 3COM VCX phone system, you need to set up an SFTP transfer. Below is an example of how to configure this, using WinSCP - a free FTP client software. Any other third-party client software can be used instead.



Field	Description
Host name	The IP address or host name of the phone system
Port number	The port number for the SFTP transfer. The default port number is **22**
User name	The username required to log in to your 3COM VCX phone system
Password	The password required to log in to your 3COM VCX phone system

Once connected to the phone system, you can transfer the CDR files, located by default in **`opt/3com/VCX/acctxml/db/export`**, to the

PC running TIM Enterprise.



In this example, the XML files are being copied in the following location: `C:\Program Files\Tri-Line\TIM Enterprise\FTP`, given the `FTP` folder has been created in advance for this purpose.

Creating a batch file

To enable TIM Enterprise to process the XML files, you need to create a batch file containing the following lines:

```
xcopy/Y "C:\Program Files\Tri-Line\TIM Enterprise\FTP\*.XML"
"C:\Program Files\Tri-Line\TIM Enterprise\spool\*.{sitecode}"
cd "\Program Files\Tri-Line\TIM Enterprise\FTP\"
del *.* /q
cd\
```

In the above example, the **`{sitecode}`** needs to be replaced with the unique ID of the site object you are trying to send the data to. The site ID will be displayed in the general properties of the site object in the Directory.

The batch file will change the `.xml` file extension to the designated site code and move the files in the `Spool` folder for processing.

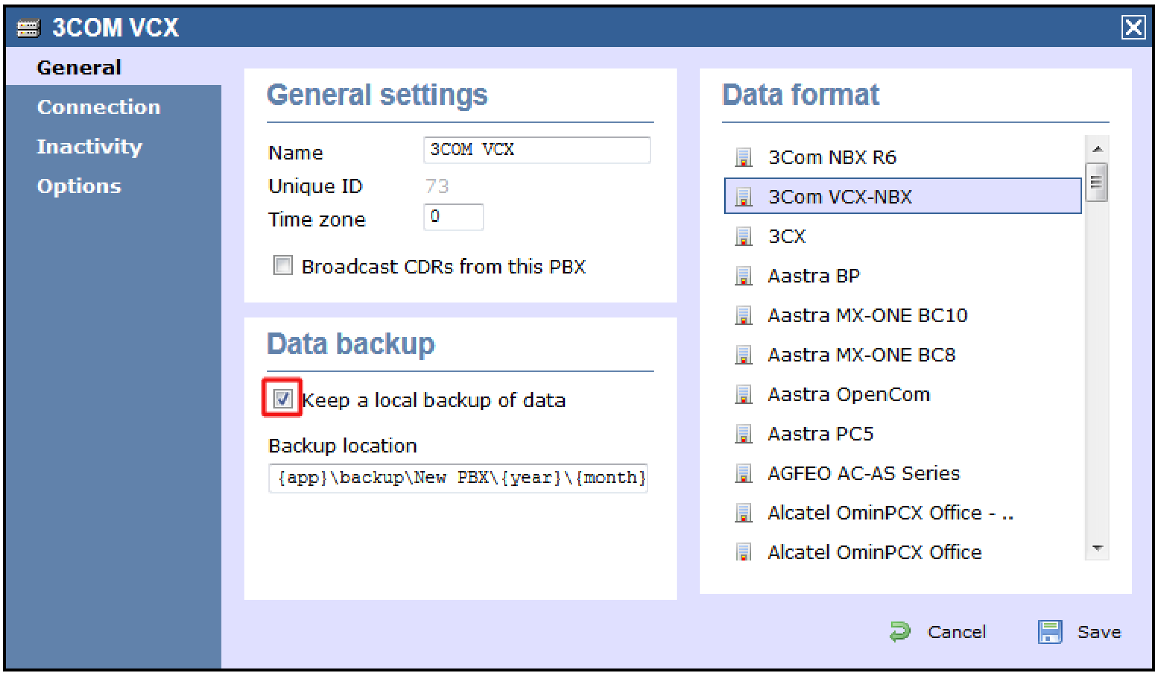
A Windows scheduled task must be set up as well in order to run the batch file every 5 minutes or so.

Configuring TIM Enterprise

Once the batch file has been configured, log in to TIM Enterprise and perform the steps below:

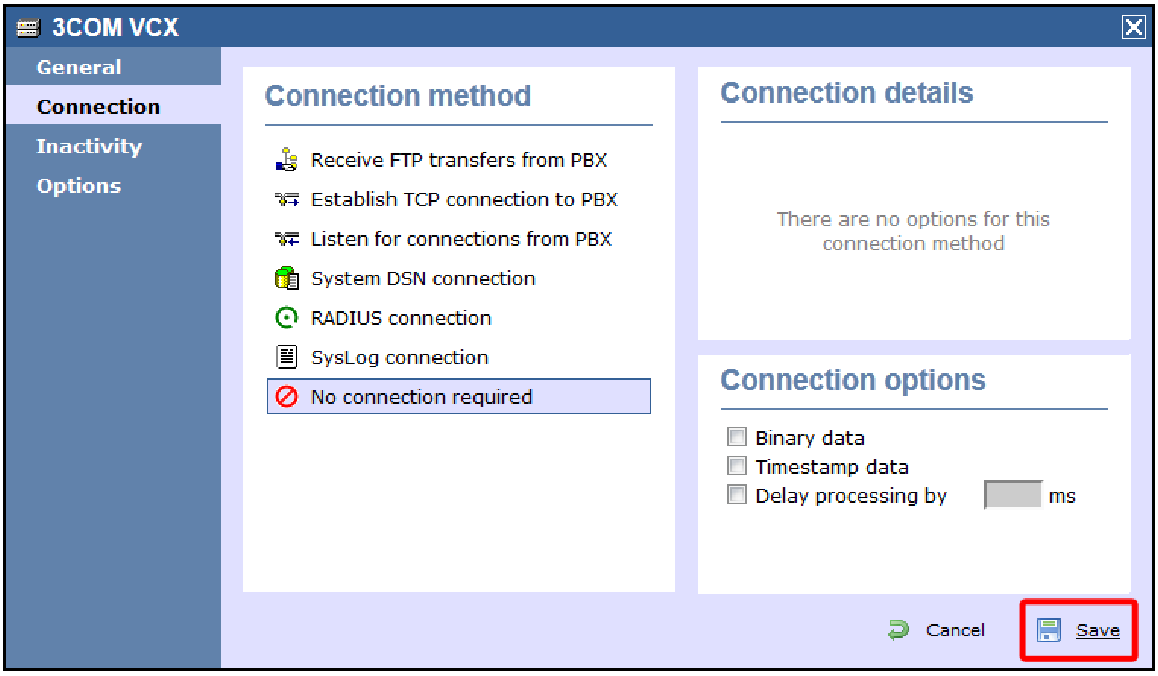
1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.

3. A new window will open, displaying the general properties of the PBX object. In the General tab, select **`3Com VCX-NBX`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



Screenshot

4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the changes.



3CX

3CX PBX

These instructions help you configure your 3CX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

`3CX.TDT`

`3CX.TDS`

`CDRTemplate-Socket.xml`

Required Tasks

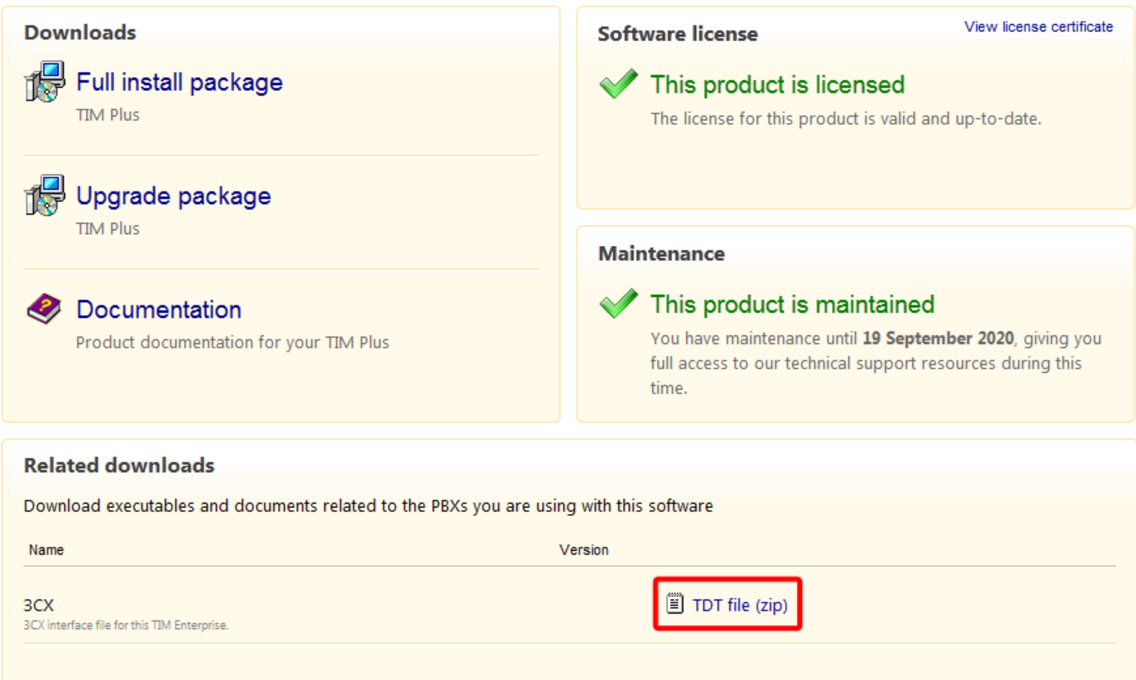
Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Download the interface file

1. Visit the Gateway and download the interface files from the **`Related downloads`** section, as shown below:



2. Extract the **`3CX.ZIP`** file onto the desktop.

3. Copy the **`3CX.TDT`** and **`3CX.TDS`** files into **`C:\Program Files\Tri-Line\TIM Enterprise\config`**, overwriting any existing files with the same name.

Configure the interface file

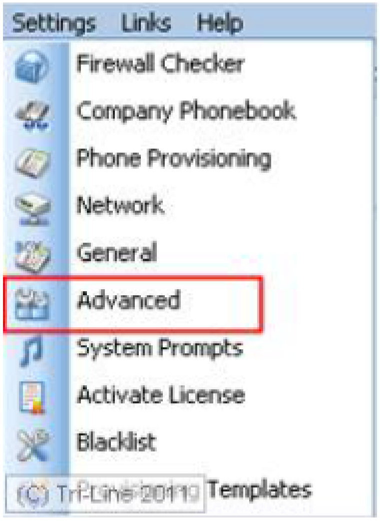
1. Transfer the **`CDRTemplate-Socket.xml`** file onto the 3CX server and place it in the following location: **`C:\Documents and Settings\All Users\Application Data\3CX\Data\CDRTemplates`**.

2. Edit **`CDRTemplate-Socket.xml`** and update the relevant entry to point to the IP address of the machine running TIM Enterprise,

as shown below:

```
<?xml version="1.0" encoding="utf-8"?>
<CallTemplate Host="127.0.0.1" Port="33555" OutboundOnly="false">
  <idcallhistory3 fmt="&#xD;&#xA;&quot;Call {0}&quot;," />
  <callid    fmt="&quot;{0}&quot;," />
  <duration fmt="&quot;{0}&quot;," />
  <starttime fmt="&quot;{0:yyyy-MM-dd HH:mm:ss}&quot;," />
  <answertime fmt="&quot;{0:yyyy-MM-dd HH:mm:ss}&quot;," />
  <endtime  fmt="&quot;{0:yyyy-MM-dd HH:mm:ss}&quot;," />
  <from_no  fmt="&quot;{0}&quot;," />
  <to_no    fmt="&quot;{0}&quot;," />
  <group_no fmt="&quot;{0}&quot;," />
  <line_no  fmt="&quot;{0}&quot;," />
```

3. Log in to your 3CX server and from the main menu go to `Settings->Advanced`, as shown in the below:



4. Select **`CDR output`** from the `Advanced Settings` screen.

5. Enable the tick box for **`Output CDR to Socket (Active - Initiates connection)`** and click Apply .

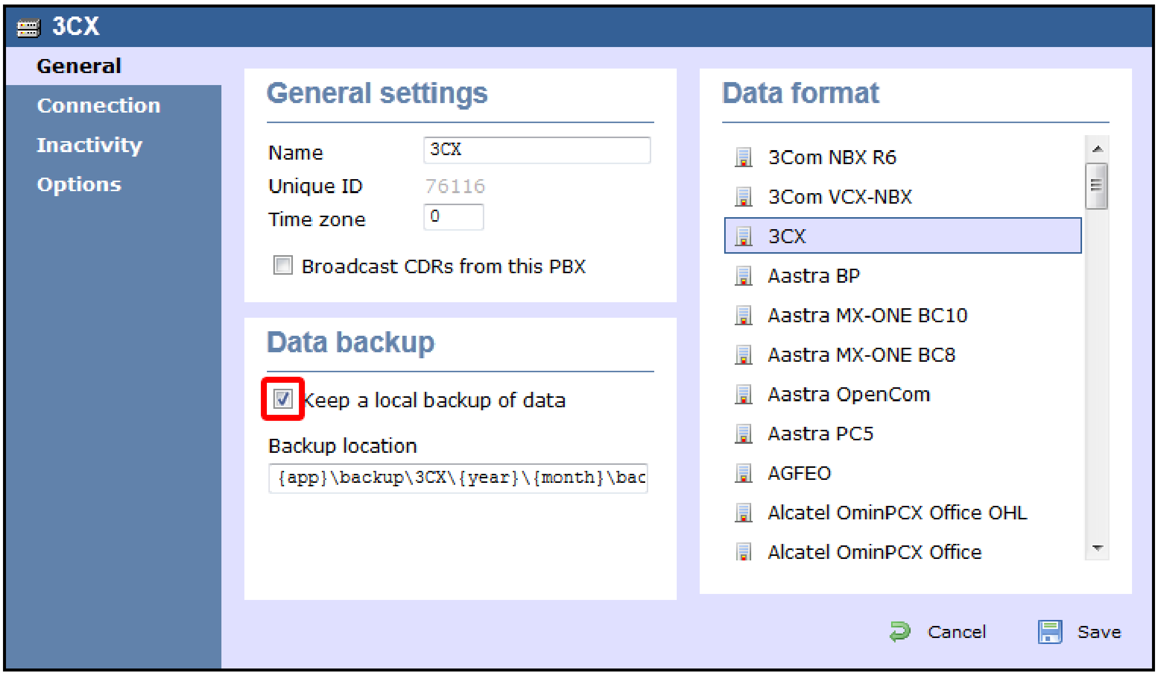
6. Under `3CX Phone System`, click Service Status and within the `Service Name` section, select **`3CX PhoneSystem Call History`**.

7. Click Restart to load the new XML file.

Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to listen for SMDR data from your 3CX phone system:

1. Log in to TIM Enterprise and click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of you PBX object. Select **`3CX`** from the `Data format` list and tick the box **`Keep a local backup of data`**.

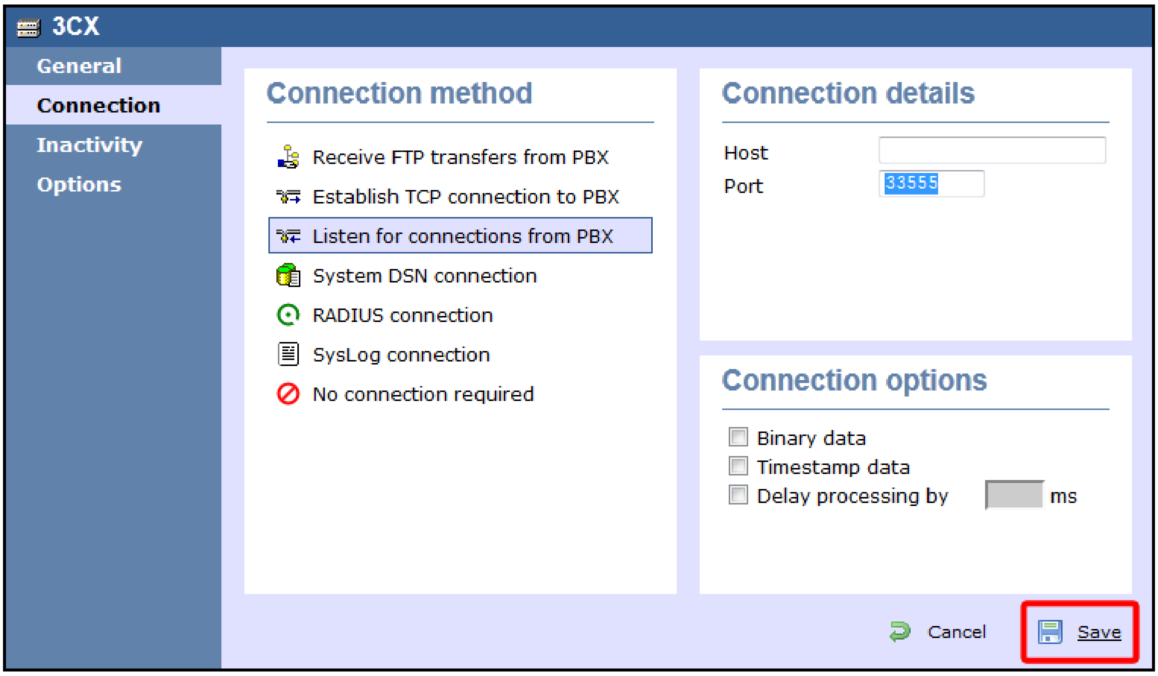


4. Click on the Connection tab and select **Listen for connections from PBX** from the **Connection method** list.

5. Leave the **Host** field blank.

6. In the **Port** field, enter **33555** as the default port for connections to this PBX.

7. Click on the Save button to apply the settings.



Aastra

Aastra BP

These instructions help you configure your Aastra BP phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Aastra BP.TDT`

`Aastra BP.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

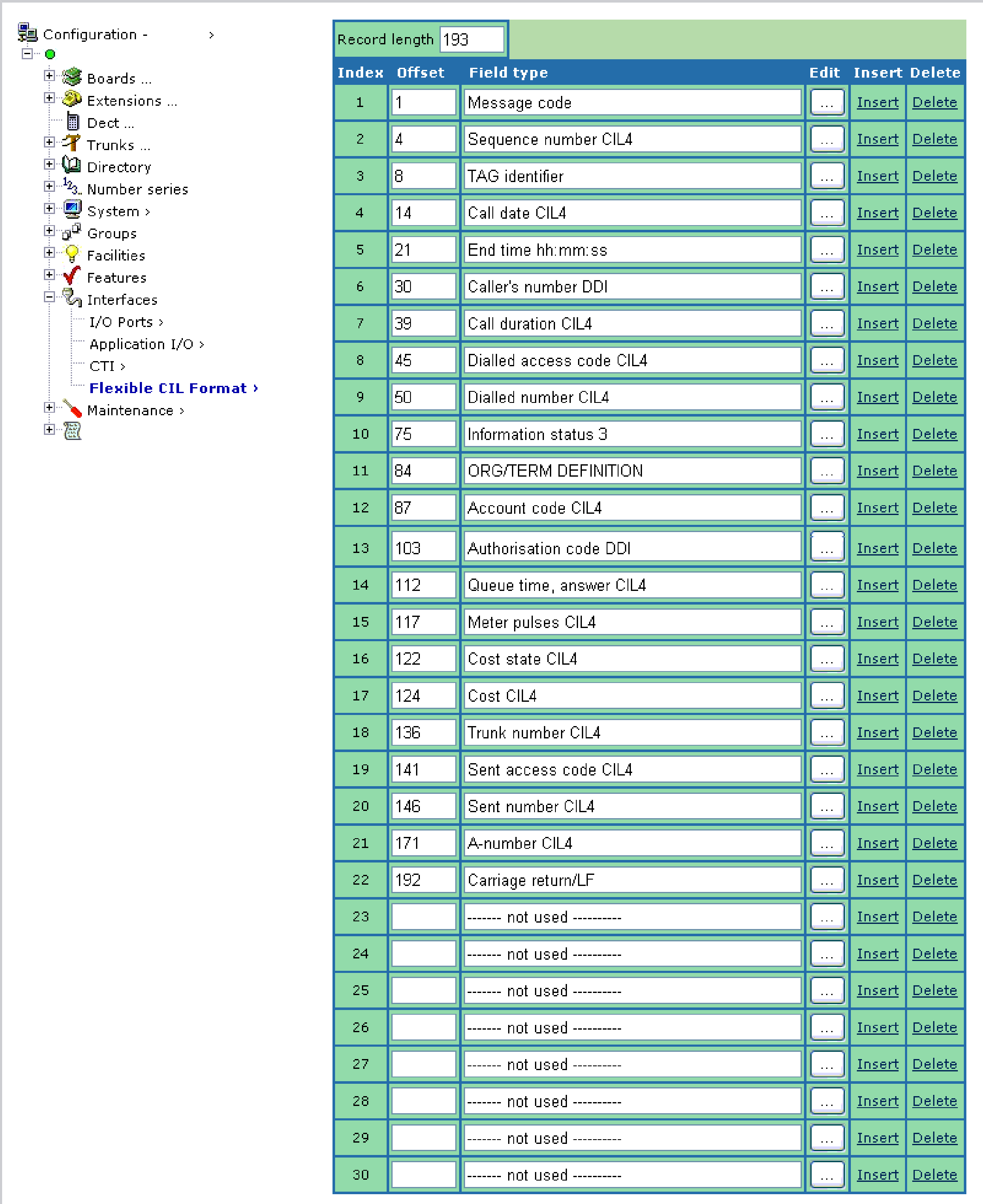
Configuring your SMDR output

BP firmware R12 or older

If you are using firmware older than R12, set the SMDR output to type **`CIL 3`** which is a fixed format requiring no further configuration.

BP firmware R13+

If you are using firmware R13+, set the SMDR output to **`Flexible CIL`** and configure the options as shown in the screenshot below:



Index	Offset	Field type	Edit	Insert	Delete
1	1	Message code	...	Insert	Delete
2	4	Sequence number CIL4	...	Insert	Delete
3	8	TAG identifier	...	Insert	Delete
4	14	Call date CIL4	...	Insert	Delete
5	21	End time hh:mm:ss	...	Insert	Delete
6	30	Caller's number DDI	...	Insert	Delete
7	39	Call duration CIL4	...	Insert	Delete
8	45	Dialled access code CIL4	...	Insert	Delete
9	50	Dialled number CIL4	...	Insert	Delete
10	75	Information status 3	...	Insert	Delete
11	84	ORG/TERM DEFINITION	...	Insert	Delete
12	87	Account code CIL4	...	Insert	Delete
13	103	Authorisation code DDI	...	Insert	Delete
14	112	Queue time, answer CIL4	...	Insert	Delete
15	117	Meter pulses CIL4	...	Insert	Delete
16	122	Cost state CIL4	...	Insert	Delete
17	124	Cost CIL4	...	Insert	Delete
18	136	Trunk number CIL4	...	Insert	Delete
19	141	Sent access code CIL4	...	Insert	Delete
20	146	Sent number CIL4	...	Insert	Delete
21	171	A-number CIL4	...	Insert	Delete
22	192	Carriage return/LF	...	Insert	Delete
23		------- not used ---------	...	Insert	Delete
24		------- not used ---------	...	Insert	Delete
25		------- not used ---------	...	Insert	Delete
26		------- not used ---------	...	Insert	Delete
27		------- not used ---------	...	Insert	Delete
28		------- not used ---------	...	Insert	Delete
29		------- not used ---------	...	Insert	Delete
30		------- not used ---------	...	Insert	Delete

Installing NetPBX

The Aastra BP phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

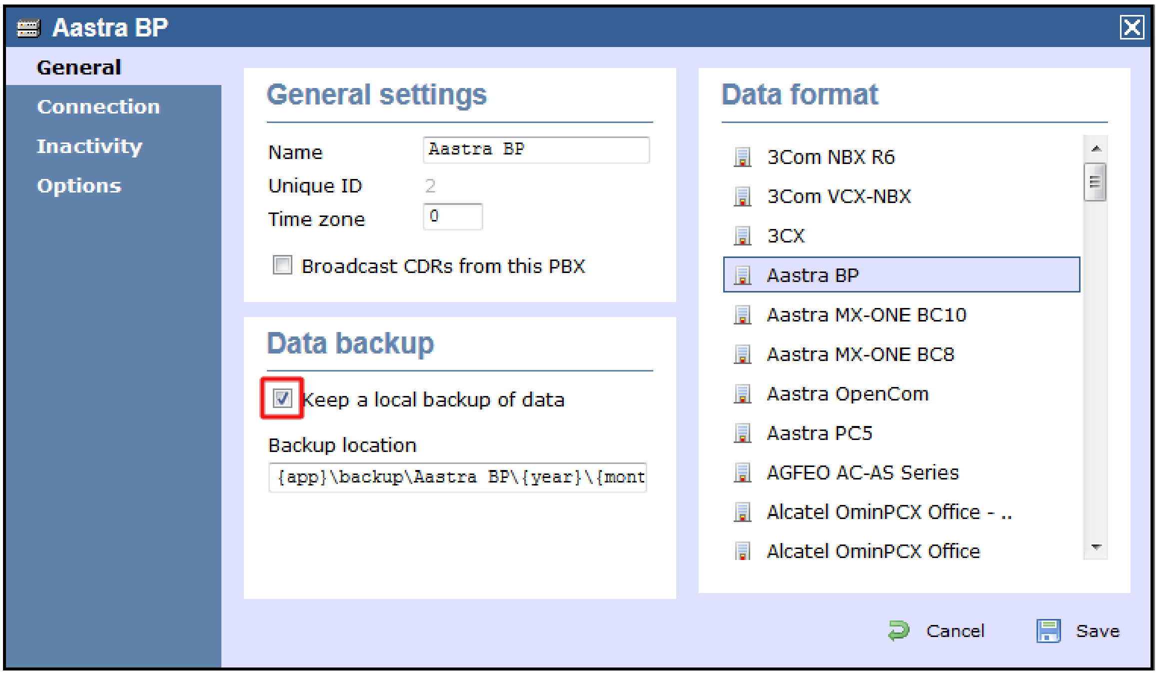
Install and configure NetPBX

Configuring TIM Enterprise

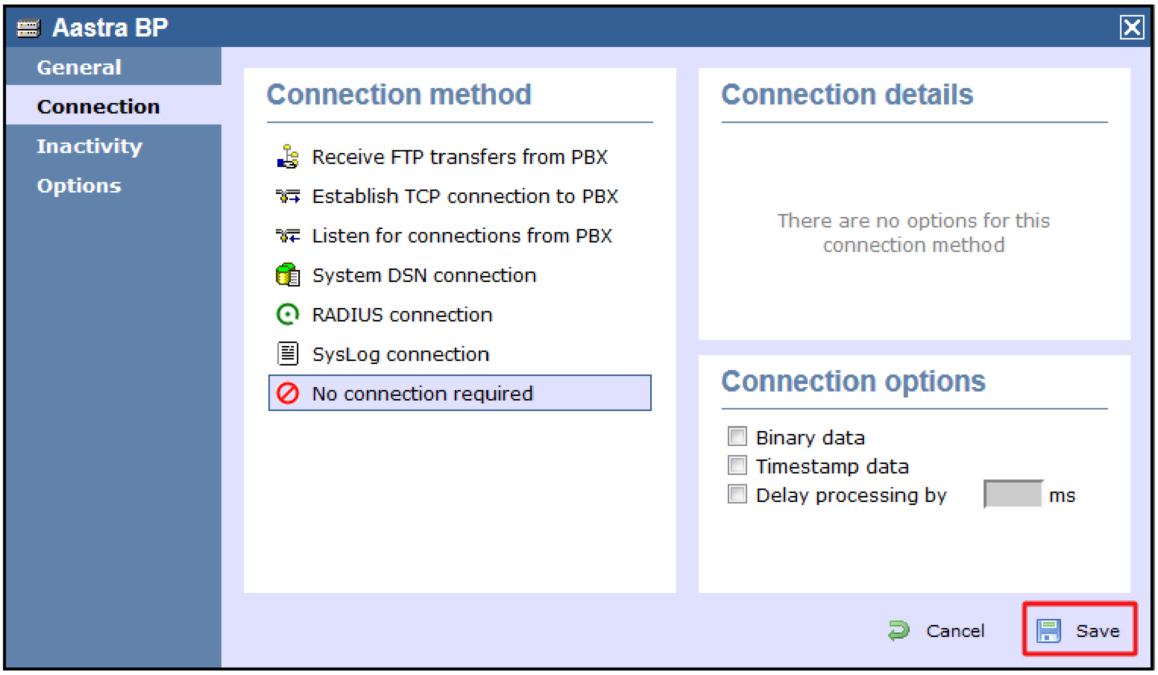
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.

3. A new window will open, displaying the general properties of you PBX object. Select **Aastra BP** from the **Data format** list and tick the **Keep a local backup of data box**, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Aastra Intelligate Series

The Aastra Intelligate Series can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

Aastra Intelligate Series - Serial connection

These instructions help you configure your Aastra Intelligate phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Aastra PC5.TDT

Aastra PC5.TDS

Required Tasks

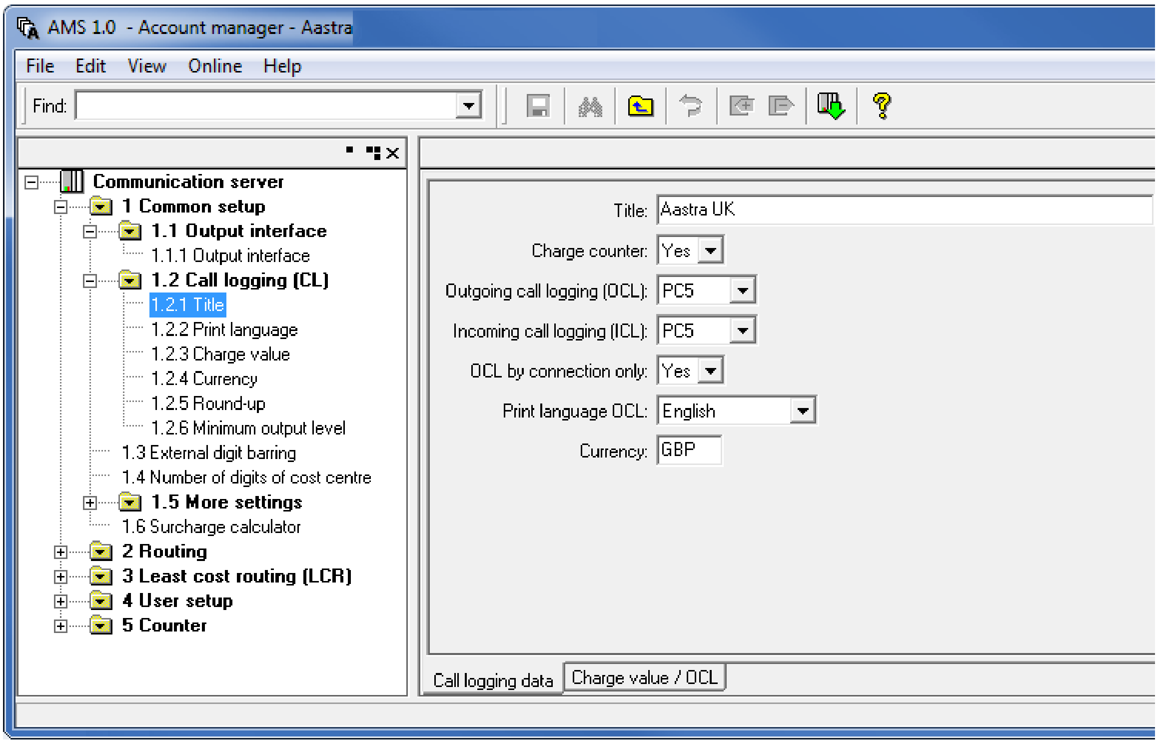
- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring the SMDR output

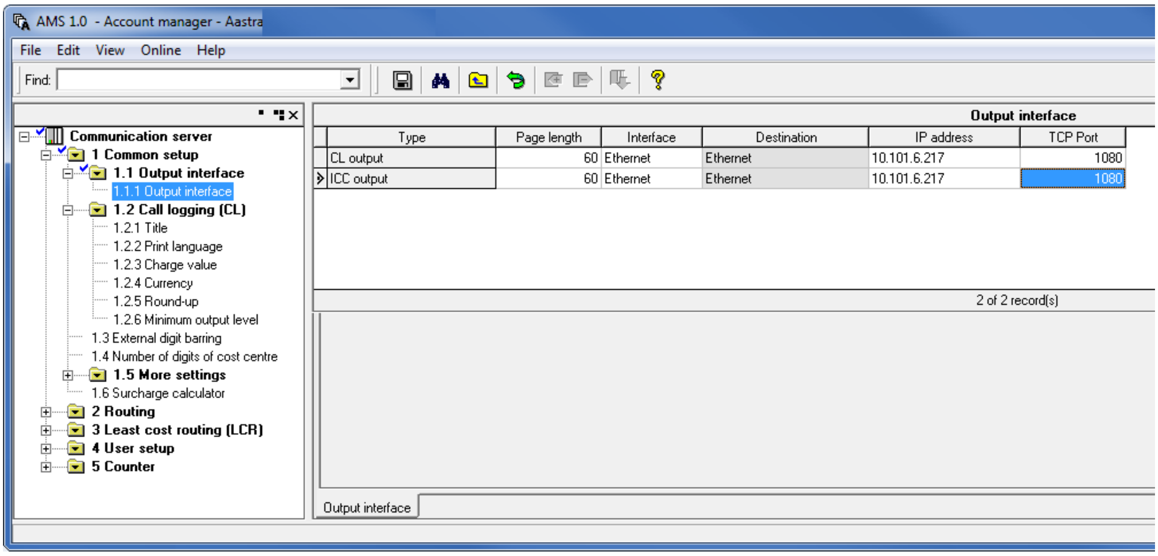
The Aastra Intelligate Series can output SMDR information in multiple formats. You should always select the **PC5** format for use with TIM Enterprise.

The screenshots below display how the Aastra Intelligate Series should be configured:

Setting the SMDR format to PC5



Setting the SMDR format to TCP/IP



OIP Server and TIM Enterprise

The OIP Server has a very basic `call logging` module. If you intend to install TIM Enterprise alongside the OIP Server, you need to uninstall the `call logging` module from the OIP Server suite, otherwise, when configuring your Aastra to output the data to the PC running TIM Enterprise, the OIP Server will overwrite some of the required settings.

Installing NetPBX

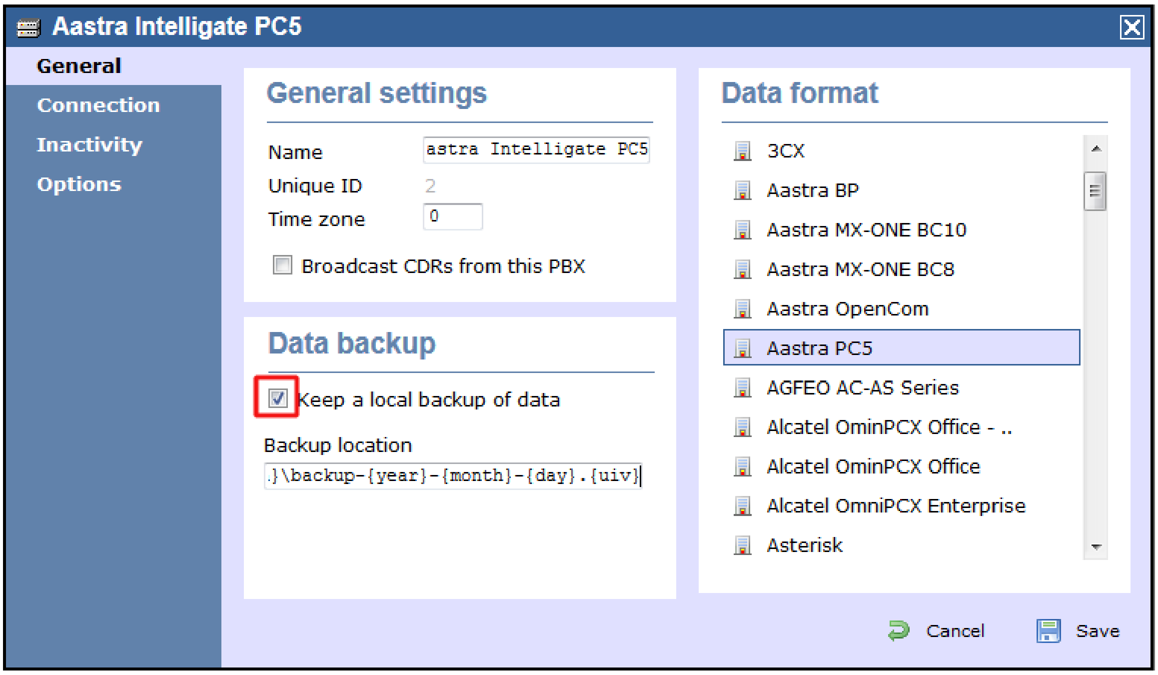
If your Aastra Intelligate has been configured to send SMDR data via a serial connection, you first need to install the NetPBX software to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

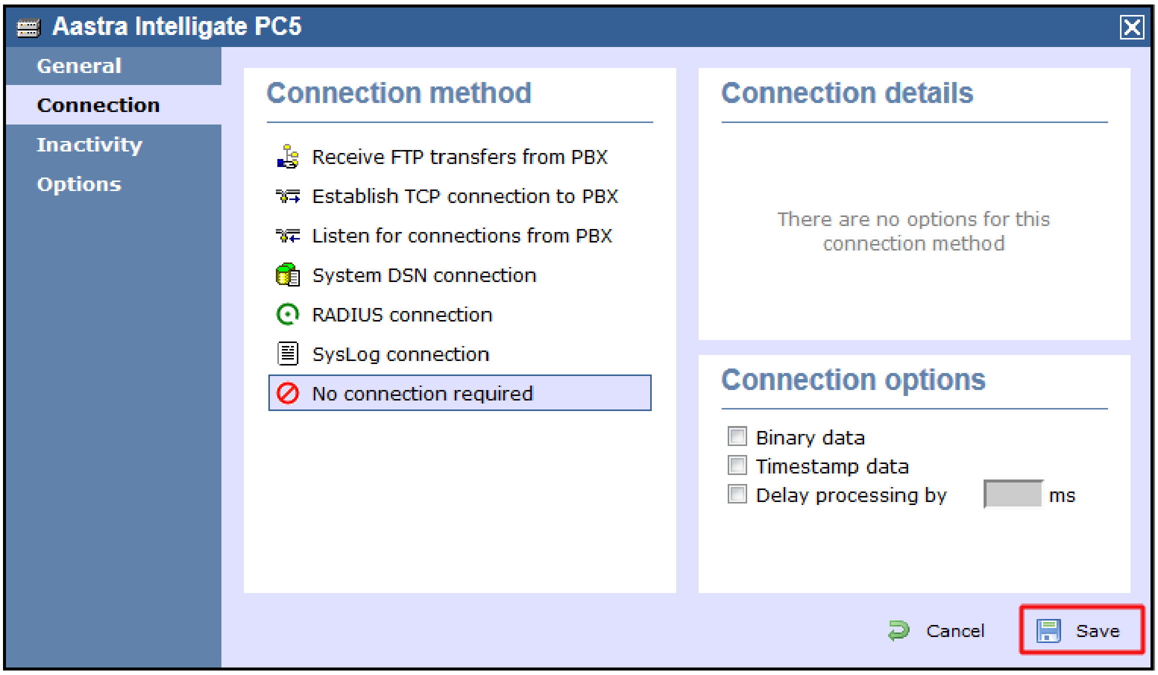
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Aastra PC5`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings



Aastra Intelligate Series - IP connection

These instructions help you configure your Aastra Intelligate phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

Aastra PC5.TDT

Aastra PC5.TDS

Required Tasks

Configure the SMDR output

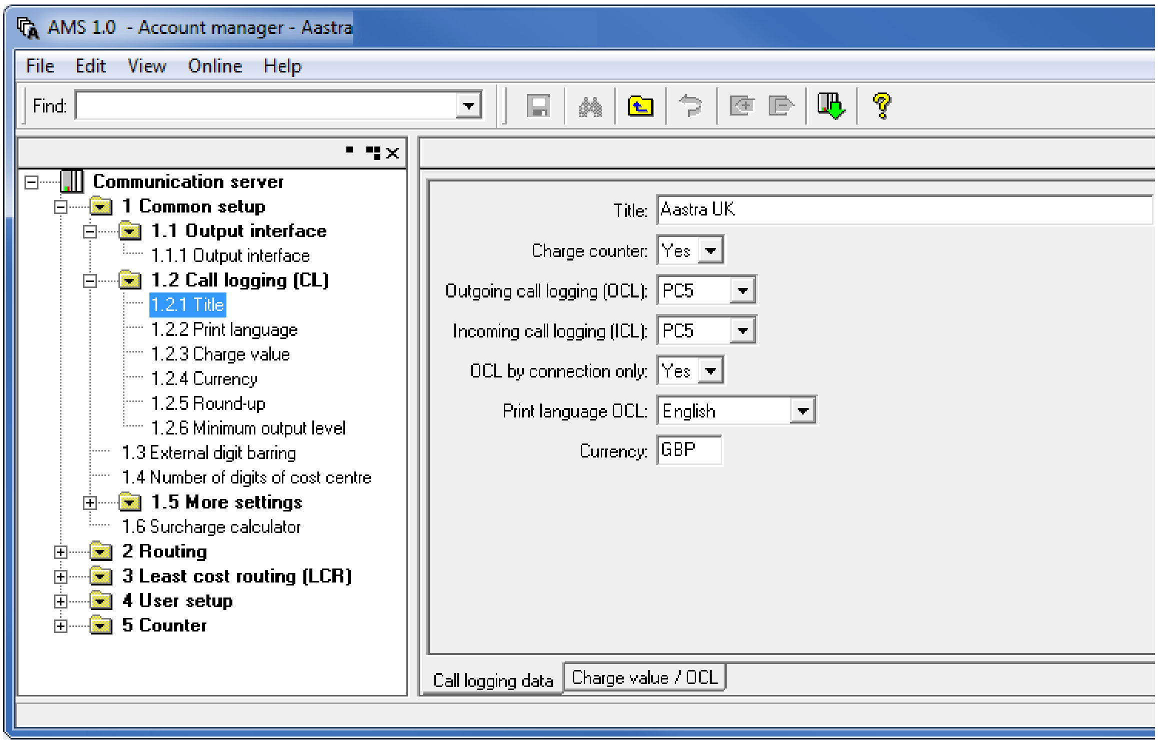
Configure TIM Enterprise

Configuring the SMDR output

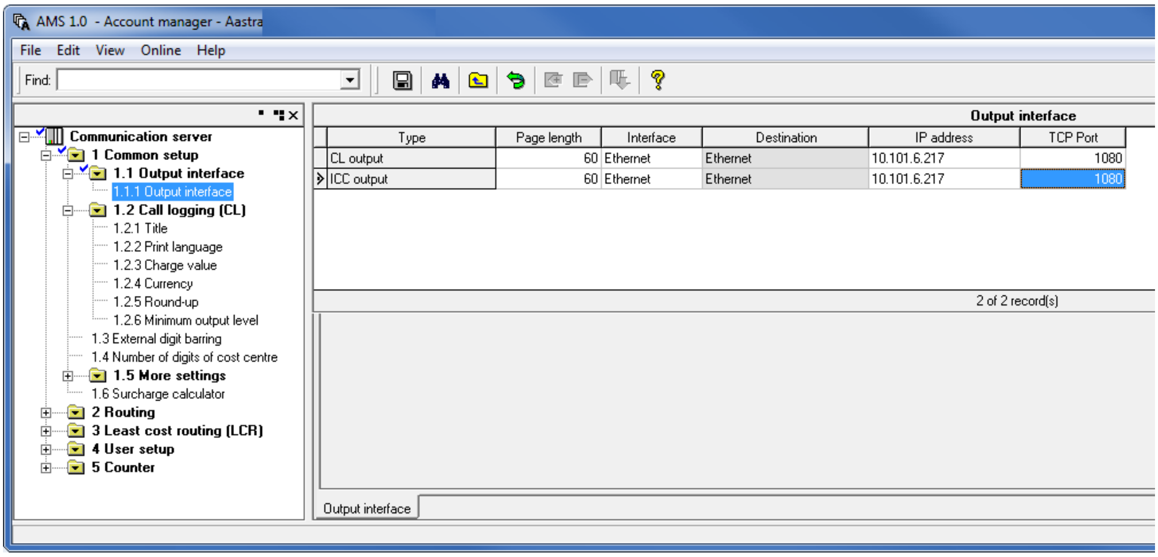
The Aastra Intelligate Series can output SMDR information in multiple formats. You should always select the **PC5** format for use with TIM Enterprise.

The screenshots below display how the Aastra Intelligate Series should be configured:

Setting the SMDR format to PC5



Setting the SMDR format to TCP/IP



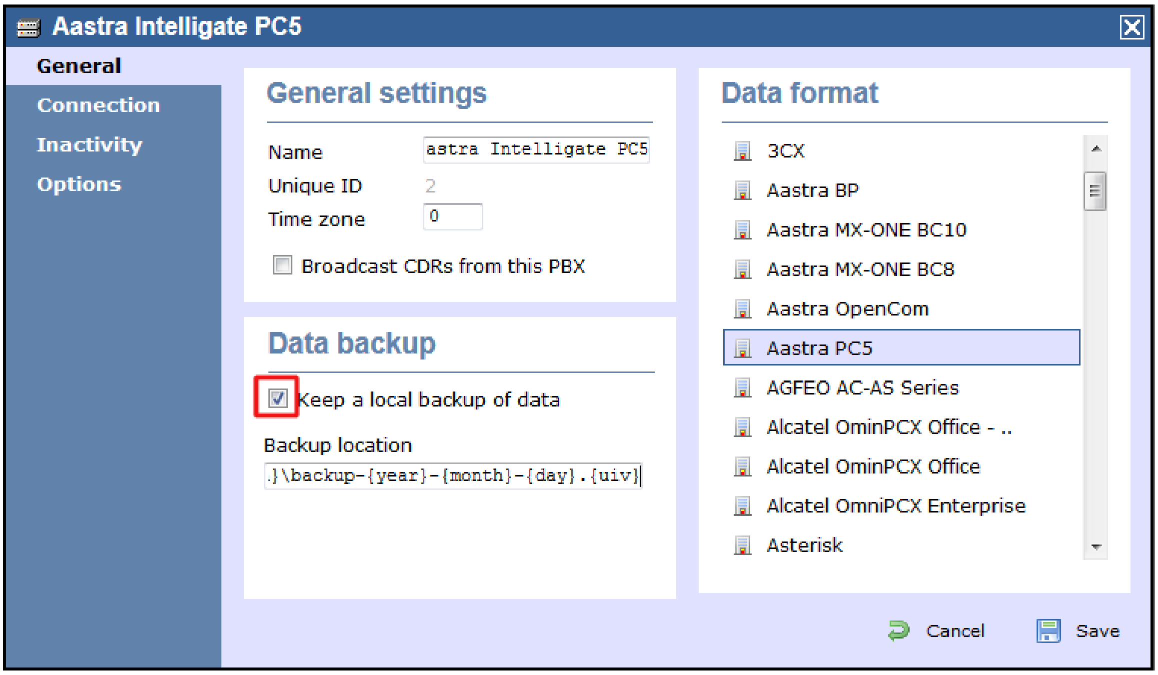
OIP Server and TIM Enterprise

The OIP Server has a very basic `call logging` module. If you intend to install TIM Enterprise alongside the OIP Server, you need to uninstall the `call logging` module from the OIP Server suite, otherwise, when configuring your Aastra to output the data to the PC running TIM Enterprise, the OIP Server will overwrite some of the required settings.

Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to listen for SMDR data from your Aastra Intelligate Series:

1. Log in to TIM Enterprise and click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and click `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Aastra PC5`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:

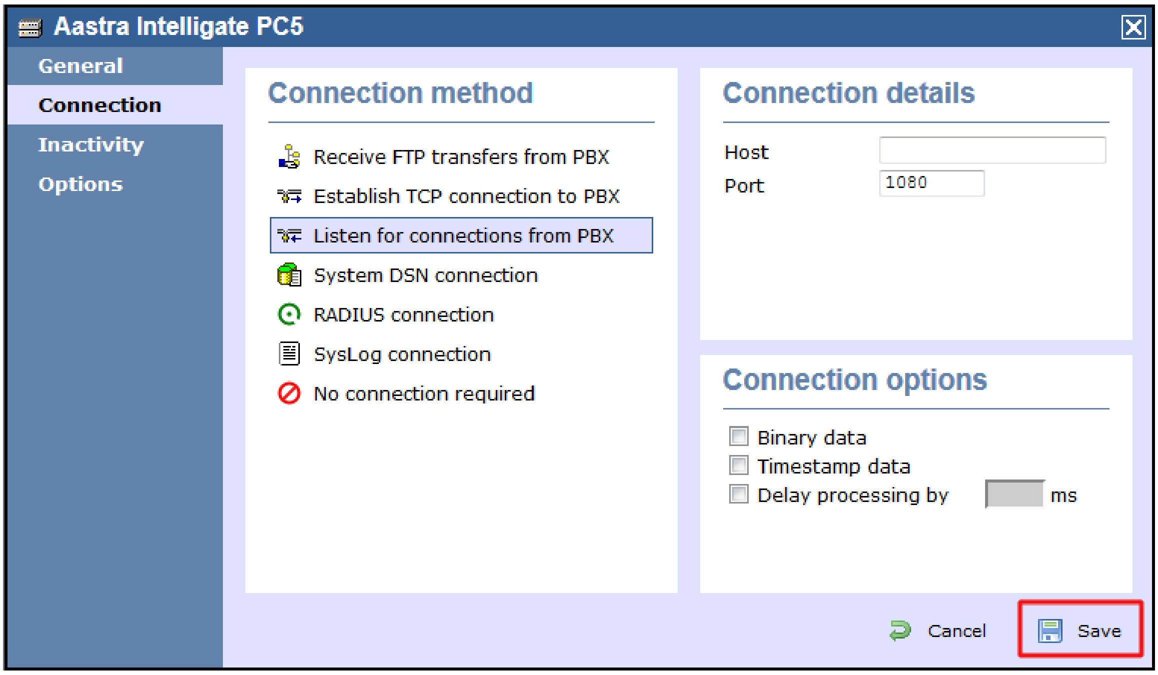


4. Click on the Connection tab and select **`Listen for connections from PBX`** from the `Connection method` list.

5. Leave the `Host` field blank.

6. In the `Port` field, enter **`1080`**, the default port number for your Aastra Intelligate phone system.

7. Click on the Save button to apply the settings.



Aastra MX-ONE

These instructions help you configure your Aastra MX-ONE phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Aastra MX-ONE BC10.TDT`

`Aastra MX-ONE BC10.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Aastra MX-ONE supports multiple SMDR output formats. TIM Enterprise requires the SMDR format to be set to either **`BC8`**, **`BC10`** or **`BC 13`**. For more information on how to configure the data output, please contact your system maintainer.

Installing NetPBX

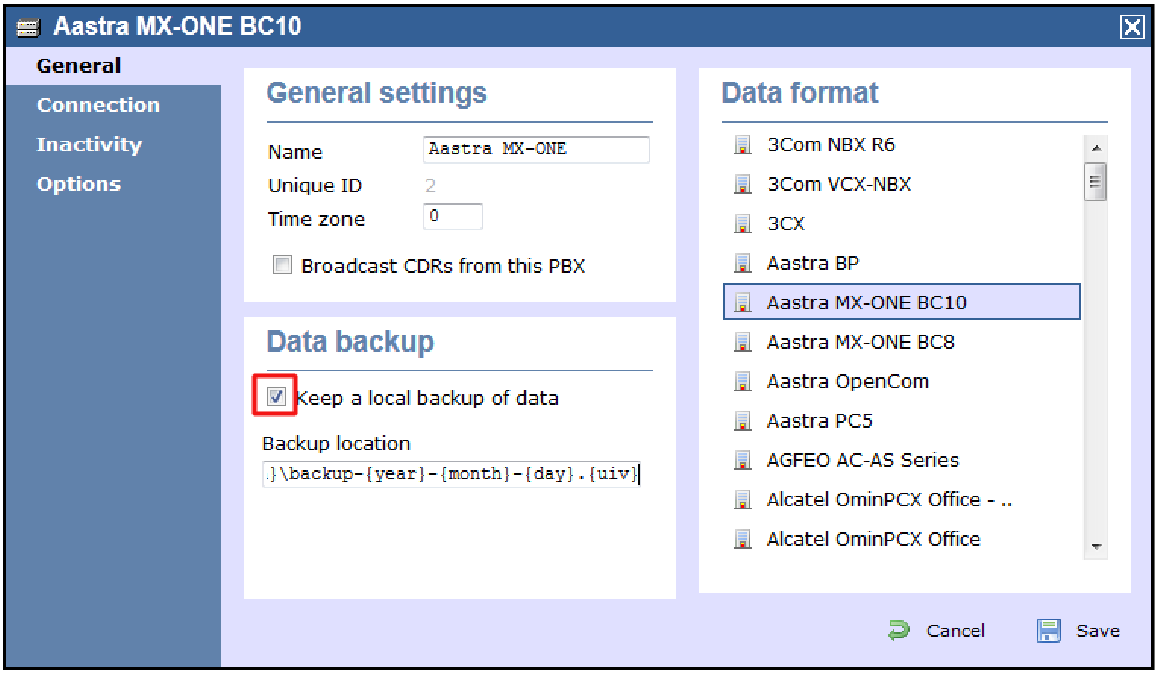
The Aastra MX-ONE phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

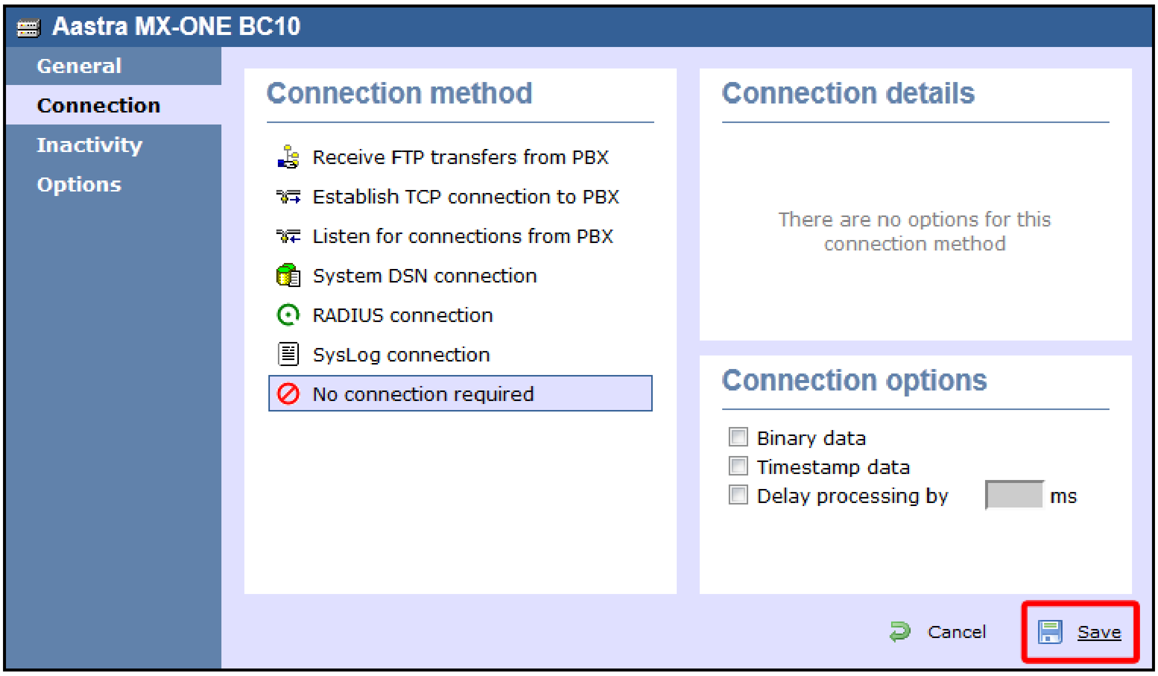
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Aastra MX-ONE BC10`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.

5. Click on the Save button to apply the settings.



AGFEO

AGFEO AC-AS Series

These instructions help you configure your AGFEO AC-AS phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

AGFEO AC-AS Series.TDT

AGFEO AC-AS Series.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The AGFEO AC-AS Series outputs its call records via a serial connection. You need to directly connect a serial cable between your AGFEO AC-AS phone system and the PC that NetPBX is installed and running on.

For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

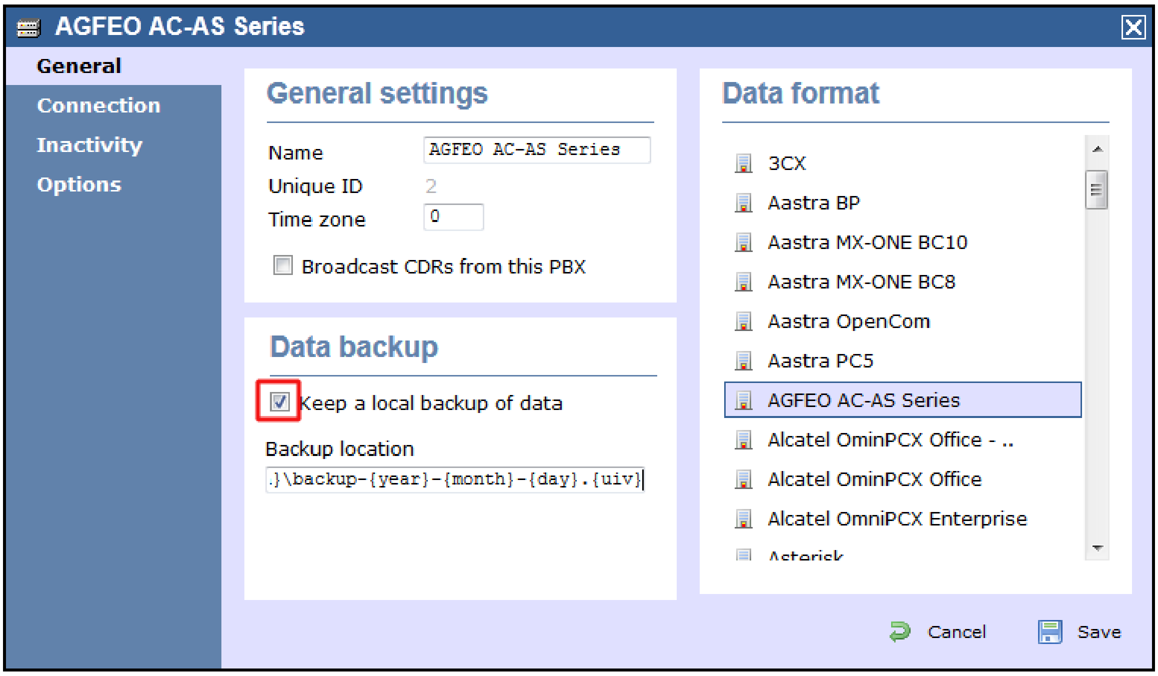
The AGFEO phone system sends SMDR information via a serial connection. To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

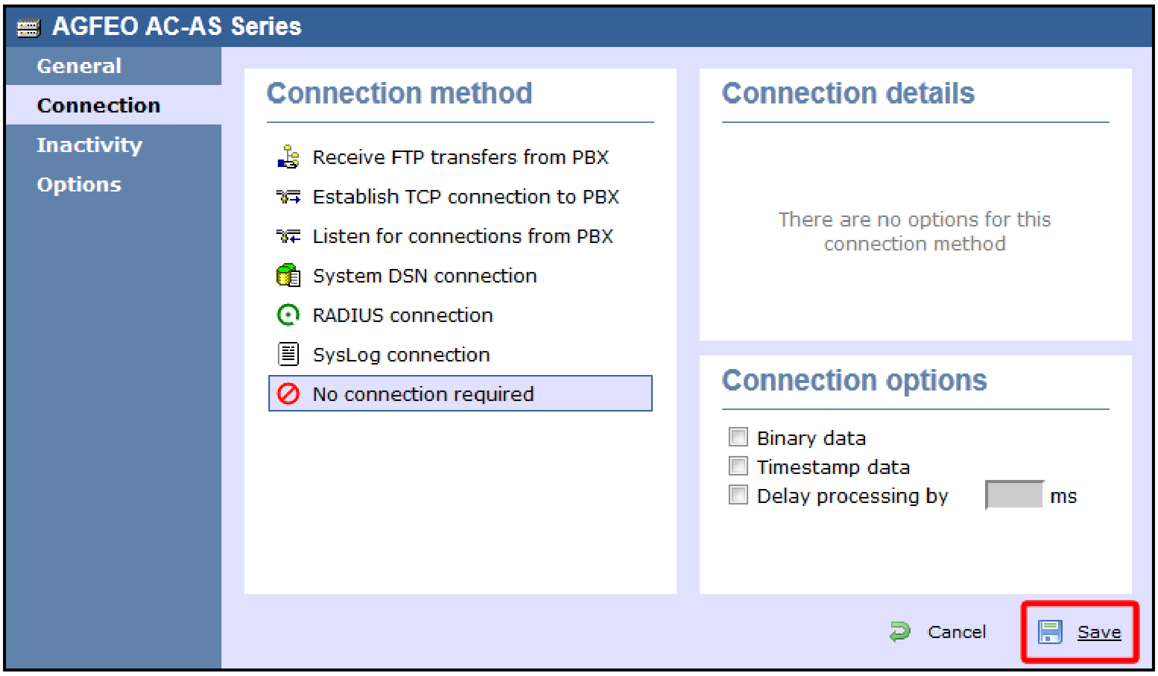
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`AGFEO AC-AS Series`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Alcatel

Alcatel 4200-4400e

These instructions help you configure your Alcatel 4200-4400e phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Alcatel 4400E.TDT`

Required Tasks

- Configure the SMDR output
- Download the interface file
- Install NetPBX
- Configure TIM Enterprise

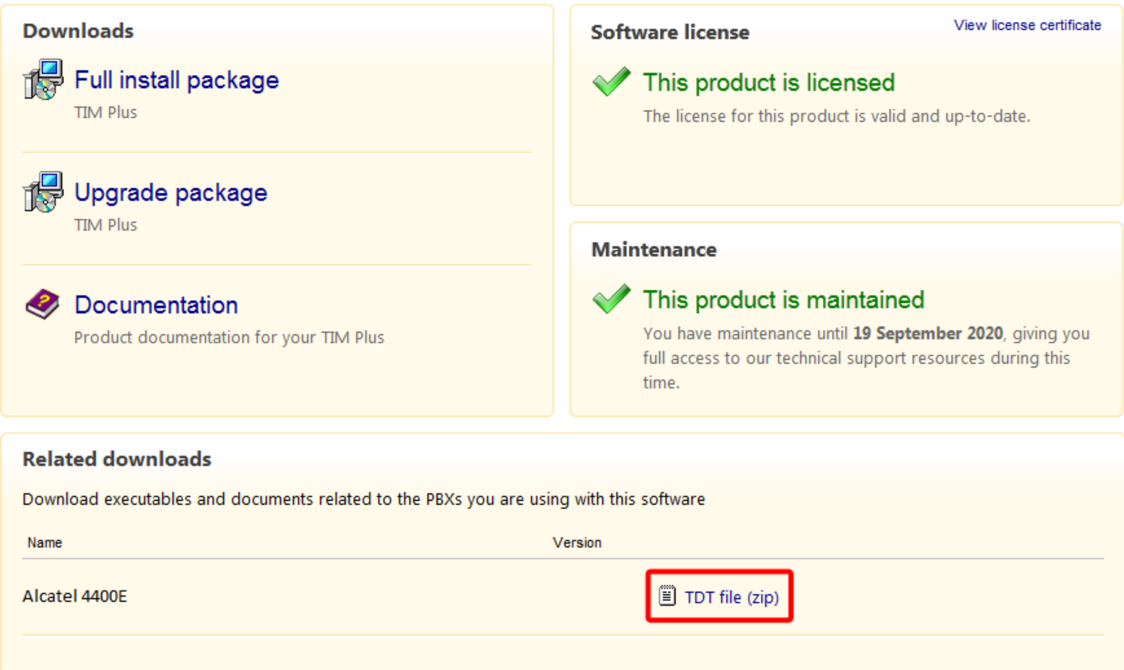
Configuring your SMDR output

The Alcatel 4200-4400e phone system sends its call records via a serial connection. The most recent units already have a `.v24` port but, for older units, you may need to purchase a `.v24` module. Connect a serial cable between your Alcatel 4200-4400e `.v24` module and the PC that NetPBX is installed and running on. See the table below for a summary of data output from Alcatel 4200-4400e:

Manufacturer	Model	Account Codes	CLI	DDI	Internal Calls	Ring Time	Unanswered
Alcatel	4200	Y	Y	N	N	Y	Y
	4300	Y	Y	N	N	Y	Y
	4400e	N	Y	Y	Y	Y	Y
	OmniPCX Enterprise	N	Y	Y	Y	Y	Y
	OmniPCX Office	Y	Y	N	Y	Y	Y

Download the interface file

1. Visit Tri-Line's Gateway and download the interface file, as shown below:



2. Extract the **`Alcatel 4400E.ZIP`** file onto your computer's Desktop. This ZIP file contains the following file: **`Alcatel 4400E.TDT`**.

3. Copy the file into the `C:\Program Files\Tri-Line\TIM Enterprise\config` folder.

Installing NetPBX

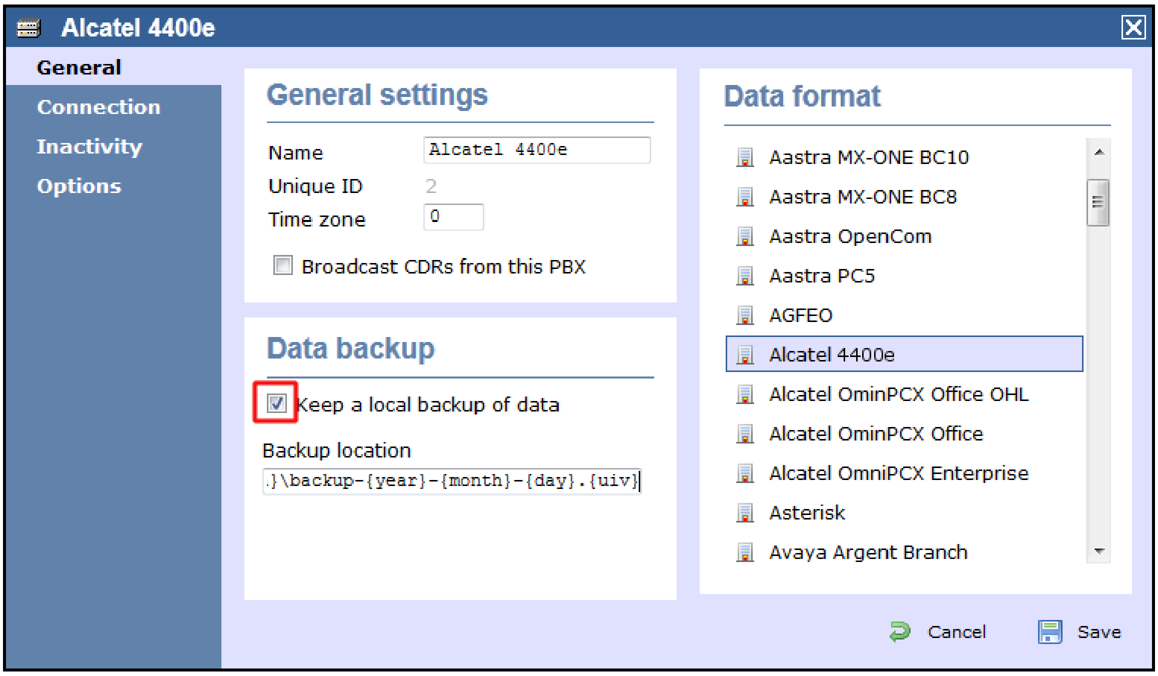
The Alcatel 4200-4400e phone system sends its call records via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

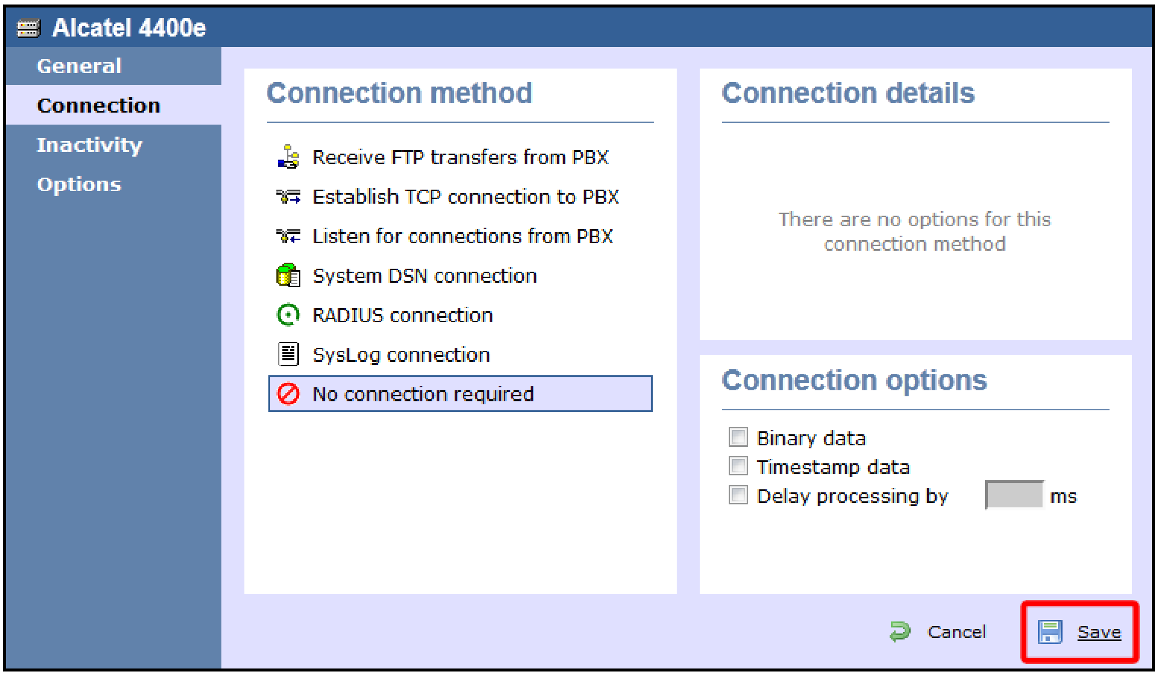
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Alcatel 4400e`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Alcatel OmniPCX Enterprise

The Alcatel OmniPCX Enterprise can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

Alcatel OmniPCX Enterprise - Serial connection

These instructions help you configure your Alcatel OmniPCX Enterprise phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Alcatel OmniPCX Enterprise.TDT`

`Alcatel OmniPCX Enterprise.TDS`

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

Follow the instructions below to configure the SMDR output via a serial connection. These instructions are taken from the Alcatel OmniPCX Enterprise manual:

Using Telnet, connect to the IP address of your Alcatel OmniPCX Enterprise and follow the steps below:

1. Applications (Enter)
2. Accounting (Enter)
3. Review/Modify (Enter)

4. All Instance (F1)
5. Realtime ticket Output: Set this to **ethernet**. Note that if you don't have an appropriate license, you may only select V24 (serial) here.
6. Save changes and exit.

Below is an example of the data output from an Alcatel OmniPCX Enterprise:

Manufacturer	Model	Account Codes	CLI	DDI	Internal Calls	Ring Time	Unanswered
Alcatel	4200	Y	Y	N	N	Y	Y
	4300	Y	Y	N	N	Y	Y
	4400e	N	Y	Y	Y	Y	Y
	OmniPCX Enterprise	N	Y	Y	Y	Y	Y
	OmniPCX Office	Y	Y	N	Y	Y	Y

Installing NetPBX

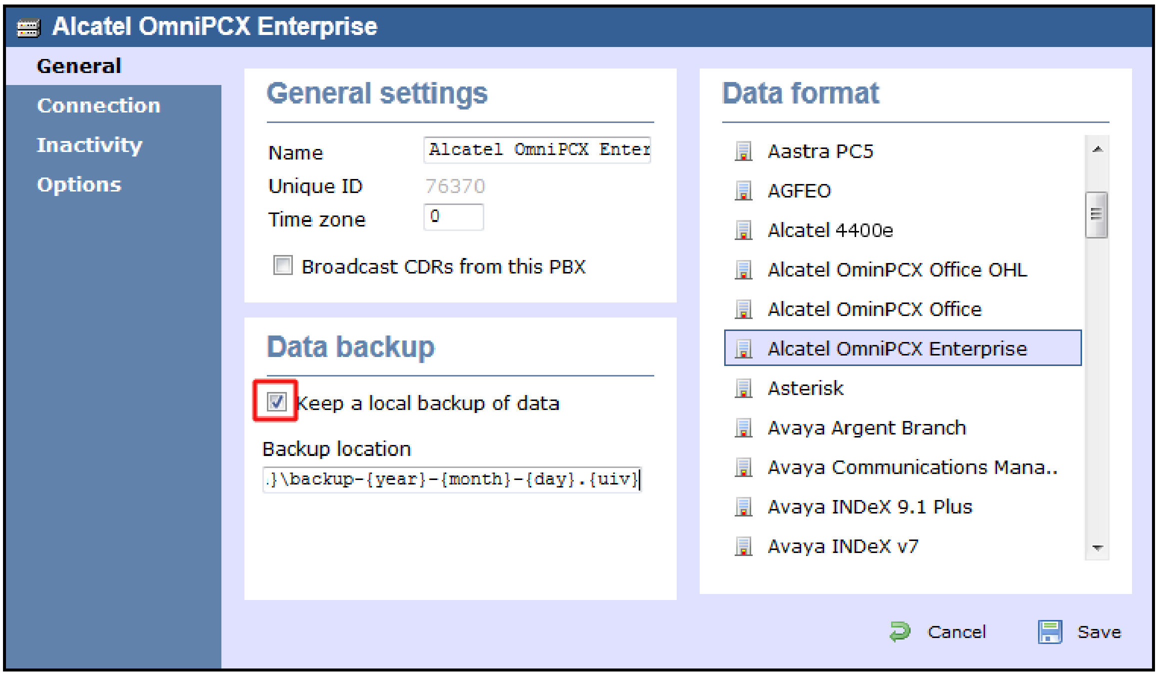
If your Alcatel OmniPCX Enterprise has been configured to send SMDR data via a serial connection, you first need to install the NetPBX soft ware to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

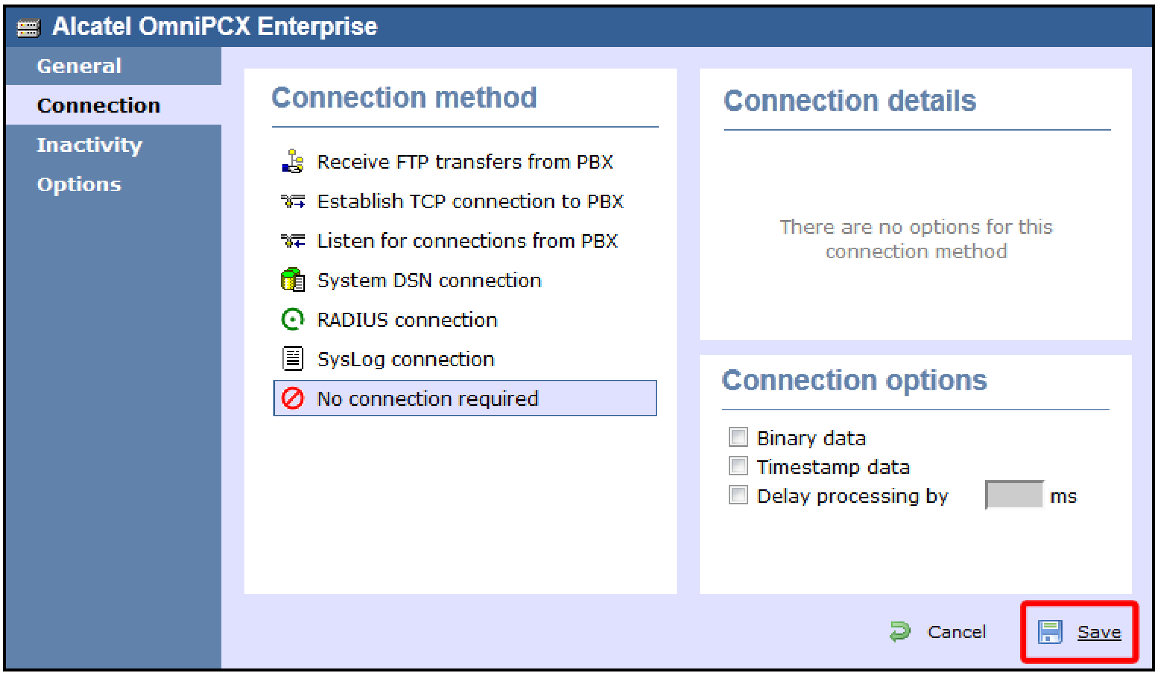
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Alcatel 4400e** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Alcatel OmniPCX Enterprise - IP connection

These instructions help you configure your Alcatel OmniPCX Enterprise phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`Alcatel OmniPCX Enterprise.TDT`

`Alcatel OmniPCX Enterprise.TDS`

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Follow the instructions below to configure the SMDR output via a serial connection. These instructions are taken from the Alcatel OmniPCX Enterprise manual:

Using Telnet, connect to the IP address of your Alcatel OmniPCX Enterprise and follow the steps below:

1. Applications (Enter)
2. Accounting (Enter)
3. Review/Modify (Enter)
4. All Instance (F1)
5. Realtime ticket Output: Set this to `ethernet`. Note that if you don't have an appropriate license, you may only select V24 (serial) here.
6. Save changes and exit.

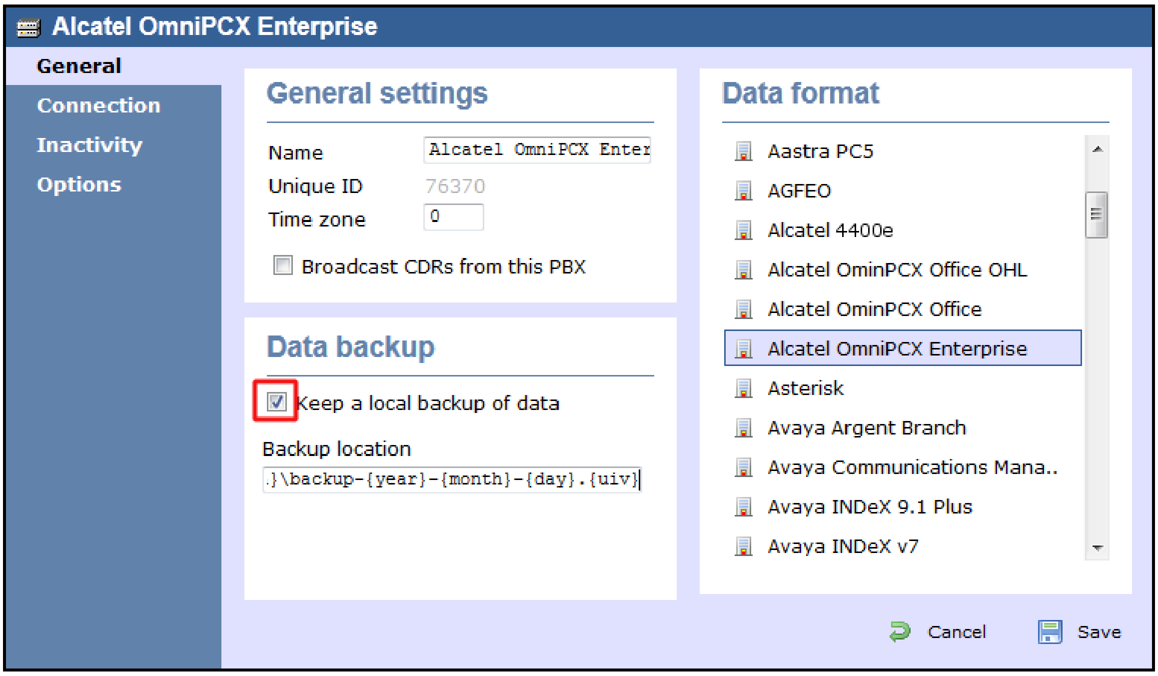
Below is an example of the data output from an Alcatel OmniPCX Enterprise:

Manufacturer	Model	Account Codes	CLI	DDI	Internal Calls	Ring Time	Unanswered
Alcatel	4200	Y	Y	N	N	Y	Y
	4300	Y	Y	N	N	Y	Y
	4400e	N	Y	Y	Y	Y	Y
	OmniPCX Enterprise	N	Y	Y	Y	Y	Y
	OmniPCX Office	Y	Y	N	Y	Y	Y

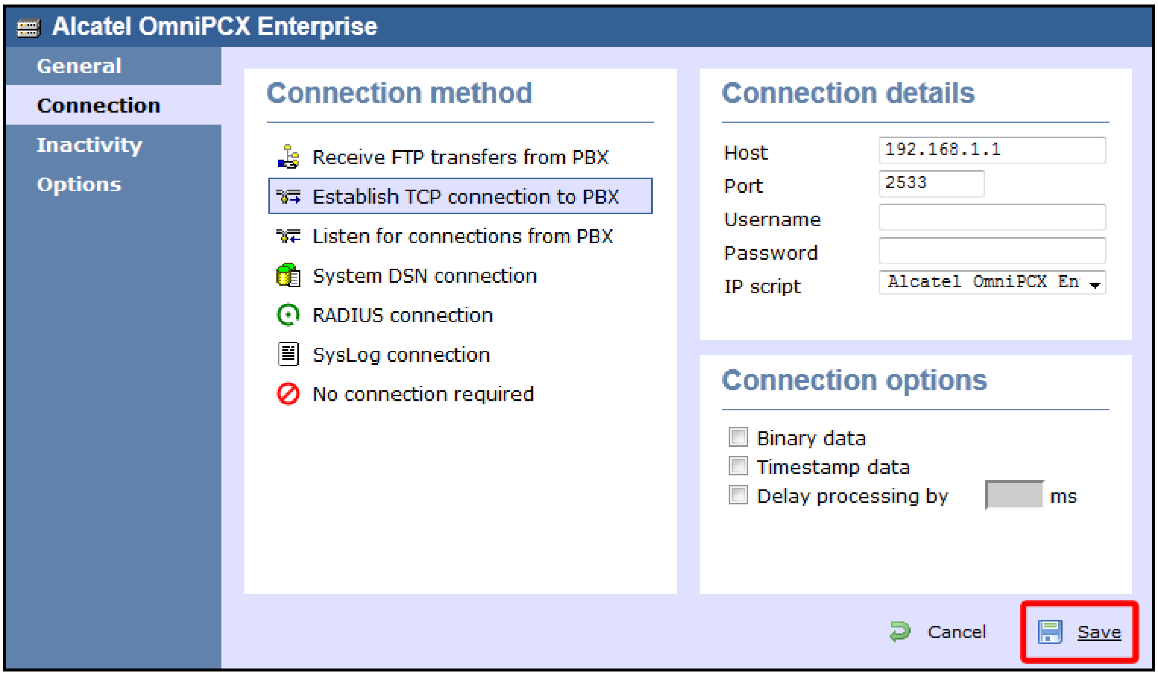
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Alcatel OmniPCX Enterprise:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select `Alcatel OmniPCX Enterprise` from the `Data format` list and tick the `Keep a local backup of data` box, as shown below:



4. Click on the Connection tab and select `Establish TCP connection to PBX` from the `Connection method` list.
5. In the `Host` field, enter the IP address of your Alcatel OmniPCX Enterprise.
6. In the `Port` field, enter `2533` as the default port number for this phone system.
7. Leave the `Username` and `Password` fields blank.
8. In the `IP script` field, select `Alcatel OmniPCX Enterprise 7.1+` from the drop-down list.
9. Click on the Save button to apply the changes.



Alcatel OmniPCX Office

The Alcatel OmniPCX Office can be configured to send its SMDR data over a serial (RS232) or database connection. Click on one of the links below that relates to your preferred connection method.

Alcatel OmniPCX Office - Serial connection

These instructions help you configure your Alcatel OmniPCX Office phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Alcatel OmniPCX Office.TDT`

`Alcatel OmniPCX Office.TDS`

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

Alcatel-Lucent OmniPCX Office Communication Server supports two types of call metering:

- V24 metering supports V24 printing for all call metering tickets
- IP metering supports IP printing for call metering tickets originating from a 3rd party application (Business or Hotel) via an IP connection

The type of metering must be specified when the Office Link driver is installed. The driver can be set to one of two modes: **`hotel`** or **`metering`**. You can use the `OMC Counting` function to specify the type of call metering for hardcopy printouts.

To set printing options for call metering tickets, follow the steps below:

1. Open the **Counting** function window in the OMC console and select the Accounting Printout tab.
2. Select the metering type from the drop-down list: **Ext. Accounting Activation IP** or **Ext. Accounting Activation V24.**
3. Click OK to save the settings.

The table below presents a summary of the data output from an Alcatel:

Manufacturer	Model	Account Codes	CLI	DDI	Internal Calls	Ring Time	Unanswered
Alcatel	4200	Y	Y	N	N	Y	Y
	4300	Y	Y	N	N	Y	Y
	4400e	N	Y	Y	Y	Y	Y
	OmniPCX Enterprise	N	Y	Y	Y	Y	Y
	OmniPCX Office	Y	Y	N	Y	Y	Y

Installing NetPBX

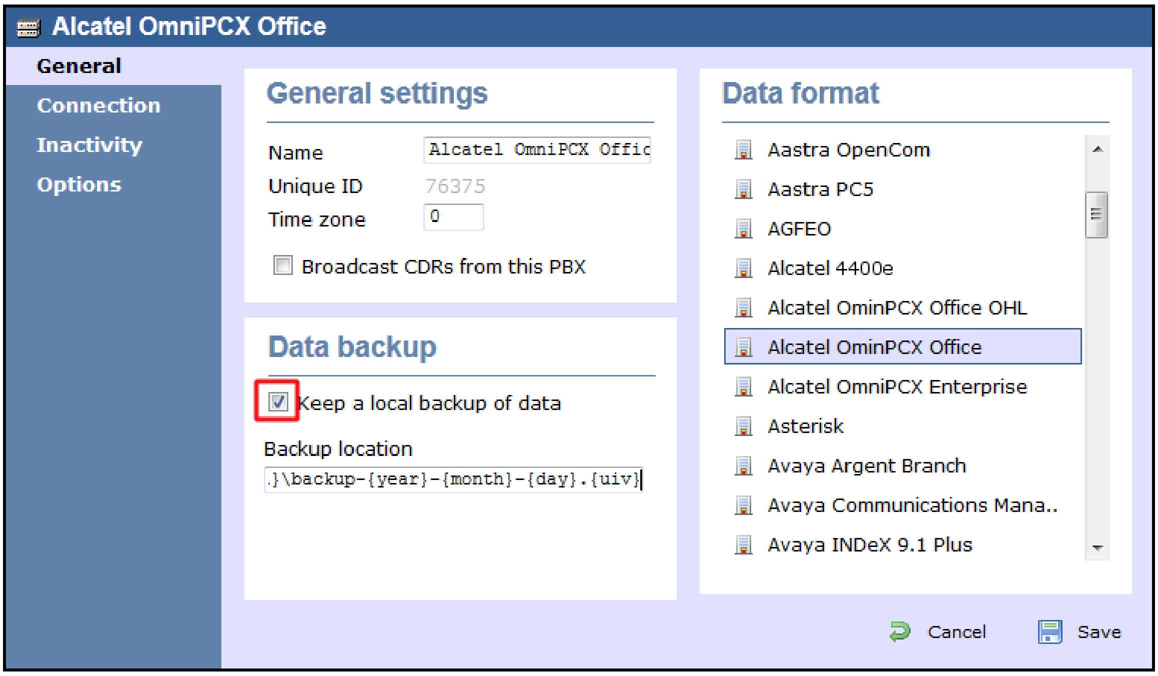
If your Alcatel OmniPCX Office has been configured to send SMDR data via a serial connection, you first need to install the NetPBX software to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

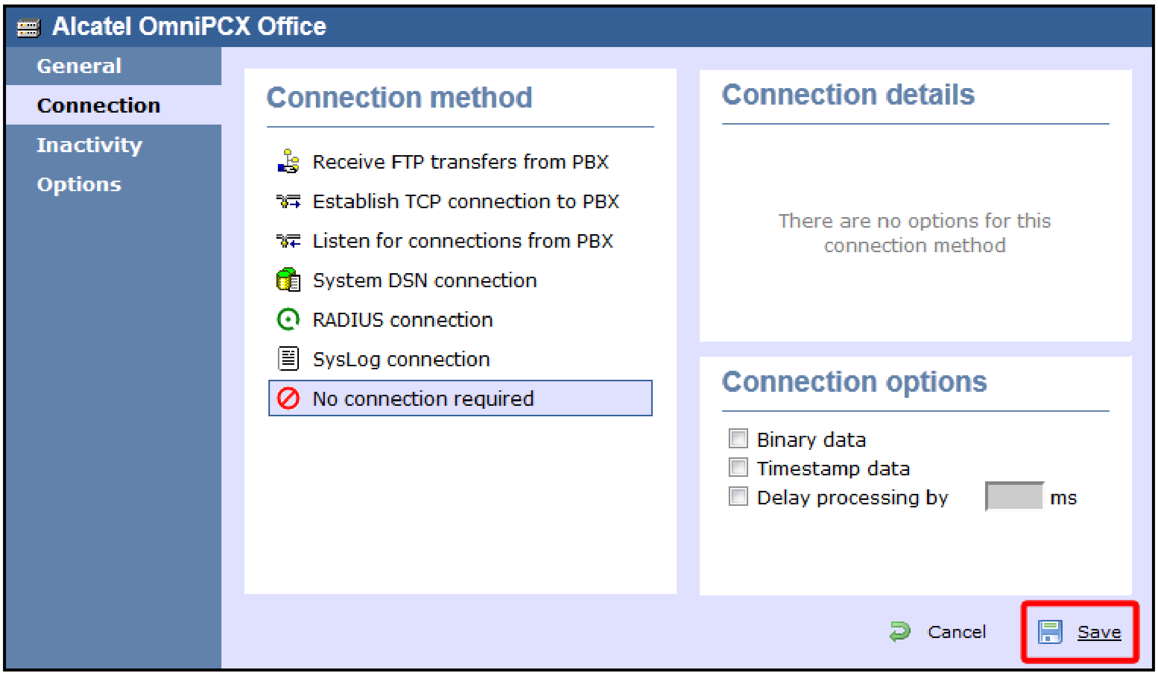
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Alcatel OmniPCX Office** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. In the Connection tab, select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Alcatel OmniPCX Office - Database connection

These instructions help you configure your Alcatel OmniPCX Office phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a DSN connection with this PBX.

Support Files

`Alcatel OmniPCX Office.TDT`

`Alcatel OmniPCX Office.TDS`

`Alcatel OmniPCX Office.DBS`

Required Tasks

- Configure the SMDR output
- Install Alcatel Office Link Driver
- Set up a DSN connection
- Configure TIM Enterprise

Configuring your SMDR output

Follow the instructions below to configure the SMDR output for your Alcatel OmniPCX Office phone system:

Alcatel-Lucent OmniPCX Office Communication Server supports two types of call metering:

- V24 metering supports V24 printing for all call metering tickets
- IP metering supports IP printing for call metering tickets originating from a 3rd party application (Business or Hotel) via an IP connection

The type of metering must be specified when the Office Link driver is installed. The driver can be set to one of two modes: **`hotel`** or **`metering`**. You can use the OMC Counting function to specify the type of call metering for hardcopy printouts.

To set printing options for call metering tickets, follow the steps below:

1. Open the `Counting` function window in the OMC console and select the Accounting Printout tab.
2. Select the metering type from the drop-down list: **`Ext. Accounting Activation IP`** or **`Ext. Accounting Activation V24.`**
3. Click OK to save the settings.

The table below presents a summary of the data output from an Alcatel:

Manufacturer	Model	Account Codes	CLI	DDI	Internal Calls	Ring Time	Unanswered
Alcatel	4200	Y	Y	N	N	Y	Y
	4300	Y	Y	N	N	Y	Y
	4400e	N	Y	Y	Y	Y	Y
	OmniPCX Enterprise	N	Y	Y	Y	Y	Y
	OmniPCX Office	Y	Y	N	Y	Y	Y

Installing the Alcatel Office Link Driver

If your Alcatel OmniPCX Office has been configured to send SMDR data via IP, you first need to install the Alcatel Office Link Driver to configure the output.

For information on how to install the Alcatel Office Link Driver, please refer to the Alcatel OmniPCX Office manual or speak to your system maintainer.

Setting up a DSN connection for TIM Enterprise

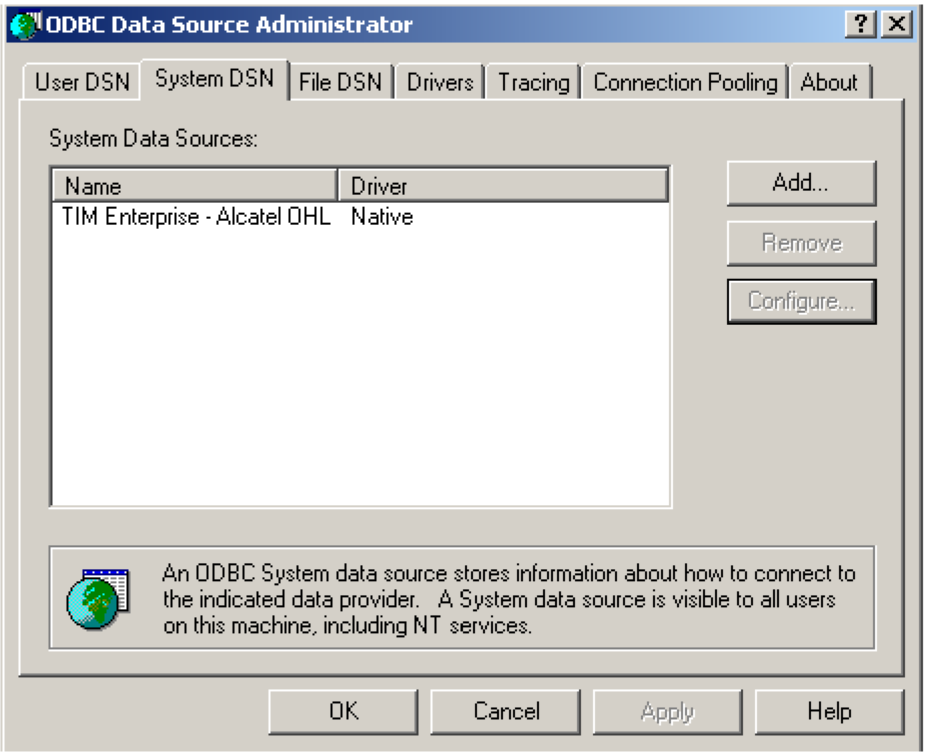
To enable TIM Enterprise to work with the Alcatel Office Link Driver, you need to setup a DSN connection. Follow the instructions below to perform this operation within Microsoft Windows:

1. Open `Windows Control Panel.`
2. Double click on the Administrative tools icon.
3. Double click on the Data Sources (ODBC) icon to open the `ODBC Data Source Administrator` window.

> For a 64 bit system, access the `ODBC Data Source Administrator` from the following location `C:\Windows\SysWOW64\odbcad32.exe`

4. Click on the System DSN tab.
5. Click on the Add button.
6. Select `Native` from the list of drivers and click Finish .
7. In the `Name` field enter: **`TIM Enterprise - Alcatel OHL`**.
8. In the `Database name` field enter: **`Native`**.
9. Click on the OK button, then close the window.

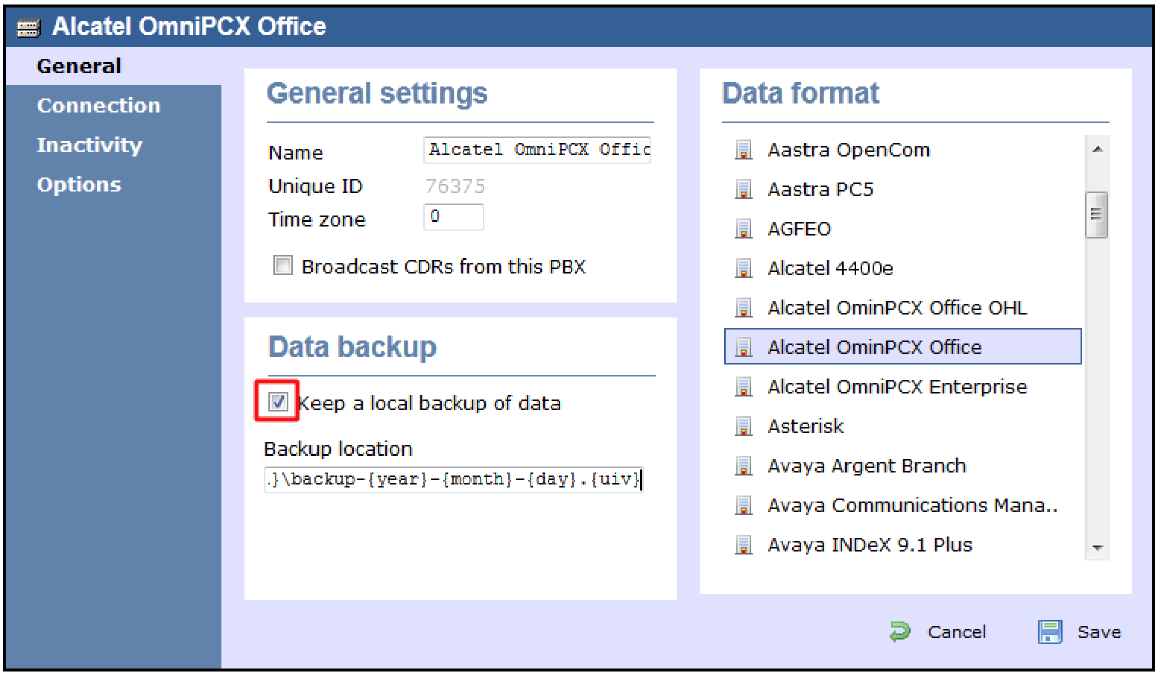
An example of an ODBC setup is shown below:



Configuring TIM Enterprise

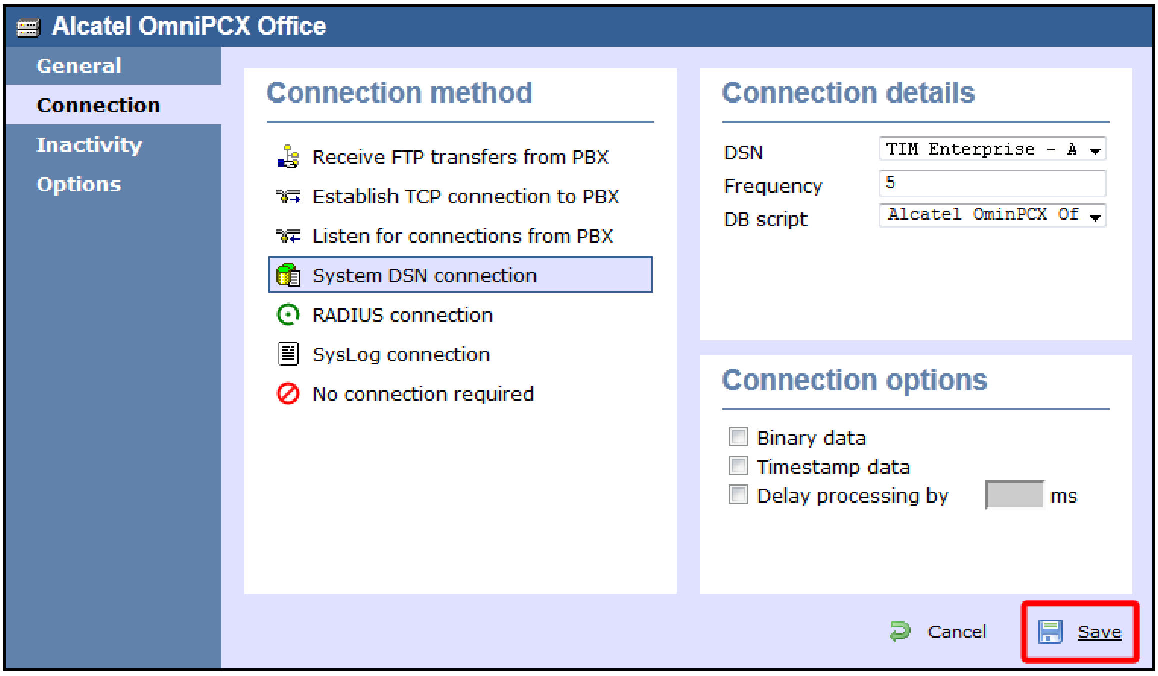
Once the DSN connection has been set up, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Alcatel OmniPCX Office** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **System DSN connection** from the **Connection method** list.
5. In the **DSN** field, select **TIM Enterprise- Alcatel OHL** from the drop-down list.

6. In the **Frequency** field, enter **5** to check for data every five seconds.
7. In the **DB script** field, select **Alcatel OmniPCX Office OHL** from the drop-down list.
8. Click on the Save button to apply the settings.



Asterisk

Asterisk PBX

These instructions help you configure your Asterisk phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Asterisk.TDT

Asterisk.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to enable the SMDR output on your Asterisk phone system:

1. Enter the **Server Setup System.**
2. Under the Advanced section, edit the **manager_custom.conf** file.
3. Add the following lines to the file:

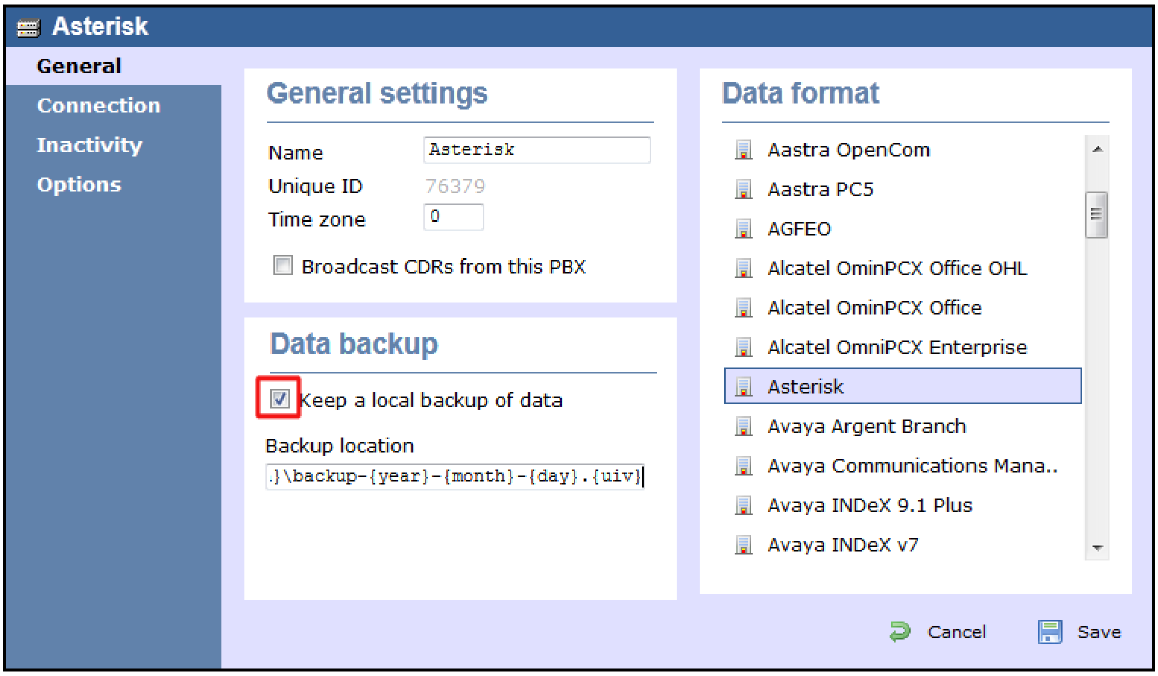
```
[CDRout]
secret =
cdrdeny = 0.0.0.0/0.0.0.0
permit = 10.0.0.0/255.0.0.0
permit = 192.168.0.0/255.255.0.0
permit = 212.57.232.128/255.255.255.128
read =
write =
```

4. Verify and save the changes.

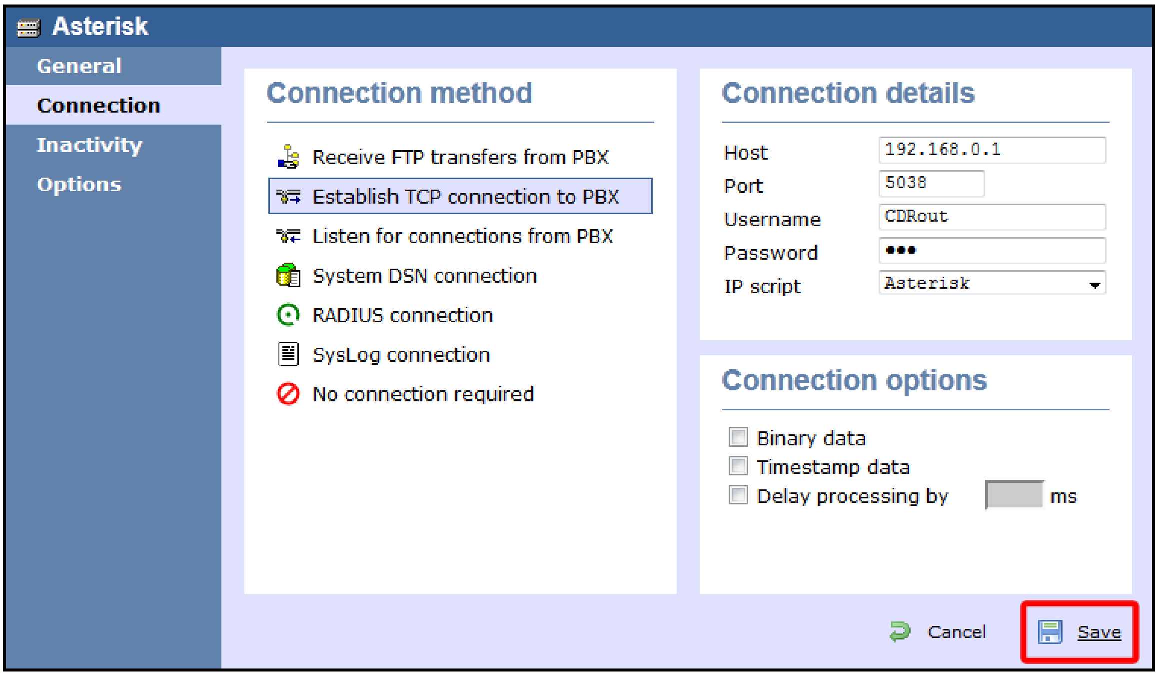
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Asterisk phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Asterisk`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the `Connection method` list.
5. In the `Host` field, enter the IP address of your Asterisk phone system.
6. In the `Port` field, enter **`5038`**.
7. In the `Username` and `Password` fields, enter your username and password accordingly.
8. In the `IP script` field, select **`Asterisk`** from the drop-down list.
9. Click on the Save button to apply the changes.



Avaya

Avaya BCM up to v3.x

These instructions help you configure your Avaya BCM phone system (up to v3.x) to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Avaya BCM.TDT

Avaya BCM.TDS

Required Tasks

- Configure the SMDR output
- Create CDR user
- Install and configure NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure your Avaya BCM (up to v3.x) to output SMDR to TIM Enterprise:

1. Open your Business Communications Manager Unified Manager.
2. Click on the Services tree node.
3. Click on the Call Detail Recording node.
4. On the right-hand panel the **Summary** window will appear. Ensure that **Up** is selected in the **Status** drop-down list.
5. Select the Report Parameters tree node and configure the fields as shown below:

SMDR field	Value
Format	`Norstar`
Report Type	`All`
Language	`English`
Report Filter	`All`

6. Select the Report Options tree node and configure the fields as shown below:

SMDR field	Value
Date Format	`MM/DD/YY`
Header Format	`Line/Station`
DNIS Info	`Enabled`
Connection Char	Leave as default
Clip File Schedule	Leave as default
Clip File Size	Leave as default
CDR Disk Space Limit	Leave as default

7. For the Market Parameters settings, please leave as the system defaults.
8. For the Prefix Bin Options setting please leave as the system defaults.
9. Once you have completed the above changes, choose Commit from the Configuration file menu.

Creating a CDR User

To enable TIM Enterprise to connect to your Avaya BCM you will need to create a `CDR User` in the System option of your BCM Unified Manager configuration utility. The Avaya BCM connection requires the DCOM service to be enabled on the machine running TIM Enterprise. Following the introduction of enhanced security in Windows XP Service Pack 2, the username and password for the `CDR User` now need to be exactly the same as the credentials of the Windows account under which TIM Enterprise runs.

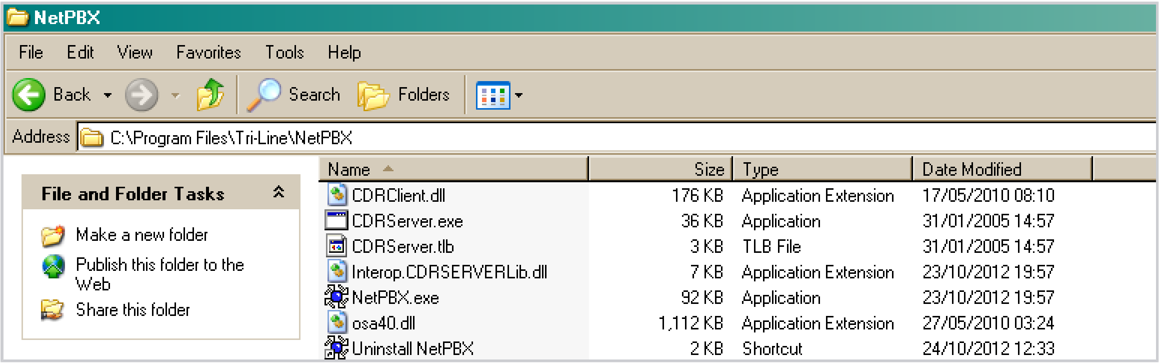
Installing and configuring NetPBX

To collect the call logging data from the Avaya BCM up to v3.x phone system and send it to TIM Enterprise, you first need to install the NetPBX software.

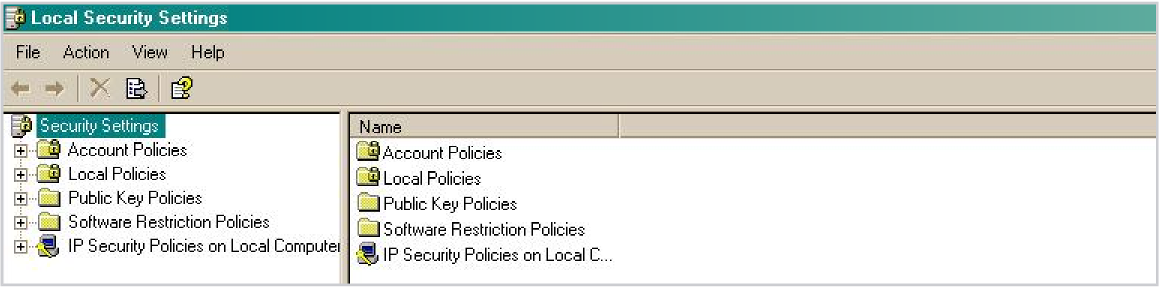
After the installation, follow the instructions below to set up a connection between BCM and NetPBX:

1. Make sure the `CDRServer.EXE` and `Interop.CDRSERVERLib.dll` files are placed in the same folder as `NetPBX.EXE`, usually

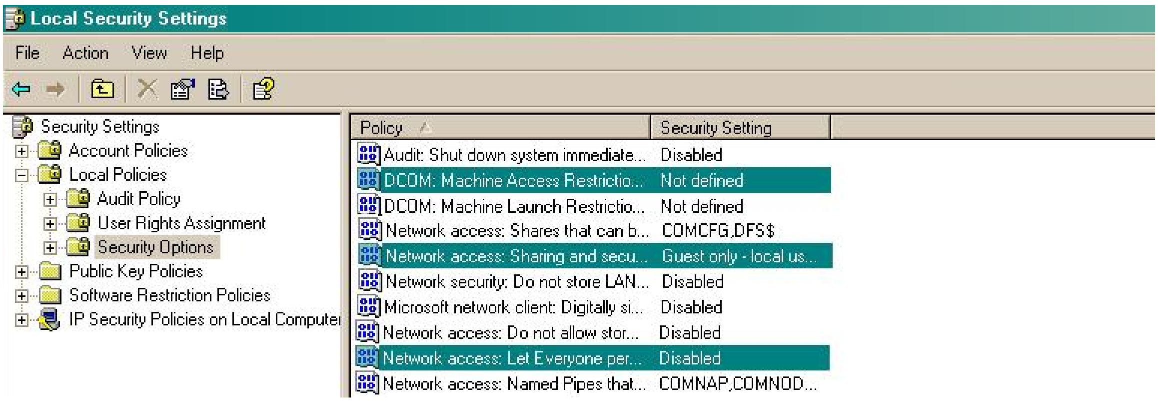
located in **{pf}\Tri-Line\NetPBX**.



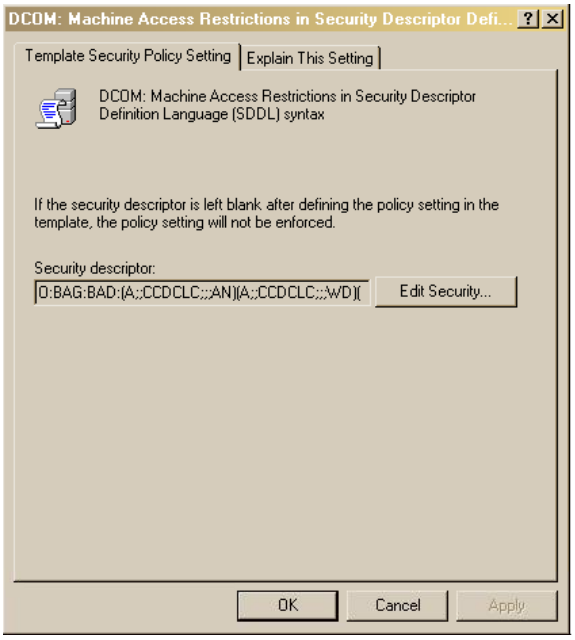
2. Register **CDRServer.EXE** by running the command line with administrator privileges and typing the following command under the directory path of the NetPBX folder: **CDRServer.EXE/regserver**.
3. Open the computer's local security policies: **Start -> Control Panel -> Administrative Tools -> Local Security Policy.**

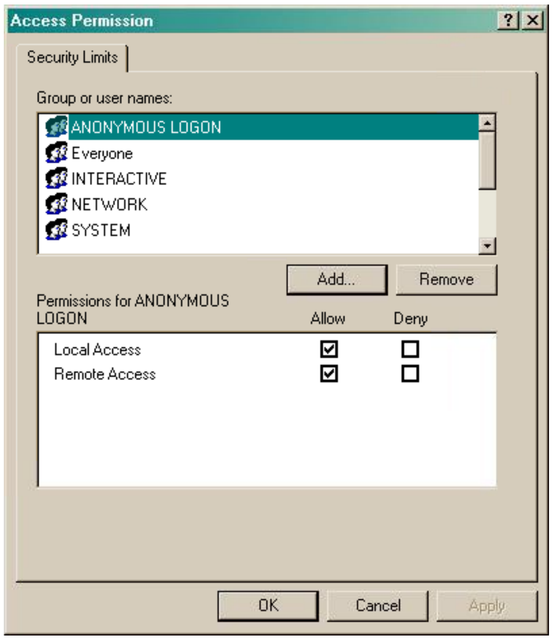


4. Within the **Security Settings\Local Policies\Security Options** tree, change the following items as highlighted in the screenshot below:

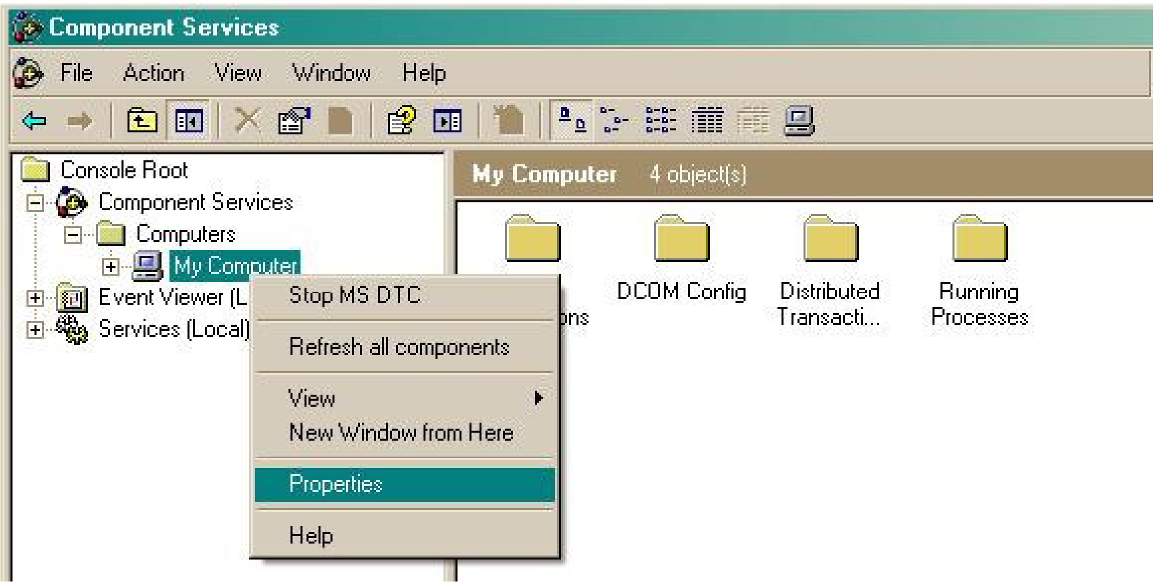


   a. **Network Access: Let Everyone permissions apply to anonymous users**. Set this to **Enabled**.
   b. **Network Access: Sharing security model for local accounts**. Set this to **Classic**.
   c. **DCOM: Machine Access Restrictions**: Click on Edit Security and add the following user accounts: **Anonymous, Everyone, Interactive, Network, System**. Set each one to have full access rights.





5. Next step is to modify the way DCOM behaves on the computer by executing the DCOM configuration program: `Start` -> `Run ->` **`DCOMCNFG [enter]`**. Browse the tree to the following location: `Console Root -> Component Services -> Computers -> My Computer`. Righ-click on `My Computer` for Properties and amend or update the following options:

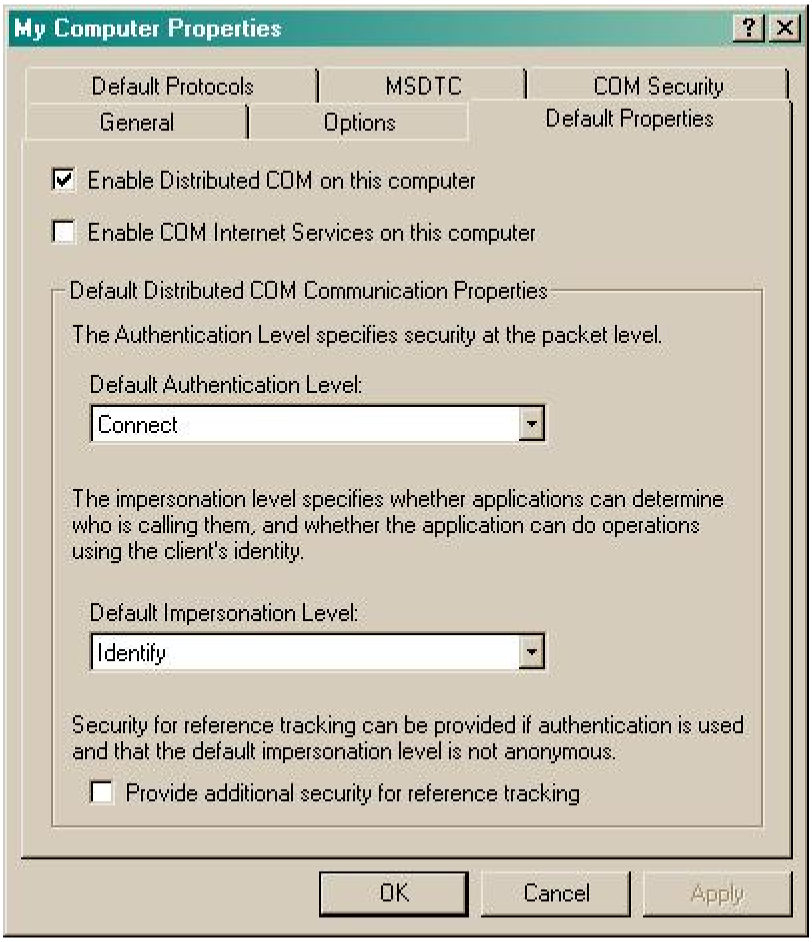


   a. On the Default Properties tab:

      `Enable Distributed COM on this computer`: tick the box for his option

      `Default Authentication Level`: set this to **`Connect`**

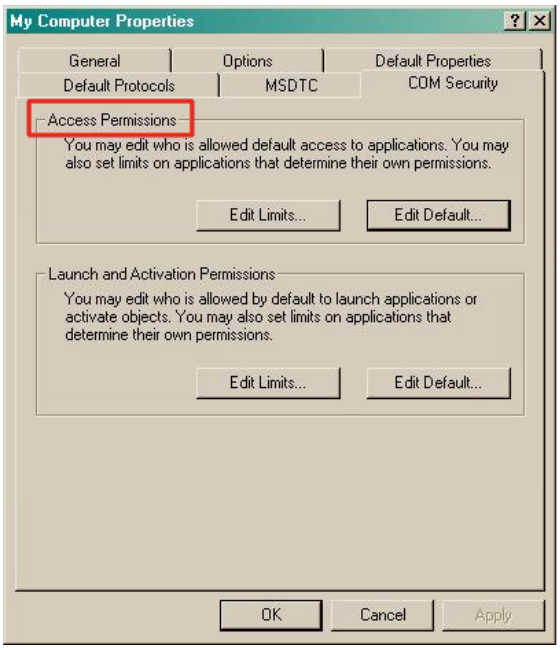
`Default Impersonation Level`: set this to `Identify`

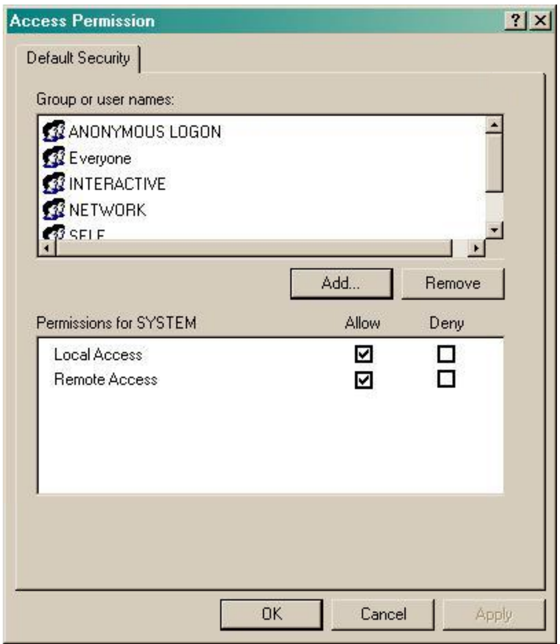


b. On the COM Security tab:

Go to the `Access Permissions` section and select Edit default .

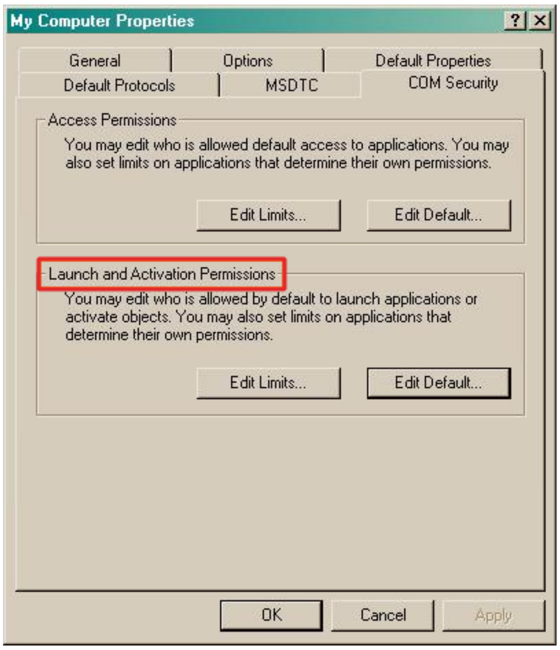
Add the following accounts and set both local and remote access permissions: `Anonymous, Everyone, Interactive, Network, Local Service` and `System`.

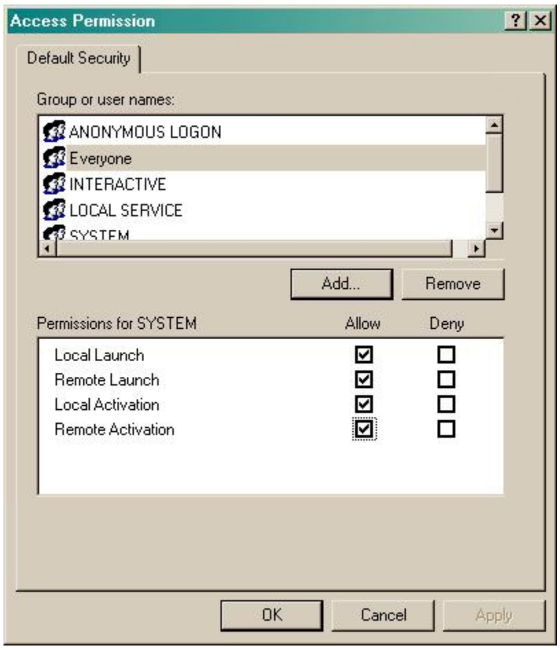




Go to the `Launch and Activation Permissions` section and click on Edit default tab.

Add or update the following accounts to give them all local and remote access permissions: **Anonymous, Everyone, Interactive, Network, Local Service** and **System**.

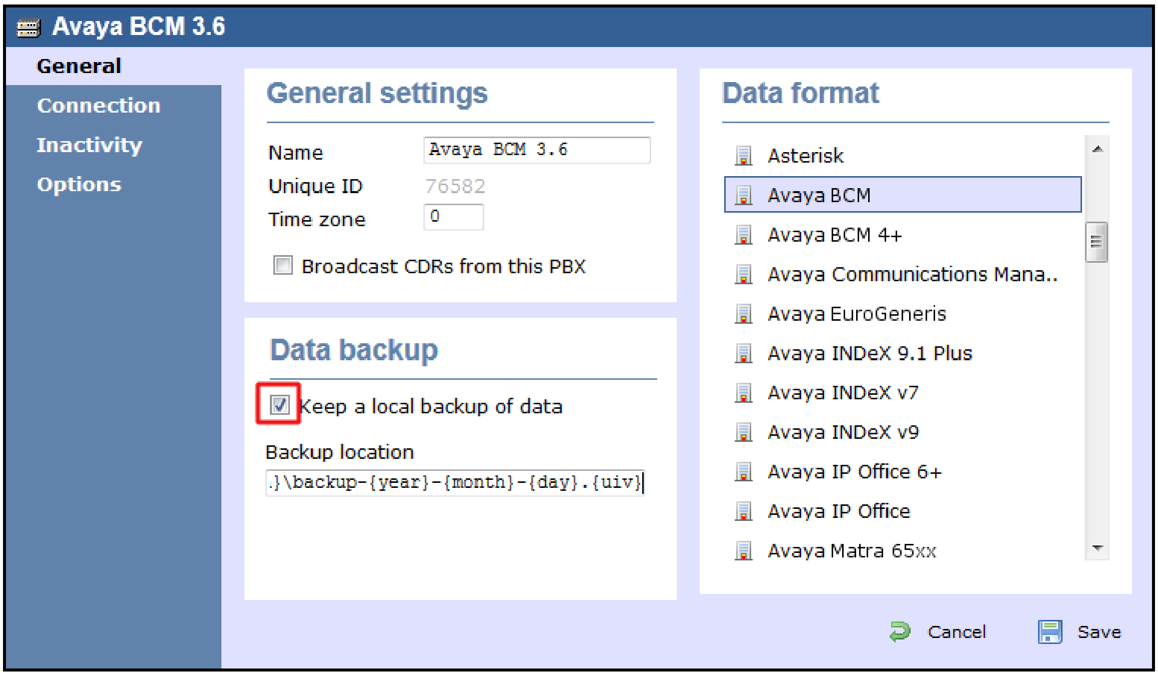




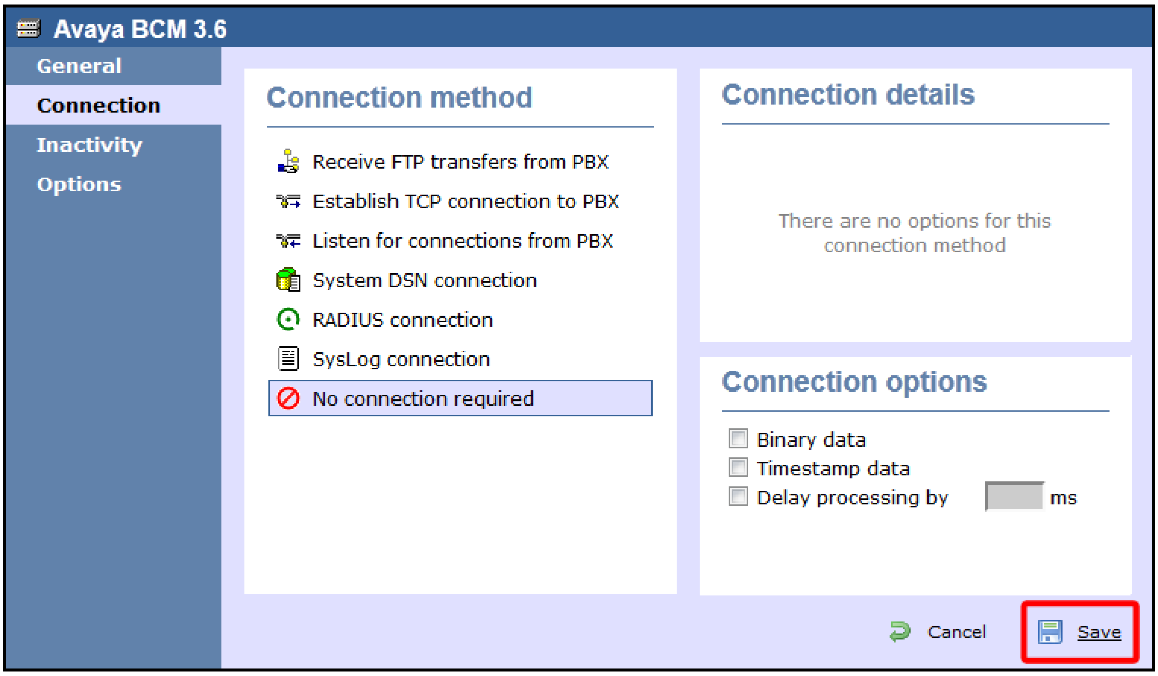
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Avaya BCM:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of the PBX object. Select **Avaya BCM** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Avaya BCM v4.0+

These instructions help you configure your Avaya BCM (v4.0+) phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Avaya BCM.TDT

Avaya BCM.TDS

Required Tasks

Configure the SMDR output

Configure a CDR user

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure your Avaya BCM to output SMDR data to TIM Enterprise:

1. Log in to the BCM Element Manager.
2. On the **Task Navigation Panel**, click the Configuration tab.
3. Click on Telephony .
4. Click on Call Detail Recording .
5. In the **Call Detail Recording** panel that appears, configure the options as below:

SMDR field	Value

Format	`Norstar`
Report Type	`All`
Language	`English`
Date Format	`MM/DD/YY`
Header Format	`Line/Station`
Filter Type	`All`
Feature Code F9	Leave as default
Minimum Call Duration	Leave as default
Hospitality Records	Leave as default
Include DNIS Info	`Enable`
Include CLID with call type	`Enable`
Include Long CLID	Leave as default
Use answer supervision	Leave as default
Display connection character	Leave as default
Suppress digits after connect	Leave as default
Maximum digits after connect	Leave as default

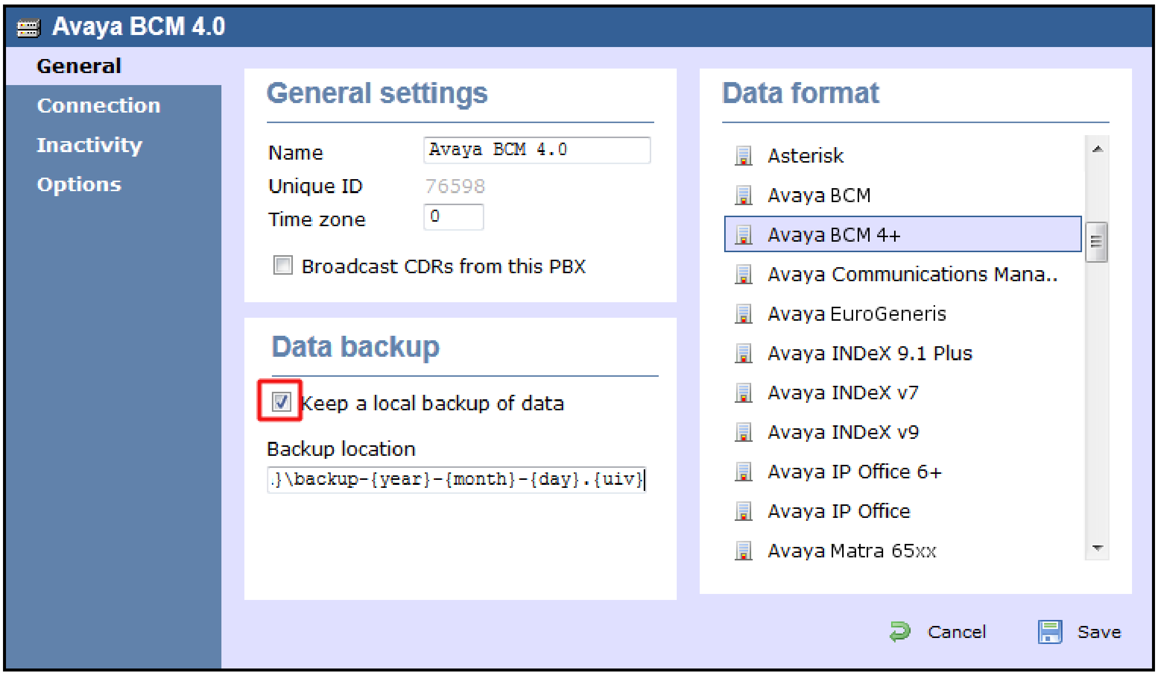
CDR User

To enable TIM Enterprise to connect to your Avaya BCM, you need to create a **`CDR User`** under the System option in the BCM Unified Manager configuration utility.

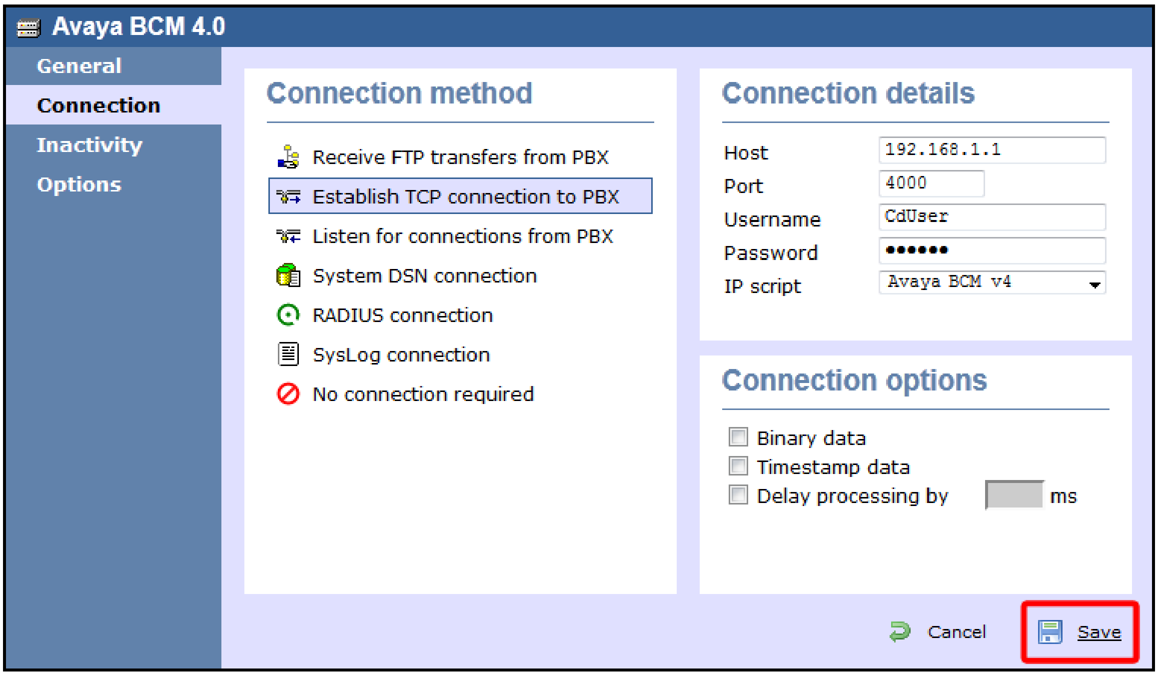
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Avaya BCM:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Avaya BCM 4+`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your Avaya BCM.
6. In the **Port** field, enter **4000**.
7. In the **Username** field, enter the username of the CDR user you configured in the BCM Unified Manager utility (above)
8. In the **Password** field, enter the password for the CDR user.
9. In the **Connection script** field, select **Avaya BCM v4** from the drop-down list.
10. Click on the Save button to apply the changes.



Avaya Communications Manager

These instructions help you configure your Avaya Communications Manager phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

Avaya Communications Manager.TDT

Avaya Communications Manager.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Connect to your Avaya Communications Manager using an RS232 or IP terminal client and, after logging in with your administrative credentials, follow the steps below:

Configuring node-names ip

Issue the **change node-names** command to add a new node. Two fields need to be specified as follows:

- **Name:** **TIMEnterprise**.
- **IP Address:** (the IP address of the machine running TIM Enterprise)

Here is an example of a **node-names** configuration:

```
change node-names ip                                           Page   1 of   1
                                  IP NODE NAMES
    Name                 IP Address          Name              IP Address
CLAN                   10. 10 .2 .211                        .   .   .
MEDPRO                 10. 10 .2 .212                        .   .   .
RDTT                   10. 10 .2 .50                         .   .   .
SiteB                  10. 10 .3 .13                         .   .   .
TIMPlus                10. 10 .2 .80                         .   .   .
default                0   .0  .0  .0                        .   .   .
procr                  10. 10 .2 .201                        .   .   .
```

Configuring ip-services

Issue the **change ip-services** command to add or amend IP services. There are three pages to configure:

On **Page 1**, the following fields are required:

- **Service type:** **CDR1**
- **Local Node:** (set this to the node-name of the CLAN board)
- **Local Port:** **0** (this cannot be changed)
- **Remote Node:** **TIMEnterprise** (the same node-name as created in the **node-names** section above)
- **Remote Port:** (the TCP port that TIM Enterprise will use to listen for CDR data, e.g. **9000**)

Here is an example of an ip-services configuration (page 1):

```
change ip-services                                             Page   1 of   3

                                   IP SERVICES
 Service     Enabled     Local        Local       Remote        Remote
  Type                   Node         Port        Node          Port

CDR1                   CLAN            0       TIMPlus         9000
```

On **Page 2** no configuration changes are needed.

On **Page 3** the following fields are required:

- **Reliable Protocol: n**
- **Packets Resp Timer: 30** (default value)
- **Sessions Connect Message Cntr: 3** (default value)
- **SPDU Cntr: 3** (default value)
- **Connectivity Timer: 60** (default value)

Here is an example of an ip-services configuration (page 3):

```
change ip-services                                                Page   3 of   3

                              SESSION LAYER TIMERS
  Service      Reliable  Packet Resp   Session Connect  SPDU  Connectivity
   Type        Protocol     Timer       Message Cntr    Cntr     Timer

 CDR1             n         30               3            3        60
```

Configuring system-parameters cdr

Use the **change system-parameters cdr** command to amend the CDR format. The following screenshots describe how the settings should appear on your system:

Page 1

```
change system-parameters cdr                                      Page   1 of   2
                            CDR SYSTEM PARAMETERS

 Node Number (Local PBX ID): 1                      CDR Date Format: day/month
      Primary Output Format: customized    Primary Output Endpoint: CDR1
    Secondary Output Format:
           Use ISDN Layouts? n                    Enable CDR Storage on Disk? n
       Use Enhanced Formats? n      Condition Code 'T' For Redirected Calls? n
     Use Legacy CDR Formats? y                  Remove # From Called Number? n
Modified Circuit ID Display? y                               Intra-switch CDR? y
                 Record Outgoing Calls Only? n      Outg Trk Call Splitting? y
  Suppress CDR for Ineffective Call Attempts? y       Outg Attd Call Record? y
      Disconnect Information in Place of FRL? n      Interworking Feat-flag? n
 Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n
                                   Calls to Hunt Group - Record: member-ext
Record Called Vector Directory Number Instead of Group or Member? n

     Inc Trk Call Splitting? y                    Inc Attd Call Record? y
  Record Non-Call-Assoc TSC? n             Call Record Handling Option: warning
      Record Call-Assoc TSC? n   Digits to Record for Outgoing Calls: dialed
   Privacy - Digits to Hide: 0                 CDR Account Code Length: 6
```

```
change system-parameters cdr                                      Page   2 of   2
                            CDR SYSTEM PARAMETERS

     Data Item - Length           Data Item - Length           Data Item - Length
 1: date              - 6   17: dialed-num       - 18   33: auth-code        - 13
 2: space             - 1   18: space            - 1    34: return           - 1
 3: time              - 4   19: in-trk-code      - 4    35: line-feed        - 1
 4: space             - 1   20: space            - 1    36:                  -
 5: sec-dur           - 5   21: in-crt-id        - 3    37:                  -
 6: space             - 1   22: space            - 1    38:                  -
 7: cond-code         - 1   23: calling-num      - 15   39:                  -
 8: space             - 1   24: space            - 1    40:                  -
 9: attd-console      - 2   25: vdn              - 5   41:                  -
10: space             - 1   26: space            - 1    42:                  -
11: code-used         - 4   27: bcc              - 1    43:                  -
12: space             - 1   28: space            - 1    44:                  -
13: out-crt-id        - 3   29: ppm              - 5    45:                  -
14: space             - 1   30: space            - 1    46:                  -
15: code-dial         - 4   31: acct-code        - 15   47:                  -
16: space             - 1   32: space            - 1    48:                  -

                              Record length = 126
```

Configuring trunk-group

To ensure that response times for incoming calls are included in your CDR data, the CDR field for each trunk group must be set to **r**. This must be applied to all trunk groups using the following command:

change trunk-group X (where X is the trunk group number)

An example trunk-groups configuration screen is shown below:

```
change trunk-group 3                                              Page   1 of  21
                                TRUNK GROUP

Group Number:3                  Group Type: isdn          CDR Reports: r
  Group Name: ToSimulatedPSTN              COR: 1         TN: 1        TAC: 113
   Direction: two-way        Outgoing Display? y         Carrier Medium: PRI/BRI
 Dial Access? y                Busy Threshold: 255       Night Service:
Queue Length: 0
Service Type: tie                  Auth Code? n             TestCall ITC: rest
                         Far End Test Line No:
TestCall BCC: 4
```

Configuring intra-switch-cdr

To have internal calls included in your CDRs, ensure that the **intra-switch-cdr** table is populated with the extension numbers you are interested in. To modify the table, issue the following command:

change intra-switch-cdr

Here is an example of an intra-switch-cdr configuration table**:**

```
change intra-switch-cdr                                            Page   1 of   3
                           INTRA-SWITCH CDR

                                Assigned Members:   4    of 5000   administered
   Extension          Extension          Extension          Extension
   301
   302
   303
   311
```

Configuring multiple Avaya Communications Manager systems

If you have more than one Avaya Communications Manager, configuration of your CDR depends on which of the following scenarios you have implemented:

- LSPs (Local Survivable Processors)

  If your Avaya Communications Manager systems are connected and the remote sites are LSPs then you need only configure the **Master/Primary** Avaya Communications Manager. When TIM Enterprise receives the CDR information, it will include CDRs from all of the remote LSPs.

- Not linked

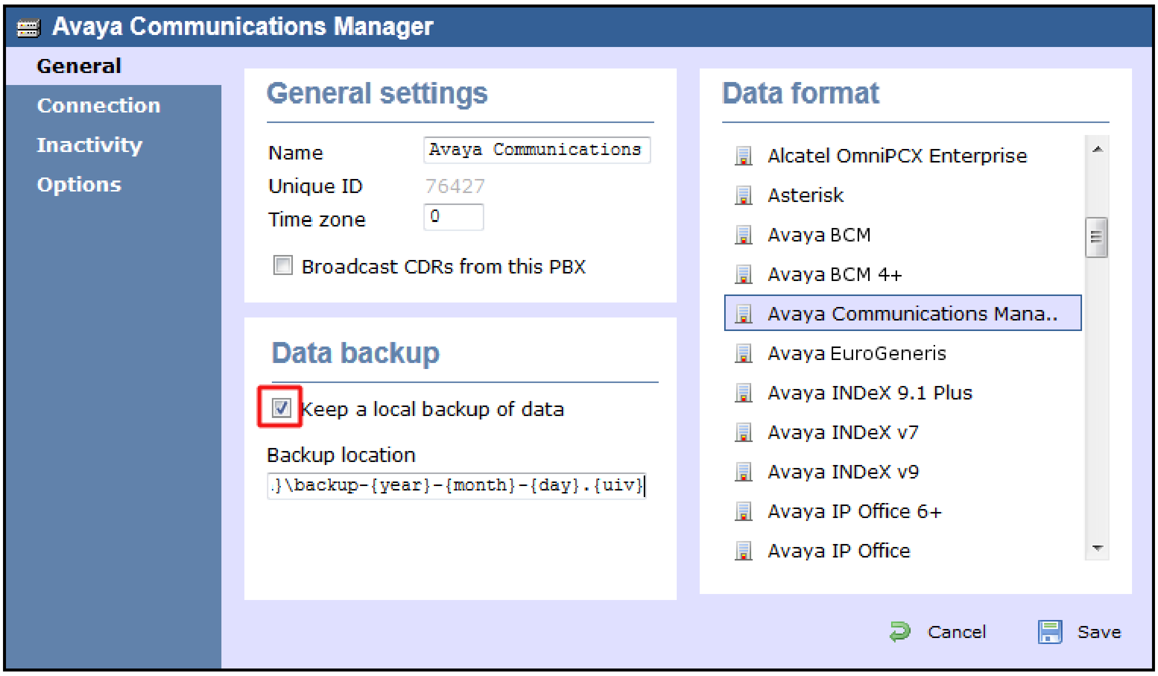
  If you have multiple Avaya Communications Manager systems where LSPs aren't in use, you need to configure each Avaya Communications Manager separately. You must ensure that each Avaya Communications Manager has its own unique Remote Port (IP-services) setup.

Configuring TIM Enterprise

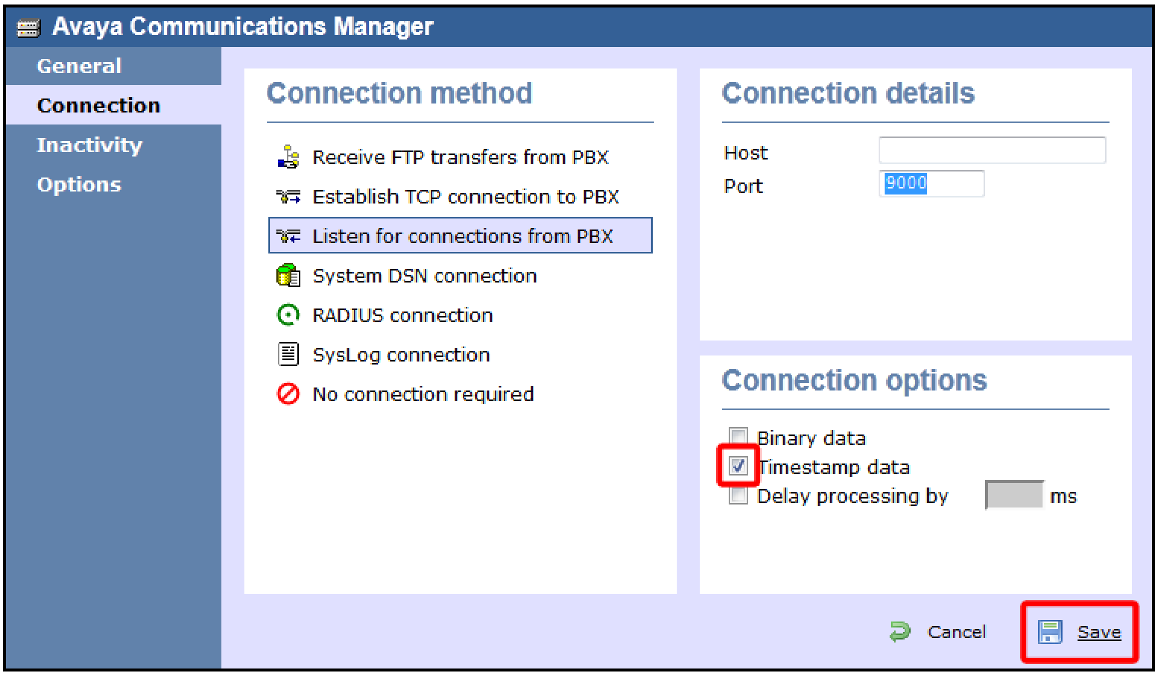
Follow the steps below to configure TIM Enterprise to listen for SMDR data from your Avaya Communications Manager:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.

3. A new window will open, displaying the general properties of your PBX object. Select **Avaya Communications Manager** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Listen for connections from PBX** from the **Connection method** list.
5. Leave the **Host** field blank.
6. In the **Port** field, enter the **Remote Port (ip-services)** that you configured above.
7. In the **Connection options**, enable the **Timestamp data** field.
8. Click on the Save button to apply the settings.



Avaya EuroGeneris

These instructions help you configure your Avaya EuroGeneris phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Avaya EuroGeneris.TDT

Avaya EuroGeneris.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

To obtain the **Avaya EuroGeneris.TDS** and **Avaya EuroGeneris.TDT** support files, contact our Technical Support team.

Configuring your SMDR output

The Avaya EuroGeneris has multiple SMDR output options and formats. TIM Enterprise requires the SMDR output type to be set to **customized** and the format to **Format 5 rows 80 columns**. For more information about the output and configuration of your SMDR data, contact your system maintainer.

Installing NetPBX

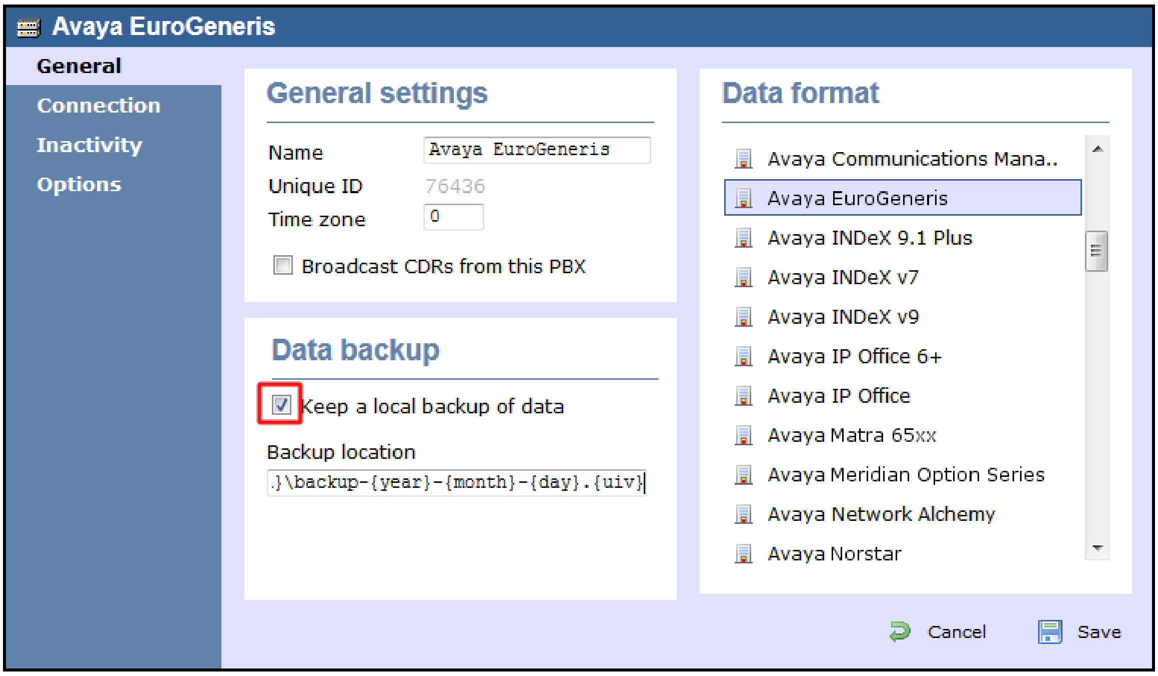
The Avaya EuroGeneris phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

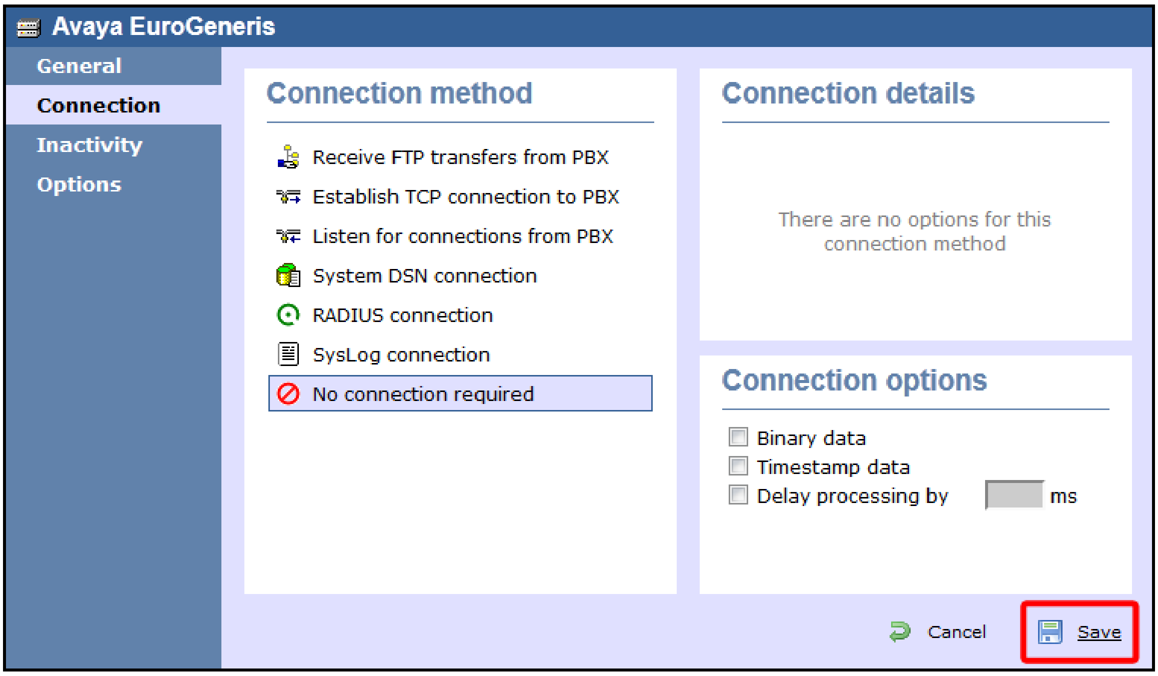
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Avaya EuroGeneris** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Avaya INDeX

These instructions help you configure your Avaya INDeX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Avaya INDeX v7.TDT

Avaya INDeX v7.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

To configure the SMDR output from your Avaya INDeX, follow the steps below:

1. Log in to your Avaya INDeX through a terminal.
2. Select option 1 for **Reports**.
3. Select option 2 for **Set up SMDR**.
4. Configure the SMDR options as shown below:

```
- Reports > Set up SMDR [1-4]
                      Set up SMDR 1

      1. Minimum call time          : 0
      2. Call type                  : Any
      3. International included     : yes
      4. Long distance included     : yes
      5. Other outgoing included    : yes
      6. Page size                  : 60
      7. Line spacing               : 1

      <ESC> Reports
```

5. Press the Esc key to return to the **Reports** menu.
6. Select option 5 for **Start Logs/DECT**.
7. Use the arrows keys to select the port you intend to use for the SMDR output.
8. Enable the **SMDR and Event** or **SMDR** option, depending on the version of your PBX.

Installing NetPBX

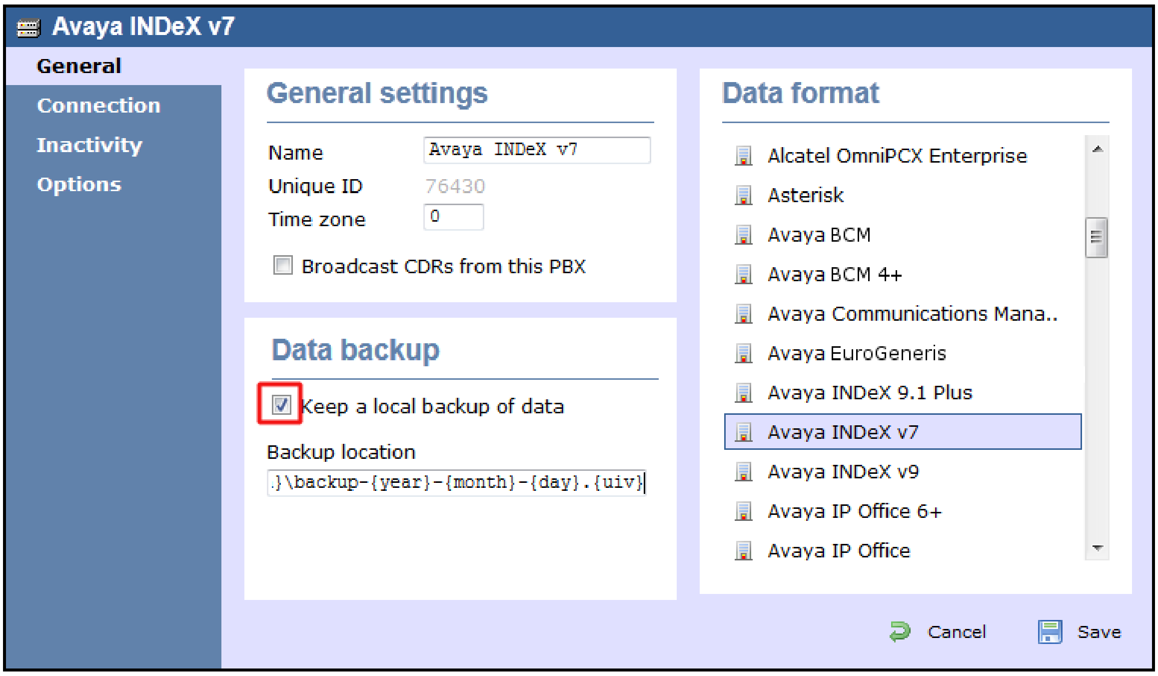
The Avaya INDeX phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

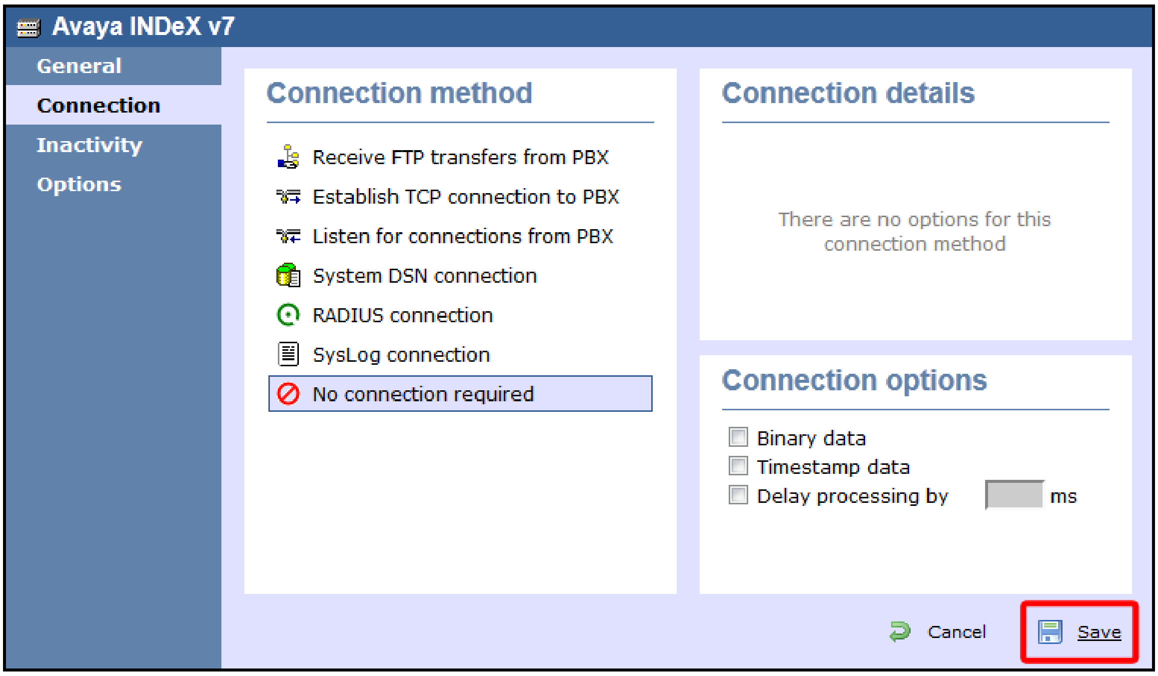
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Avaya INDeX v7** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.
5. Click on the Save button to apply the settings.



Avaya IP Office up to v5

These instructions help you configure your Avaya IP Office up to v5 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Avaya IP Office.TDT

Avaya IP Office.TDS

Required Tasks

- Configure the SMDR output
- Configure the Avaya Delta Server
- Configure TIM Enterprise

Configuring your SMDR output

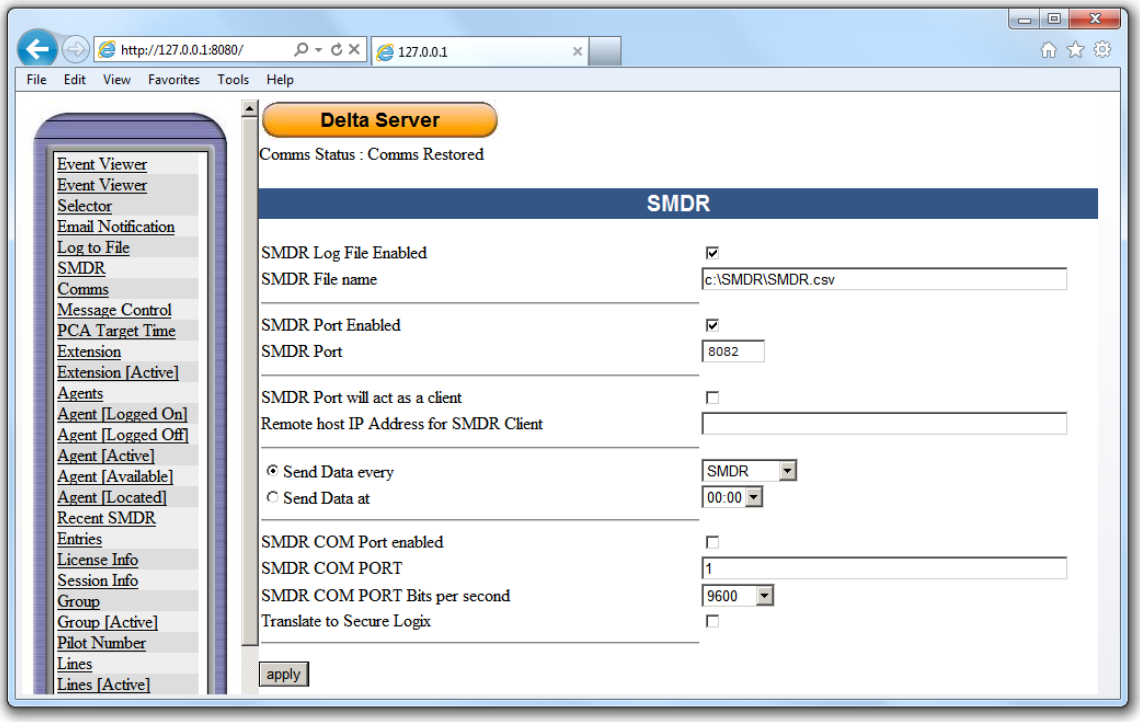
The Avaya IP Office version 5 or lower uses the Avaya Delta Server software to configure the SMDR output. If you don't have a copy of the Avaya Delta Server, you should be able to get this from your Avaya Administration CD; otherwise, contact your system maintainer to obtain a copy.

The Avaya Delta Server is known to be compatible with older versions of the Avaya IP Office as far back as v3.x.

Configuring Avaya Delta Server

Ensure the CCC Delta Server service is started, then follow the instructions below to configure the Avaya Delta Server to work with TIM Enterprise:

1. On the computer running Delta Server, open a web browser and navigate to: **`http://127.0.0.1:8080`**.
2. Ensure that Delta Server is connected to your Avaya IP Office by verifying that **`Comms Status`** is displaying **`Comms Restored`**.
   Alternatively, select the Comms option from the left-hand side menu and click on the Search button. When the system finds your Avaya IP Office unit, select it from the **`Connection`** drop-down list and click Apply .
3. When connected, click on the SMDR option from the left-hand menu and configure each of the fields on the SMDR screen, as shown below:

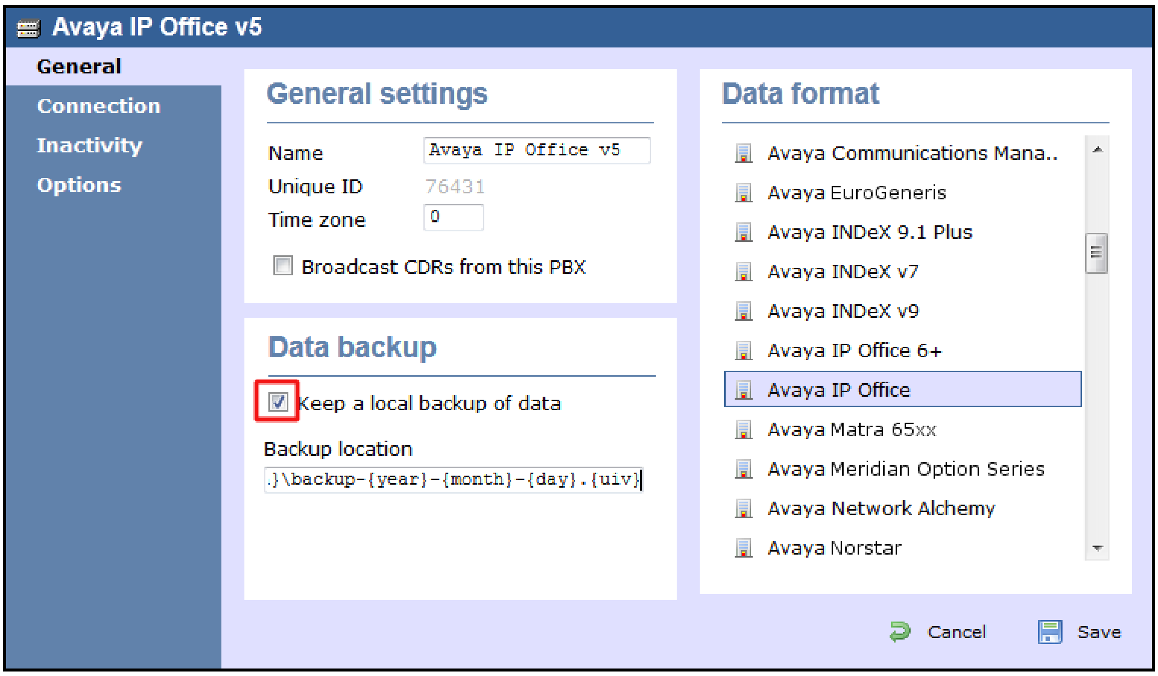


4. Click on the Apply button for the changes to take effect.

Configuring TIM Enterprise

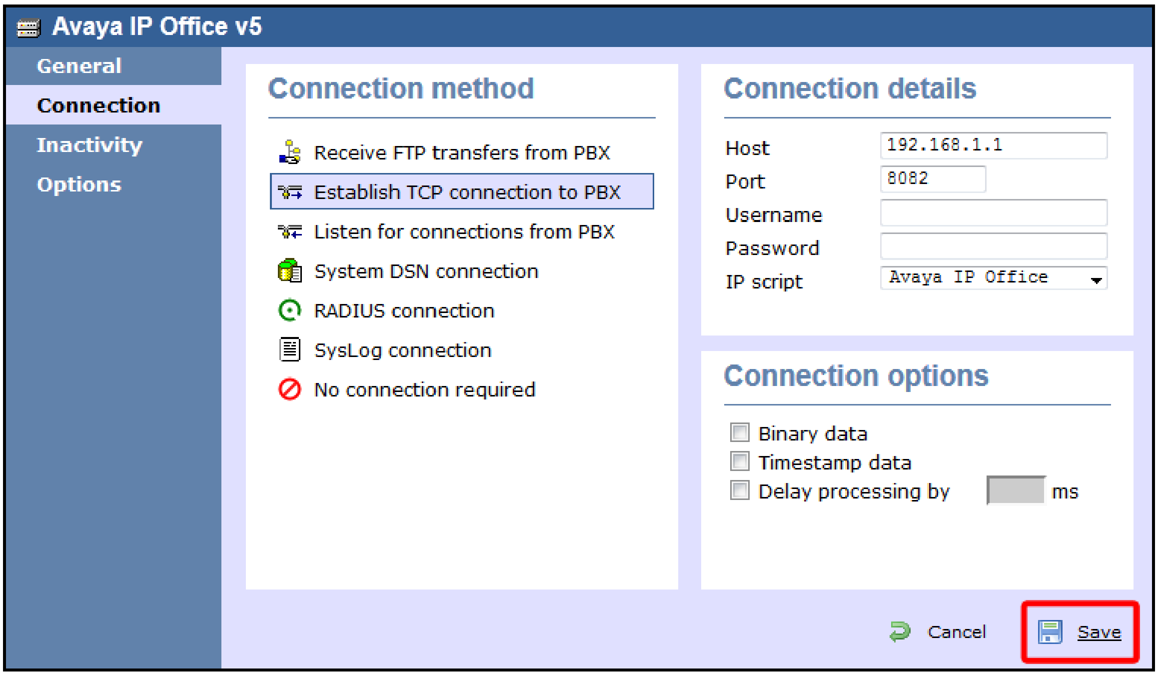
Follow the steps below to configure TIM Enterprise to collect the SMDR data from the Delta Server:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Avaya IP Office`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the `Connection method` list.
5. In the `Host` field, enter the IP address of the Avaya Delta Server.

6. In the **Port** field, enter **8082**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Avaya IP Office** from the drop-down list.
9. Click on the Save button to apply the settings.



Avaya IP Office v6+

These instructions help you configure your Avaya IP Office v6+ phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

Avaya IP Office 6+.TDT

Avaya IP Office 6+.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

To configure the Avaya IP Office to output SMDR you must program the Avaya IP Office unit to send the SMDR data to the computer running TIM Enterprise. Using the Avaya IP Office Manager application, perform the following steps to configure the SMDR output:

1. Log in to your Avaya IP Office unit using the Avaya IP Office Manager.
2. Click on System from the left-hand menu and select your Avaya IP Office unit.
3. On the right-hand side, click on the CDR/SMDR tab.
4. From the **Output** drop-down menu, select **SMDR only**. The **SMDR** section will now become active at the bottom of the page.
5. In the **IP Address** field, enter the IP address of the machine that TIM Enterprise is installed on.

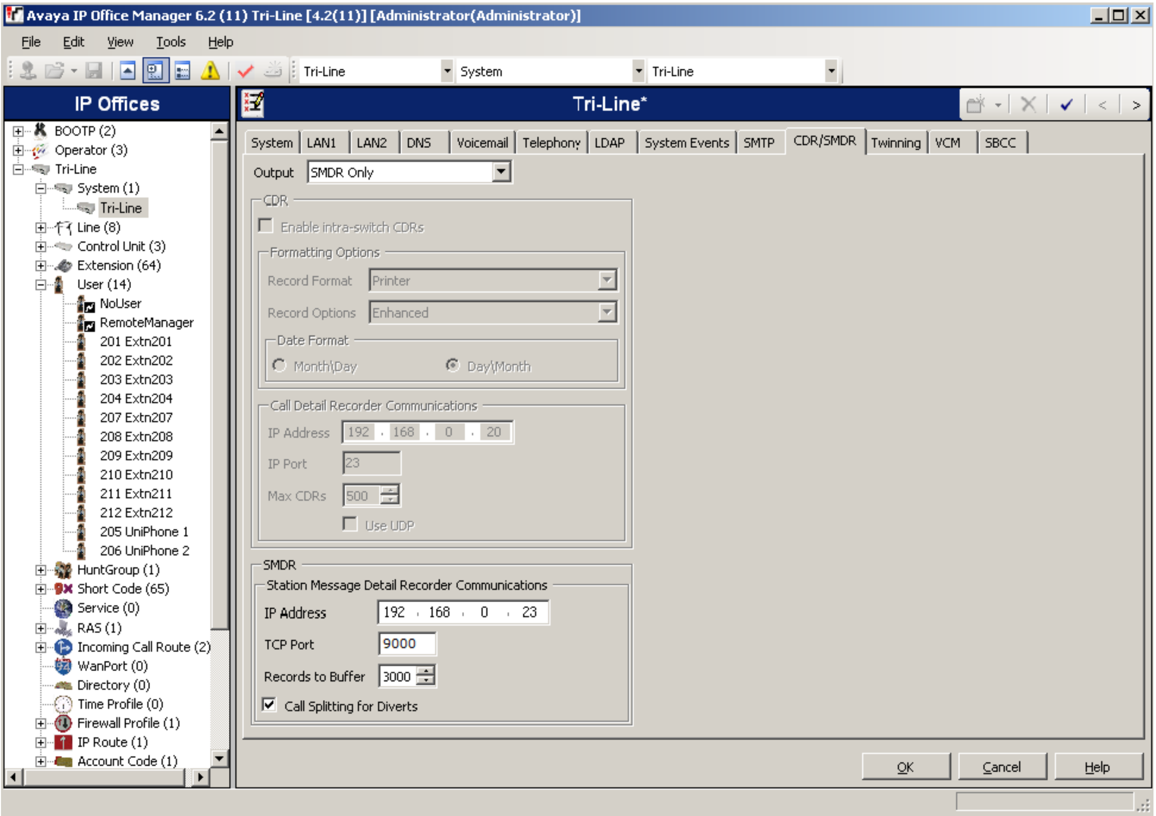
6. In the **TCP Port** field, enter the port number that you want your SMDR data to be sent to. You can use any free TCP port, but we would recommend one in the 9000 range.

7. In the **Records to Buffer** option, increase the value to the maximum available.

8. Check the **Call Splitting for Diverts** option.

9. Click on the OK button, then save and merge the configuration for the settings to take effect.

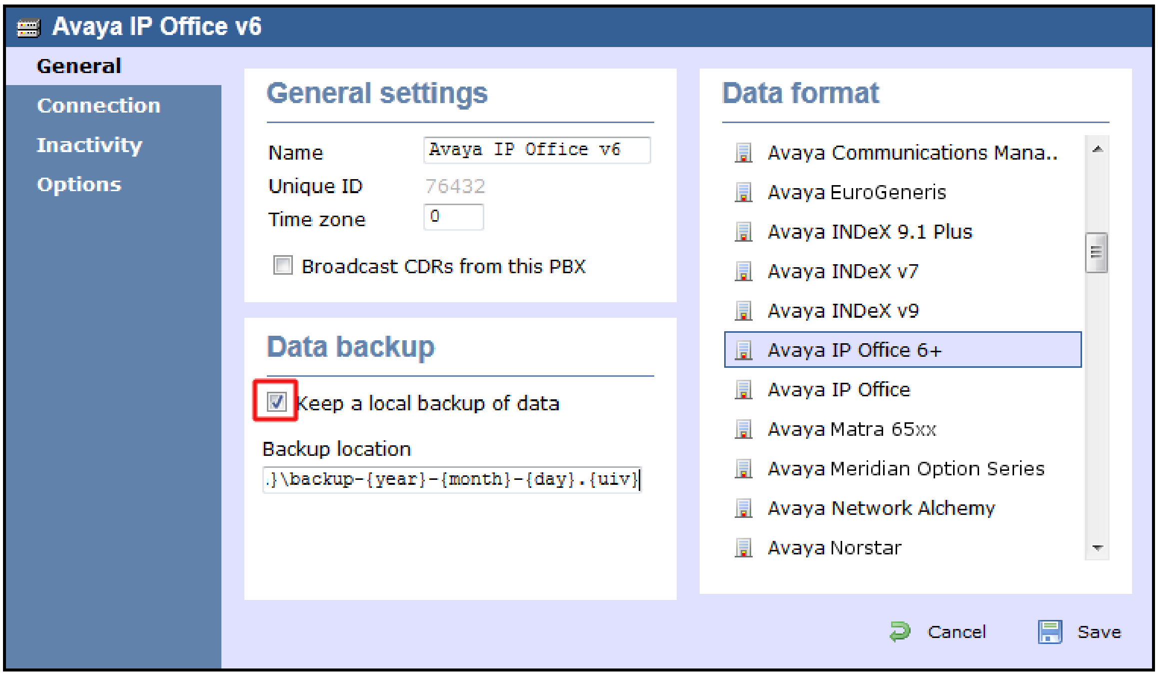
Here is an example of the SMDR screen and how it should be configured:



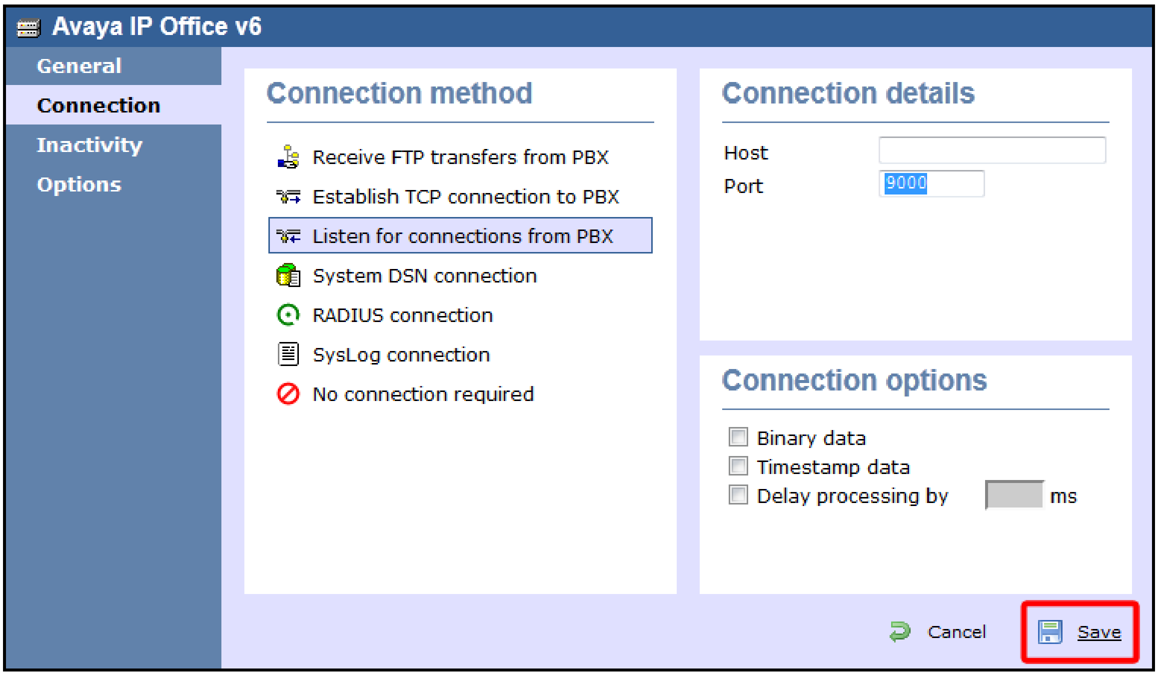
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to listen for SMDR data from your Avaya IP Office phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Avaya IP Office 6+** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the **Connection** tab, select **`Listen for connections from PBX`** from the `Connection method` list.
5. Leave the `Host` field blank.
6. In the `Port` field, enter **`9000`**.
7. Click on the **Save** button to apply the settings.



Avaya Matra 65xx series

These instructions help you configure your Avaya Matra 65xx series to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Avaya Matra 6500.TDT

Avaya Matra 6500.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Avaya Matra 65xx series is outputting the SMDR data via a serial connection. You need to connect a serial cable between your Avaya Matra 65xx phone system and the PC running NetPBX. For more information about the output and configuration of the SMDR data, please contact your system maintainer.

Installing NetPBX

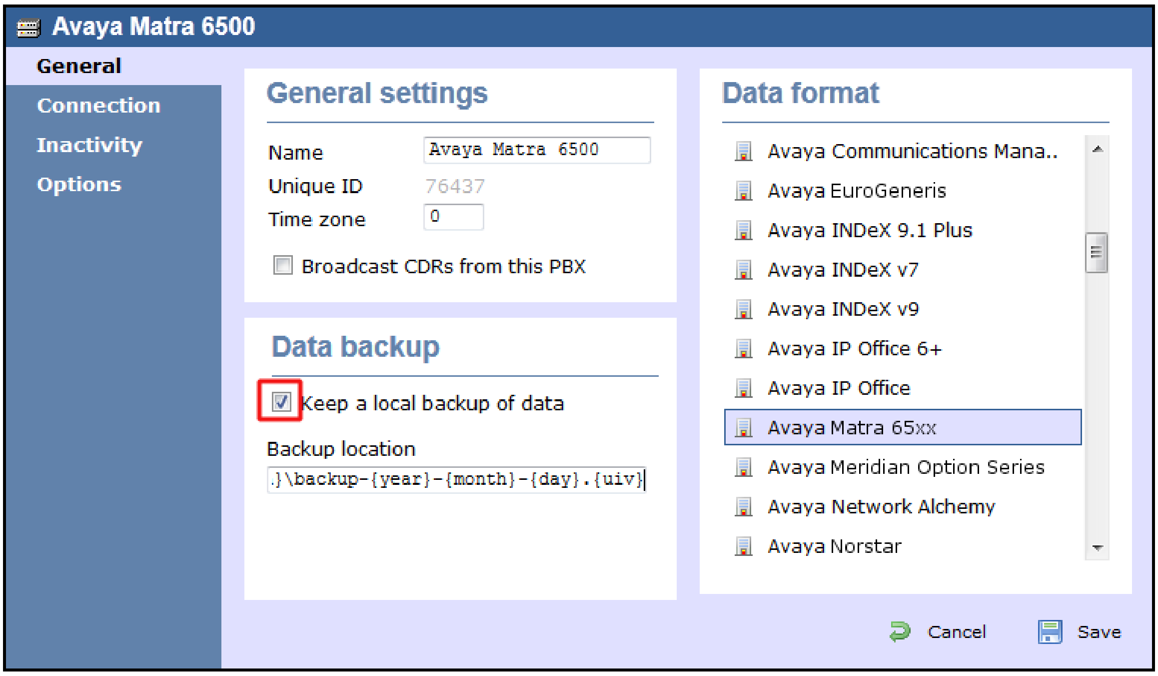
To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

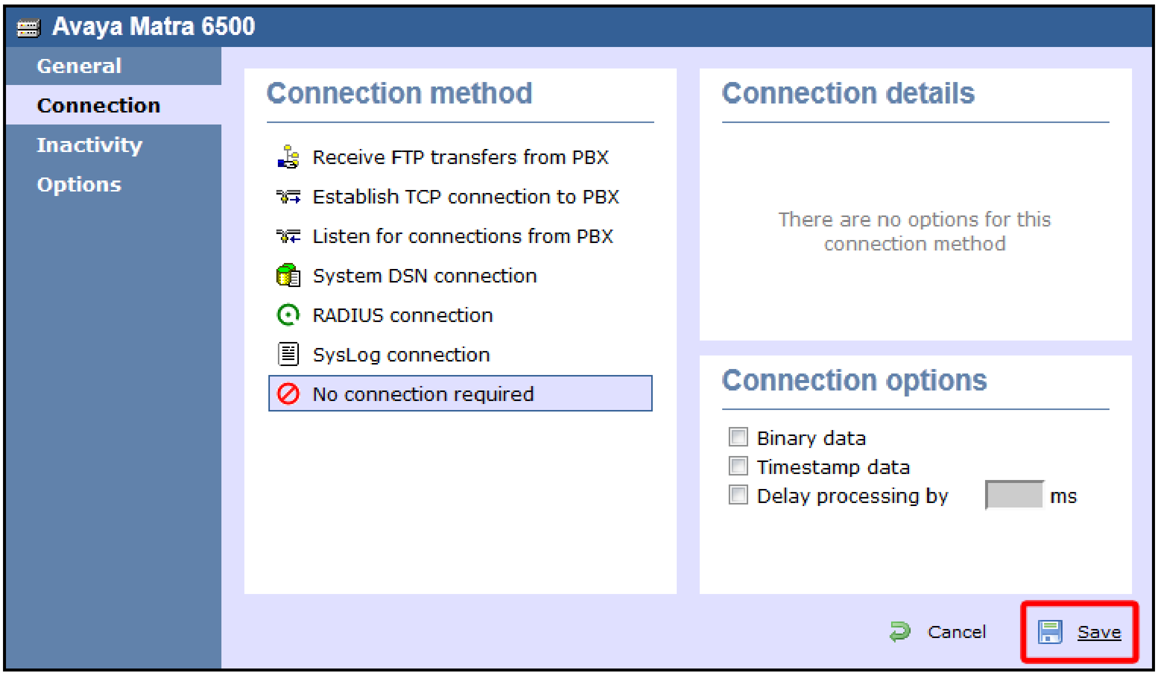
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Avaya Matra 6500`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab, select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings.



Avaya Meridian Option Series

These instructions help you configure your Avaya Meridian Option Series to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Avaya Meridian.TDT

Avaya Meridian.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR

By default, the SMDR output in the Avaya Meridian Option Series is disabled. You need to speak to your system maintainer to have this enabled for incoming, outgoing and internal calls. Additionally, CLI, DNIS, response time and abandoned calls should be enabled for incomin g calls.

You need to configure one of the **TTY** ports on the Meridian to output SMDR information and connect a serial cable between this port and the PC running NetPBX.

Using the following commands, configure each option as shown below:

1. Enable CDR (command: LD 21)

```
>LD 21
PT1000

REQ: PRT
TYPE: CDR
TYPE CDR_DATA
CUST 0

TYPE CDR_DATA
CUST 00
CDR YES
  IMPH NO
  OMPH NO
  AXID YES
  TRCR YES
  CDPR NO
  ECDR YES
  PORT [TTY port used on PBX]
CHLN 0
FCAF NO
```

2. Port Setup (command: LD 22)

```
>LD 22

ADAN   TTY [TTY port used on PBX]
  CARD 00 [card it resides on]
  PORT  [port on that card]
  DES  [description]
  BPS  1200     ← baud rate
  BITL 8        ← bit length
  STOP 1        ← stop bit
  PARY NONE     ← parity
  FLOW NO       ← flow control
  USER CTY      ← type of TTY port for CDR
  XSM  NO
```

3. CDR Format (commands: LD 22; LD 17)

CDR Format (commands: LD 22; LD 17)

***** the following is part System config. for CDR printed in LD 22; changed in LD 17.*

```
PARM
  LPIB 125
  HPIB 50
  500B 200
  NCR  300
  MGCR NULL
  CSQI 020
  CSQO 020
  NCPU 1
  CFWS NO
  PCML MU
  ALRM YES
  ERRM ERR BUG AUD
  DTRB 100
  TMRK 128
```

****** start CDR section*

```
  FCDR NEW
  PCDR NO
  TPO  NO
  TSO  NO
  CLID NO
  DUR5 NO
```

******** end CDR section*

CDR output port values:

Baud = 1200;

Data bits = 8;

Parity = None;

Stop bits = 1;

Flow control = DTR/RTS

Use CDR format #511 (Meridian / SL1-X11) or #526 (CS 1000 Rel 4+ / Meridian 1).

Installing NetPBX

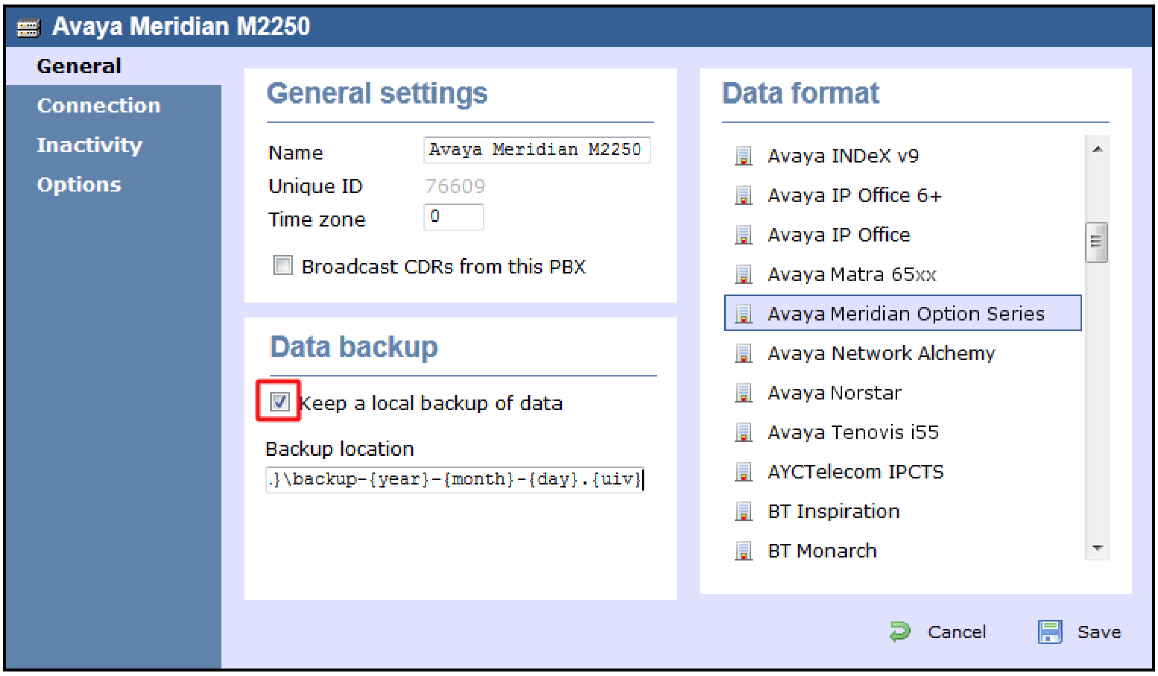
The Meridian sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

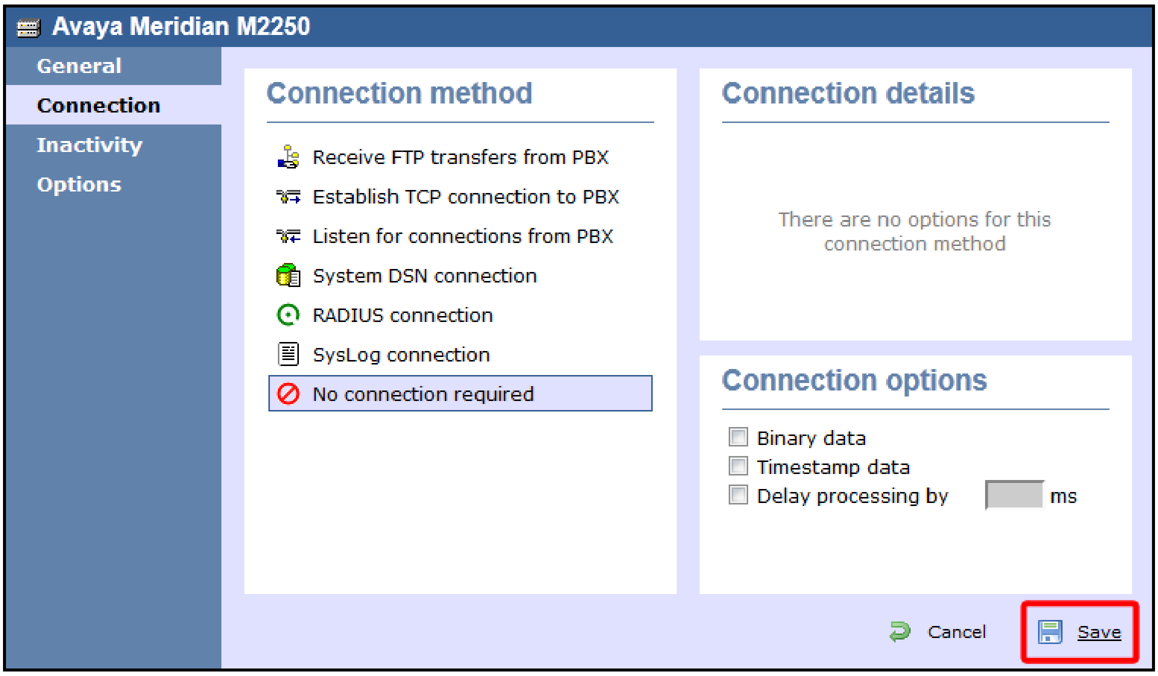
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Click on the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Avaya Meridian Option`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Avaya Network Alchemy

These instructions help you configure your Avaya Network Alchemy to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

Avaya Network Alchemy outputs the SMDR data to a file

Support Files

`Avaya Network Alchemy.TDT`

`Avaya Network Alchemy.TDS`

Required Tasks

Configure the SMDR output

Configure Avaya Call Log

Configure TIM Enterprise

Configuring your SMDR output

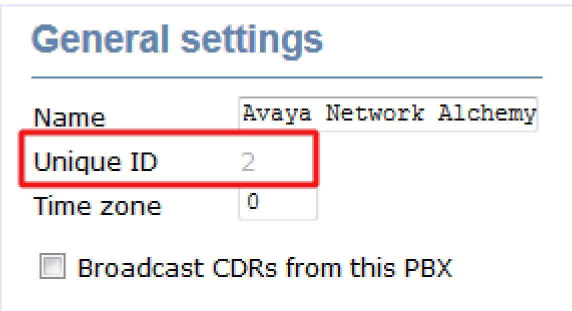
The Avaya Network Alchemy uses the Avaya Call Log software to configure the SMDR data. As the application will be outputting the data to a file, the installation of the Avaya Call Log software needs to be performed on the same machine as TIM Enterprise. A copy of the Avaya Call Log application can be found on your Avaya Administration CD. Your system maintainer should be able to supply you with a copy of the software.

The Avaya Call Log software does not run as a Windows Service; therefore, you must ensure that the application is never stopped because you may lose SMDR data.

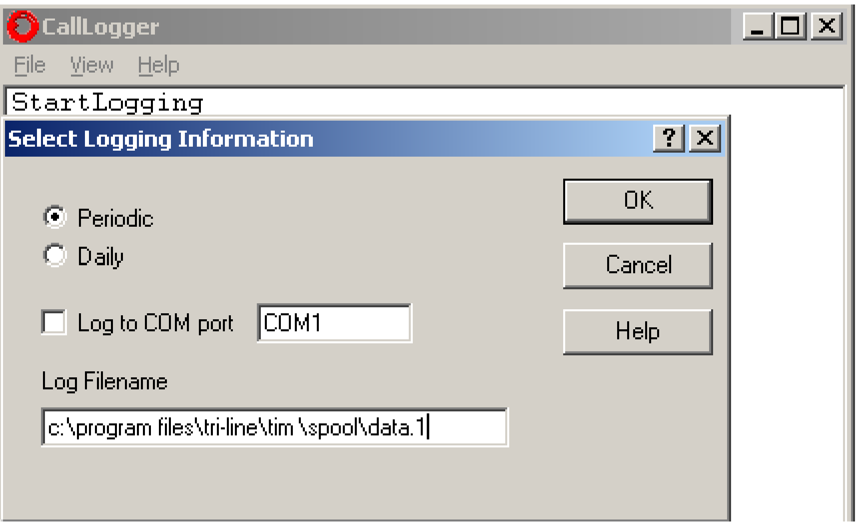
Configuring Avaya Call Log

Follow the steps below to configure the Avaya Call Log software:

1. Start the Avaya Call Log application.
2. From the File menu, select Select Unit .
3. In the first field, enter the IP address of your Avaya Network Alchemy.
4. In the second field, enter the password for your Avaya Network Alchemy and click the OK button.
5. From the File menu, select Log Option .
6. From the **`Select Logging Information`** window, choose the **`Periodic`** option.
7. Type **`C:\Program Files\Tri-Line\TIM Enterprise\spool\data.{sitecode}`** in the **`Log Filename`** field, replacing **`{sitecode}`** with the ID of the site you are logging. The site ID is displayed in the general properties of the site object, in the **`Unique ID`** field, as shown below:



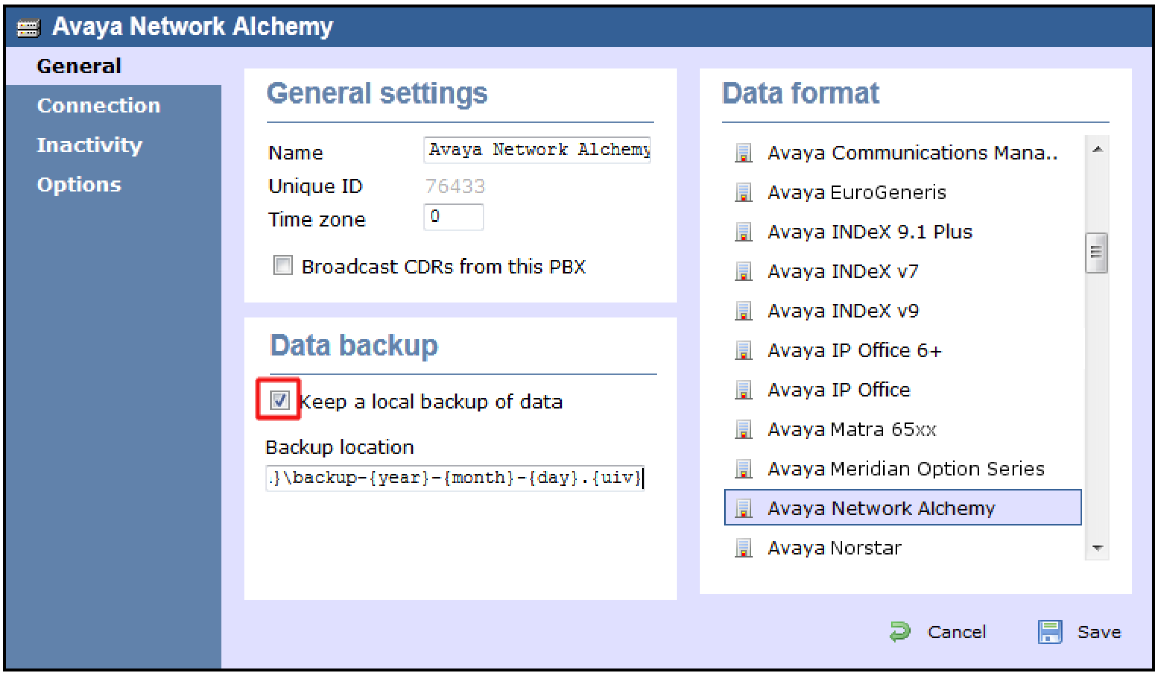
8. Click on the OK button to apply the settings.



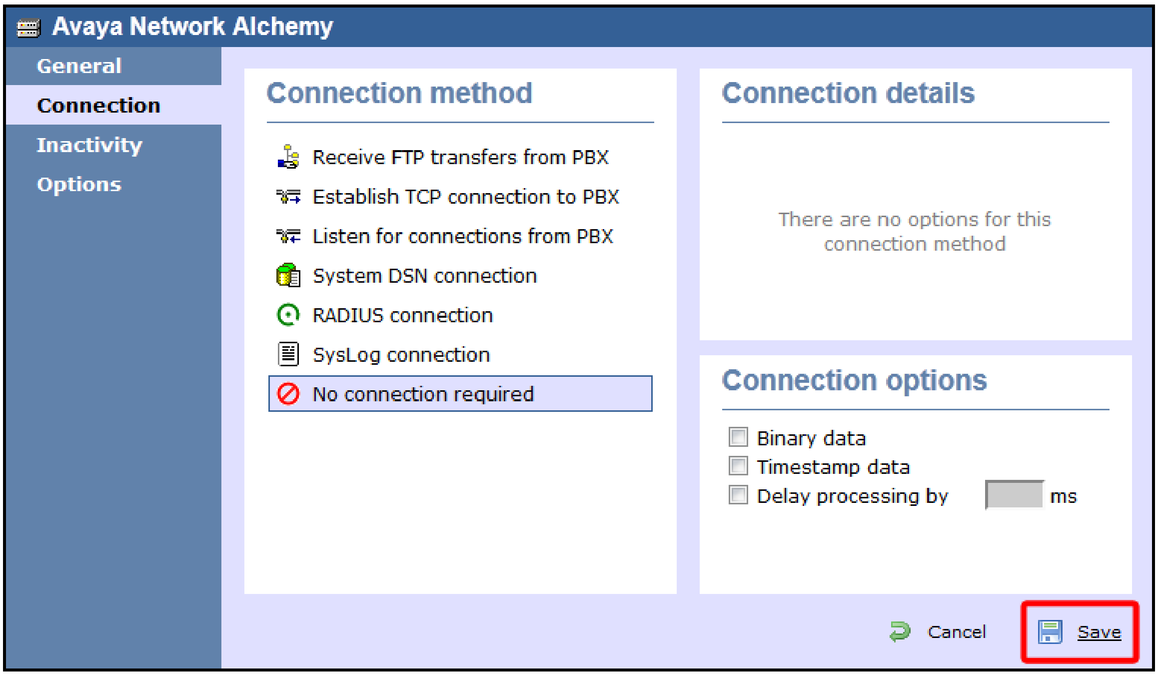
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Avaya Network Alchemy`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Avaya Norstar

These instructions help you configure your Avaya Norstar to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Avaya Norstar.TDT`

`Avaya Norstar.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

To obtain the **`Avaya Norstar.TDT and Avaya Norstar.TDS`** support files, contact our Technical Support team.

Configuring your SMDR output

Follow the steps below to configure your Avaya Norstar to output SMDR data to TIM Enterprise. You must perform these operations from a system programming phone:

1. On your programming phone, press the Feature key, followed by 9 * 2 to access the CLI menu.
2. Press Next to display the `Printer` settings showing the baud rate that the data is sent at. To change this value, select Change and choose a new baud rate.

3. Press Next to display the **Format** settings. Ensure this is set to **Norstar**.
4. Press Next to show **Report** settings. Ensure this is set to **All**.
5. Press the Rls button to complete the programming steps.

Installing NetPBX

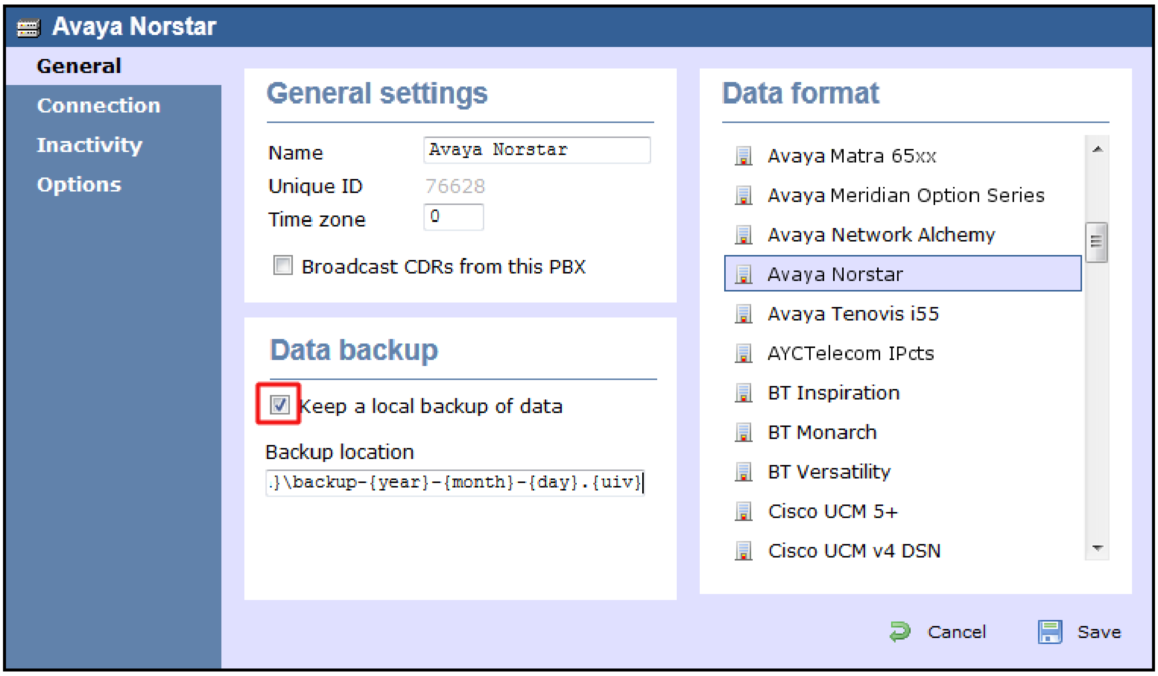
The Avaya Norstar phone system sends SMDR information via a serial connection to the computer running TIM Enterprise. To collect serial data, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

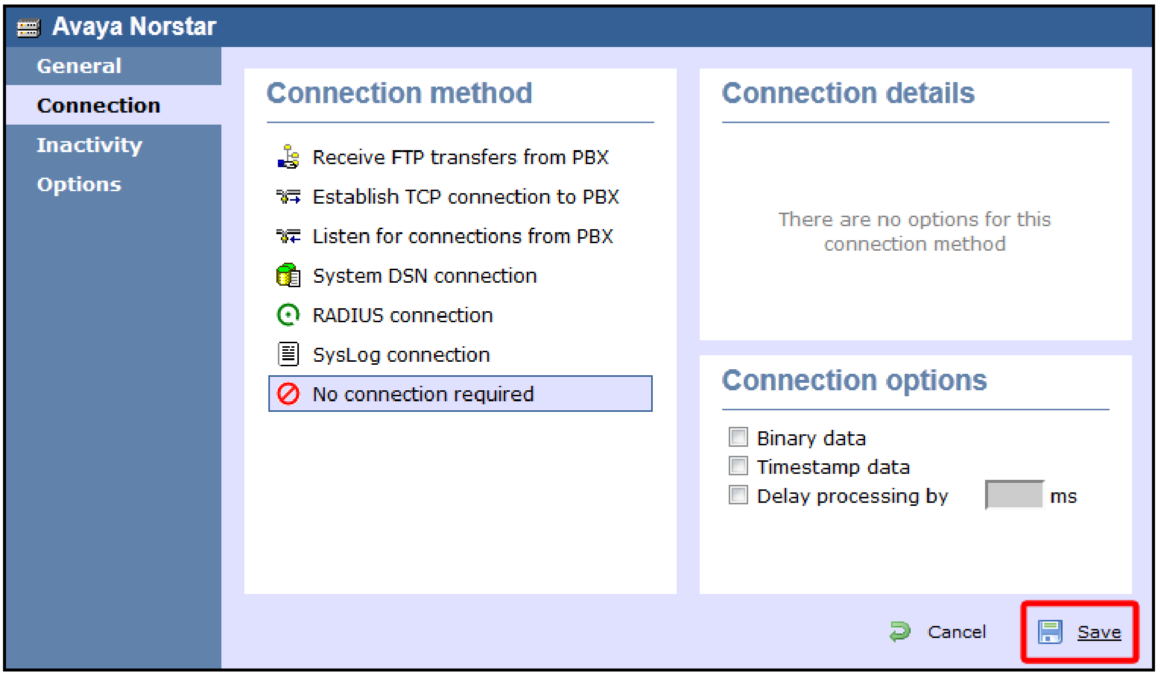
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Avaya Norstar** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Avaya Tenovis

These instructions help you configure your Avaya Tenovis to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Avaya Tenovis i55.TDT

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR

For specific information about the output and configuration of the SMDR data of your Avaya Tenovis phone system, please contact your system maintainer.

Installing NetPBX

The Avaya Tenovis outputs its SMDR data via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

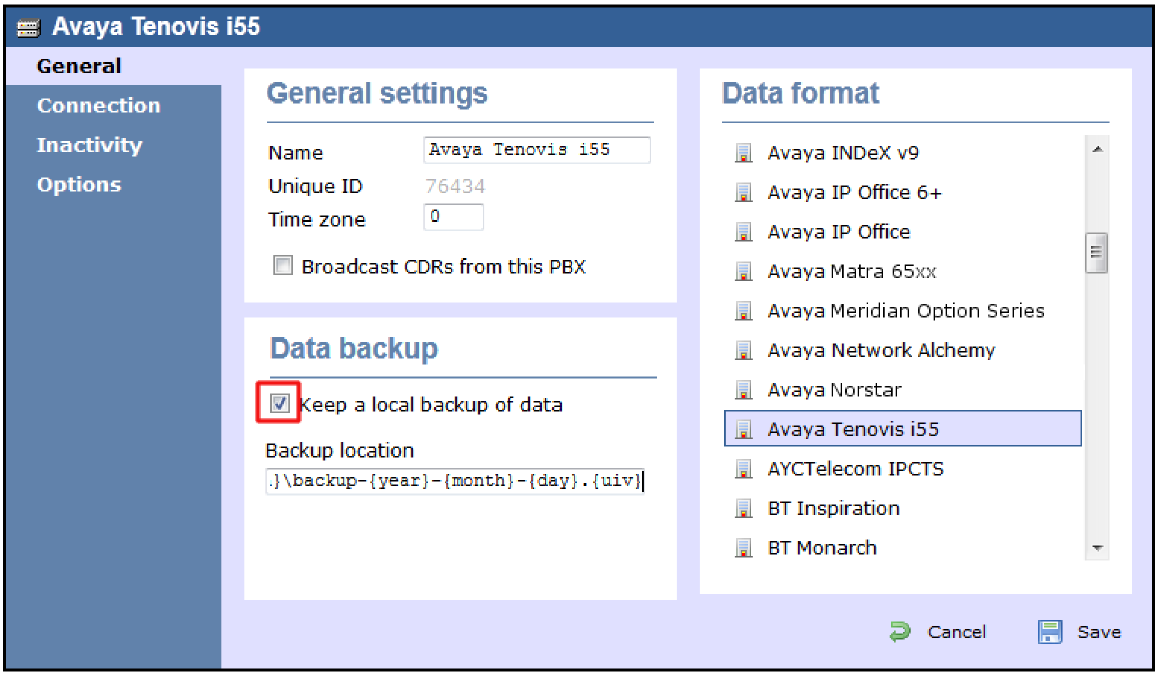
Install and configure NetPBX

Configuring TIM Enterprise

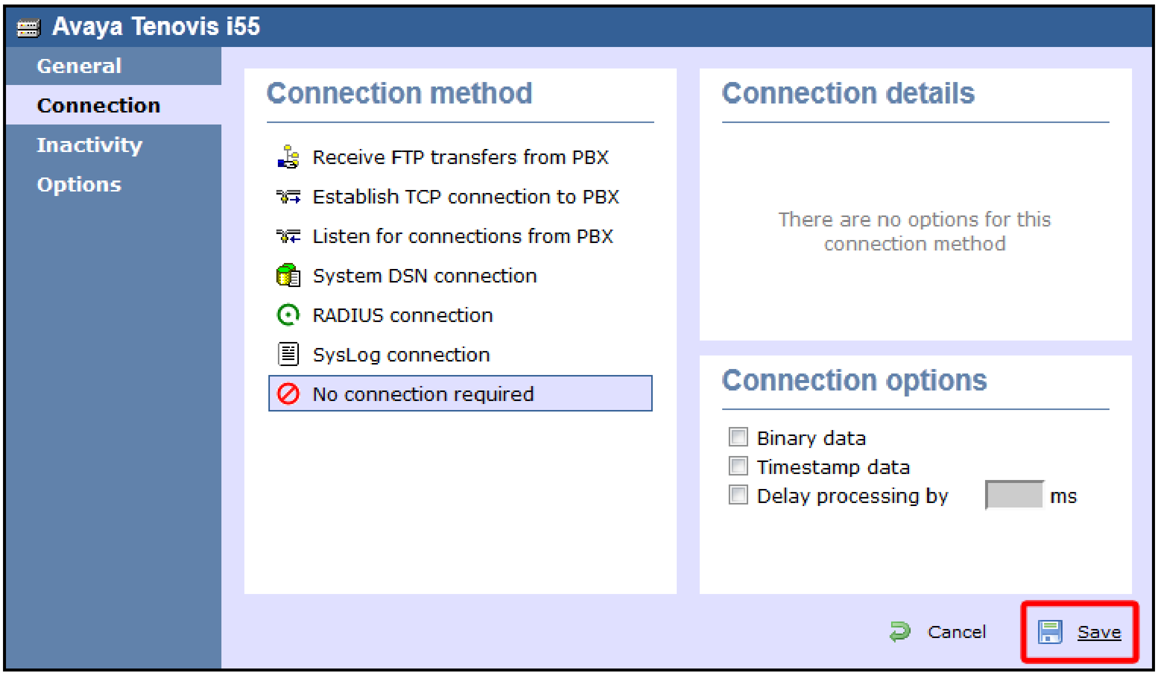
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.

2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Avaya Tenovis i55`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



AYCTelecom

AYCTelecom IPcts

These instructions help you configure your AYCTelecom IPcts to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

`AYCTelecom IPCTS.TDT`

`AYCTelecom IPCTS.TDS`

Required Tasks

Configure the SMDR output

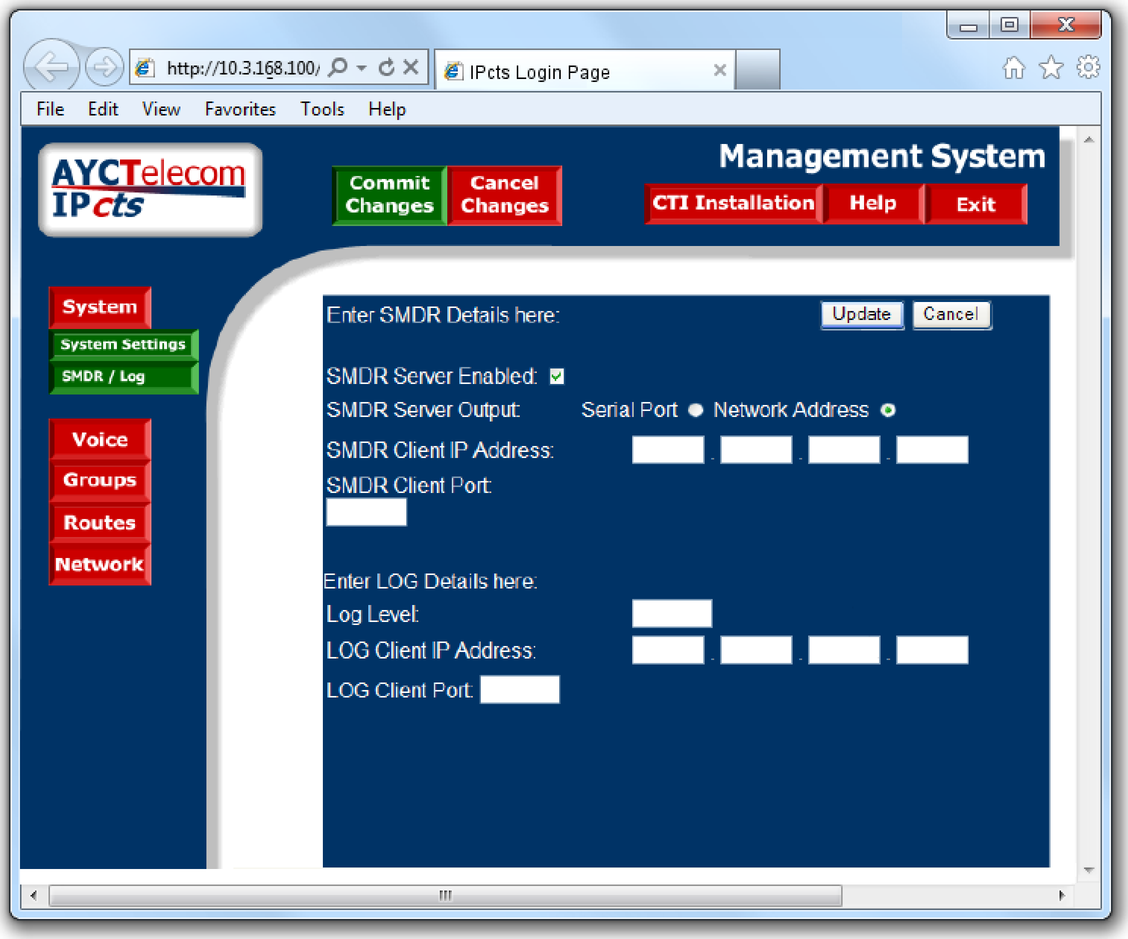
Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to set up the SMDR output of your IPcts through its management web page:

1. Log in to your AYCTelecom IPcts management web page.
2. Select the System tab
3. Select the SMDR/Log tab and configure the fields on the page as below:
   - **SMDR Server Enabled:** Enable the check box.
   - **SMDR Server Output:** Choose `Network Address`.
   - **SMDR Client IP Address:** Enter the IP address of the computer running TIM Enterprise.
   - **SMDR Client Port:** Enter the TCP port number you want to send the SMDR data to. You can use any free TCP port, but we would recommend one in the 9000 range.
4. Click the Update button.
5. Click the Commit Changes button at the top of the page so save your settings.

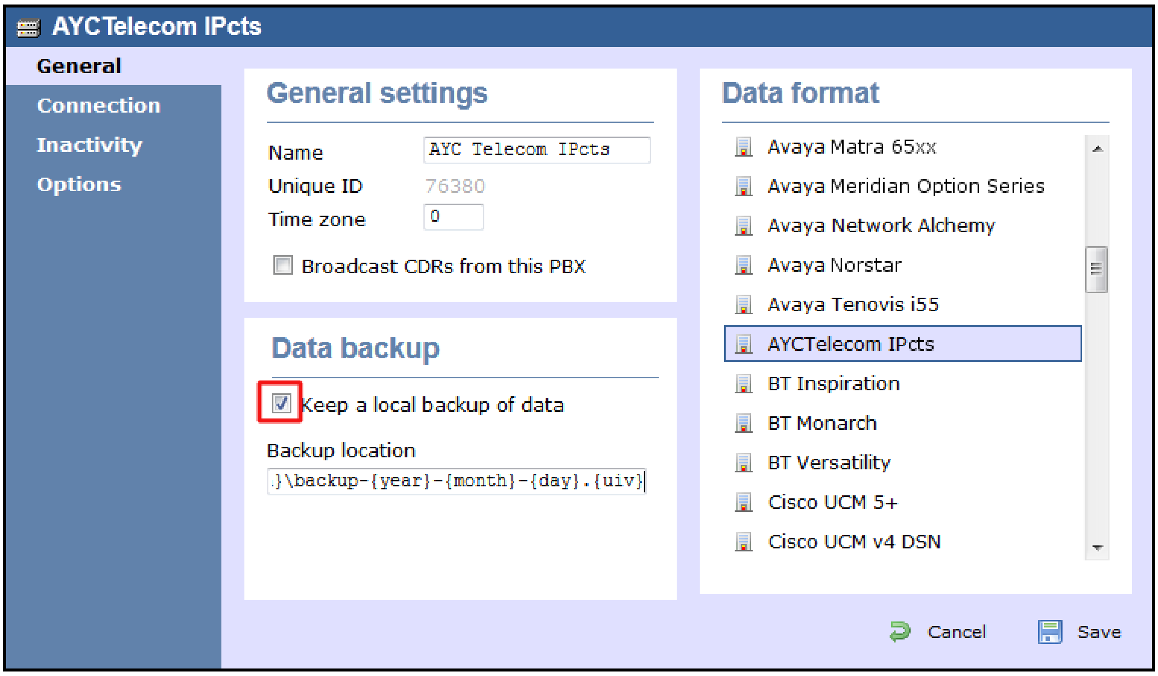
Here is an example screenshot of the SMDR configuration screen from the AYCTelecom IPcts management web page:



Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to listen for SMDR data from your AYCTelecom IPcts phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`AYCTelecom IPCTS`** from the **`Data format`** l ist and tick the **`Keep a local backup of data`** box, as shown below:

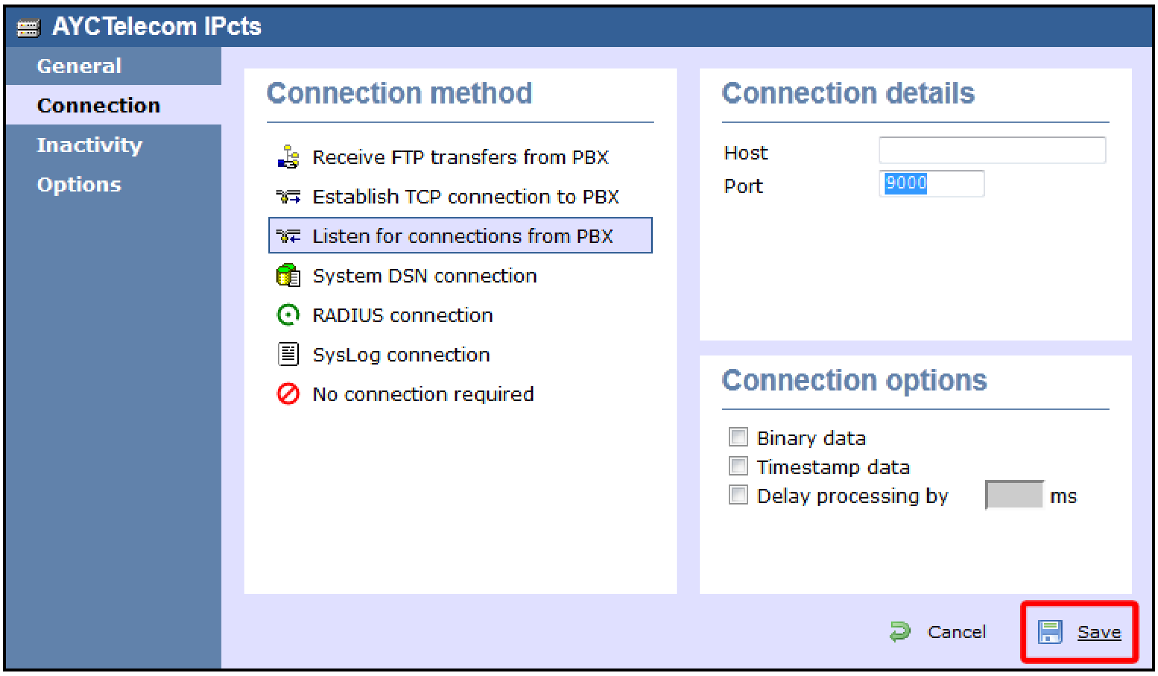


4. Click on the Connection tab and select **Listen for connections from PBX** from the **Connection method** list.

5. Leave the **Host** field blank.

6. In the **Port** field, enter the TCP port that was configured on your AYCTelecom IPcts (e.g. **9000**).

7. Click on the Save button to apply the settings.



BT

BT Inspiration

These instructions help you configure your BT Inspiration phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

BT Inspiration.TDT

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

To configure SMDR settings on your BT Inspiration you need to have a BT System Phone and be familiar with how to use it for system programming purposes. To enable SMDR output, follow the steps below:

1. From the programming position, press the phone setup key P and select System programming .
2. Enter the PIN and select System .
3. Select Call logging and choose Call logging on .
4. Press HANDSFREE/MONITOR to finish configuring the system.

Installing NetPBX

The BT Inspiration phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

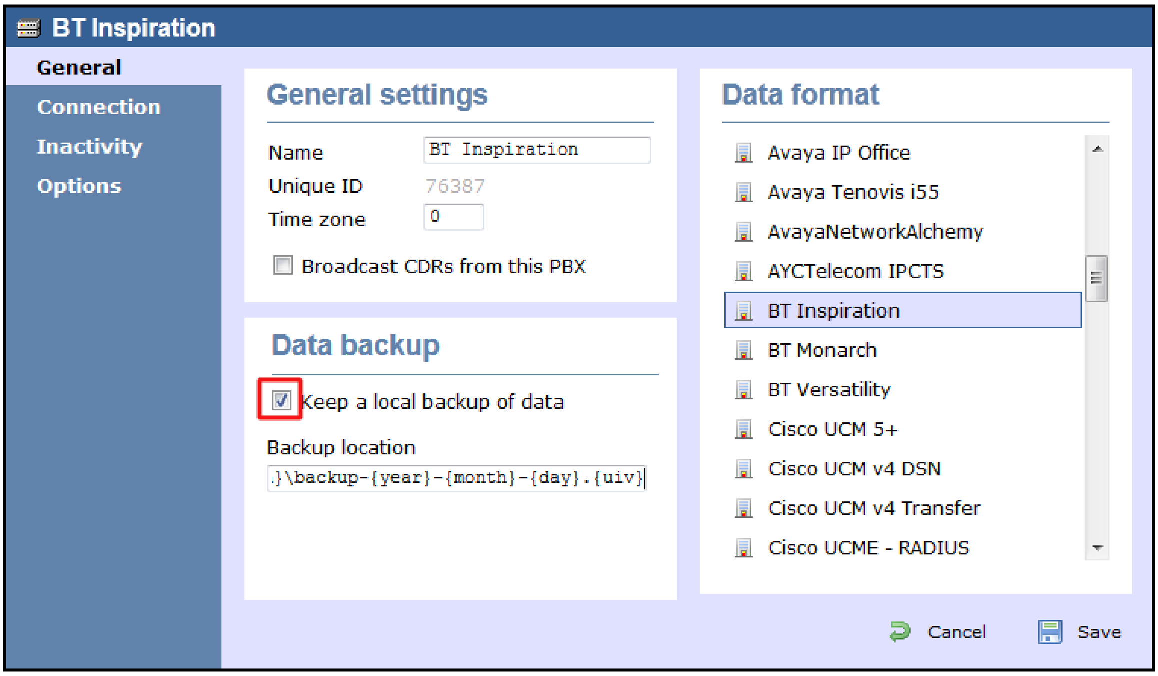
Install and configure NetPBX

Configuring TIM Enterprise

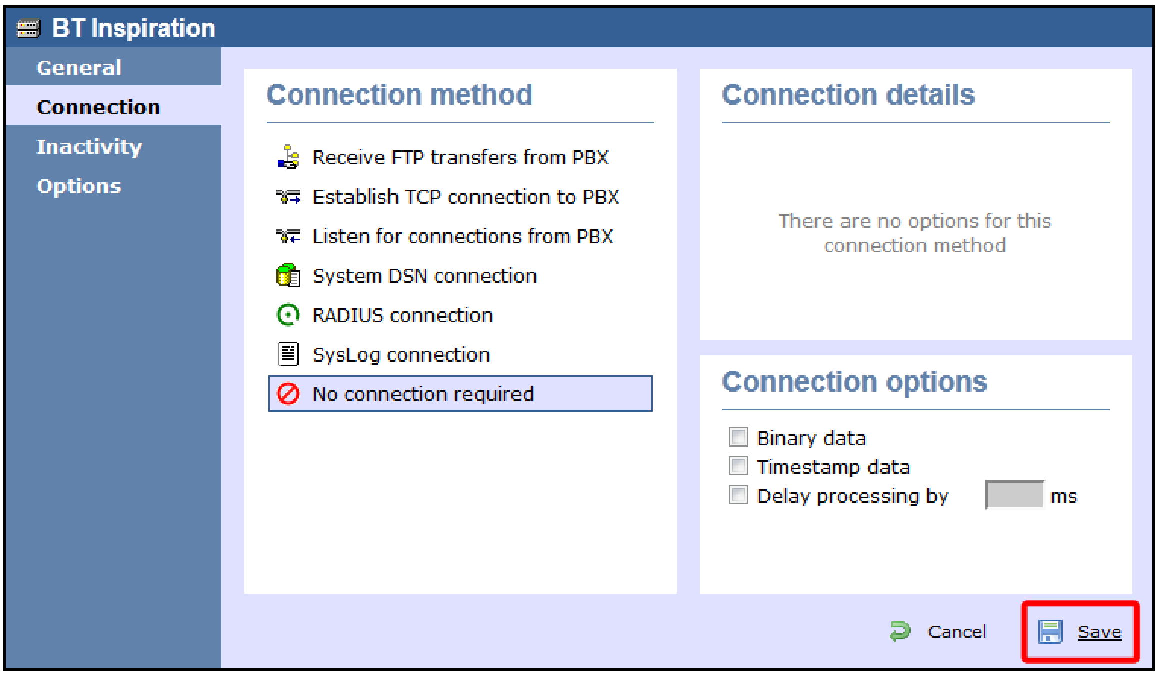
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **BT Inspiration** from the **Data format** lis

   t and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



BT Monarch

These instructions help you configure your BT Monarch to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`BT Monarch.TDT`

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

Please contact your system maintainer for information about how to configure the SMDR output of your BT Monarch.

Installing NetPBX

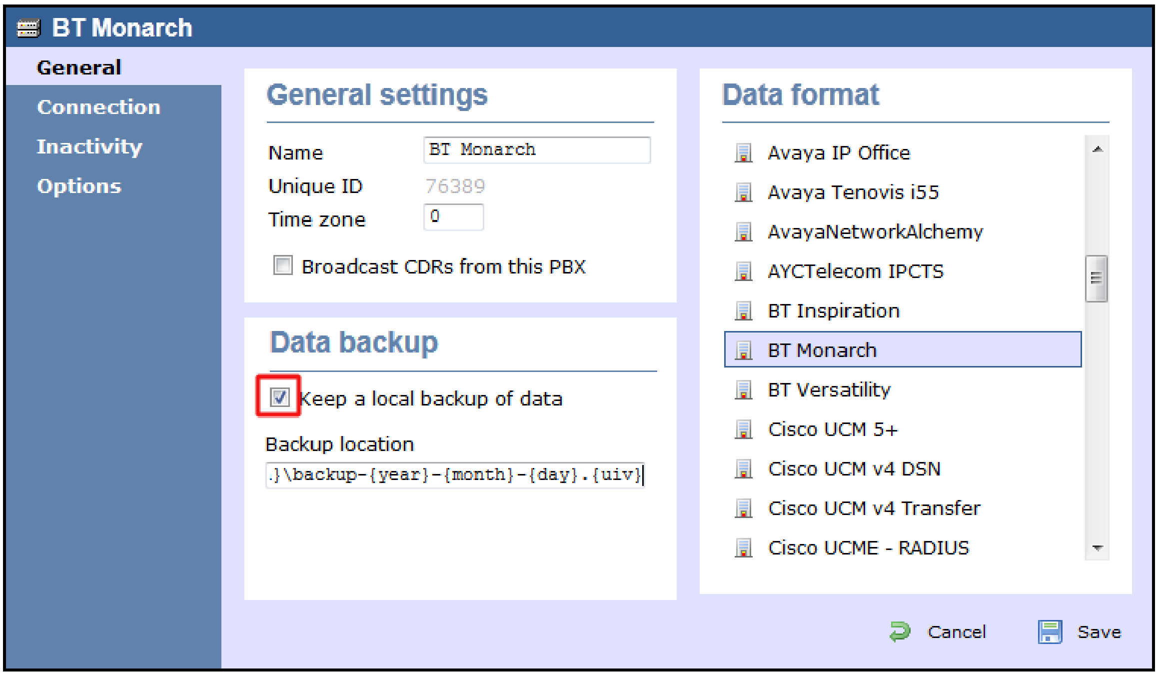
The BT Monarch phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

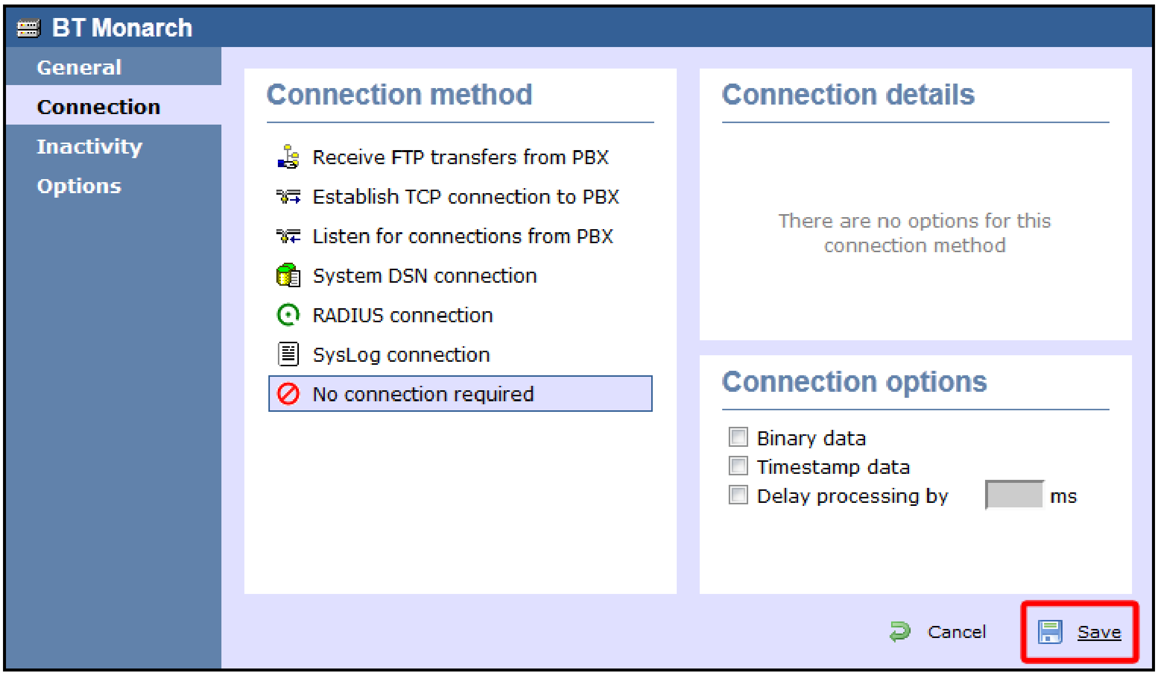
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`BT Monarch`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



BT Pathway

These instructions help you configure your BT Pathway to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

BT Pathway.TDT

BT Pathway.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

To receive SMDR data from your BT Pathway you need to have a BT System Phone and be familiar with how to use it to perform system programming. To enable SMDR output, follow the steps below:

1. From the programming position, press the phone setup key P and select System programming .
2. Enter the PIN and select System .
3. Select Call logging and choose Call logging on .
4. Press HANDSFREE/MONITOR to finish.

Installing NetPBX

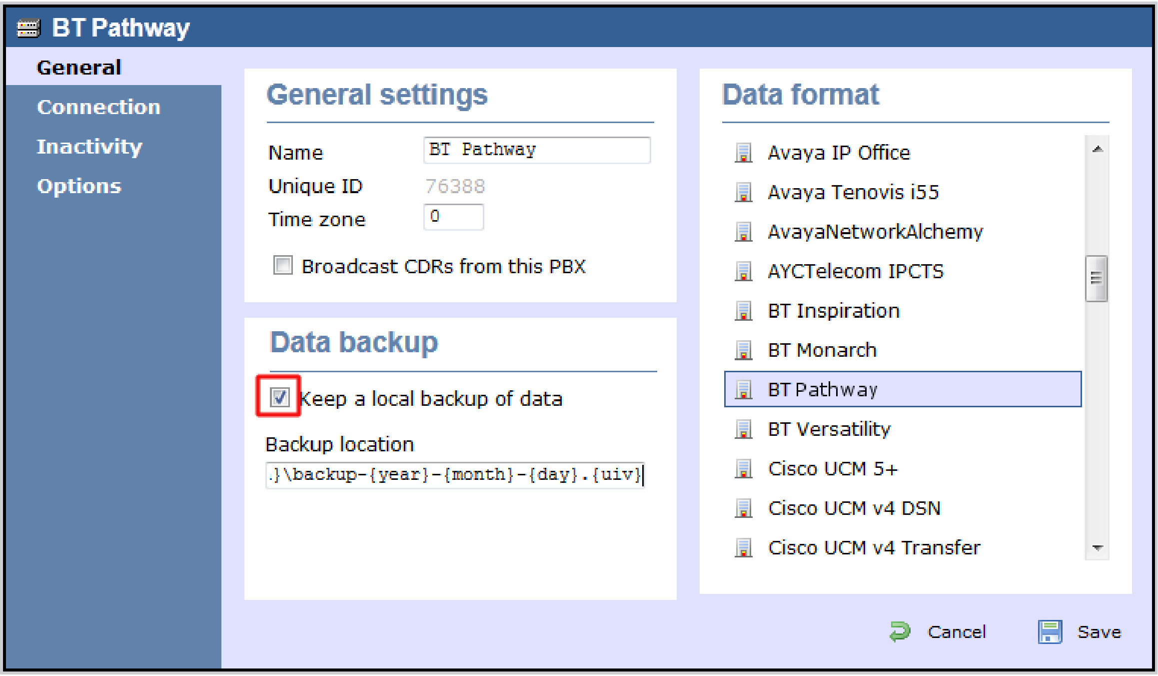
The BT Pathway phone system transmits SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

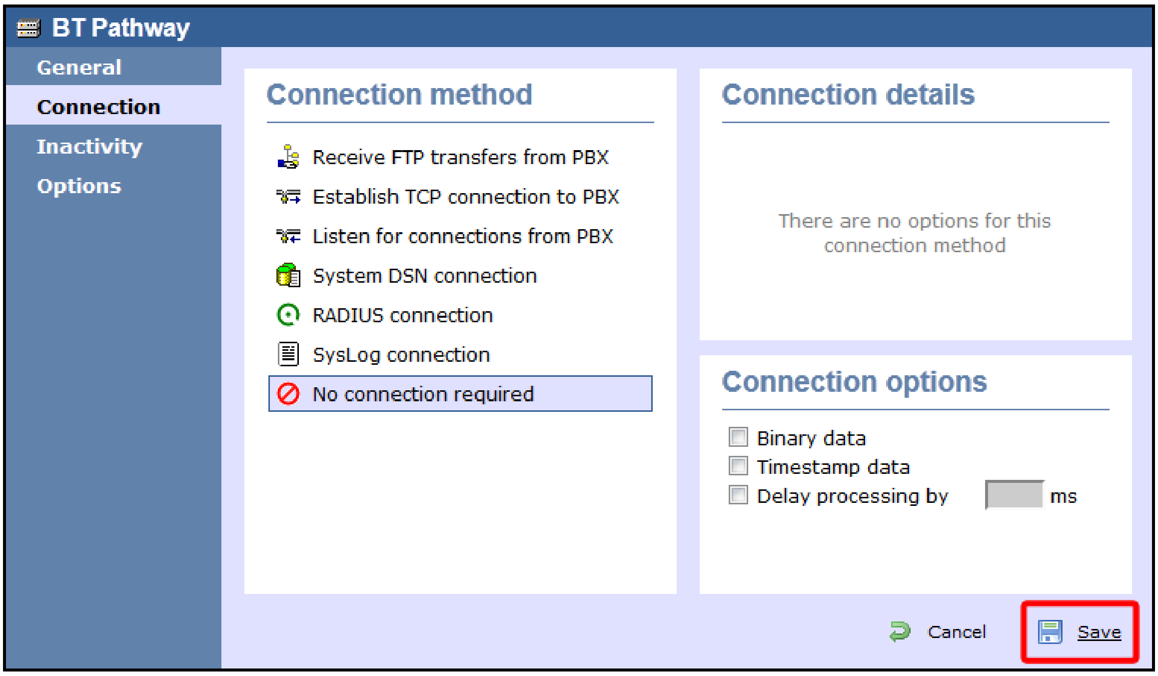
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **BT Pathway** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



BT Versatility

These instructions help you configure your BT Versatility to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

BT Versatility.TDT

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The BT Versatility outputs its SMDR data via a serial port. The default communication parameters for this serial connection are:

- Speed – 4800, 9600, 19200, 38400 or 115200 bps;
- Data - 8 bits;
- Parity - None.

The phone system has an in-built buffer to store the last 500 call records in case the receiving equipment becomes disconnected. This buffered data can be set to output to the serial port during system programming. An **X-ON/X-OFF** signal can be enabled to allow the Versatility to detect if a compatible device is receiving its SMDR data successfully. The Versatility can also be set to output SMDR data using **restricted call logging**, whereby the last four digits of any dialled number is masked out.

Follow the instructions below to configure your BT Versatility for use with TIM Enterprise:

Calls are printed out in the following format as they are completed:

1	2	3	4	5	6	7	8	9	10
O/G	1234	10/01/99	12.00:01	00:00:30	L01	S21	S21	:000.00	1234567
O/G		10/02/99	12.00:10	00:01:56	L02	S25	S25	:000.00	567890
I/C	5678	10/13/99	12.01:13	00:06:32	L03	S22	S24	:000.00	

The explanation of the data output is as follows:

Column Number	Data Output Explanation
1	Incoming (I/C) or Outgoing (O/G) call
2	Account Codes
3	Date (day/month/year)
4	Start time
5	Duration of the call
6	Line used
7	Initiating Extension
8	Terminating Extension
9	Cost. (Not Available)
10	Digits entered (outgoing calls only)

To enable/disable Call Logging

Call Logging is disabled by default on power up.

- From the Programming Extension, press the PROGRAMME Key
- Press the Scroll Down Key (↘) until 'System programming' is displayed.
- Select 'System programming'.
- Enter the System Programming Password and select 'System'.
- Press the Scroll Down Key (↘) until 'Call logging' is displayed.
- Select 'Call logging'.
- Select either 'Call logging On', 'Call logging off'. 'Restricted call log ON', 'Enable Xon / Xoff' or 'Print Log'

Press the Hands-free Key to finish programming.

To prevent calls from individual Extensions being logged

If Call Logging is enabled, then by default all calls from all extensions will be logged. However individual extensions can be programmed to prevent their calls being logged.

- From the Programming Extension, press the PROGRAMME Key
- Press the Scroll Down Key (↘) until 'System programming' is displayed.
- Select 'System programming'.
- Enter the System Programming Password and select 'Extensions'.
- Press the Scroll Down Key (↘) until 'No call logging' is displayed.
- Select 'No call logging'.
- Select the Extensions whose calls are not to be logged. The selected Extensions will be indicated with a ♦.

Press the Hands-free Key to finish programming.

To set the call logging interface speed for connecting a Printer or PC

- From the Programming Extension, press the PROGRAMME Key
- Press the Scroll Down Key (↘) until 'System programming' is displayed.
- Select 'System programming'.
- Enter the System Programming Password and select 'System'.
- Press the Scroll Down Key (↘) until 'Set v24 baud rate' is displayed.
- Select 'Set v24 baud rate'.
- Select the speed you require – 4800, 9600,19,200, 38,400 or 115,200 bps.

Press the Hands-free Key to finish programming.

Note: To connect a printer or PC for call logging, use the call logging interface module and cable provided and connect one end to the V24 interface on the CCU and the other end to the serial device e.g. a PC or a printer.

Installing NetPBX

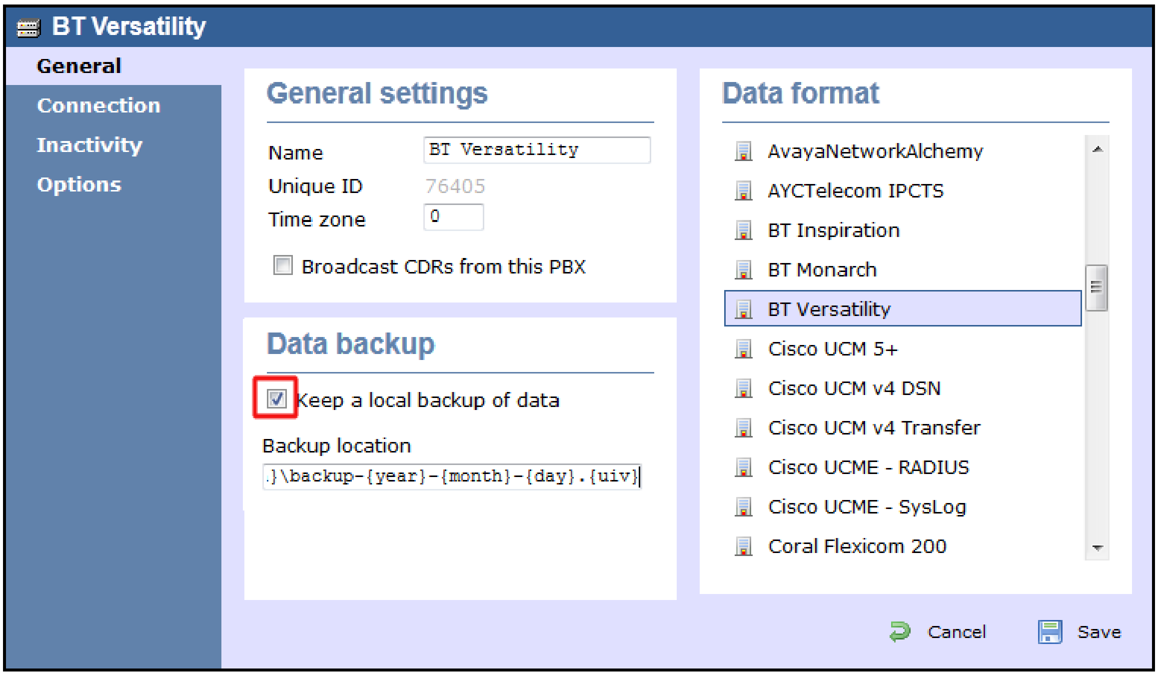
To collect the SMDR data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

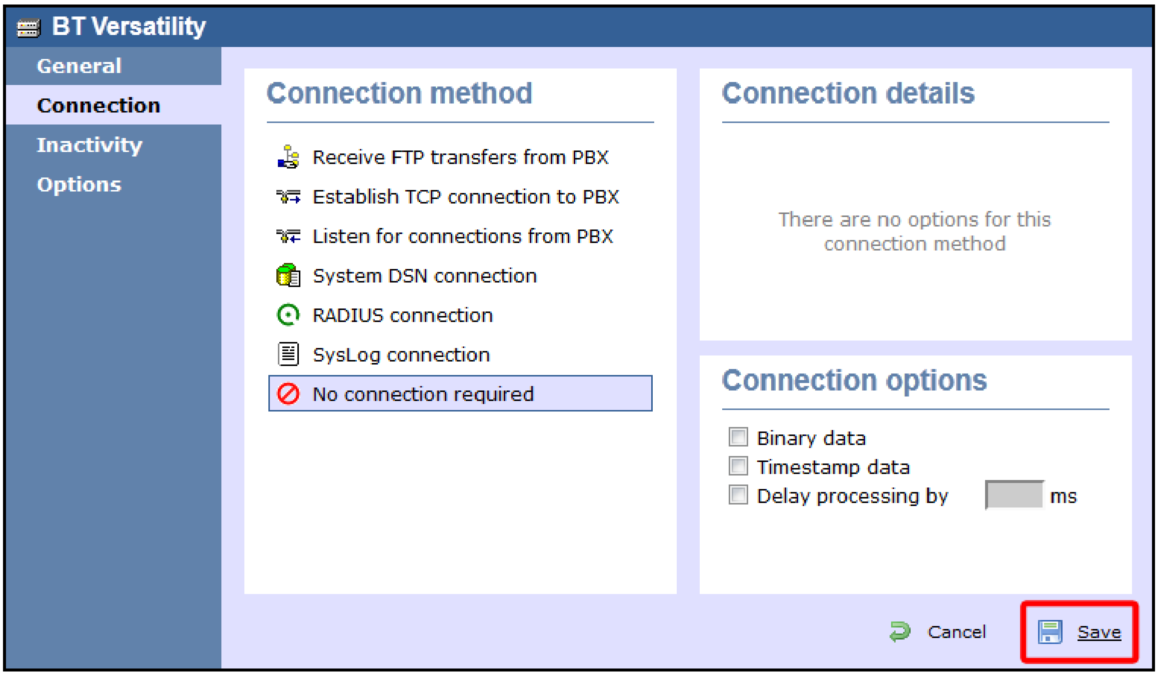
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Director, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **BT Versatility** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Cisco

Cisco UCM (below v5)

These instructions help you configure your Cisco UCM to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a DSN connection with this PBX.

Support Files

`Cisco UCM v4 DSN.TDT`

`Cisco UCM v4 DSN.TDS`

`Cisco UCM 4.DBS`

Required Tasks

Configure the SMDR output

Set up a DSN connection

Configure TIM Enterprise

Configuring the SMDR output

This version of the Cisco UCM stores its call records in a Microsoft SQL Server database. However, by default, this functionality is not enabled. To enable it, the following settings must be configured on the **`Publisher`** using the **`Service Parameters`** configuration window:

- CDR Enabled
- CDR Log Calls With Zero Duration Flag
- Call Diagnostics Enabled

This version of the UCM outputs its call records to a table named **`CallDetailRecord`** in a database entitled **`CDR`**. Rather than have TIM enterprise read and remove CDRs from the live **`CallDetailRecord`** table, we recommend you replicate this into a second table - leaving the original intact - so that it may be used by other applications that require it. Normally, there already exists a SQL User with the following credentials:

- **Username:** **`CiscoCCMCDR`**
- **Password:** **`dipsy`**

To set up replication you may need to speak to your database administrator or your Cisco UCM maintainer. Ensure that the SQL user described above has full access rights to this replicated table.

You need to know the following information in order for TIM Enterprise to be able to connect to the Cisco UCM CDR database:

- The IP address or hostname of the Microsoft SQL Server database located on the **`Publisher`** node.
- The username and password to connect to the **`CDR`** database.

Setting up a DSN connection for TIM Enterprise

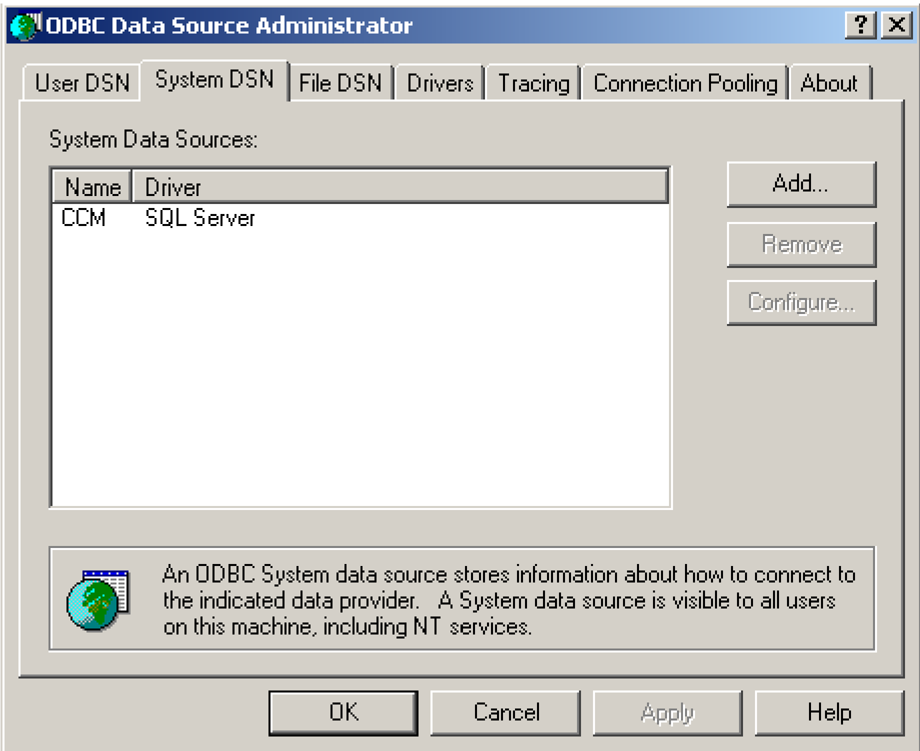
To enable TIM Enterprise to work with your Cisco UCM, you first need to set up a DSN connection. Follow the steps below to perform this task within Microsoft Windows:

1. Open Windows Control Panel
2. Double click on the Administrative tools icon
3. Double click on the Data Sources (ODBC) icon to open the **`ODBC Data Source Administrator`** window

For a 64 bit system, access the `ODBC Data Source Administrator` from the following location `C:\Windows\SysWOW64\odbcad32.exe`

4. Select the System DSN tab and click the Add button
5. Select `SQL Server` from the list of available drivers and click Finish
6. In the `Name` field, enter **`CCM`**
7. In the `Description` field enter the following: **`TIM Enterprise link to CCM`**
8. In the `Database name` field enter the database type e.g **`SQL`**, **`MySQL`** etc.
9. In the `Server` drop-down list select the Cisco UCM Publisher IP address or machine name
10. Click the Next button
11. Select the option **`With SQL Server authentication using a login ID and password entered by the user`**, then click Next
12. Enable the checkbox **`Change the default database to:`**, select **`CDR`**, then click the Next button
13. Click the Finish button
14. Click the Test Data Source button to verify your settings and, if the test is successful, click OK
15. Click the OK button to close the control panel applet

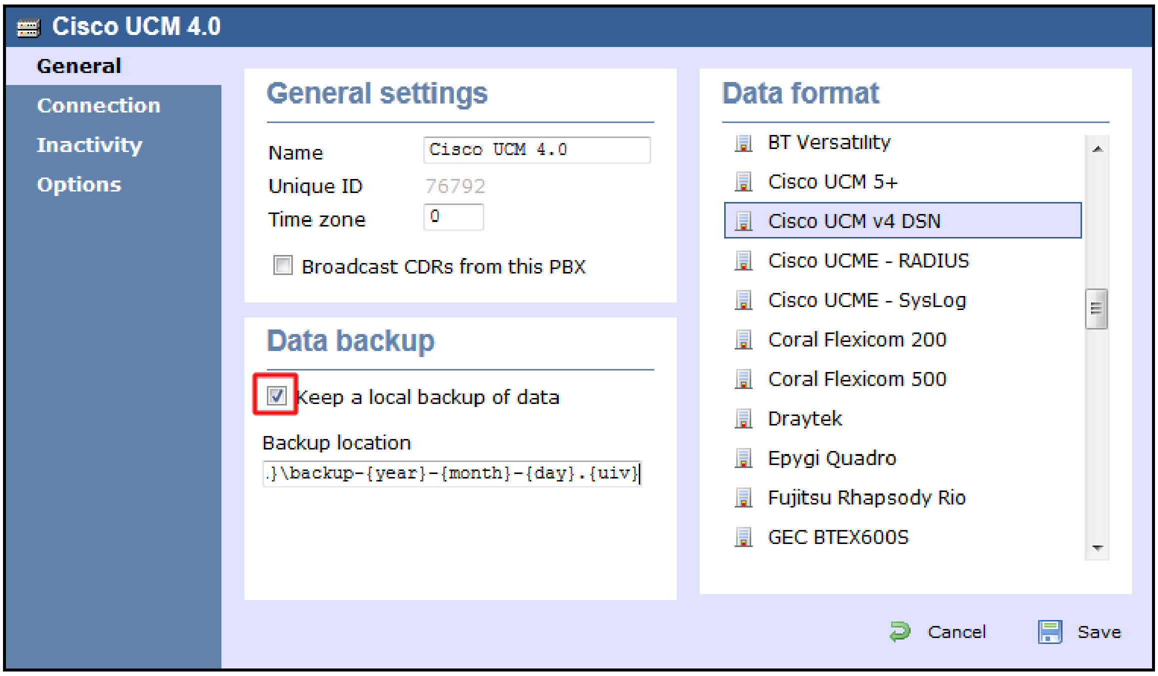
An example of an ODBC setup is shown below:



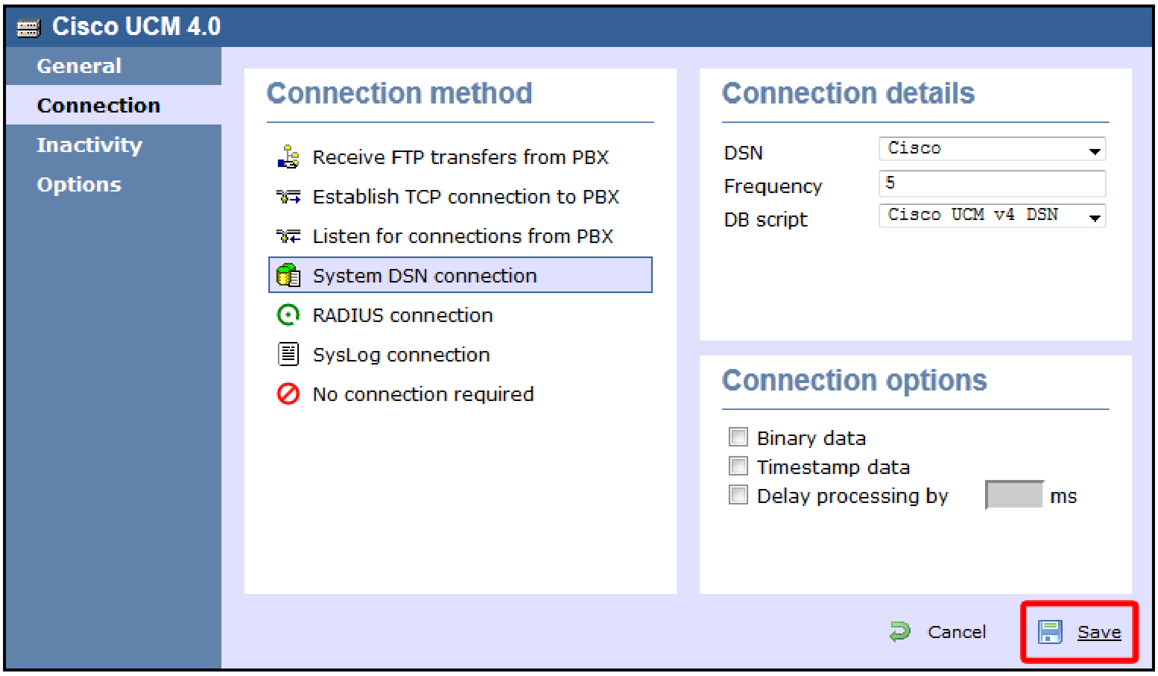
Configuring TIM Enterprise

Once the DSN connection has been set up, log in to TIM Enterprise and perform the steps below:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Cisco UCM v4 DSN`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Connect to a system DSN`** from the `Connection method` list.
5. The DSN connection details should be picked up automatically.
6. Click on the Save button to apply the changes.



Cisco UCM / Business Edition (Call Manager) version 5+

These instructions help you configure your Cisco UCM version 5.0 - 8.6 to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise receives FTP transfers from this PBX.

Support Files

`Cisco UCM 5+.TDT`

`Cisco UCM 5+.TDS`

Required Tasks

- Create Cisco Application User for AXL sync
- Configure Cisco AXL sync
- Configure TIM Enterprise to receive data by FTP
- Set up FTP/SFTP in Cisco UCM

Create Cisco Application User for AXL sync

To enable TIM Enterprise to query the Cisco database, you need to create an `Application User` on your Cisco UCM. Follow the steps below to complete this task:

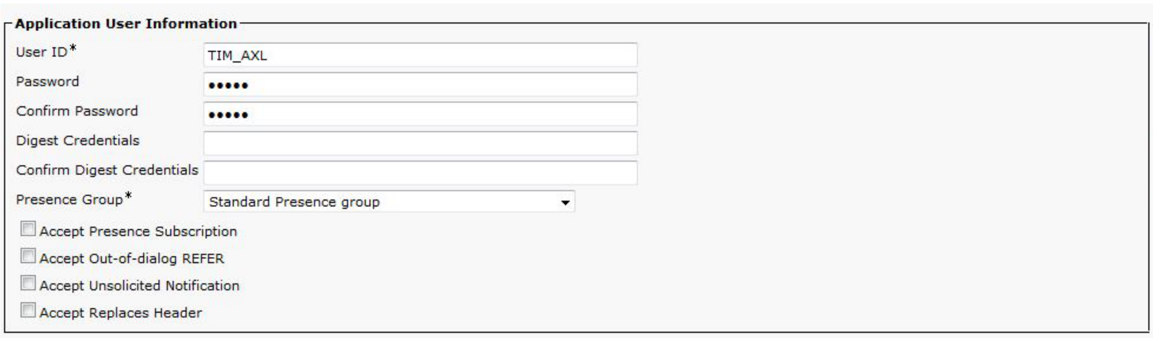
1. Connect to the web management interface of your UCM node and select **`Cisco Unified CM Administration`** from the `Navigation` drop-down list.

2. Log in to the system and click User Management from the main menu. Select Application User from the drop-down list. Click Add New to create a new user:

   User ID: **`TIM_AXL`**

   Password: **`C1sco`**

   Confirm Password: **`C1sco`**



The credentials above are shown as an example. In the interests of security, you should choose your own values.

3. Scroll down to the `Permissions Information` section and click Add to User Group .

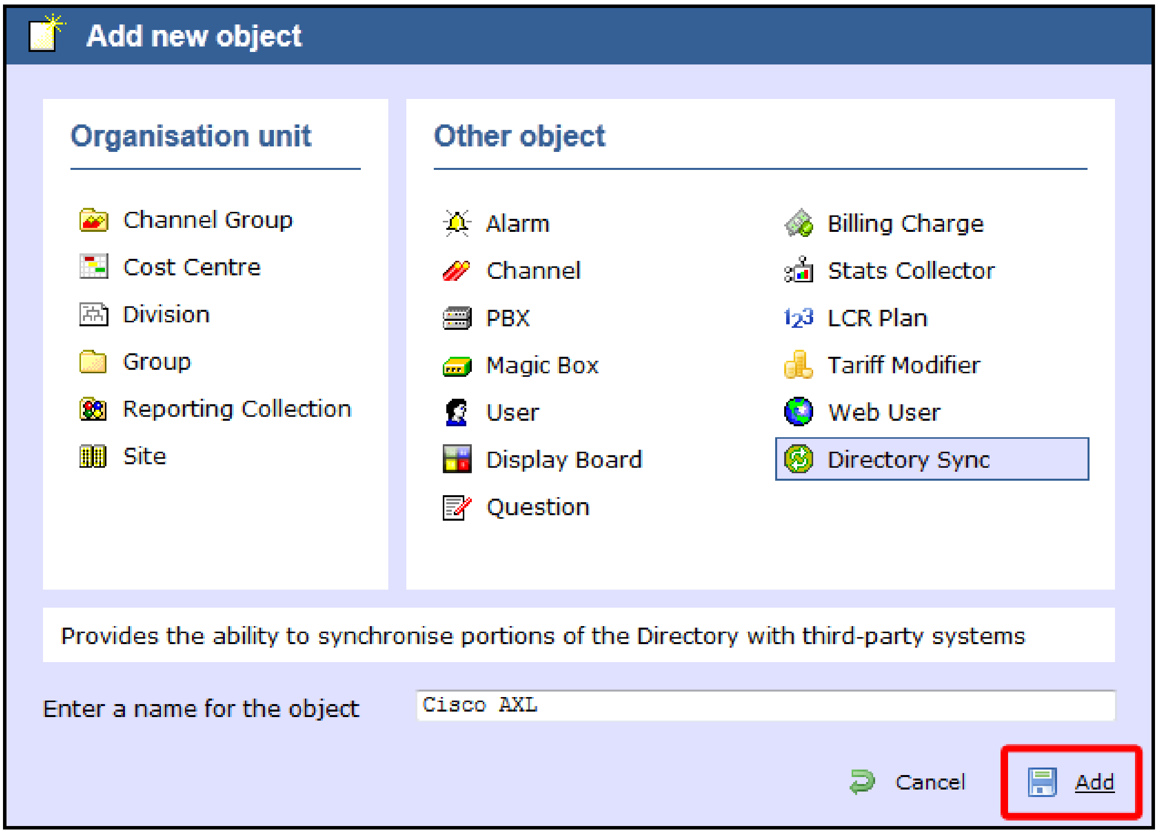
4. In the new window, enter **`Standard Tab`** and then click Find . Tick the **`Standard TabSync User`** box, and then click on the Add Selected tab.

5. Click Save to apply the settings.

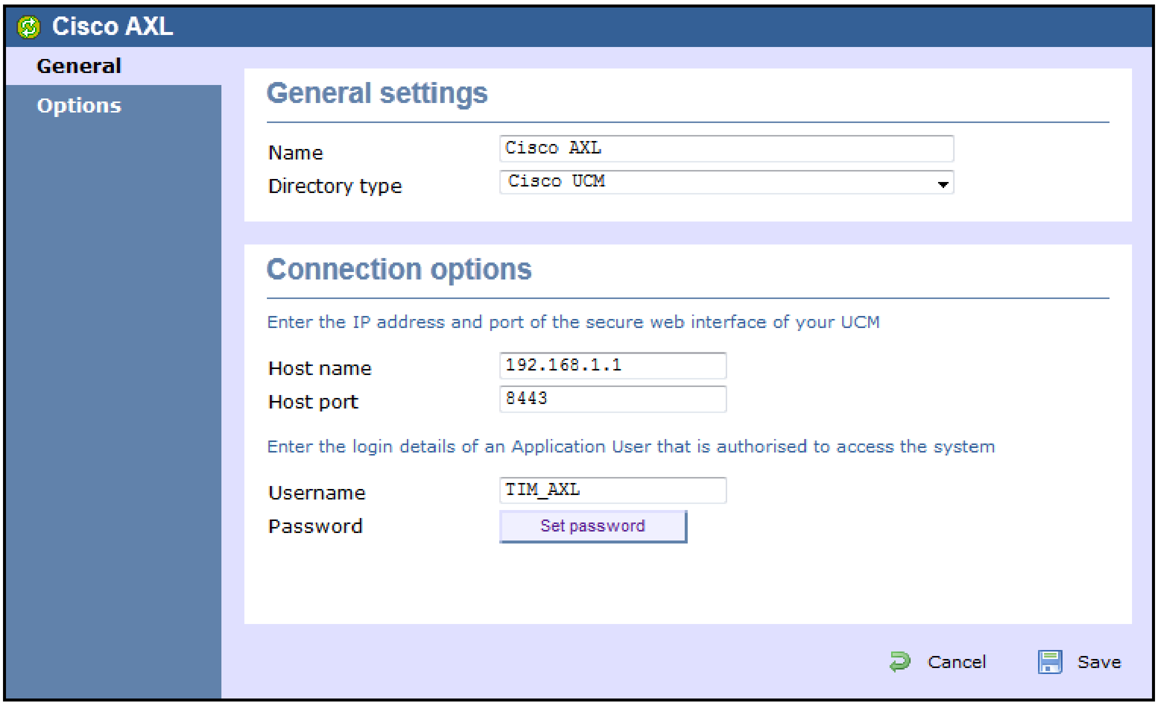
Configuring Cisco AXL sync

Follow the steps below to configure TIM Enterprise to synchronise with the directory of your Cisco UCM:

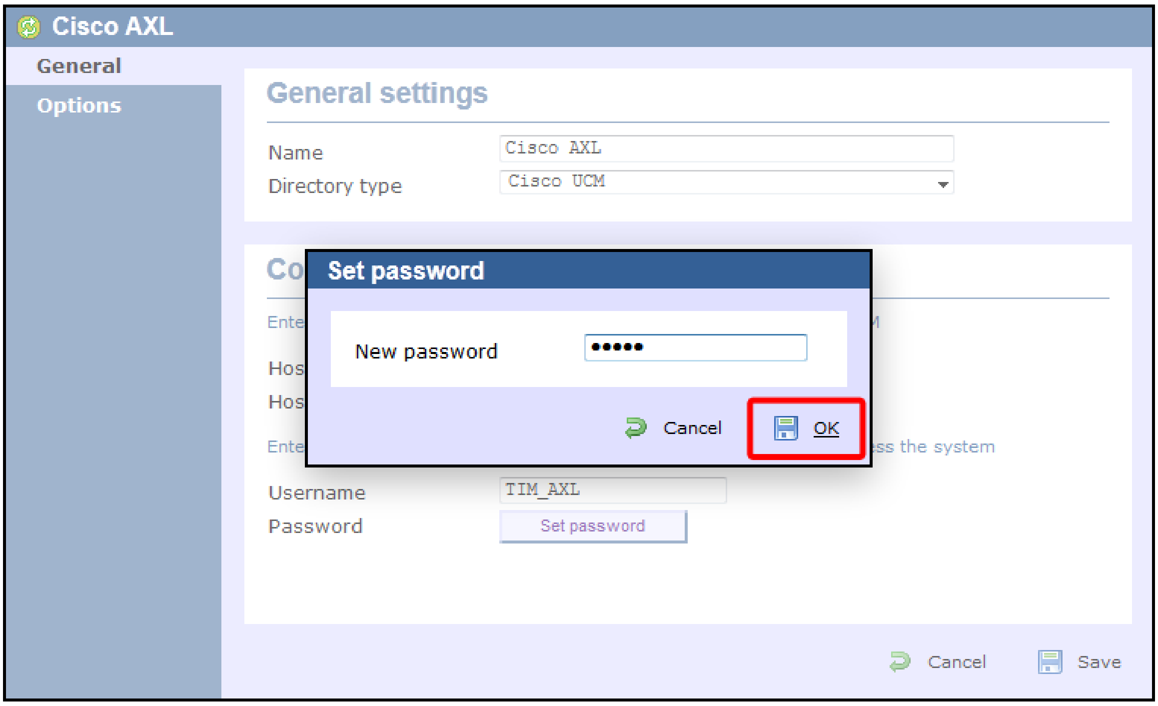
1. Click on the Directory tab.
2. Go to the Directory level where you want to synch the UCM files and add a new **`Directory Sync`** object. Enter a name for the object and click on the Add button, as shown below:



3. Left-click on the newly-created object and select Properties .
4. In the **`Directory type`** drop-down list, select **`Cisco UCM`**.
5. In the **`Host name`** field, enter the IP address of the UCM Publisher node.
6. In the **`Host port`** field, enter the port number of the UCM Publisher node.
7. In the **`Username`** field, enter the username of the Cisco Application User you configured in the previous section, e.g. **`TIM_AXL`**.



8. Click **Set password** and enter the password configured in the previous section, e.g. `C1sco`.

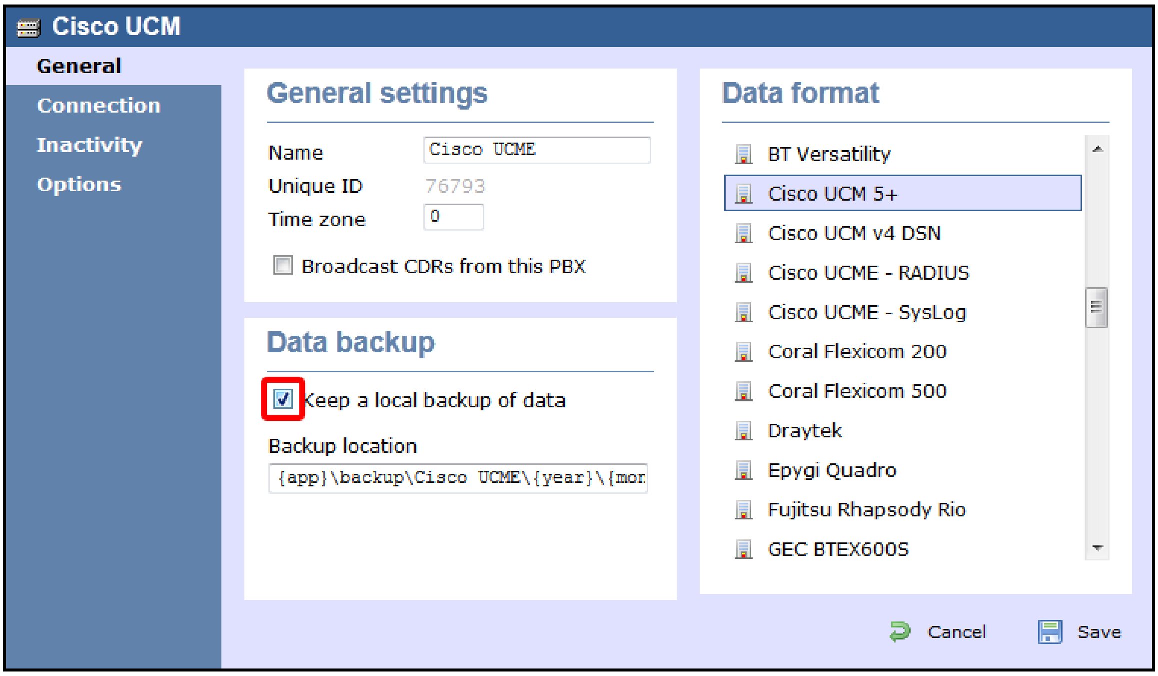


9. Click on the **Save** button to apply the changes.

Configuring TIM Enterprise to receive data by FTP

Follow the steps below to configure TIM Enterprise to receive data from your Cisco UCM:

1. Click on the **Directory** tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select `Cisco UCM 5+` from the `Data format` list and tick the `Keep a local backup of data` box, as shown below:

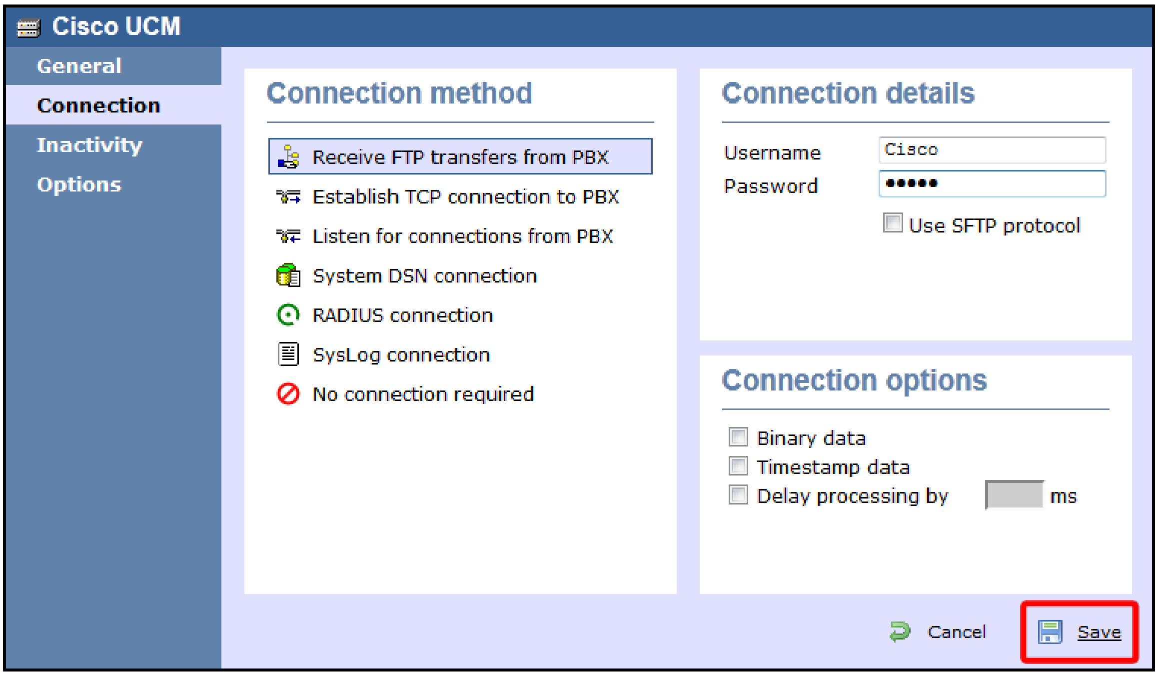


4. Click on the Connection tab and select **`Receive FTP transfers from PBX`** from the `Connection method` list.

5. In the `Username` field, enter the username you created when setting up your Cisco UCM for FTP/SFTP transfers, e.g. **`TIM`** .

6. In the `Password` field, enter the password you chose when setting up your Cisco UCM for FTP/SFTP transfers, e.g. **`Ciscoftp`** .

7. Click on the Save button to apply the changes.



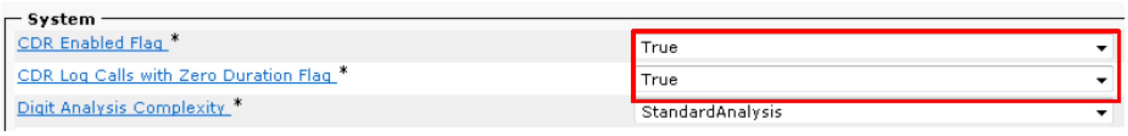
Set up FTP/SFTP in Cisco UCM

You will need to configure your Cisco UCM to send the CDR data to TIM Enterprise. Note that the UCM can be configured with cluster wide or server specific settings, depending on how the system maintainer has installed it. Please note that, by default, CDR records are turned off.

1. Log in to `Cisco UCM Administration` and from the left-hand menu click on the System tab and select Service Parameters .

2. Choose your UCM node from the `Server` drop-down list.

3. Select **Cisco Call Manager** from the **Service** drop-down list.
4. In the **System** section, change the **CDR Enabled Flag** to **True**. Enable this parameter on all servers within the cluster you want to log calls for.



5. Change the **CDR Log Calls with Zero Duration Flag** to **True**. This parameter enables or disables the logging of CDRs for calls which did not connect.
6. Click on the Save button.
7. Click on the **Navigation** drop-down list from the top right-hand corner, and select **Cisco Unified Serviceability**. You may need to log in with a user account that has administrative permissions.
8. Select Tools , then click on the CDR Management tab.
9. Click the Add New button. You will now see the **Billing Application Server Parameters** window. Enter the following parameters:

   Host Name / IP Address: The IP address or hostname of the machine running TIM Enterprise.

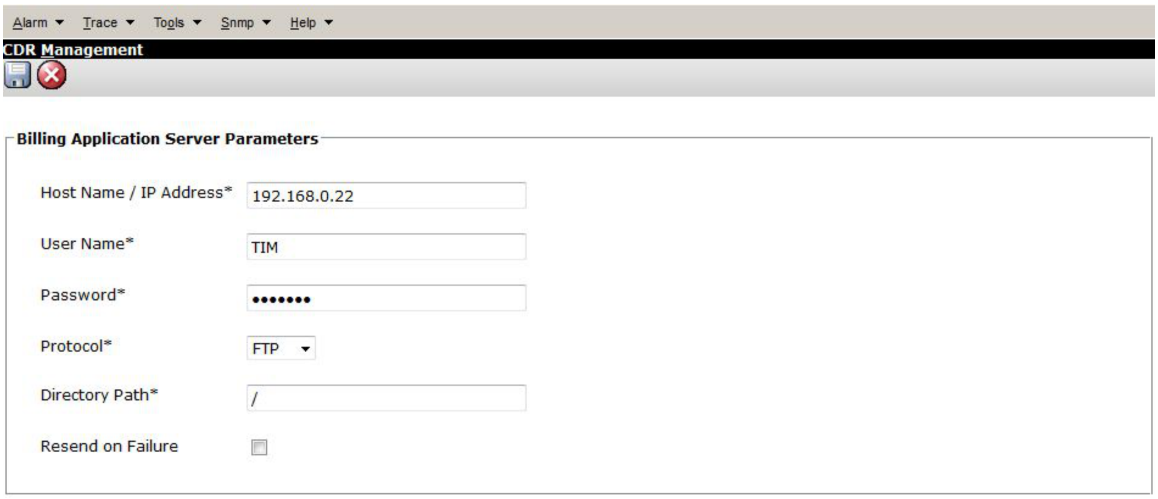
   User Name: Enter a user name for FTP/SFTP transfers (e.g. **TIM**)

   Password: Enter a password for the FTP account (e.g. **Ciscoftp**)

   Protocol: Select FTP or SFTP as desired.

   Directory Path: Enter a forward-slash character to indicate root (**/**).

   Remove the tick from **Resend on Failure**.



10. Next, click on the Add button to complete the billing server configuration. The UCM node will check that the FTP/SFTP details are valid and will write a test file to the FTP/SFTP directory. If this fails, you should double-check the details you entered.

Cisco UCME / UC500 (AKA Call Manager Express)

The Cisco UCME / UC500 can be configured to send RADIUS or SysLog events. Click on one of the links below for your preferred connection method.

Cisco recommends that you use RADIUS events because they provide more detailed call logging information.

Cisco UCME / UC500 - RADIUS

These instructions help you configure your Cisco UCME / UC500 to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise captures RADIUS packets from this PBX.

Support Files

`Cisco UCME - RADIUS.TDT`

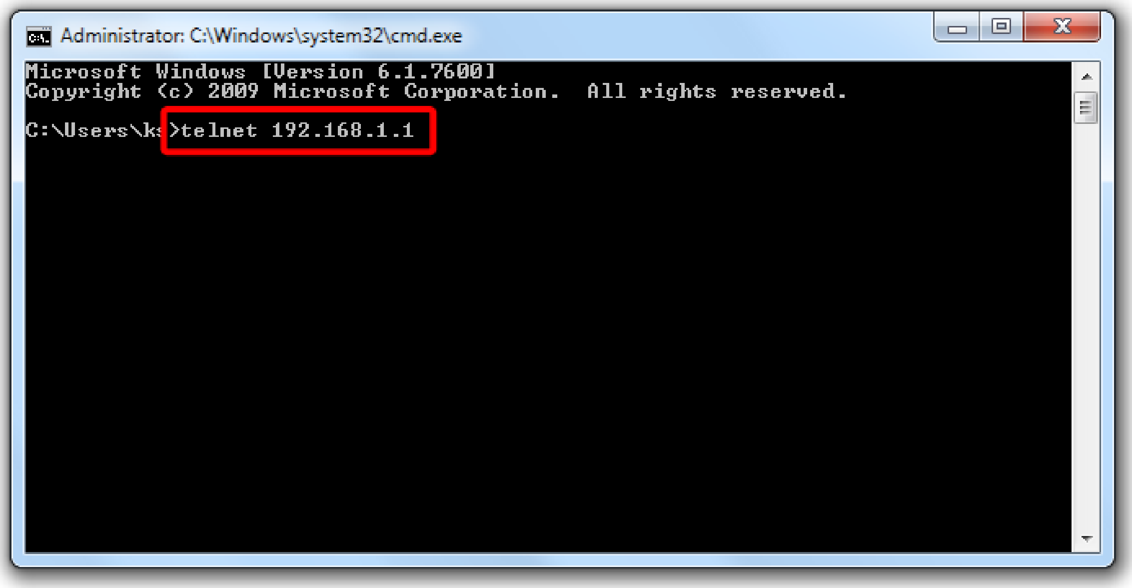
`Cisco UCME - RADIUS.TDS`

Required Tasks

- Configure UCME to send RADIUS events
- Configure Cisco AXL sync
- Configure TIM Enterprise to capture RADIUS packets

Configuring UCME to send RADIUS events

Use Telnet to connect to the IP address of your UCME as shown below:



Once connected, enter the following commands to enable the UCME to send RADIUS events to TIM Enterprise:

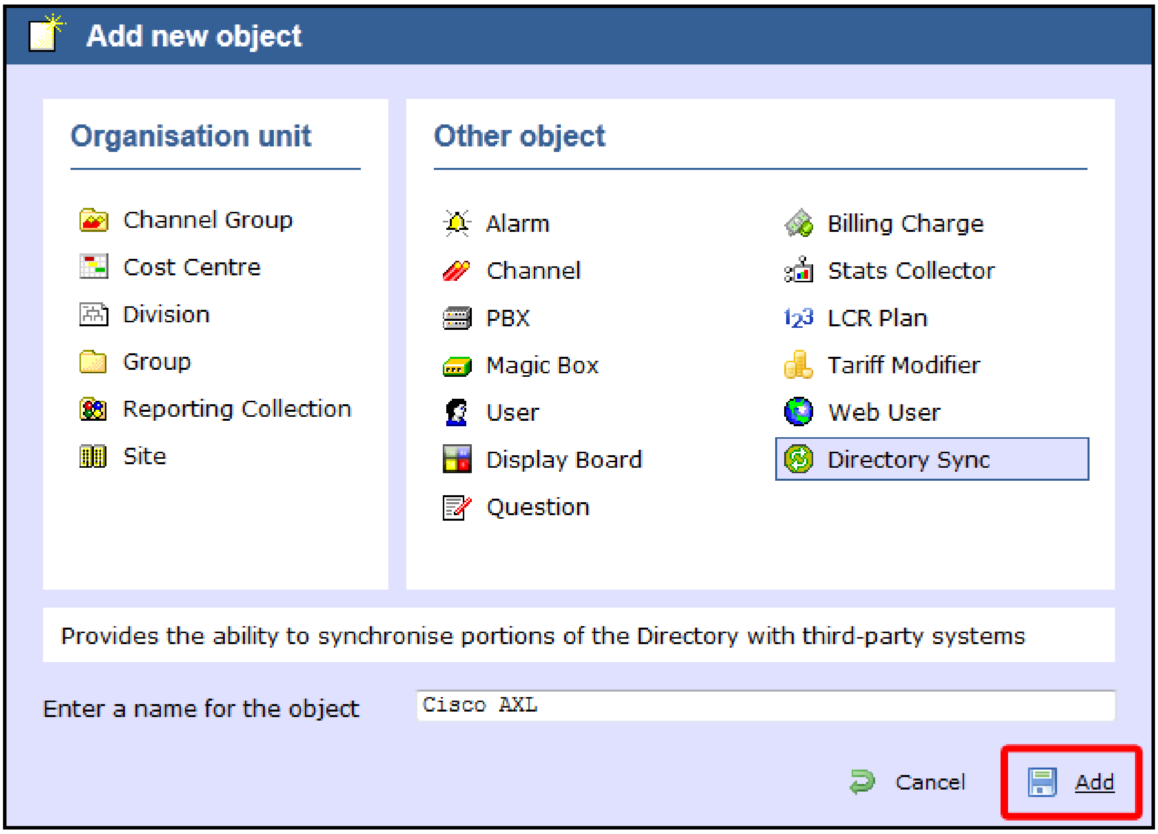
Step	IOS commands	Description
1	`enable`	Causes the UCME to enter EXEC mode. Type your EXEC password if requested
2	`conf t`	Enters the global configuration mode

3	`aaa new-model`	Enables aaa accounting mode
	`aaa accounting connection h323 start-stop group RADIUS`	
	`gw-accounting aaa`	
	`acct-template callhistory-detail`	
4	`RADIUS-server host 192.168.0.1 auth-port 0 acct-port 1612`	Specifies the IP address and port of TIM Enterprise's RADIUS, to which CDR data will be sent, e.g. `192.168.0.1:1612`
5	`RADIUS-server key C1sco`	Specifies a RADIUS authentication secret that will be used by TIM Enterprise (configured in the next section), e.g. `C1sco`
6	`RADIUS-server vsa send accounting`	Enables VSA events
7	`end`	Exits configuration mode
8	`wr`	Saves the changes

Configuring Cisco AXL sync

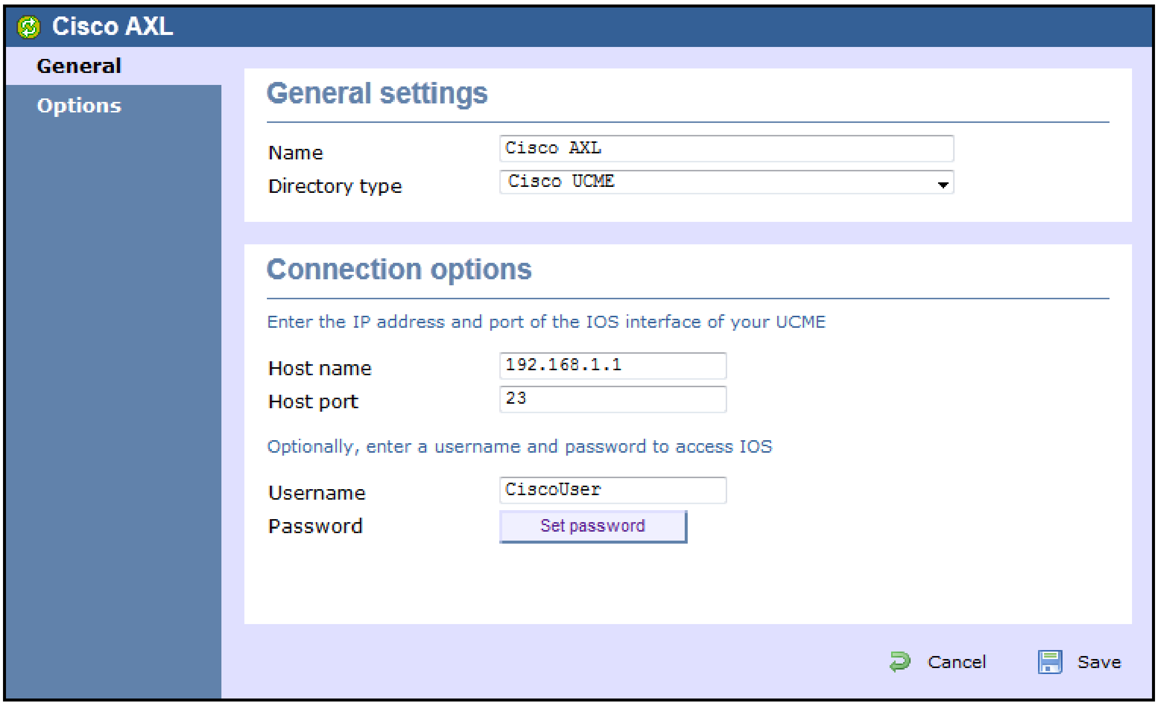
Follow the steps below to configure TIM Enterprise to synchronise with the directory of your your Cisco UCME:

1. Click on the Directory tab.
2. Go to the Directory level where you want to sync the UCME files and add a new **Directory Sync** object. Enter a name for the object and click on the Add button, as shown below:

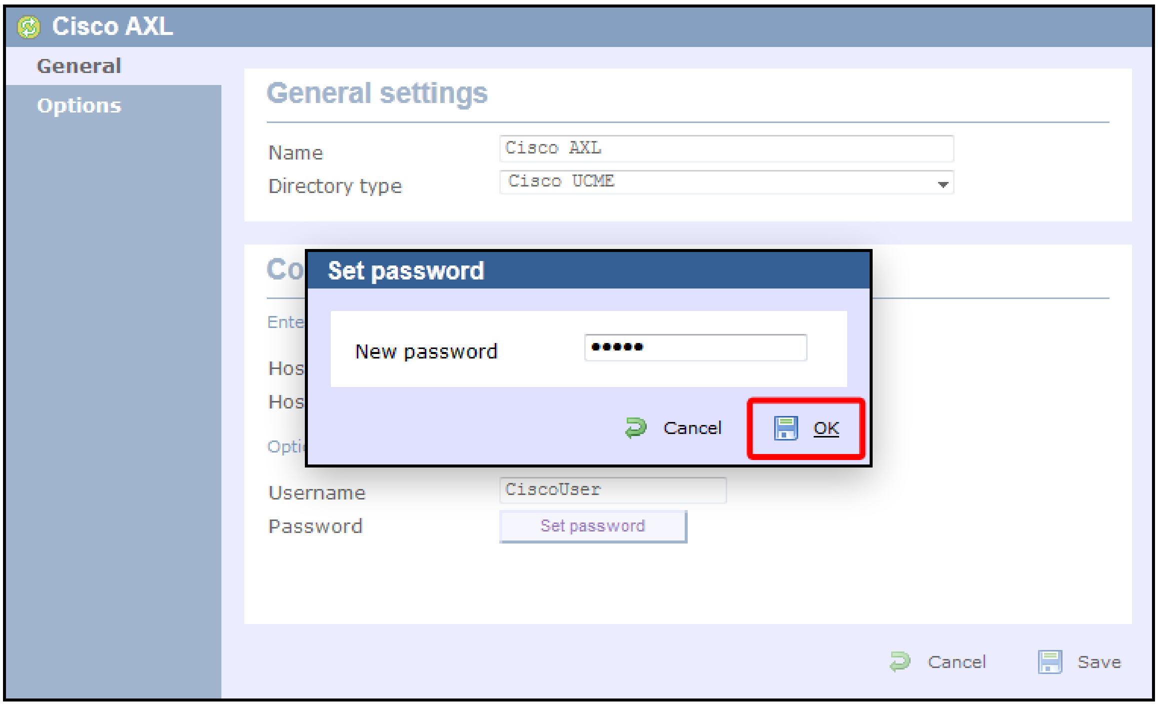


3. Left-click on the newly-created object and select Properties .
4. In the **Directory type** drop-down list, select **Cisco UCME**.
5. In the **Host name** field, enter the IP address of your UCME.
6. In the **Host port** field, enter the port number of the IOS service, e.g. **23** .

7. In the **Username** field, enter the username of the IOS login that can perform synchronisation.



8. Click on Set password button and enter the password of the IOS login that can perform synchronisation.

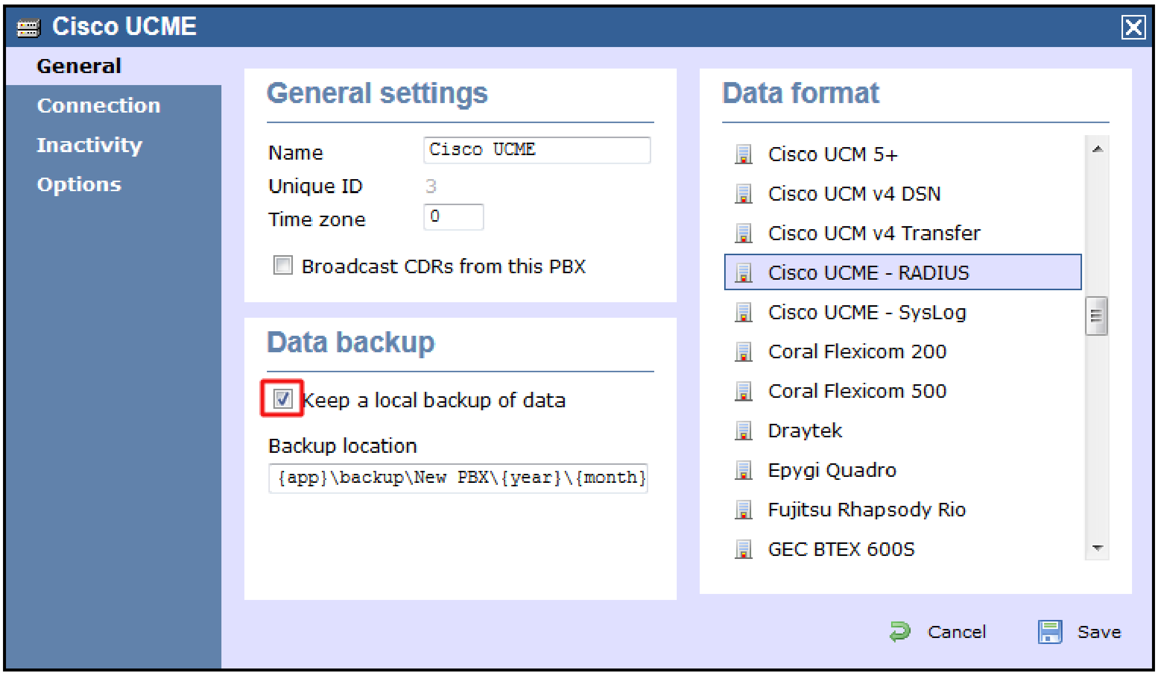


9. Click on the Save button to apply the changes.

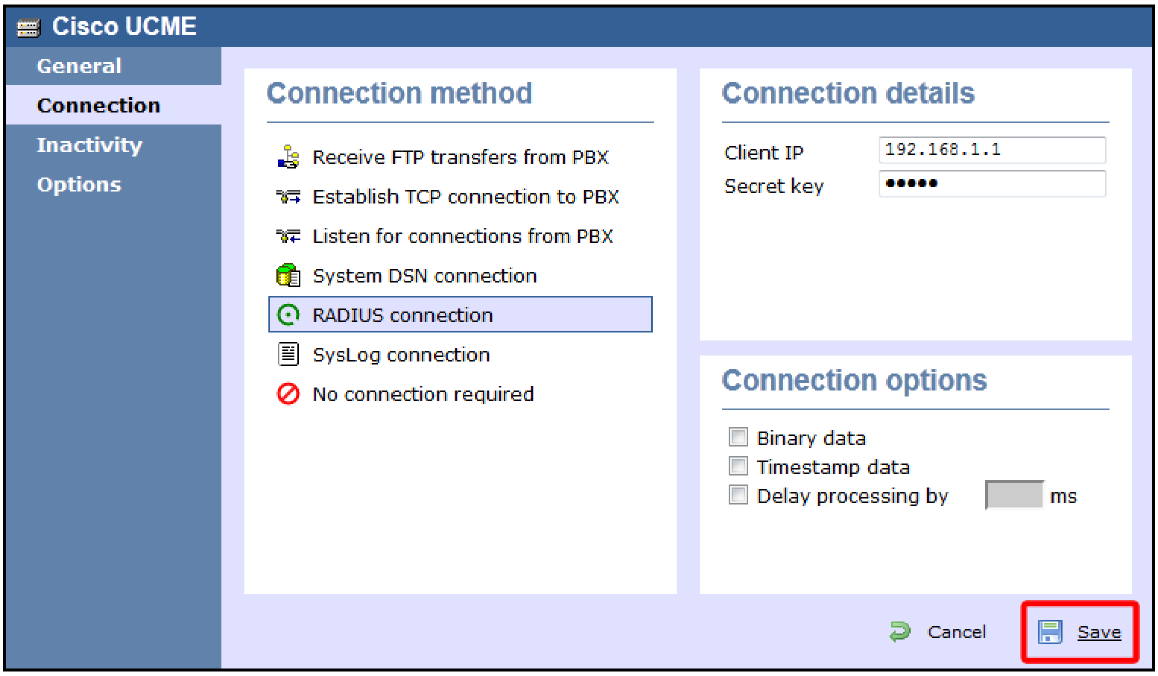
Configuring TIM Enterprise to capture RADIUS packets

Follow the steps below to configure TIM Enterprise to receive RADIUS data from your UCME:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Cisco UCME - RADIUS** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **RADIUS connection** from the **Connection method** list.
5. In the **Client IP** field, enter the IP address of your UCME.
6. In the **Secret key** field, enter the RADIUS-server key you configured on your UCME in the section above, e.g. **C1sco**.



7. Click on the Save button to apply the settings.

Cisco UCME / UC500 - SysLog

These instructions help you configure your Cisco UCME / UC500 to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise captures SysLog packets from this PBX.

Support Files

`Cisco UCME - SysLog.TDT`

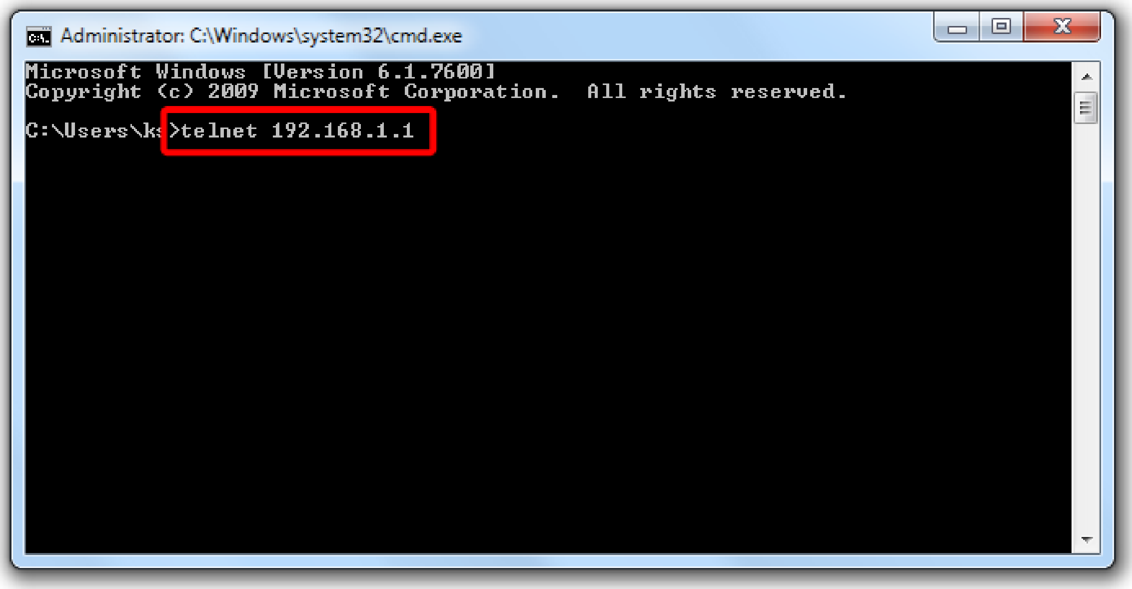
`Cisco UCME - SysLog.TDS`

Required Tasks

- Configure UCME to send SysLog events
- Configure Cisco AXL sync
- Configure TIM Enterprise to capture SysLog packets

Configuring UCME to send SysLog events

Use Telnet to connect to the IP address of your UCME as shown below:



Once connected, enter the following commands to enable the UCME to send SysLog events to TIM Enterprise:

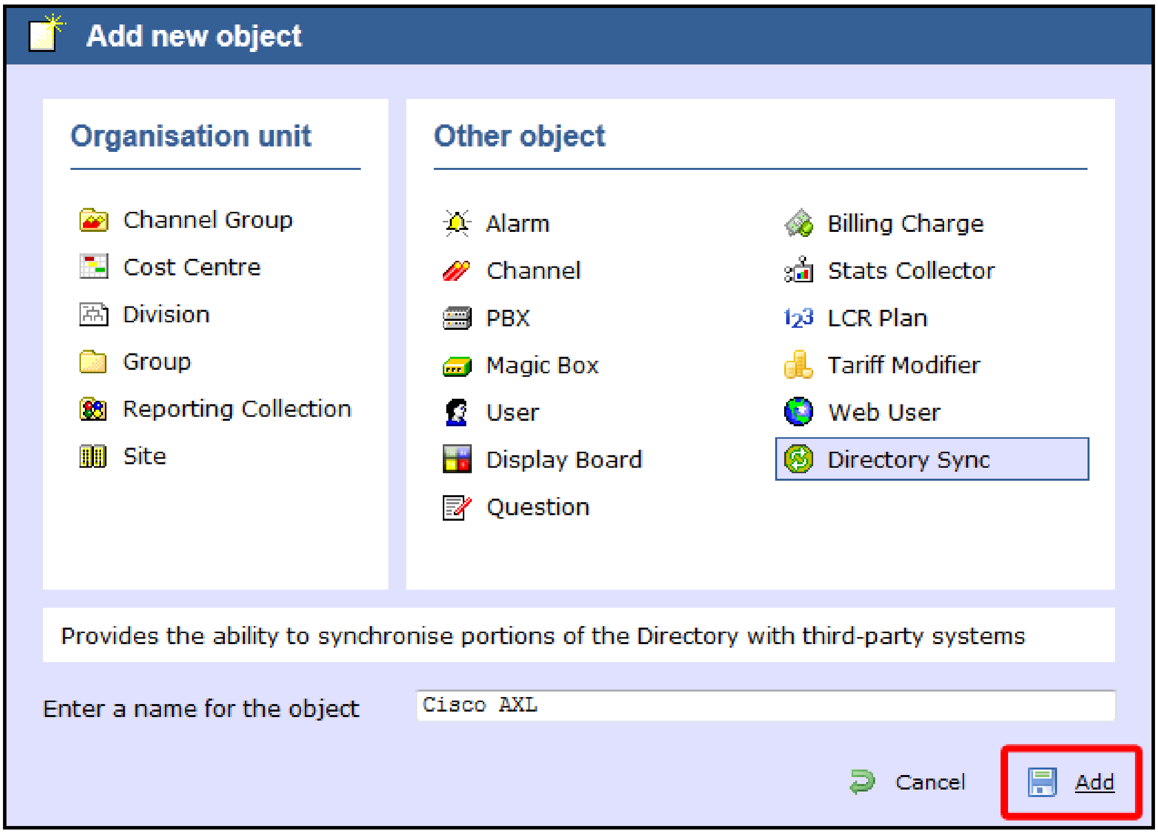
Step	IOS commands	Description
1	`enable`	Causes the UCME to enter EXEC mode. Type your EXEC password if requested
2	`conf t`	Enters the global configuration mode
3	`aaa new-model`	Enables aaa accounting mode
	`aaa accounting connection h323 start-stop group SysLog`	
	`gw-accounting syslog`	
	`acct-template callhistory-detail`	
4	`logging 192.168.0.1`	Specifies the IP address of TIM Enterprises's SysLog server, to which CDR data will be sent, e.g. `192.168.0.1`
5	`end`	Exits configuration mode

6	`wr`	Saves changes

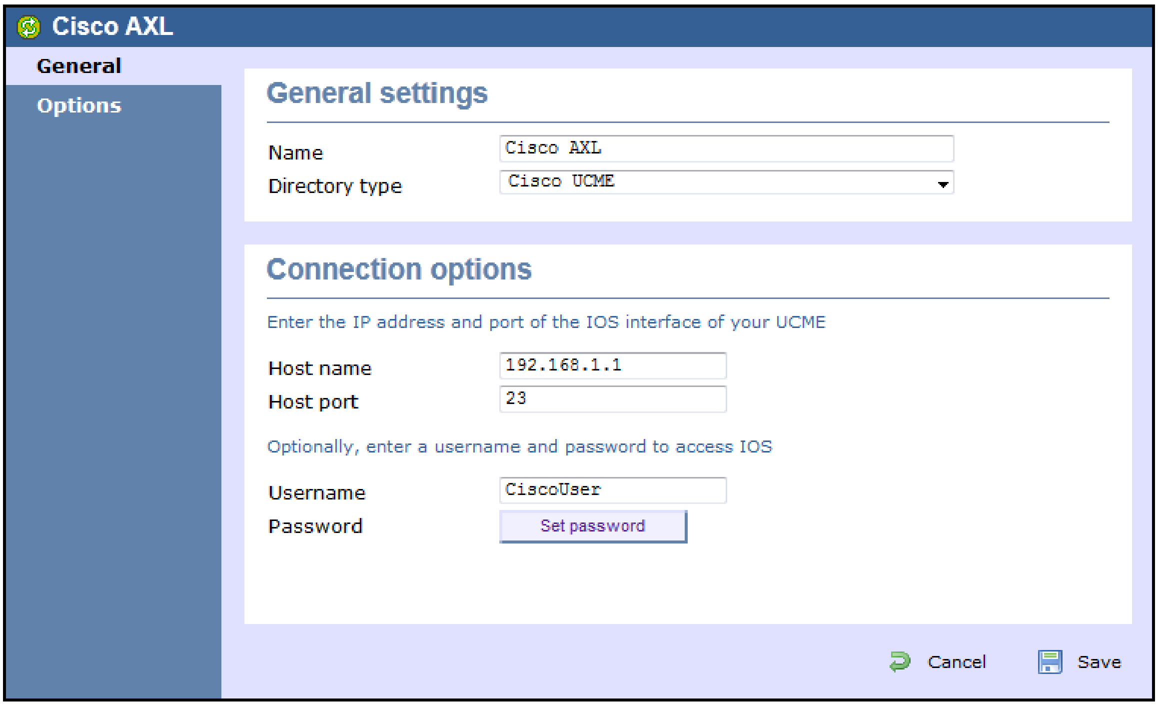
Configuring Cisco AXL sync

Follow the steps below to configure TIM Enterprise to synchronise with the directory of your Cisco UCME:

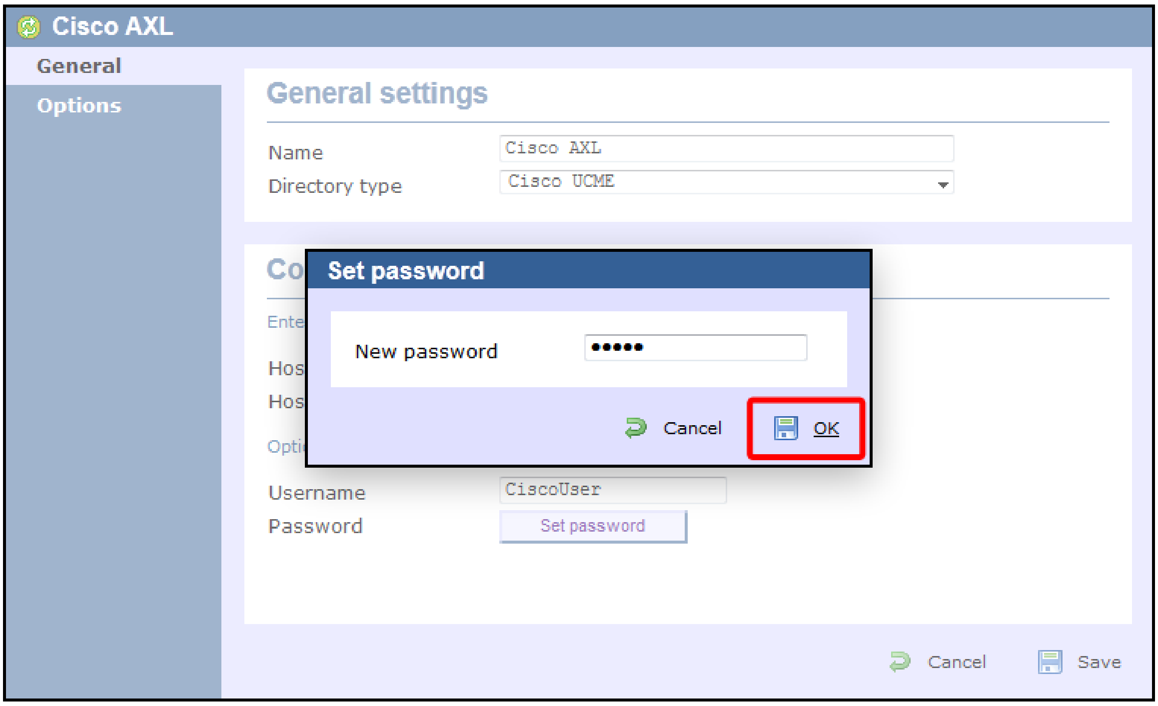
1. Click on the Directory tab.
2. Go to the Directory level where you want to sync the UCME files and add a new **`Directory Sync`** object. Enter a name for the object and click on the Add button, as shown below:



3. Left-click on the newly-created object and select Properties .
4. In the **`Directory type`** drop-down list, select **`Cisco UCME`**.
5. In the **`Host name`** field, enter the IP address of your UCME.
6. In the **`Host port`** field, enter the port number of the IOS service, e.g. **`23`** .
7. In the **`Username`** field, enter the username of the IOS login that can perform synchronisation.



8. Click on Set password button and enter the password of the IOS login that can perform synchronisation.

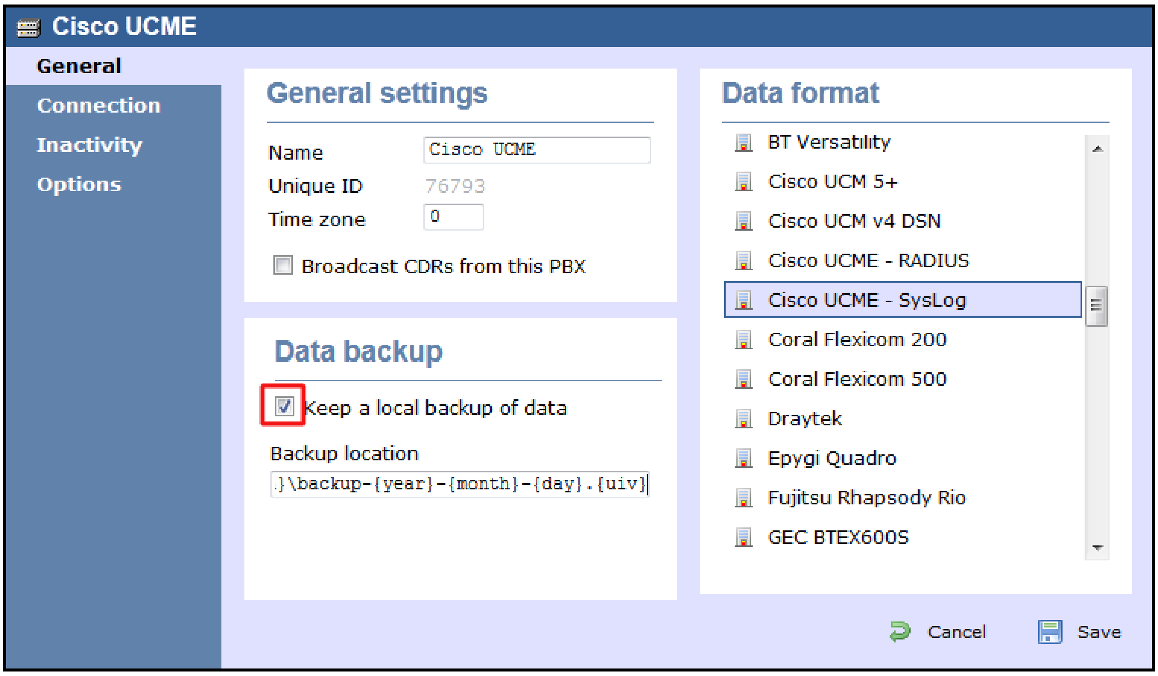


9. Click on the Save button to apply the changes.

Configuring TIM Enterprise to capture SysLog packets

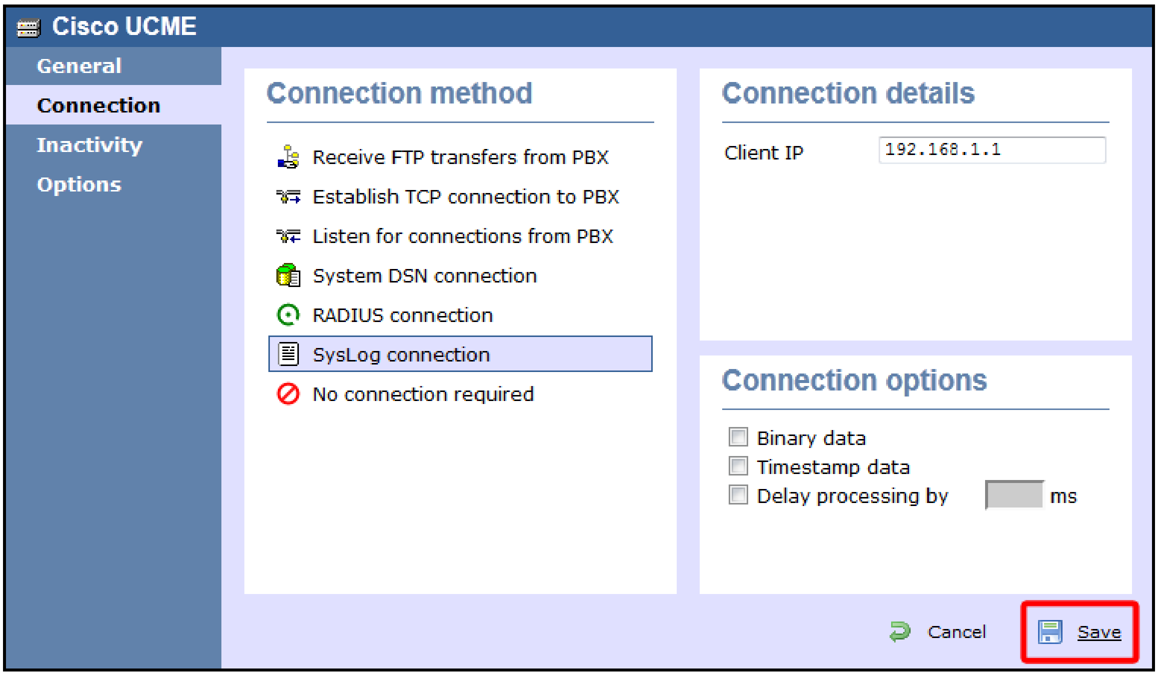
Follow the steps below to configure TIM Enterprise to receive SysLog data from your UCME:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Cisco UCME - SysLog`** from the `Data format` list and tick the `Keep a local backup of data` box, as shown below:



4. Click on the **Connection** tab and select `SysLog connection` from the `Connection method` list.

5. In the `Client IP` field, enter the IP address of your UCME.



6. Click on the **Save** button to apply the settings.

DrayTek

DrayTek UG-Vigour

These instructions help you configure your Draytek phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise captures SysLog packets from this PBX.

Support Files

`Draytek.TDT`

`Draytek.TDS`

Required Tasks

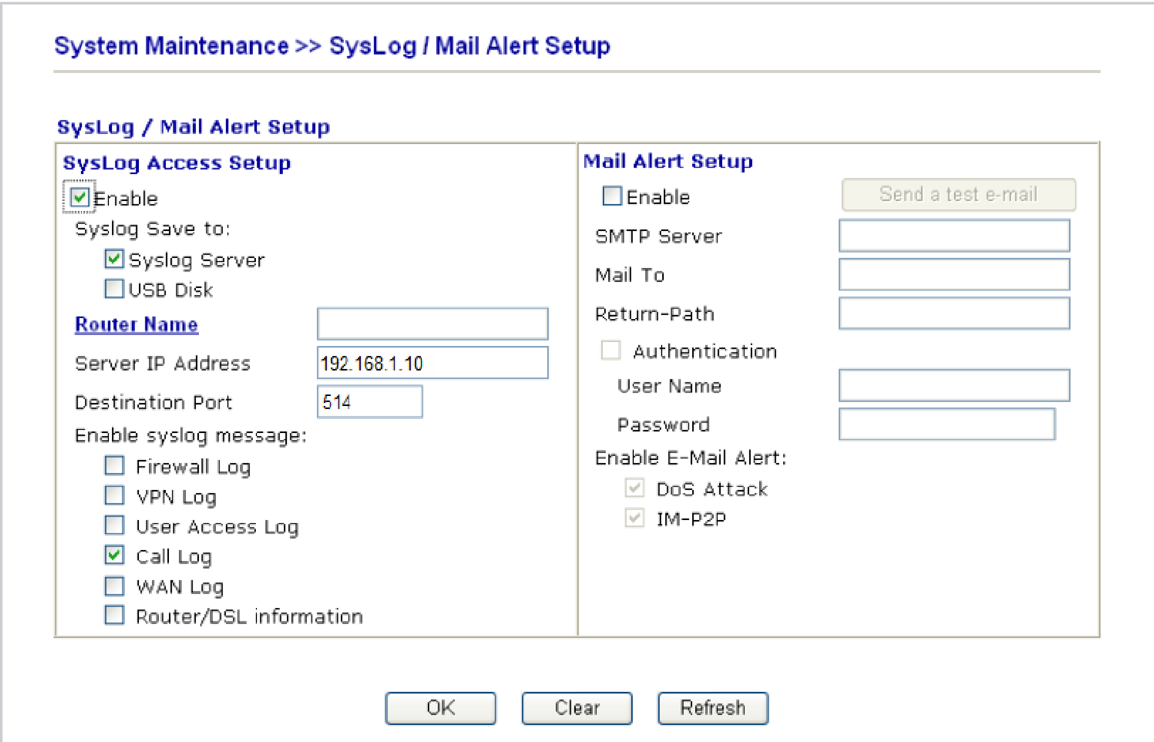
Configure your router

Configure TIM Enterprise

Configuring your router

Follow the steps below to enable SysLog events on your phone system:

1. Access the web interface of your DrayTek router and navigate to `System Maintenance` >> `SysLog/Mail Alert Setup` , as shown below:



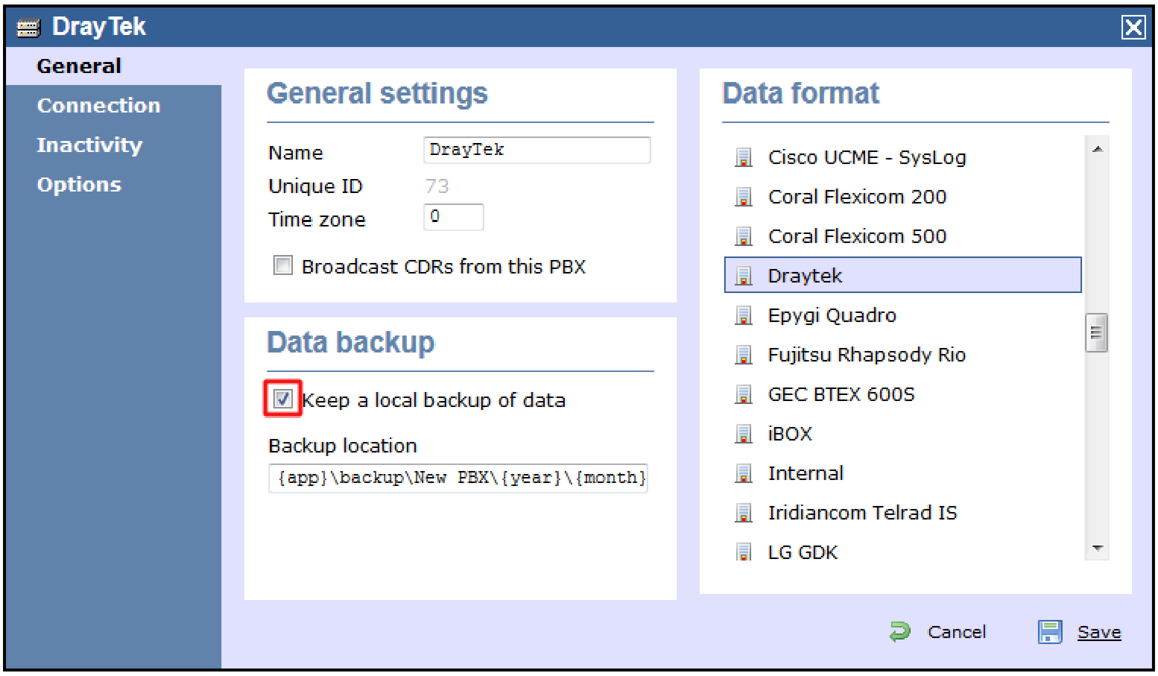
2. Check the `Enable` box to activate the SysLog fuction.
3. Check the `Syslog Server` box to save the logs directly to the server.
4. Enter the IP address of TIM Enterprise's SysLog server, to which CDR data will be sent.
5. Check the `Call Log` box to enable the output of call logging data.
6. Click on the OK button to save the settings.

Configuring TIM Enterprise

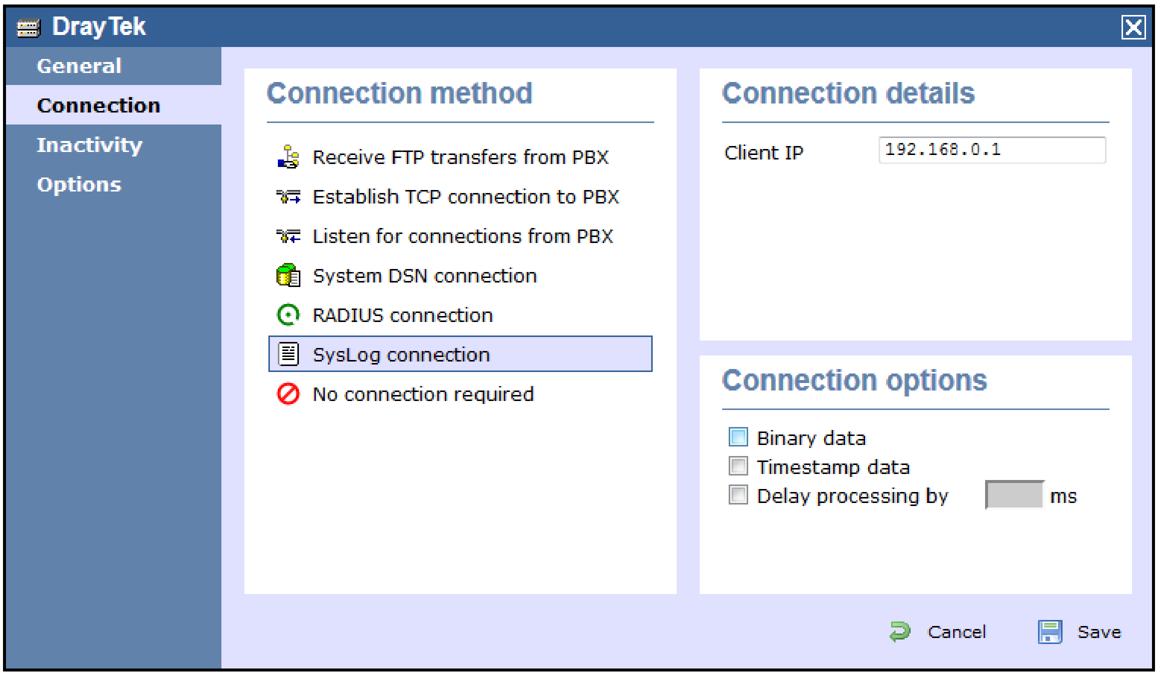
Follow the steps below to configure TIM Enterprise to receive SysLog data from your DrayTek phone system:

1. Log in to TIM Enterprise and click on the Directory tab.

2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open displaying the general properties of your PBX object. Select **`Draytek`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`SysLog connection`** from the `Connection method` list.
5. In the `Client IP` field, enter the IP address of your DrayTek router.



6. Click on the Save button to apply the settings.

Ericsson

Ericsson BP

Please refer to Aastra BP.

Fujitsu

Fujitsu Rhapsody Rio

These instructions help you configure your Fujitsu Rhapsody Rio phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Fujitsu Rhapsody Rio.TDT`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Fujitsu Rhapsody Rio phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from the Fujitsu Rhapsody Rio phone system to the PC that NetPBX is installed and running on. For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

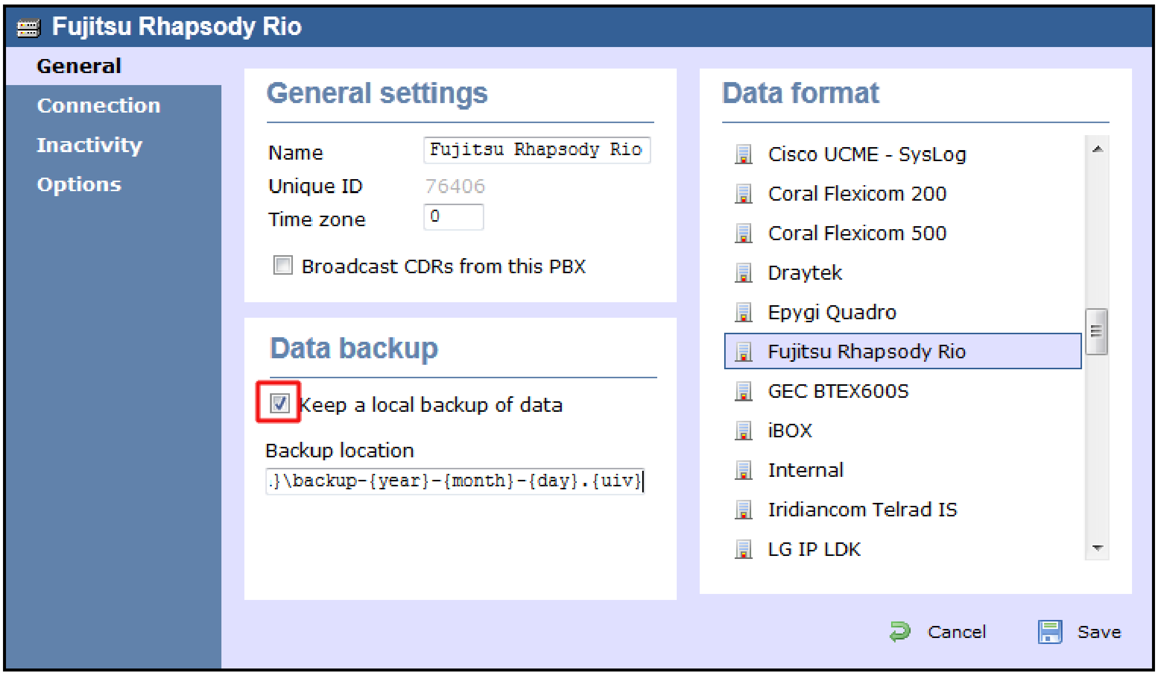
To collect call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

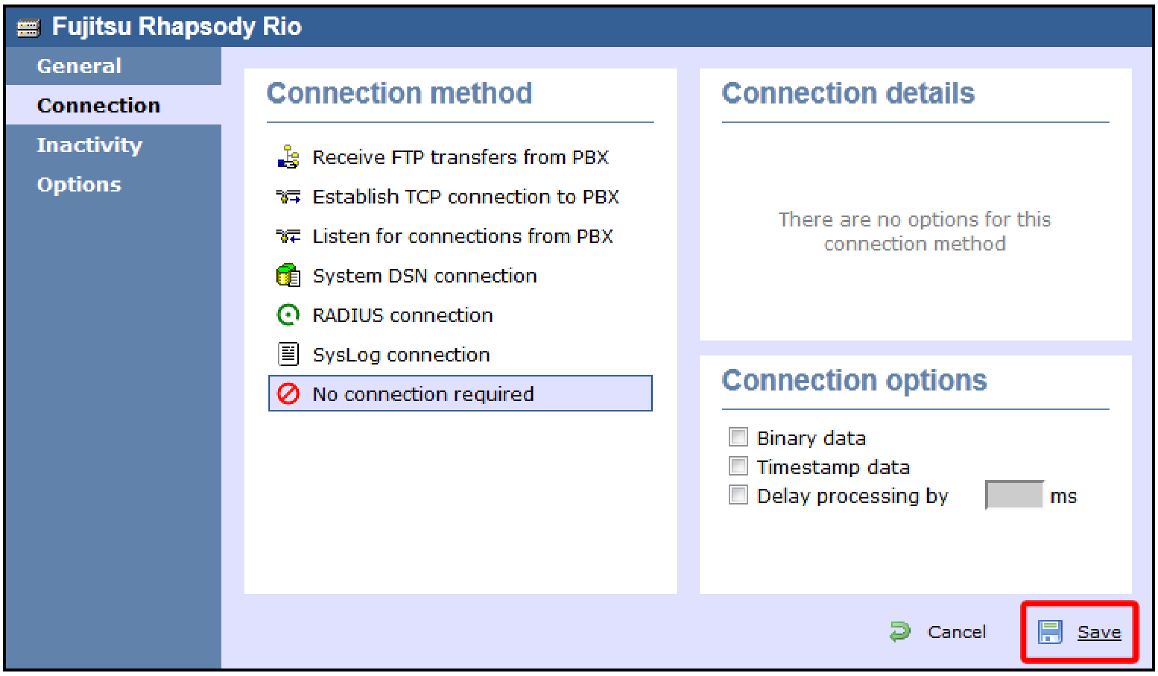
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Fujitsu Rhapsody Rio`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.

5. Click on the Save button to apply the settings.



GEC

GEC BTEX

These instructions help you configure your GEC BTEX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

GEC BTEX 600S.TDT

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

Note that the GEC BTEX can output SMDR information in multiple formats. You should select the **600S** format for use with TIM Enterprise.

The GEC BTEX phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from the GEC BTEX phone system to the PC that NetPBX is installed and running on. For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

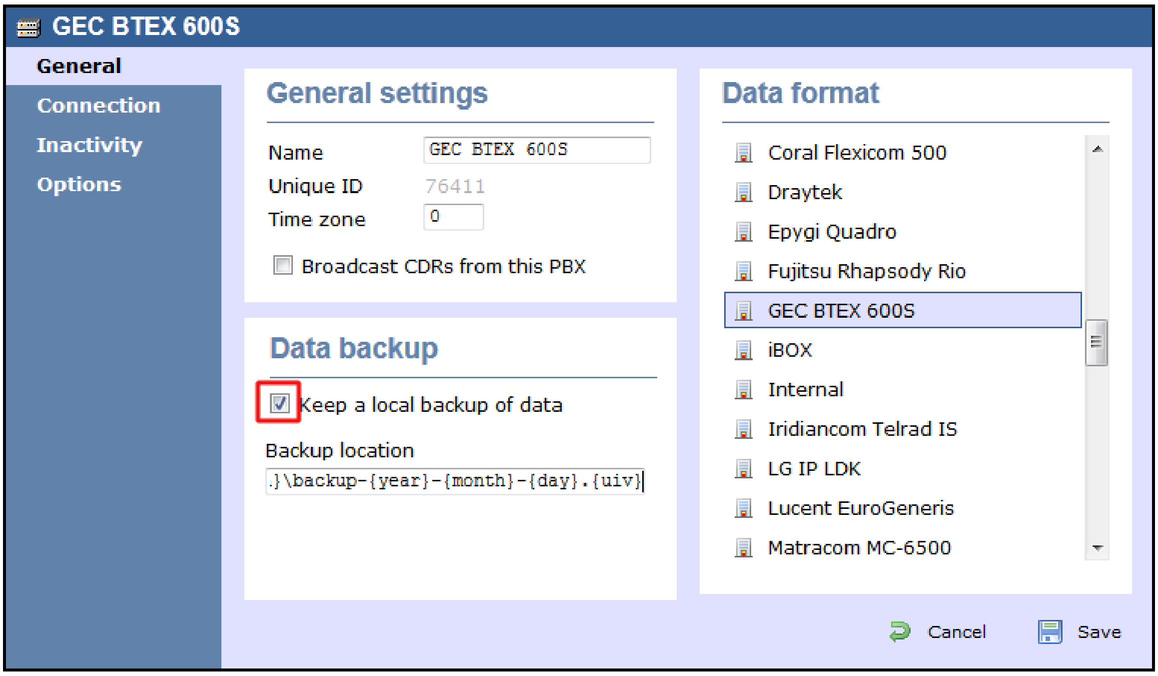
To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

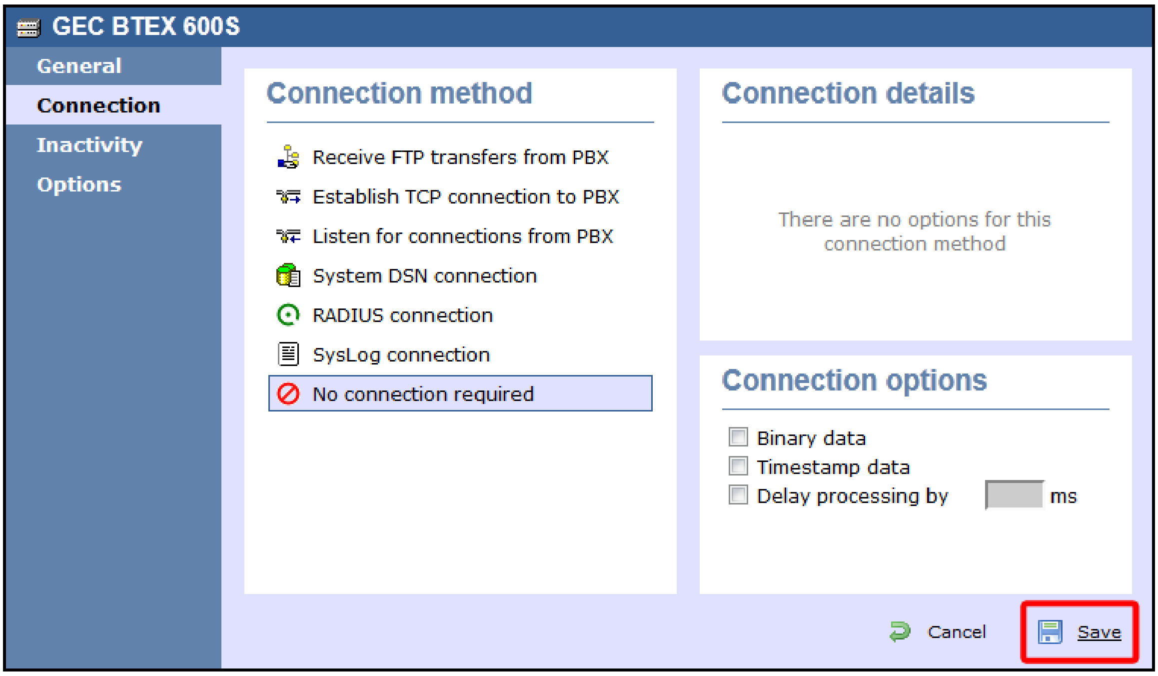
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Director, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **GEC BTEX 600S** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the `Connection` tab and select **`No connection required`** from the `Connection method` list.

5. Click on the `Save` button to apply the settings.



Inter-Tel

Inter-Tel Axxess up to V7.x

Please refer to Mitel 5000-7000.

Inter-Tel Axxess V8 plus

Please refer to Mitel 5000-7000.

Iridiacom

Iridiacom Telrad

These instructions help you configure your Iridiacom Telrad phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Iridiacom Telrad IS.TDT

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Iridiacom Telrad phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from the Iridiacom Telrad phone system to the PC that NetPBX is installed and running on. For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

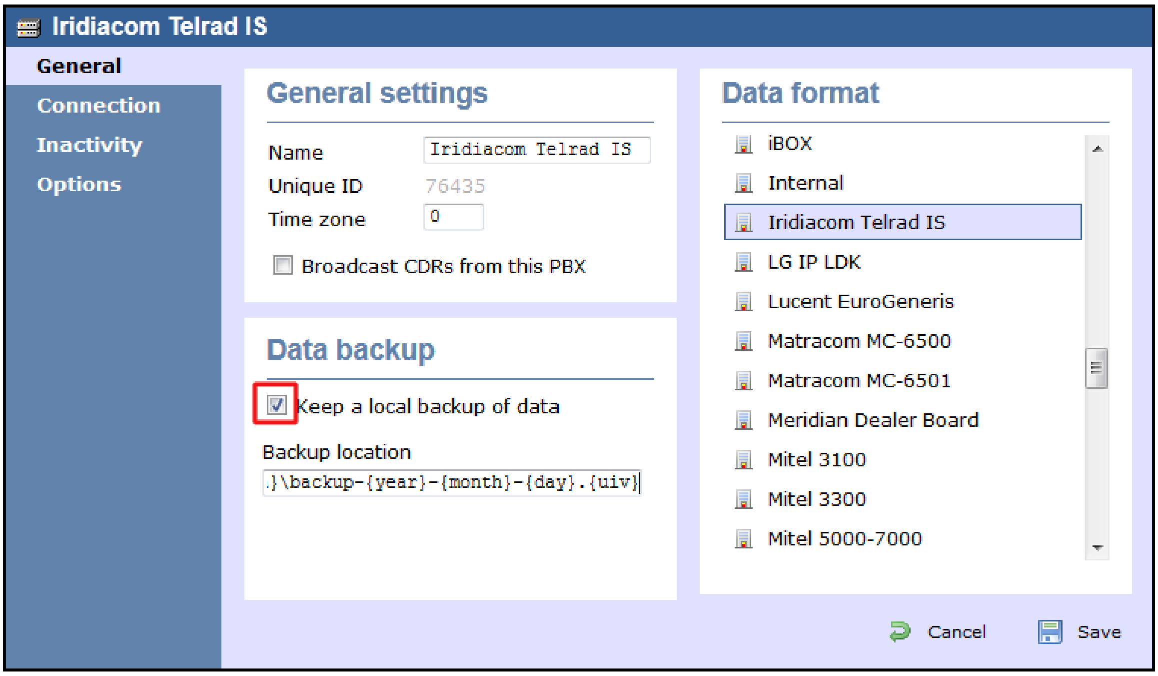
To collect call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

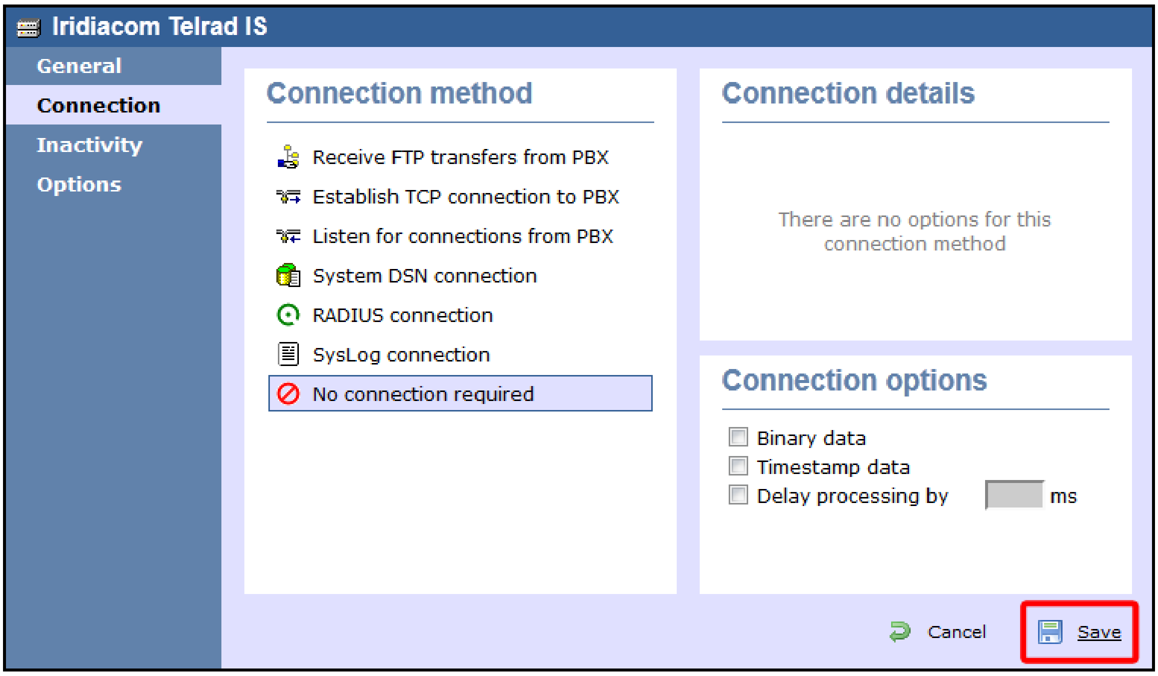
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Iridiacom Telrad IS** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings.



IPCortex

VoIPCortex

These instructions help you configure your VoIPCortex phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`VoIPCortex.TDT`

`VoIPCortex.TDS`

Required Tasks

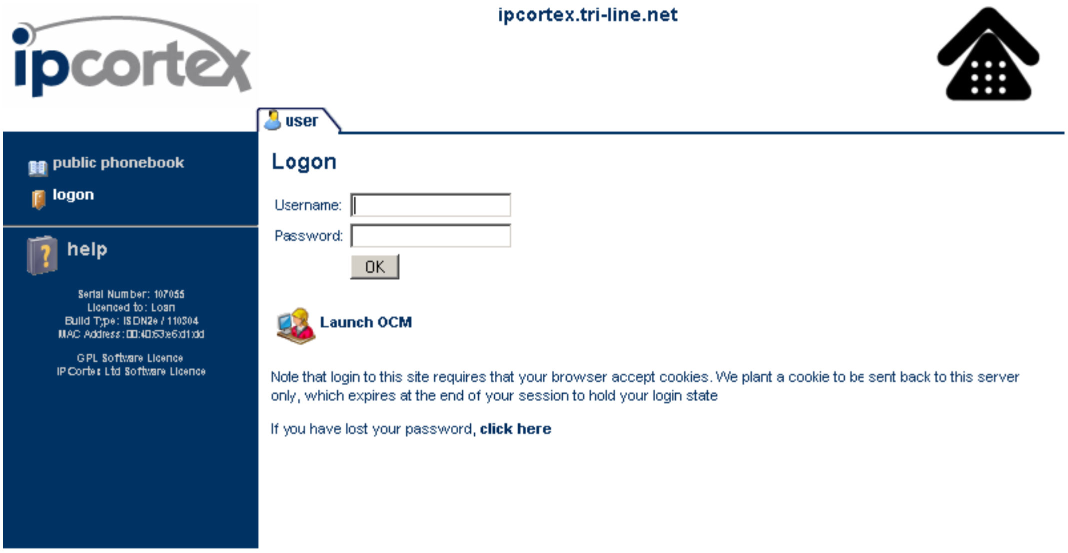
Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to enable the SMDR output on your VoIPCortex phone system:

1. Log in to the VoIPCortex phone system using your admin username and password.



2. Click on the System tab and from the left-hand side menu expand the **`Global`** tree node.

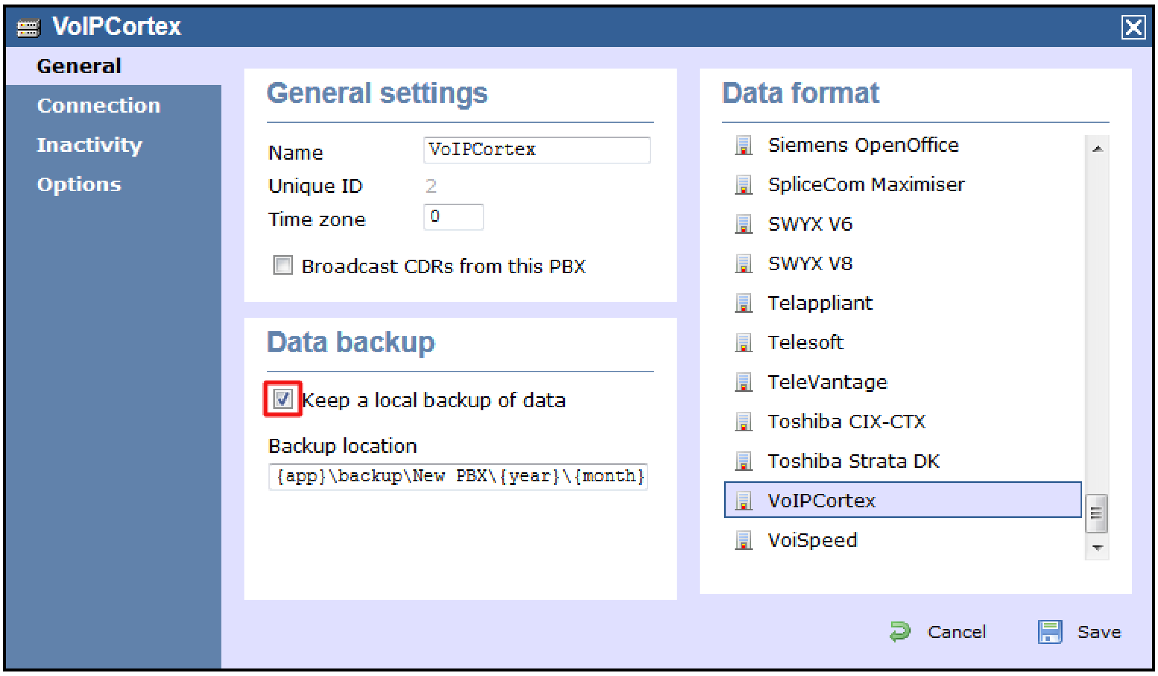
3. In the **`Passwords`** section, create a password to allow event to be retrieved by TIM Enterprise, as shown below:

4. Once you have completed the configuration, restart the phone system for the changes to take affect.

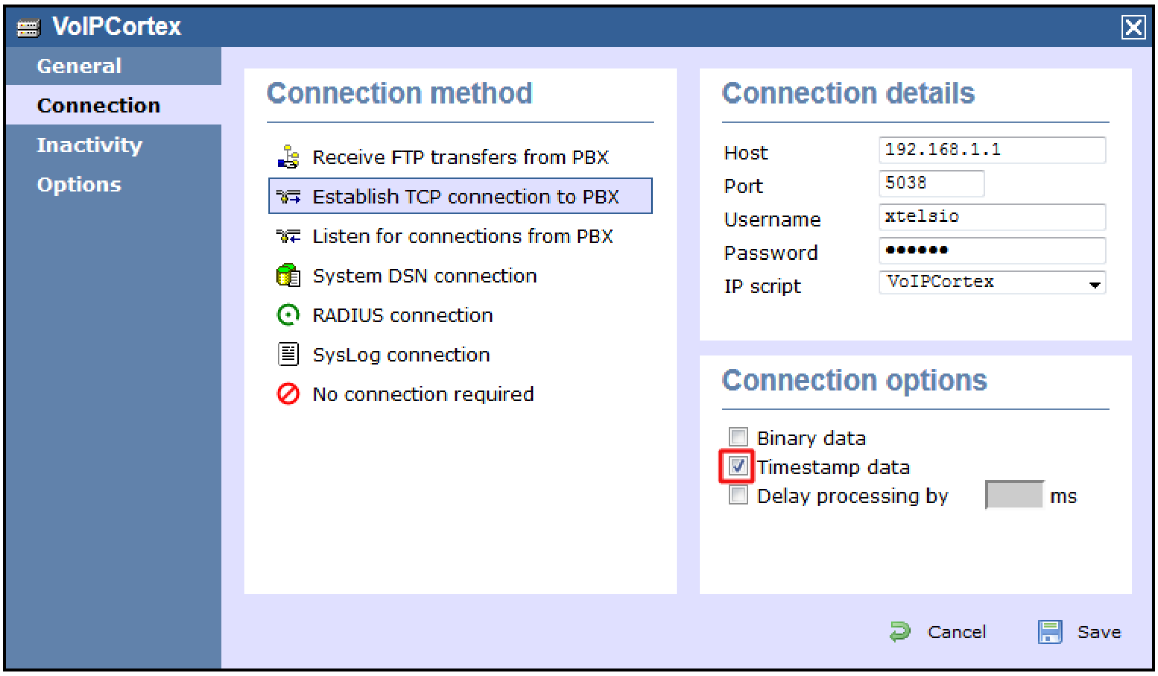
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect SMDR data from your VoIPCortex phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`VoIPCortex`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the **`Connection method`** list.
5. In the **`Host`** field, enter the IP address of your VoIPCortex.
6. In the **`Port`** field, enter **`5038`**.
7. In the **`Username`** field, enter **`xtelsio.`**
8. In the **`Password`** field, enter the password you configured in the phone system.
9. In the **`IP script`** field, select **`VoIPCortex`** from the drop-down list.
10. In the **Connection options**, enable the **`Timestamp data`** field.
11. Click on the Save button to apply the settings.



LG GDK

These instructions help you configure your LG GDK phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

LG GDK.TDT

LG.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

The LG GDK phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from the LG GDK phone system to the PC that NetPBX is installed and running on. Since the LG GDK doesn't have the SMDR output enabled by default, you need to ask your system maintainer to enable SMDR logging for outgoing, incoming and abandoned calls.

Installing NetPBX

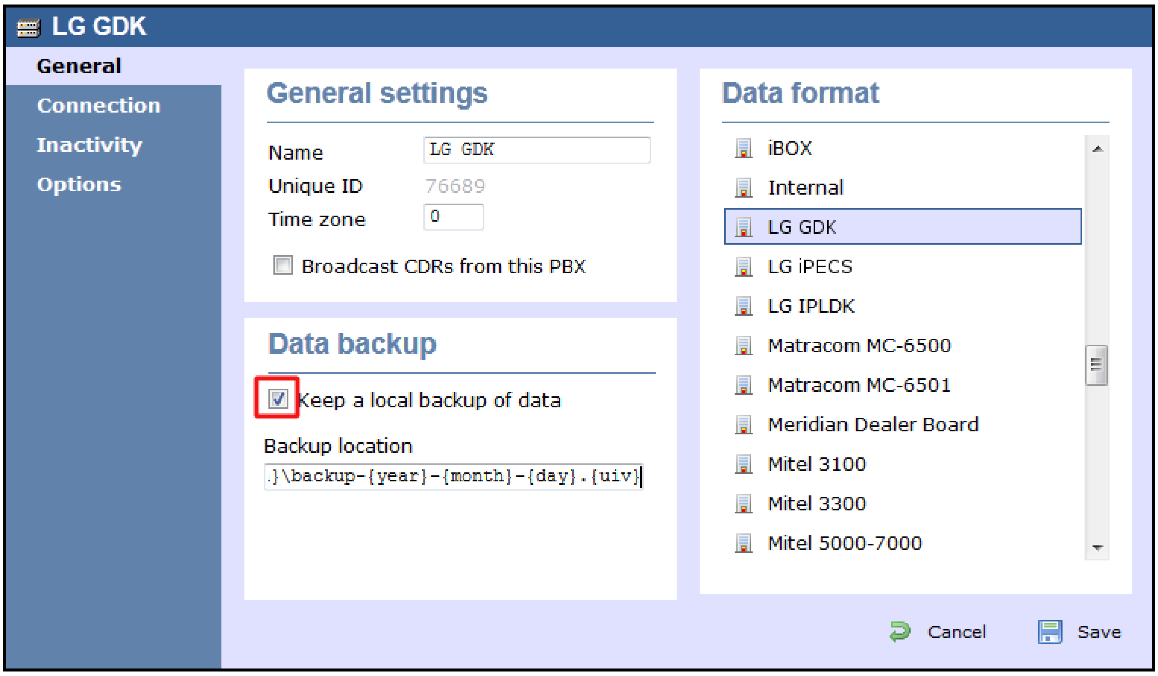
To collect call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

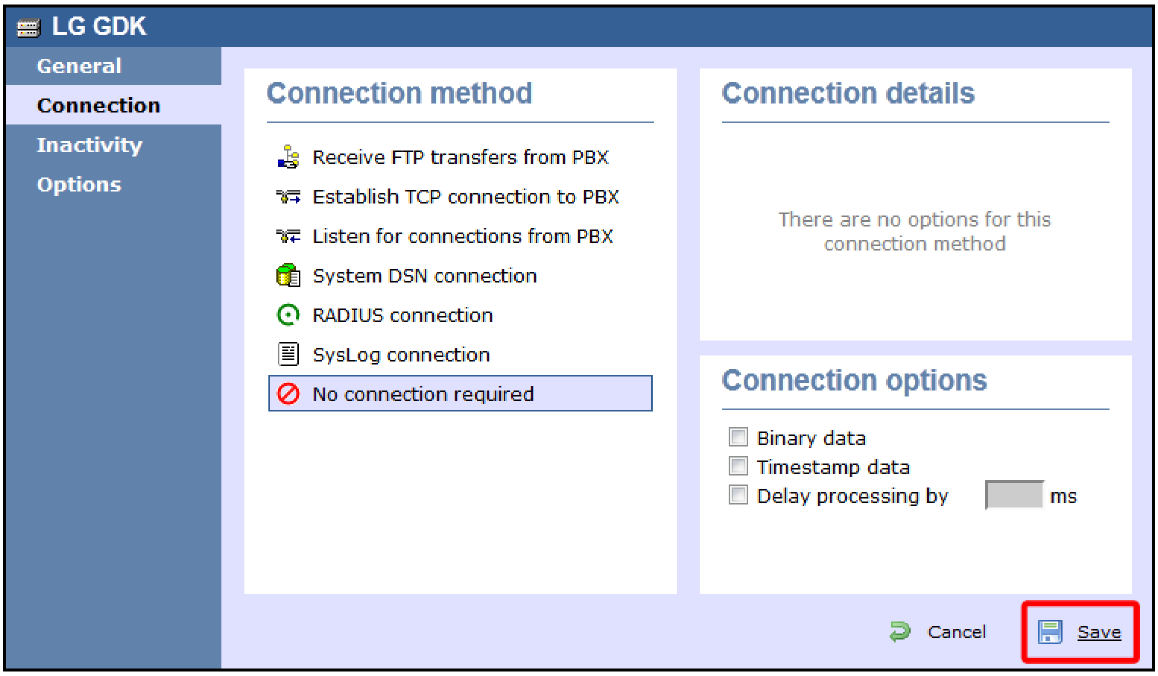
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **LG GDK** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings.



LG iPECS

The LG iPECS can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

LG iPECS - Serial connection

These instructions help you configure your LG iPECS phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

LG iPECS.TDT

LG.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

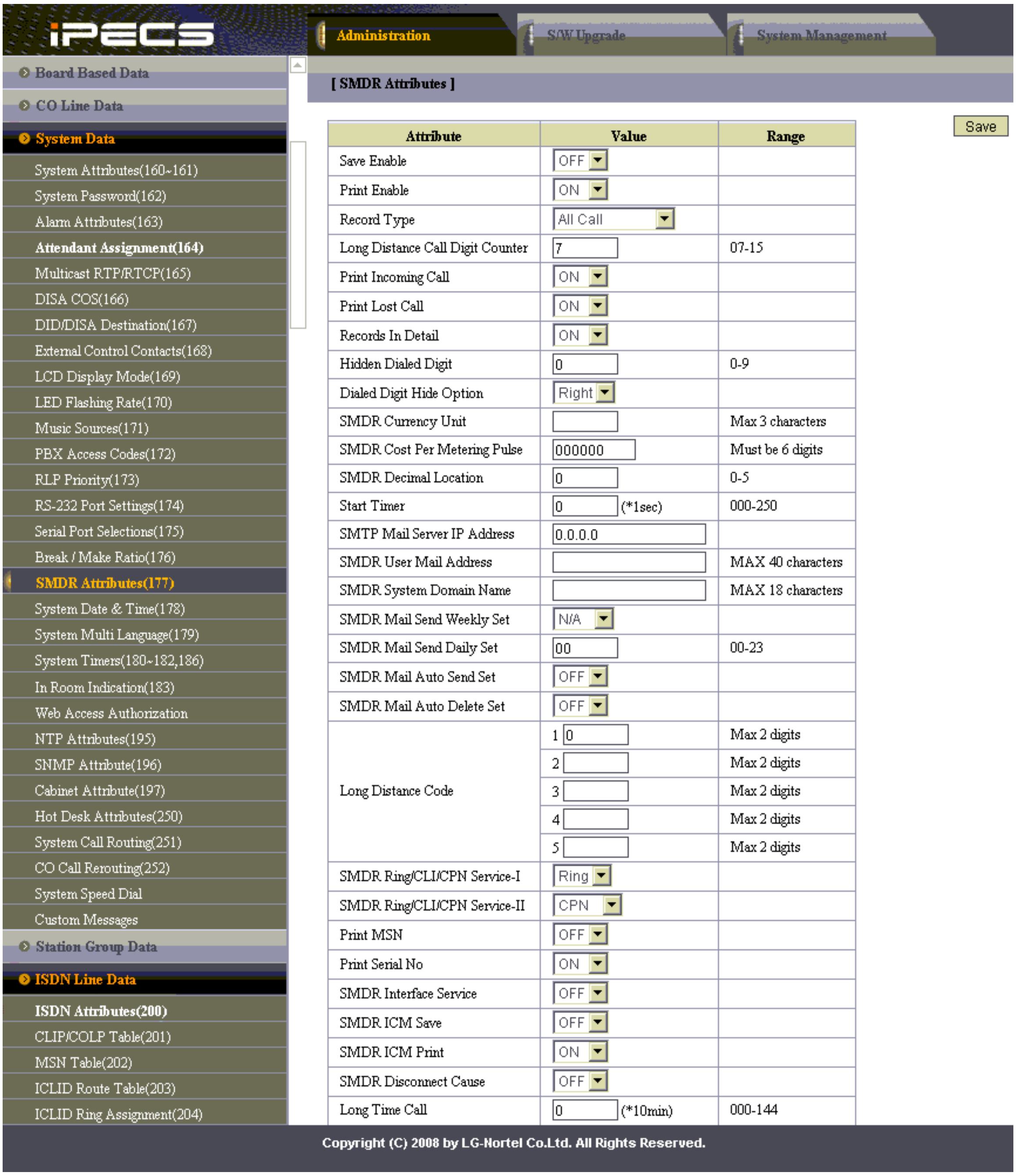
Configure the SMDR output

The SMDR output in LG iPECS is disabled by default. To enable the output, you need to amend the following settings in the programming sections below:

SMDR Attributes (PGM 177)

Field	Description
Save Enable	Leave this as the default, which is unticked
Print Enable	This needs to be enabled by clicking on the check box
SMDR Record Call Type	This needs to be set to 'All Calls', you will need to select this from the drop-down list
Records In Detail	This needs to be enabled by clicking on the check box
Print Incoming Call	This needs to be enabled by clicking on the check box
Print Lost Call	This needs to be enabled by clicking on the check box
SMDR Dial Digit Hidden	Leave this as the default which is '0'
SMDR Currency Unit	Leave this as the default which is blank
SMDR Cost Per Metering Pulse	Leave this as the default which is blank
SMDR Fraction	Leave this as the default which is '0'
SMDR Start Time	Leave this as the default which is '0'
SMDR Hidden Digit	Leave this as the default which is 'Right'
Long Distance Call Digit Counter	Leave this as the default which is '0'
Long Distance Code (Max 2 Digits)	Leave this as the default
MSN Print on SMDR	Leave this is the default which is unticked
Print Caller Number	This needs to be enabled by clicking on the check box

Here is an example of a populated **SMDR Attributes** screen:



Printer Port Selection (PGM 175)

In the `Printer Port Selection (PGM 175)` window, set `Info/On-line SMDR` to **`COM1/COM2`** to send call logging data by serial port.

ISDN Attributes (PGM 200)

To enable CLI information in the call records produced by your LG iPECS, you need to set the `CLI Print To Serial` to **`ON`**, as shown below:

Installing NetPBX

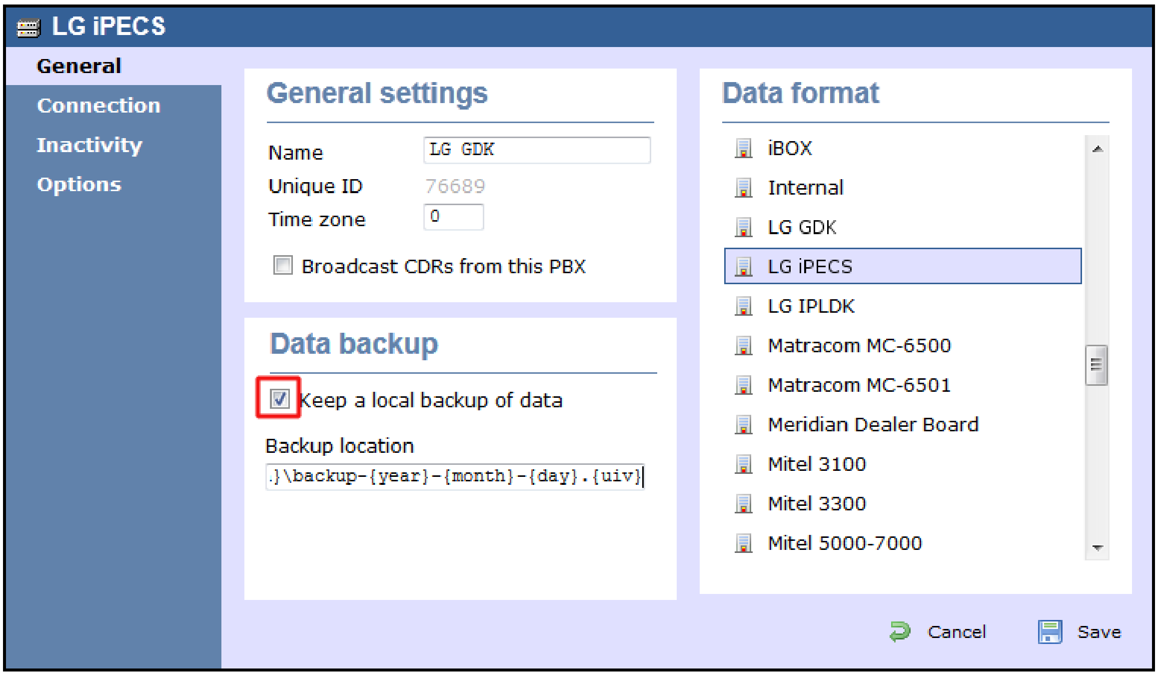
If your LG iPECS has been configured to send SMDR data via a serial connection, you first need to install the NetPBX software to collect data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

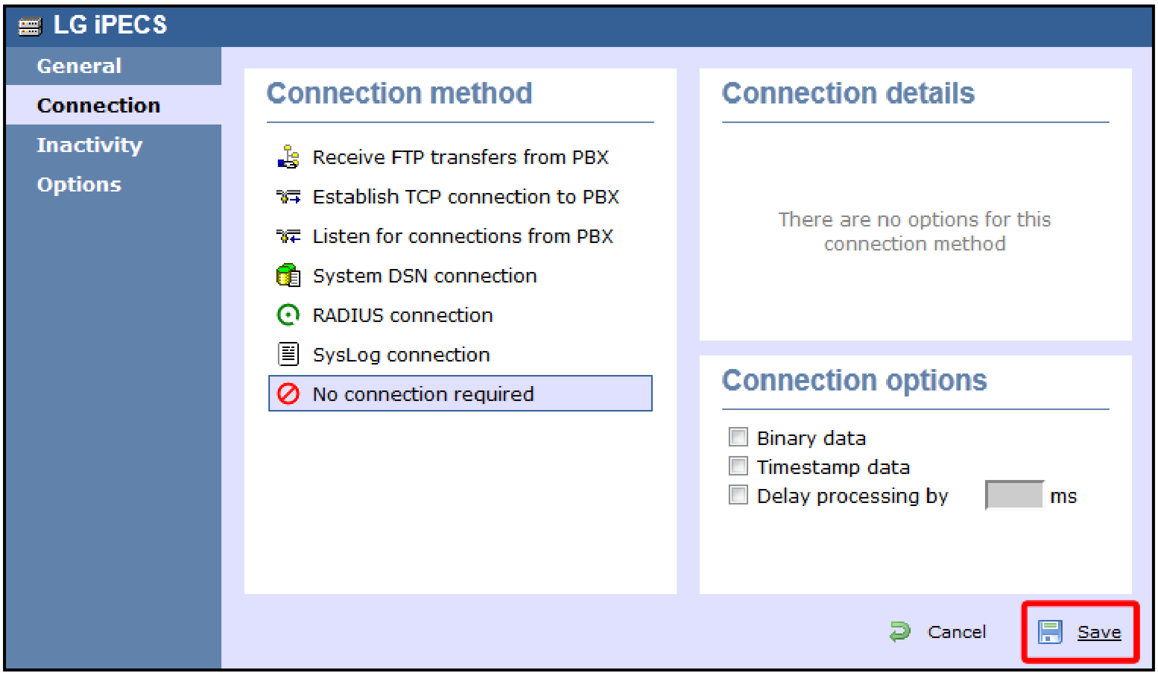
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. select **`LG iPECS`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



LG iPECS - IP connection

These instructions help you configure your LG iPECS phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`LG iPECS.TDT`

`LG.TDS`

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

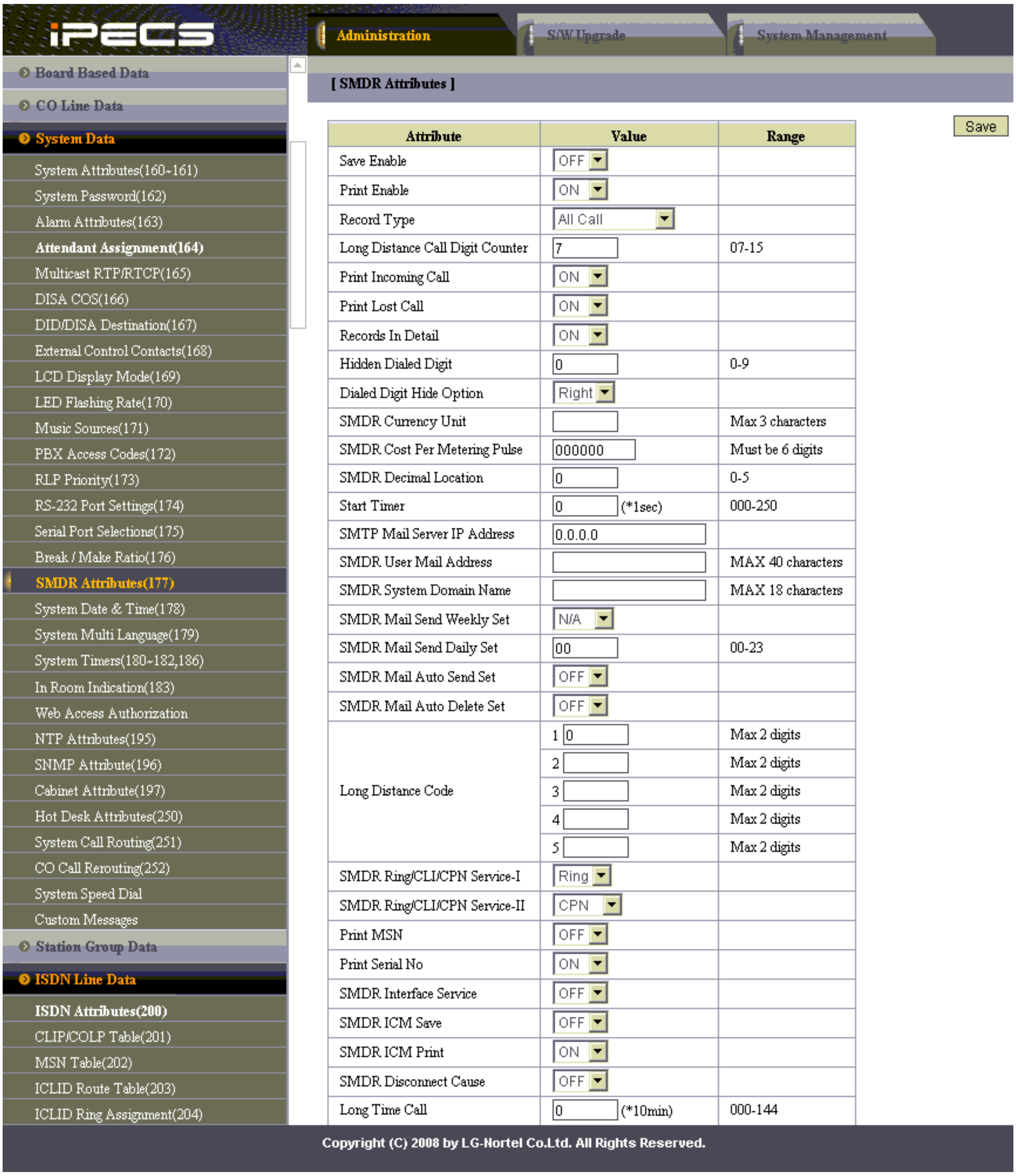
Configuring the SMDR output

The SMDR output in LG iPECS is disabled by default. To enable the output, you need to amend the following settings in the programming sections below:

SMDR Attributes (PGM 177)

Field	Description
Save Enable	Leave this as the default, which is unticked
Print Enable	This needs to be enabled by clicking on the check box
SMDR Record Call Type	This needs to be set to 'All Calls', you will need to select this from the drop-down list
Records In Detail	This needs to be enabled by clicking on the check box
Print Incoming Call	This needs to be enabled by clicking on the check box
Print Lost Call	This needs to be enabled by clicking on the check box
SMDR Dial Digit Hidden	Leave this as the default which is '0'
SMDR Currency Unit	Leave this as the default which is blank
SMDR Cost Per Metering Pulse	Leave this as the default which is blank
SMDR Fraction	Leave this as the default which is '0'
SMDR Start Time	Leave this as the default which is '0'
SMDR Hidden Digit	Leave this as the default which is 'Right'
Long Distance Call Digit Counter	Leave this as the default which is '0'
Long Distance Code (Max 2 Digits)	Leave this as the default
MSN Print on SMDR	Leave this is the default which is unticked
Print Caller Number	This needs to be enabled by clicking on the check box

Here is an example of a populated **`SMDR Attributes`** screen:



Printer Port Selection (PGM 175)

In the **`Printer Port Selection (PGM 175)`** window, set **`Info/On-line SMDR`** to **`Telnet 1`** to send call logging data to TIM Enterprise over TCP to port 23.

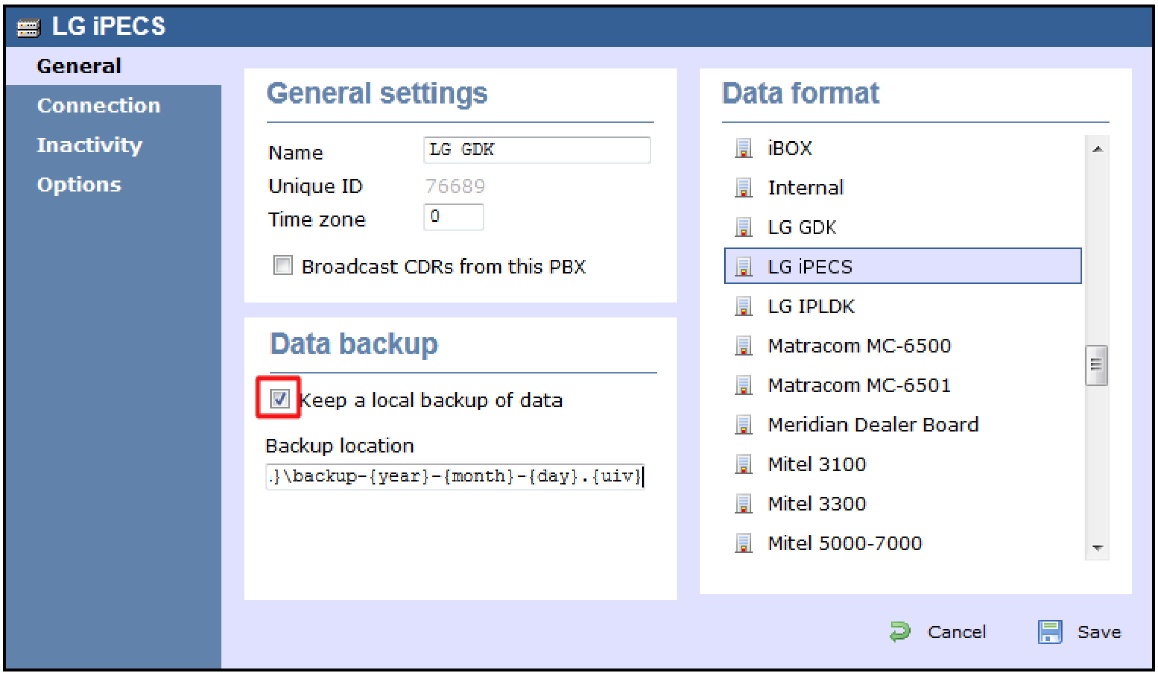
ISDN Attributes (PGM 200)

To enable CLI information in the call records produced by your LG iPECS, you need to set the **`CLI Print To Serial`** to **`ON`**, as shown below:

Configuring TIM Enterprise

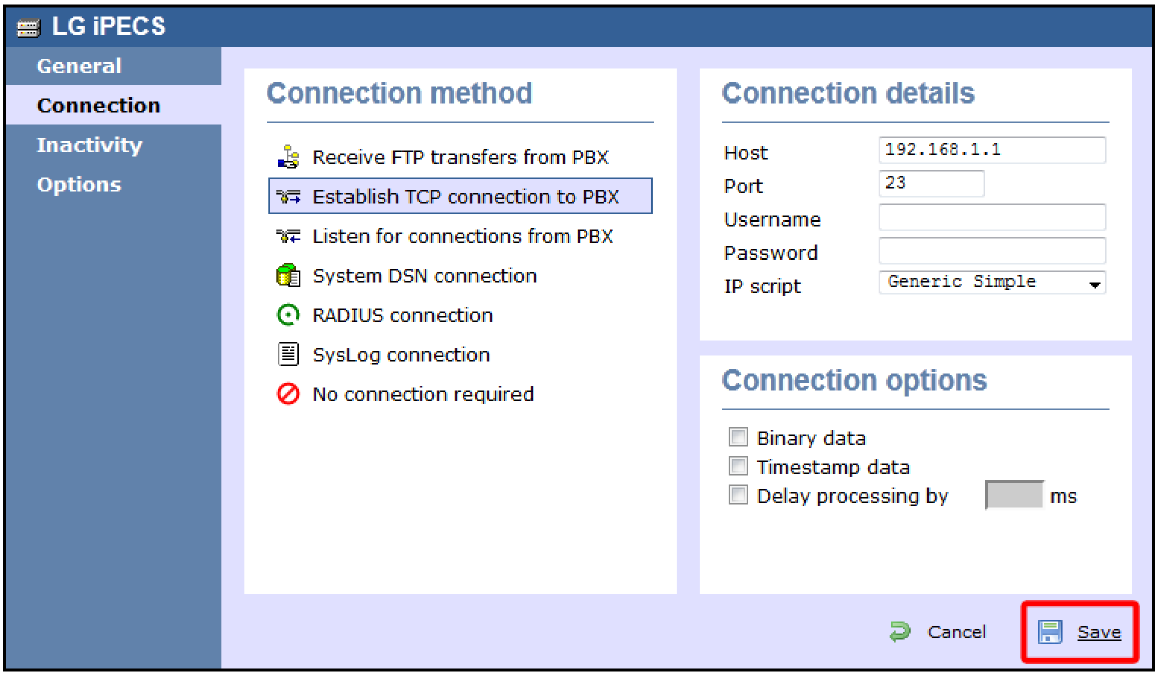
Follow the steps below to configure TIM Enterprise to collect the SMDR data from your LG iPECS:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **LG iPECS** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your LG iPECS.
6. In the **Port** field, enter **23**.

7. Leave the `Username` and `Password` fields blank.
8. In the `IP script` field, select `Generic Simple` from the drop-down list.
9. Click on the Save button to apply the settings.



LG IPLDK

The LG IPLDK can be configured to send its SMDR data via a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

LG IPLDK - Serial connection

These instructions help you configure your LG IPLDK phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`LG IPLDK.TDT`

`LG.TDS`

Required Tasks

Configure the SMDR output

Install NetPBX

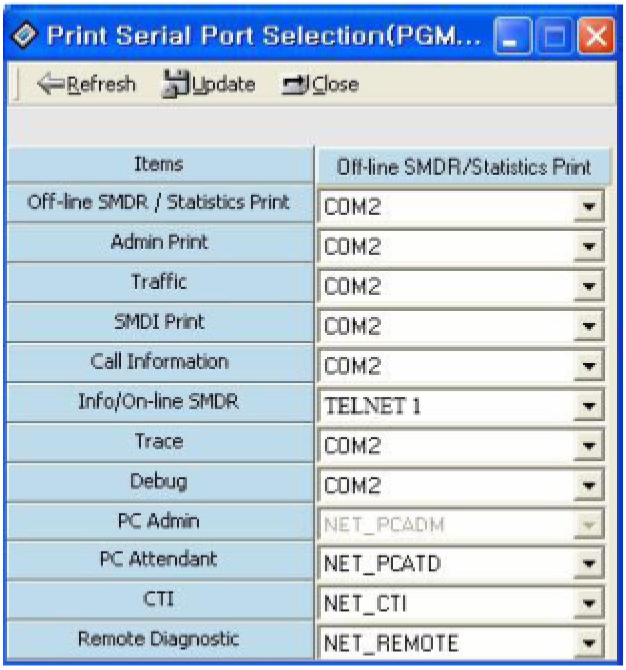
Configure TIM Enterprise

Configuring your SMDR output

The SMDR output on the LG IPLDK is disabled by default. To enable the output, you need to amend the following settings in the programming sections below:

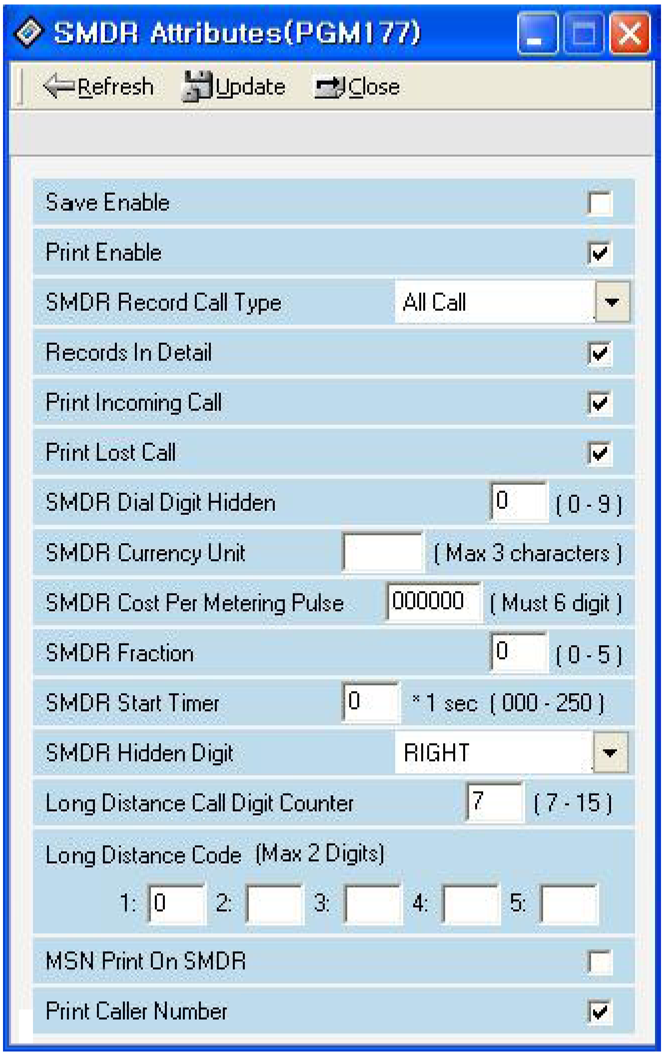
Print Serial Port Selection (PGM 175)

In the `Print Serial Port Selection (PGM 175)` window, set `Info/On-line SMDR` to **`COM1/COM2`** to send call logging data to the serial port.



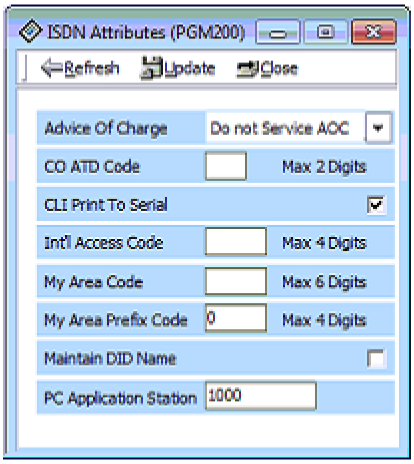
SMDR Attributes (PGM 177)

Field	Description
Save Enable	Leave this as the default, which is unticked
Print Enable	This needs to be enabled by clicking on the check box
SMDR Record Call Type	This needs to be set to 'All Calls', you will need to select this from the drop-down list
Records In Detail	This needs to be enabled by clicking on the check box
Print Incoming Call	This needs to be enabled
Print Lost Call	This needs to be enabled
SMDR Dial Digit Hidden	Leave this as the default which is '0'
SMDR Currency Unit	Leave this as the default which is blank
SMDR Cost Per Metering Pulse	Leave this as the default which is blank
SMDR Fraction	Leave this as the default which is '0'
SMDR Start Time	Leave this as the default which is '0'
SMDR Hidden Digit	Leave this as the default which is 'Right'
Long Distance Call Digit Counter	Leave this as the default which is '0'
Long Distance Code (Max 2 Digits)	Leave this as the default
MSN Print on SMDR	This needs to be disabled
Print Caller Number	This needs to be disabled



ISDN Attributes (PGM 200)

Enable the **CLI Print to serial** field, as shown the **ISDN Attributes** window below:



Installing NetPBX

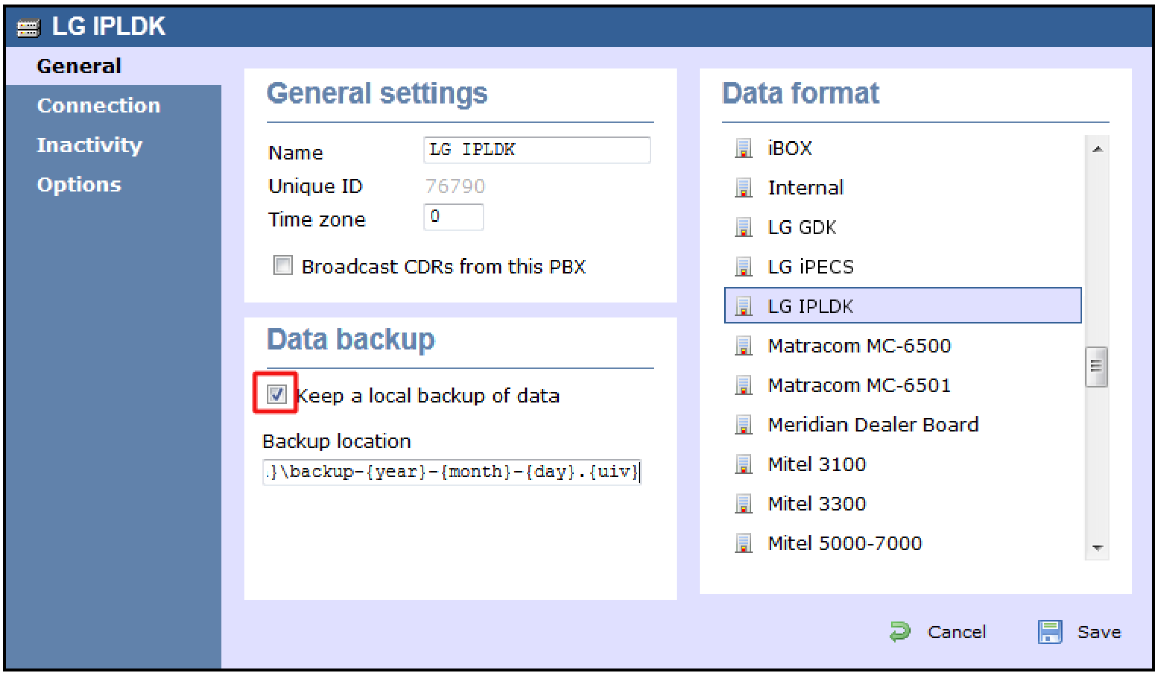
If your LG IPLDK has been configured to send SMDR data via a serial connection, you first need to install the NetPBX software to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

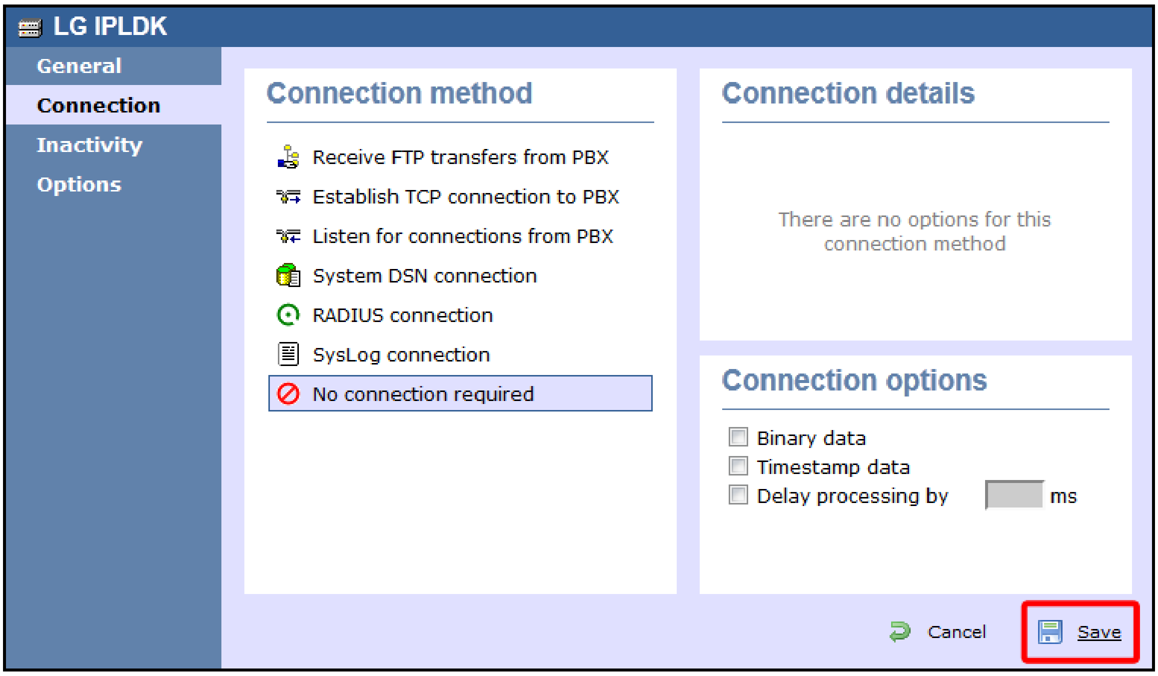
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select `LG IPLDK` from the `Data format` list and tick the `Keep a local backup of data` box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.
5. Click on the Save button to apply the settin



LG IPLDK - IP connection

These instructions help you configure your LG IPLDK phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

LG IPLDK.TDT

LG.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

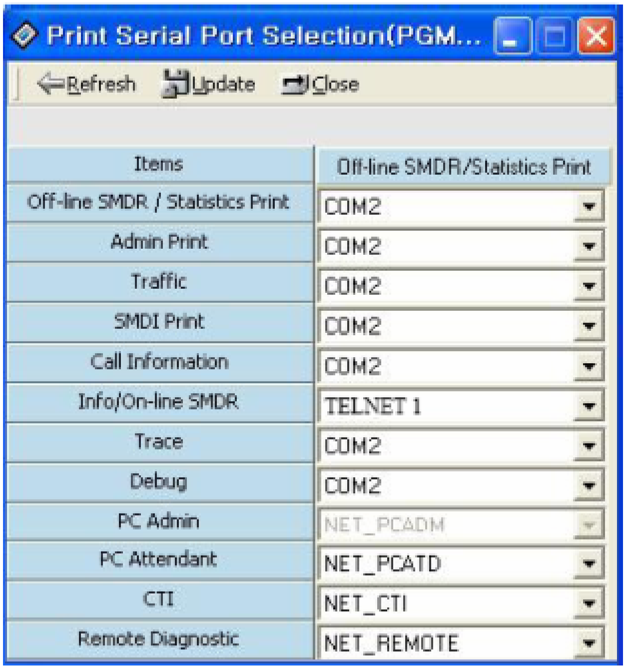
Configuring your SMDR output

The SMDR output on the LG IPLDK is disabled by default. To enable the output, you need to amend the following settings in the programming sections below:

Print Serial Port Selection (PGM 175)

In this window, set **Info/On-line SMDR** to **Telnet 1** to send call logging data to TIM Enterprise over TCP to port 23..

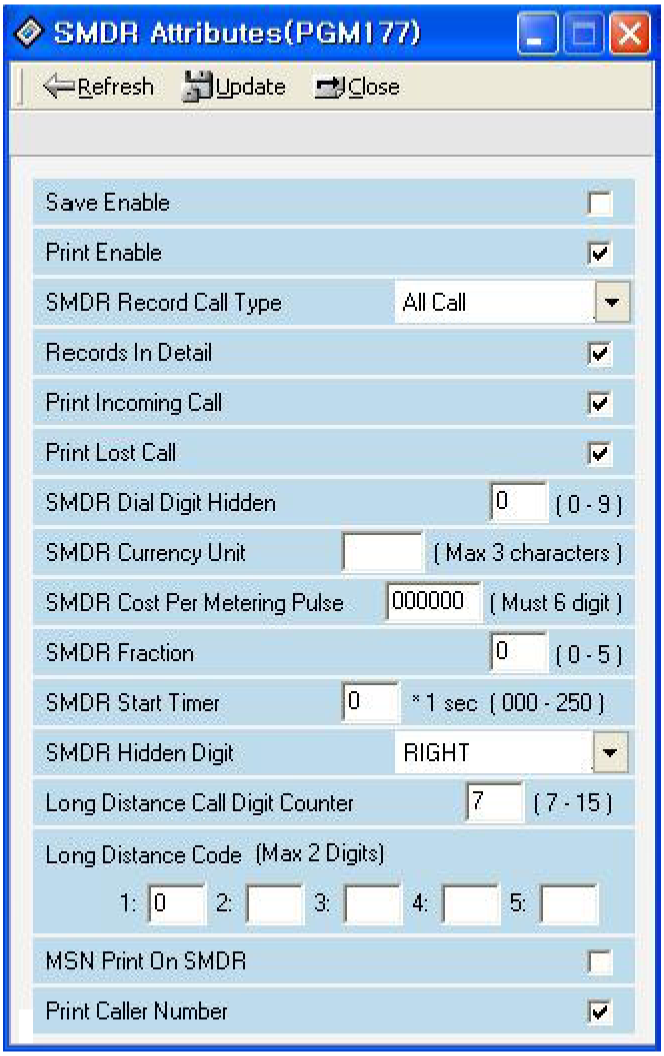
Here is an example of a populated **Print Serial Port Selection** screen:



Items	Off-line SMDR/Statistics Print
Off-line SMDR / Statistics Print	COM2
Admin Print	COM2
Traffic	COM2
SMDI Print	COM2
Call Information	COM2
Info/On-line SMDR	TELNET 1
Trace	COM2
Debug	COM2
PC Admin	NET_PCADM
PC Attendant	NET_PCATD
CTI	NET_CTI
Remote Diagnostic	NET_REMOTE

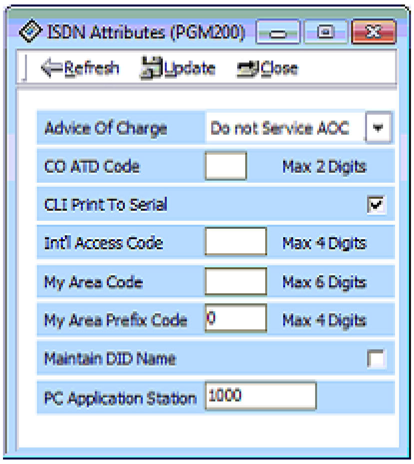
SMDR Attributes (PGM 177)

Set the **SMDR Attributes** as shown below:



ISDN Attributes (PGM 200)

Set the **ISDN Attributes** as shown below, ensuring that the **CLI Print to serial** field is enabled:

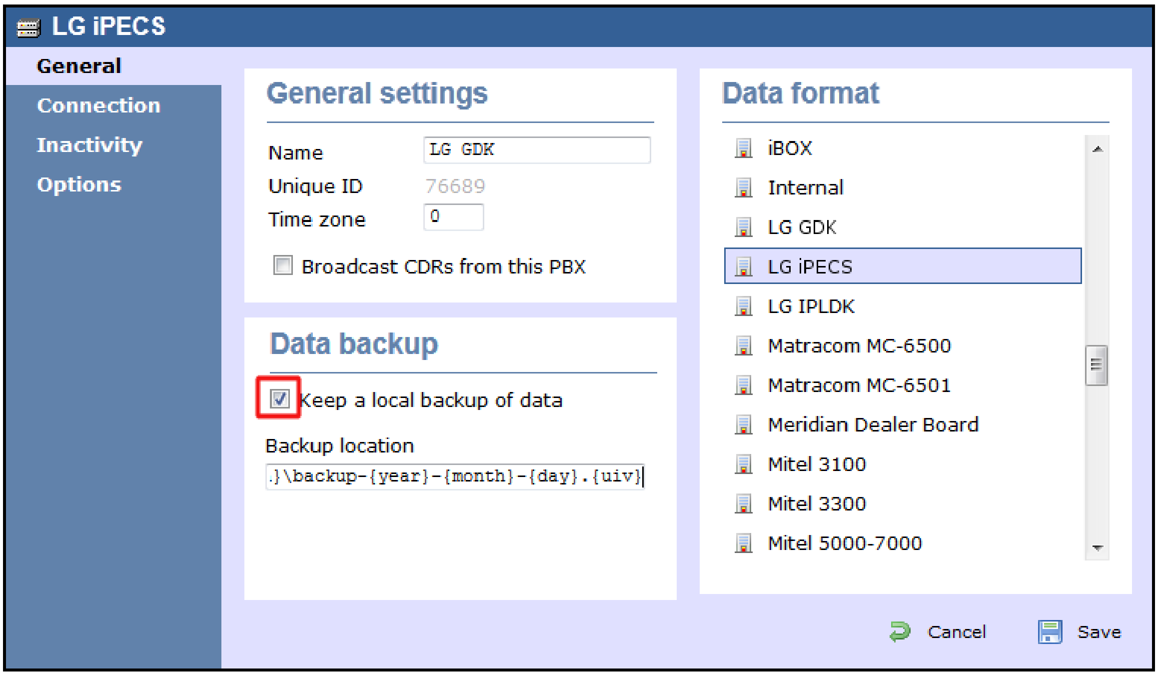


Configuring TIM Enterprise

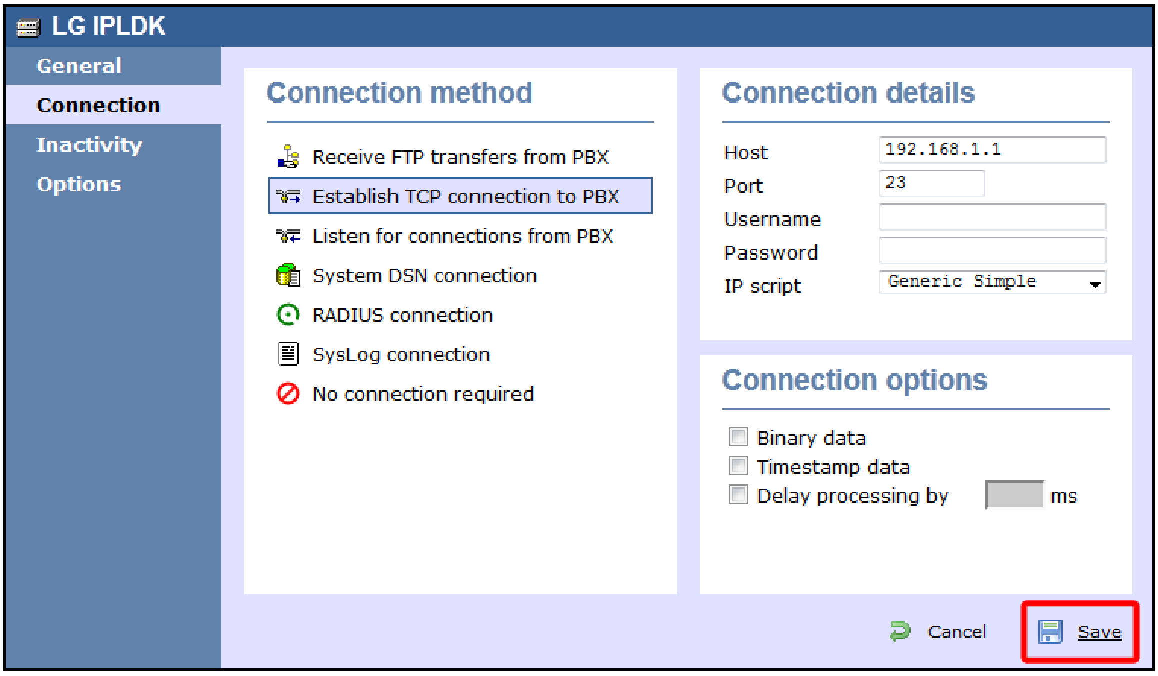
Follow the steps below to configure TIM Enterprise to collect the SMDR data from your LG IPLDK:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **LG IPLDK** from the **Data format** list and tick

the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your LG IPLDK.
6. In the **Port** field, enter **23**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Generic Simple** from the drop-down list.
9. Click on the Save button to apply the settings.



Lucent

Lucent EuroGeneris

Please refer to Avaya EuroGeneris.

Matracom

Matracom Matra 65xx series

Please refer to Avaya Matra 65xx series.

Mitel

Mitel 3100

These instructions help you configure your Mitel 3100 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Mitel 3100.TDT`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure your Mitel 3100 to output SMDR data via a serial connection:

1. Using an RS-232 cable, connect the PC running TIM Enterprise to the serial port of the Mitel 3100.
2. Launch the Mitel System Tool.
3. Choose Voice from the selection menu.
4. Click on the Management tab, select Call Logging .
5. Click Change to set the following parameters:
   - Set the **`Cost per minute`** to **`00`**. (This functionality is not supported in NA systems)
   - Set the **`Minimum call duration to be recorded`** option to **`00:00:00`**.
   - Set the **`Type of calls`** option to **`All`**.
   - Set the **`Minimum page length`** to **`1`**.
   - Enable call logging.
6. Click Save and commit the changes.

Installing NetPBX

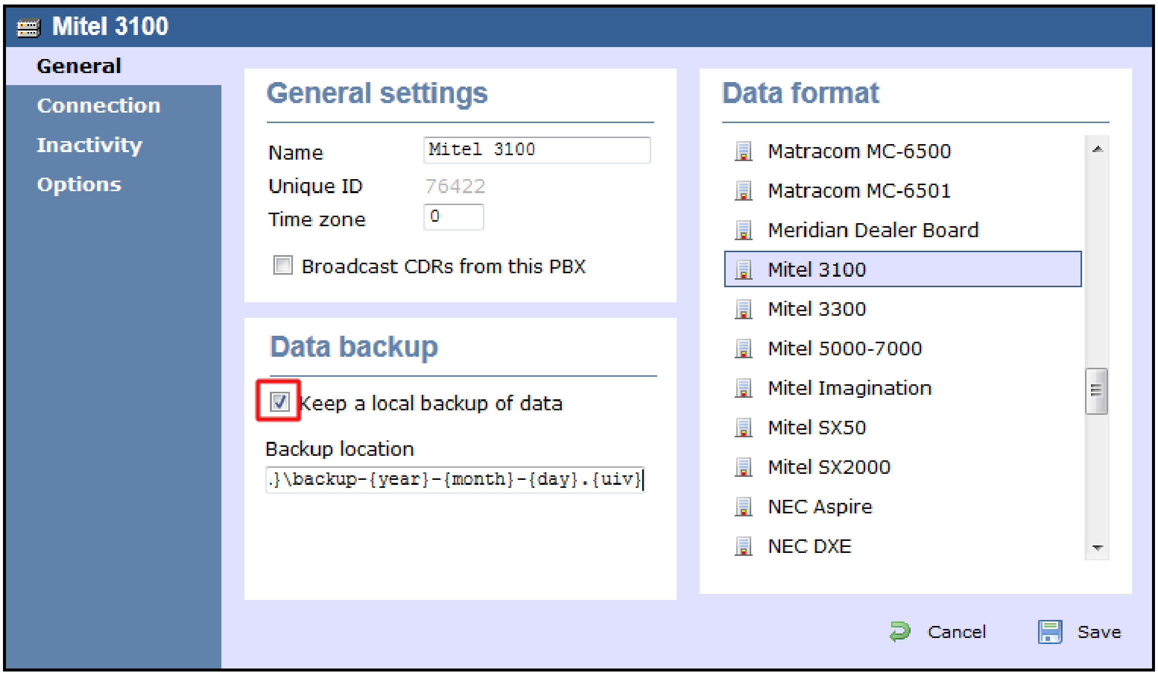
The Mitel 3100 phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

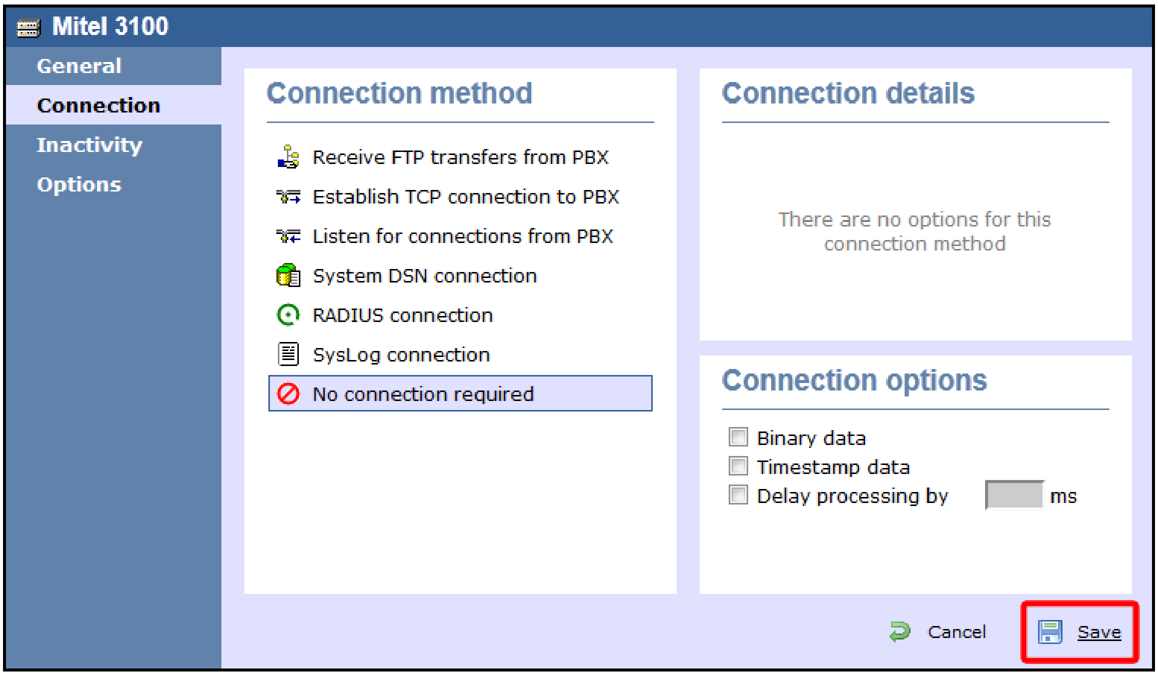
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Mitel 3100`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Mitel 3300

These instructions help you configure your Mitel 3300 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`Mitel 3300.TDT`

`Mitel 3300.TDS`

Required Tasks

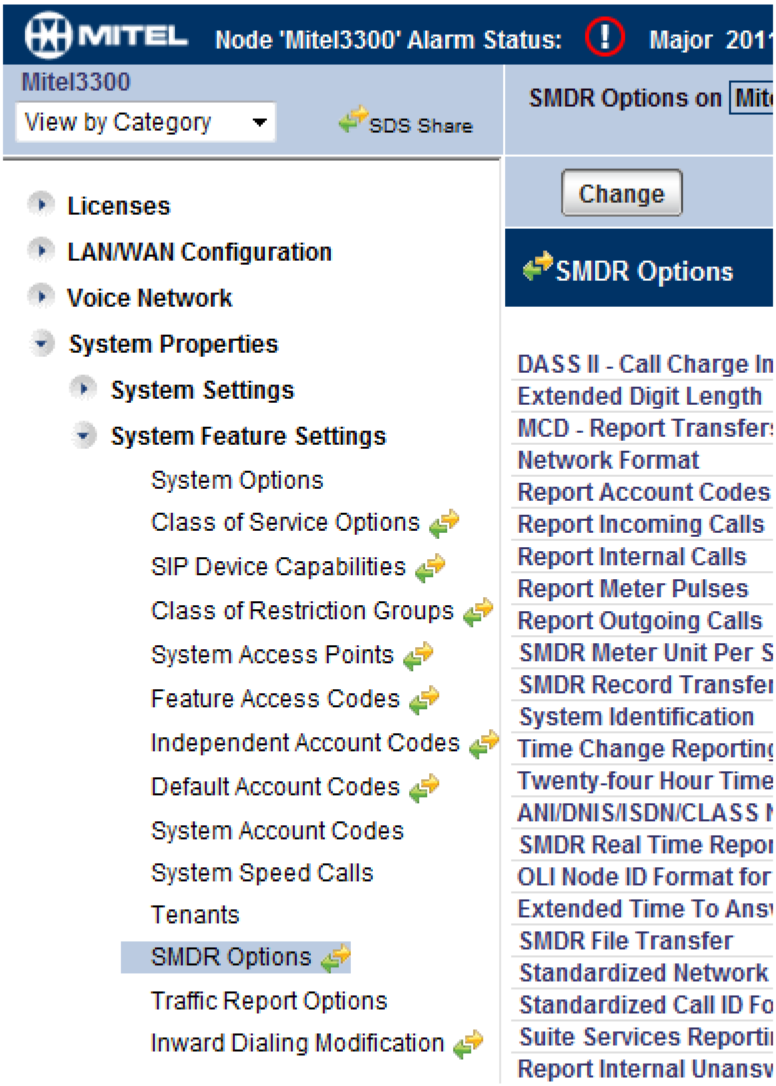
Configure the SMDR output

Configure TIM Enterprise

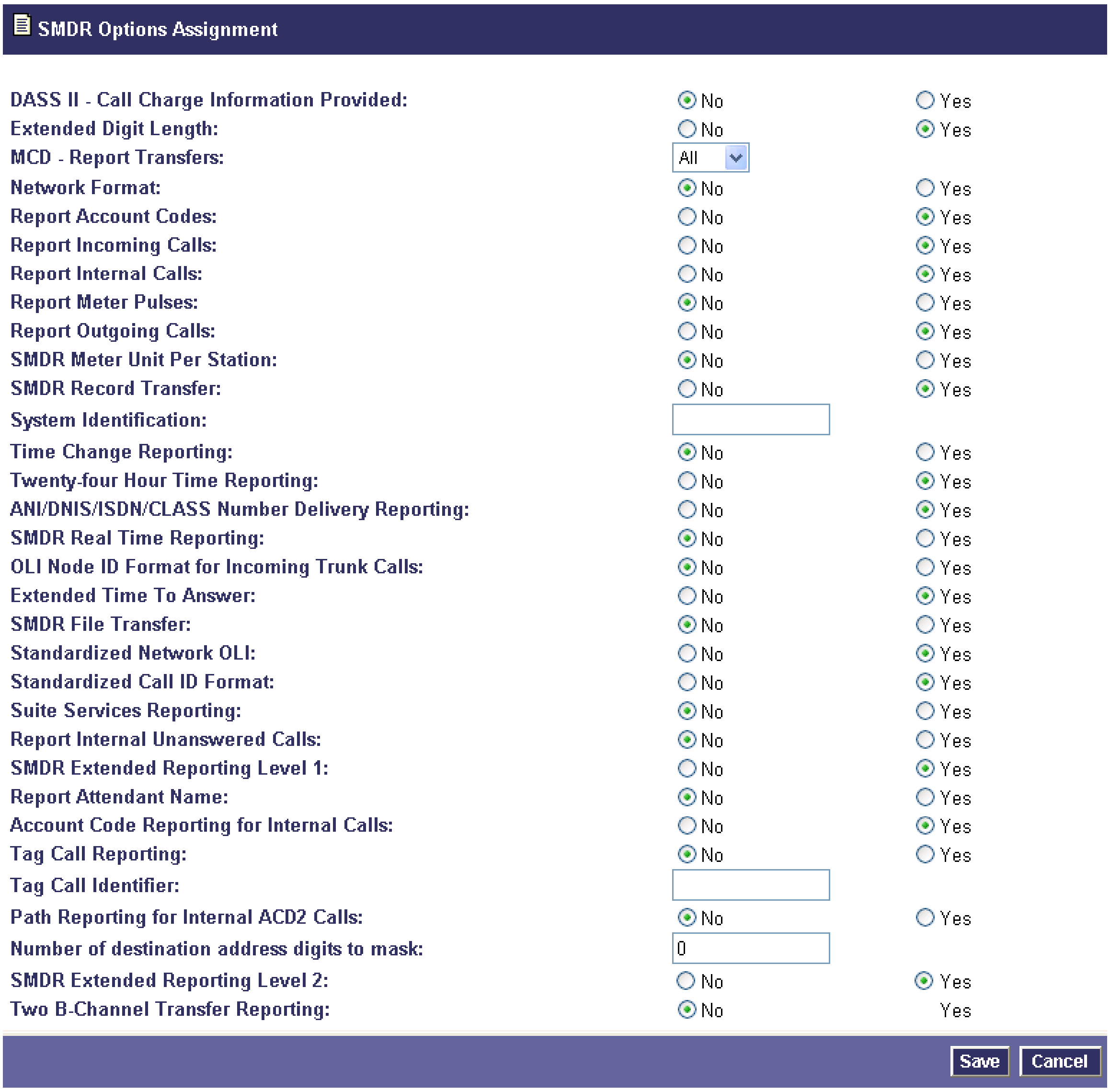
Configuring your SMDR output

Follow the steps below to configure the SMDR options of your Mitel 3300:

1. Log in to the Mitel Communication Director software
2. Click on **System Properties**
3. Click on **System Feature Settings**
4. Click on **SMDR Options**



Set the SMDR options as shown below:



SMDR Options Assignment

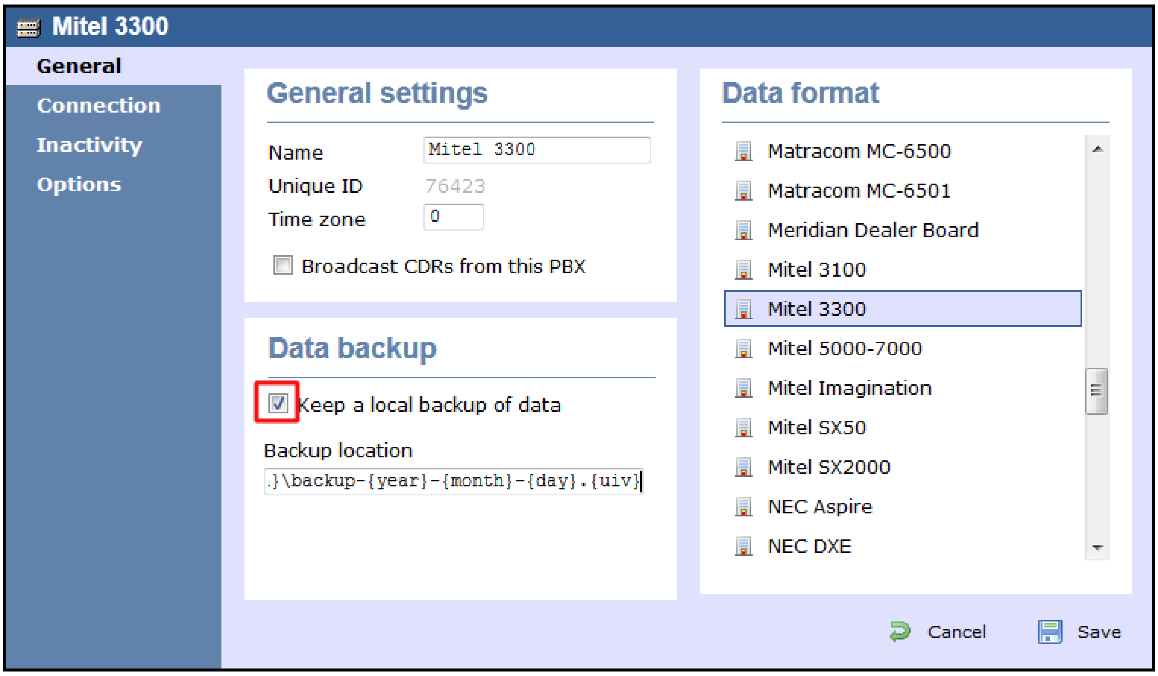
DASS II - Call Charge Information Provided:	◉ No	○ Yes
Extended Digit Length:	○ No	◉ Yes
MCD - Report Transfers:	All	
Network Format:	◉ No	○ Yes
Report Account Codes:	○ No	◉ Yes
Report Incoming Calls:	○ No	◉ Yes
Report Internal Calls:	○ No	◉ Yes
Report Meter Pulses:	◉ No	○ Yes
Report Outgoing Calls:	○ No	◉ Yes
SMDR Meter Unit Per Station:	◉ No	○ Yes
SMDR Record Transfer:	○ No	◉ Yes
System Identification:		
Time Change Reporting:	◉ No	○ Yes
Twenty-four Hour Time Reporting:	○ No	◉ Yes
ANI/DNIS/ISDN/CLASS Number Delivery Reporting:	○ No	◉ Yes
SMDR Real Time Reporting:	◉ No	○ Yes
OLI Node ID Format for Incoming Trunk Calls:	◉ No	○ Yes
Extended Time To Answer:	○ No	◉ Yes
SMDR File Transfer:	◉ No	○ Yes
Standardized Network OLI:	○ No	◉ Yes
Standardized Call ID Format:	○ No	◉ Yes
Suite Services Reporting:	◉ No	○ Yes
Report Internal Unanswered Calls:	◉ No	○ Yes
SMDR Extended Reporting Level 1:	○ No	◉ Yes
Report Attendant Name:	◉ No	○ Yes
Account Code Reporting for Internal Calls:	○ No	◉ Yes
Tag Call Reporting:	◉ No	○ Yes
Tag Call Identifier:		
Path Reporting for Internal ACD2 Calls:	◉ No	○ Yes
Number of destination address digits to mask:	0	
SMDR Extended Reporting Level 2:	○ No	◉ Yes
Two B-Channel Transfer Reporting:	◉ No	Yes

Save Cancel

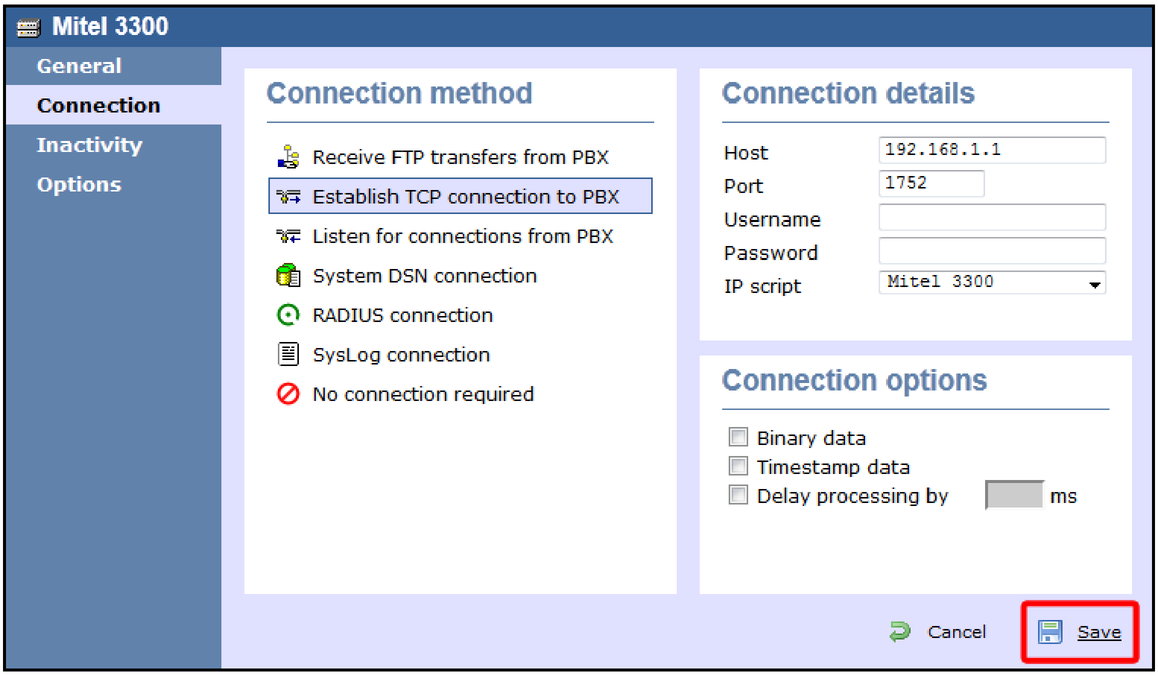
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Mitel 3300:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Mitel 3300`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your Mitel 3300.
6. In the **Port** field, enter **1752**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Mitel 3300** from the drop-down list.
9. Click on the Save button to apply the settings.



Mitel 5000-7000

These instructions help you configure your Mitel 5000-7000 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Mitel 5000-7000.TDT

Mitel 5000-7000.TDS

Required Tasks

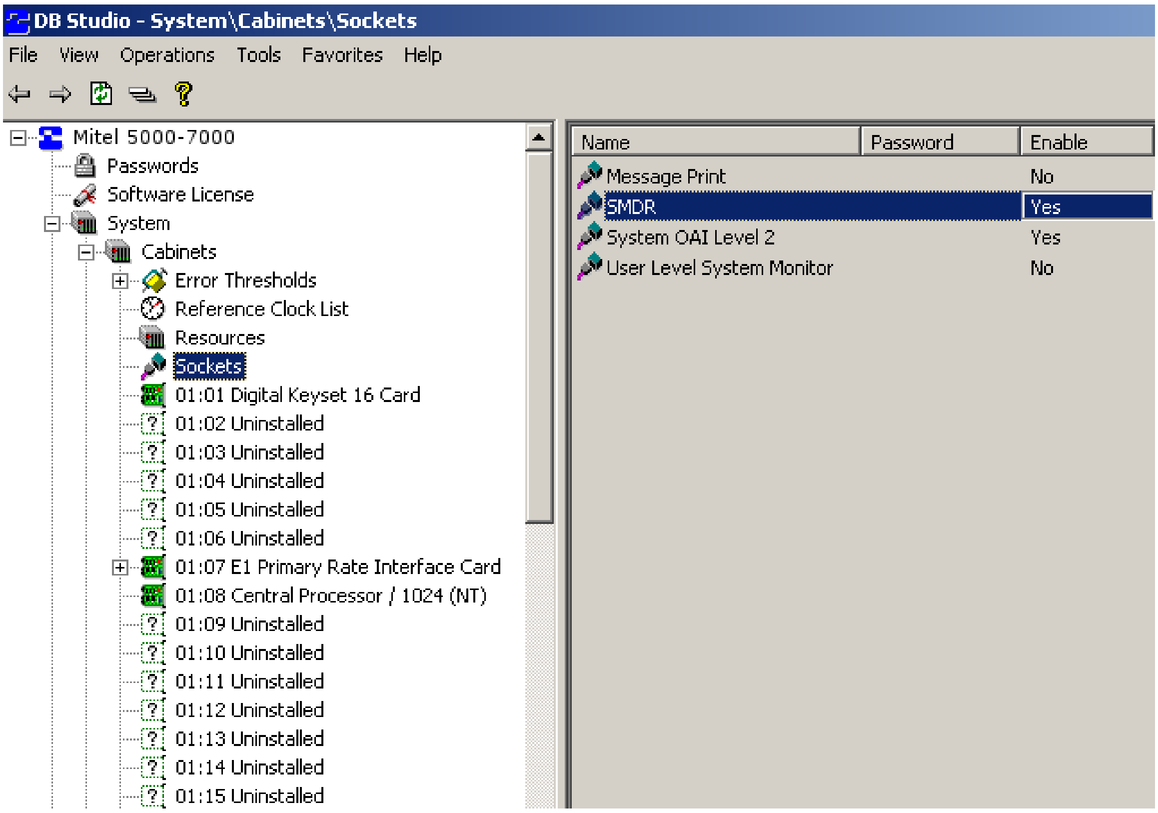
Configure the SMDR output

Configure TIM Enterprise

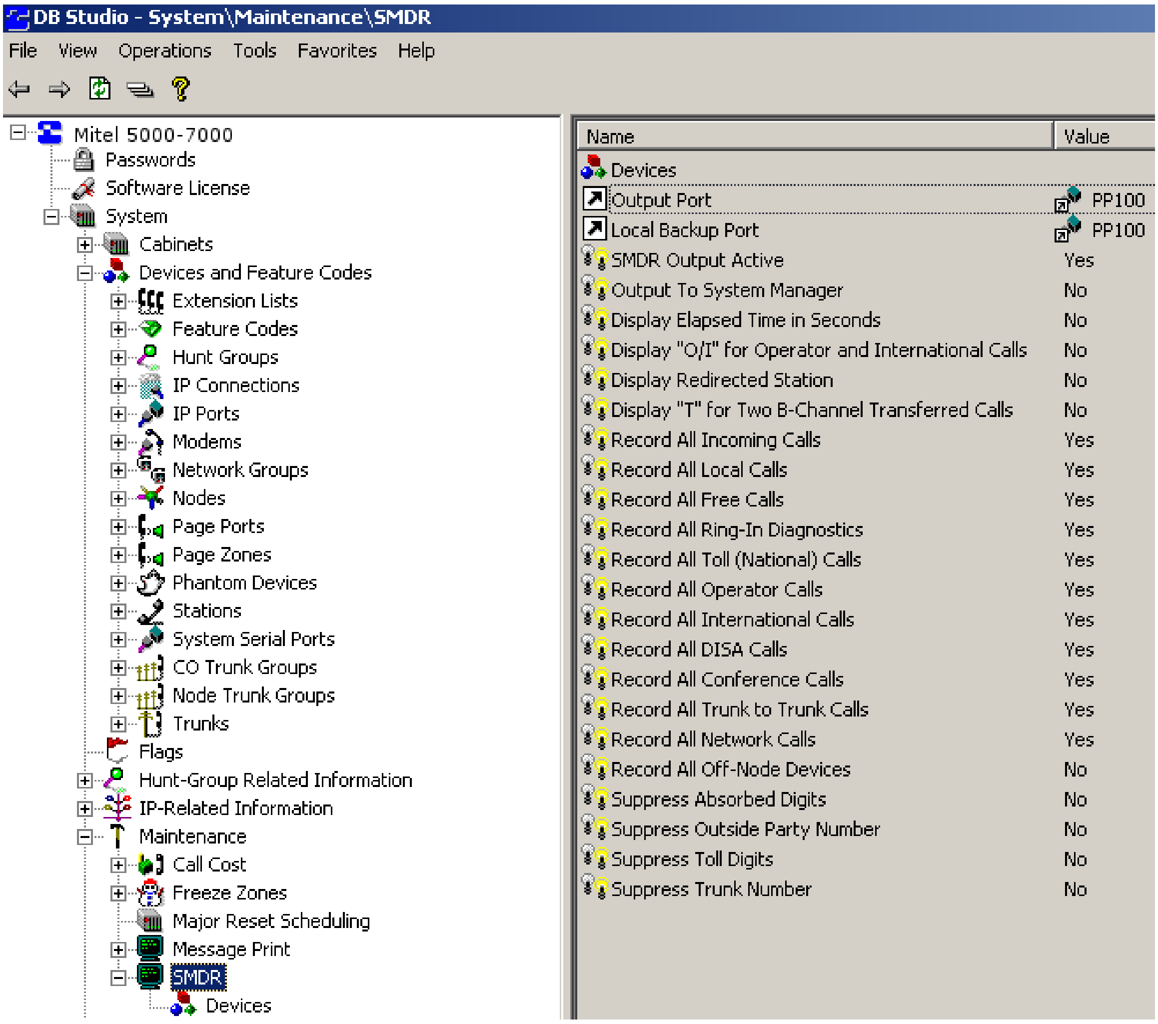
Configuring the SMDR output

By default, the Mitel 5000-7000 has its SMDR output disabled. Follow the steps below to enable it:

1. Log in to the Mitel DB Studio software.
2. Click and expand the System node.
3. Click and expand the Cabinet node.
4. Select the Sockets node.
5. In the right-hand window, click on the **SMDR** parameter to set its enabled state to **Yes**.



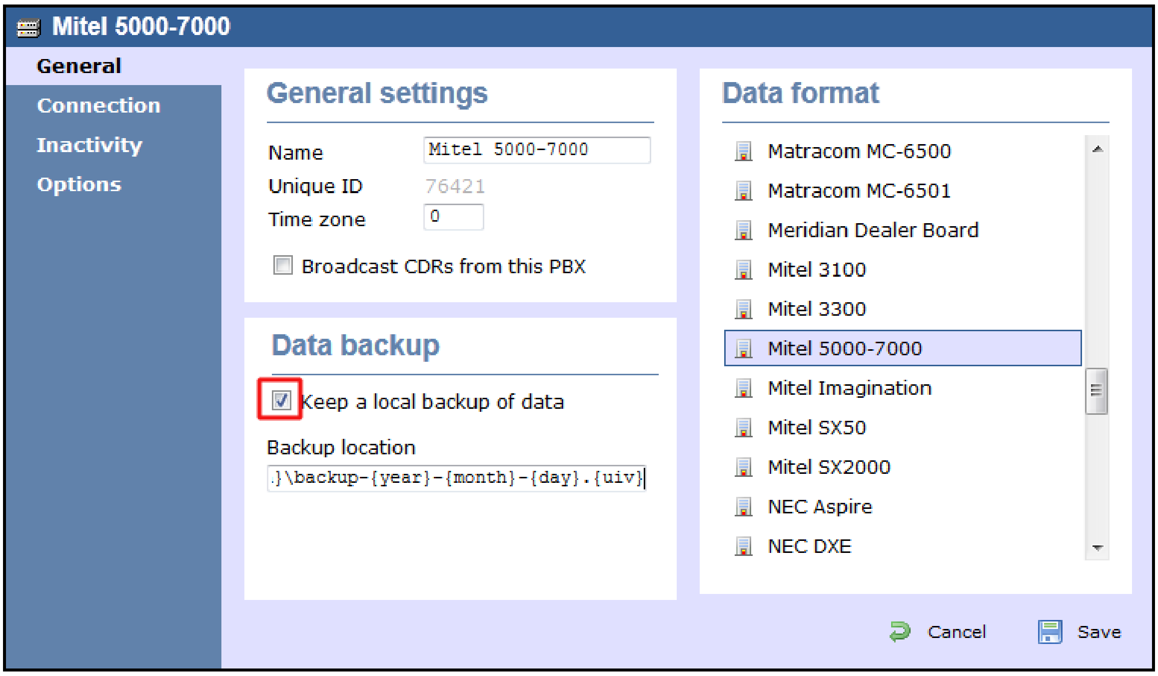
6. Click and expand the System icon.
7. Click and expand the Maintenance icon.
8. Click on the SMDR icon.
9. On the right-hand side you will have the SMDR fields that need to be configured, as shown below:



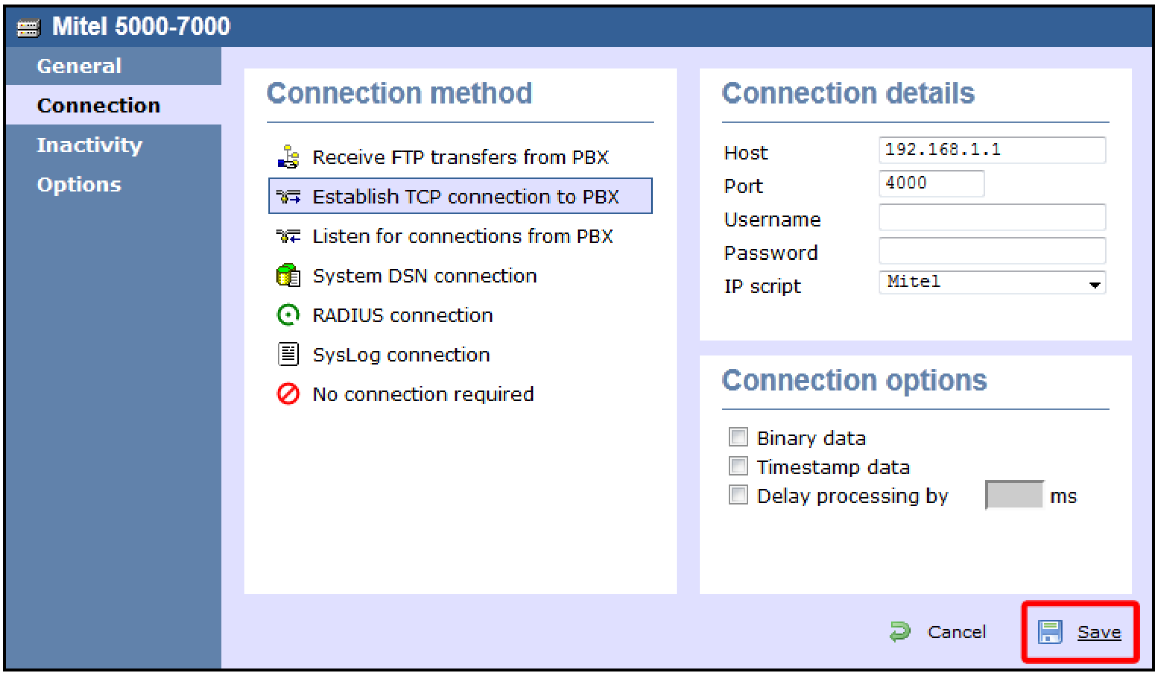
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Mitel 5000-7000:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Mitel 5000-7000** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your Mitel 5000-7000.
6. In the **Port** field, enter **4000**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Mitel** from the drop-down list.
9. Click on the Save button to apply the settings.



Mitel Imagination

These instructions help you configure your Mitel Imagination phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Mitel Imagination.TDT`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Mitel Imagination phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from your Mitel to the PC that NetPBX is installed and running on. For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

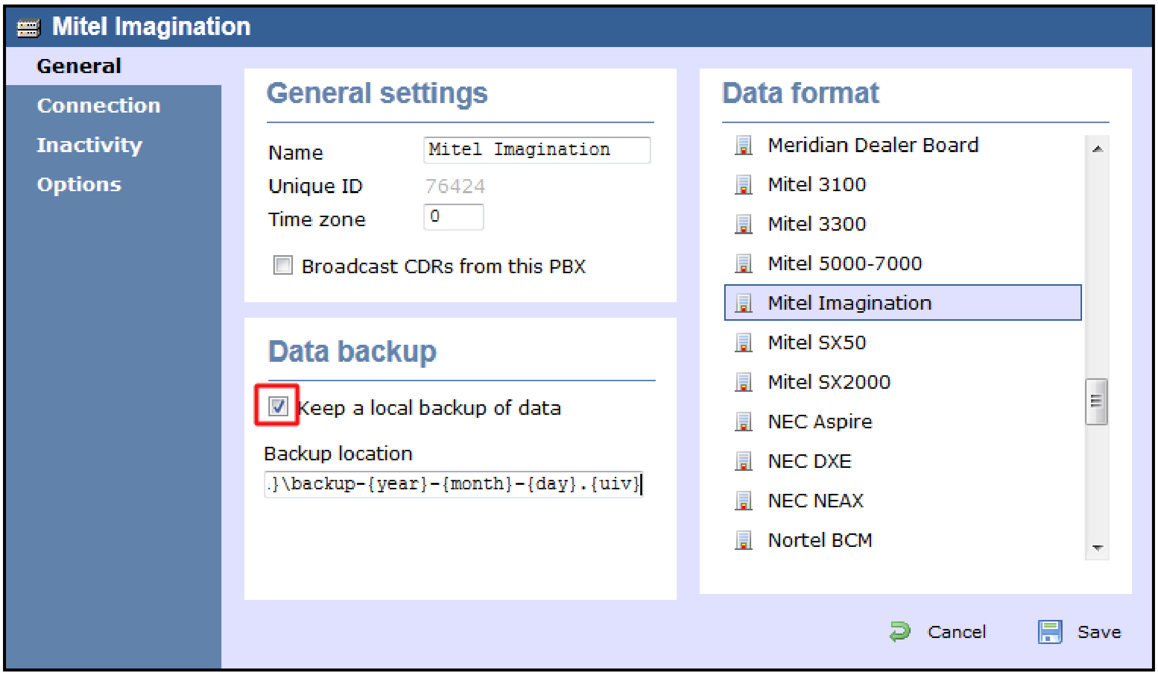
To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

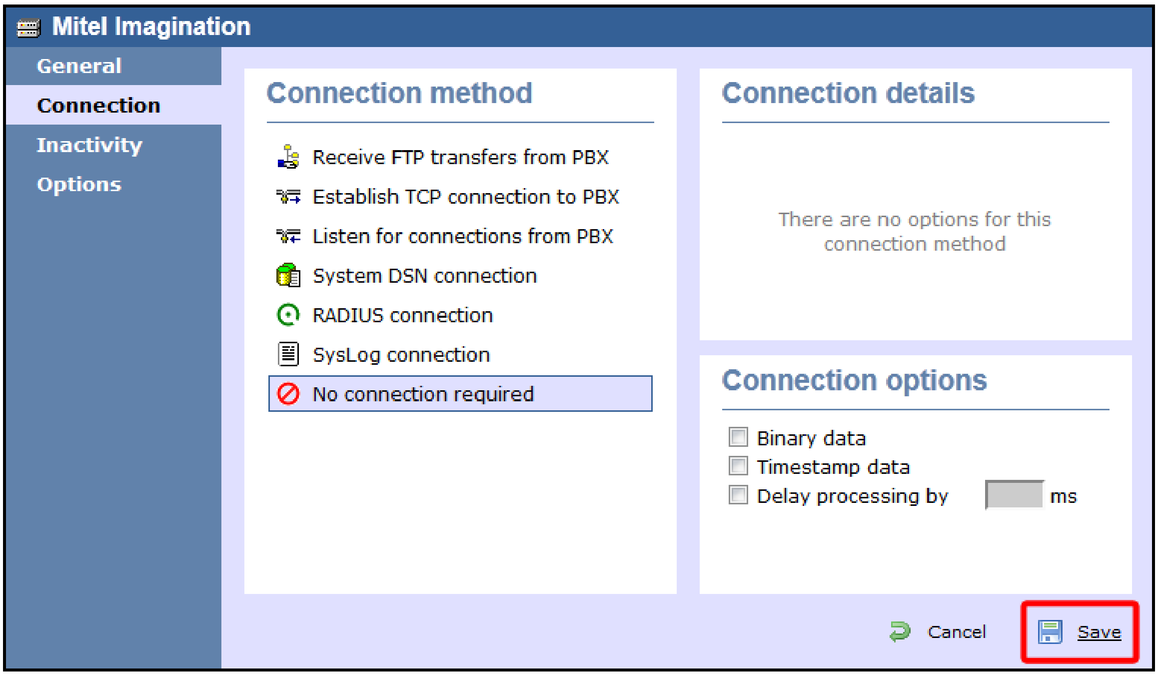
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Mitel Imagination`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.

5. Click on the Save button to apply the settings.



Mitel SX50

These instructions help you configure your Mitel SX50 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Mitel SX50.TDT`

`Mitel SX50.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

By default, the SMDR output of your Mitel is not enabled. To enable it, perform the steps below:

1. Within the PBX programming interface choose Systems Options Programming .
2. Access `Command 100`, `register 14` .
3. Set the **`Enabled for both incoming and outgoing trunk calls`** option.
4. Ensure SMDR is enabled in all of your `Class of Services (Commands 121-129)` and `Trunk Groups (Commands 151-156)`.

Installing NetPBX

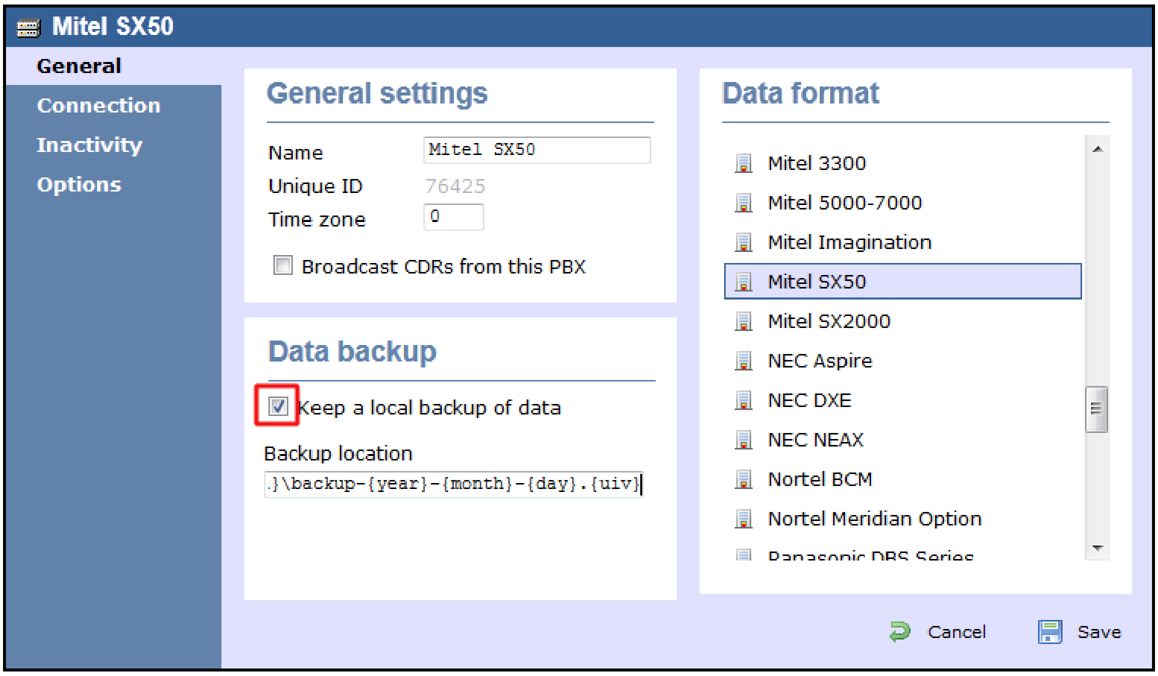
The Mitel SX50 phone system sends SMDR information via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

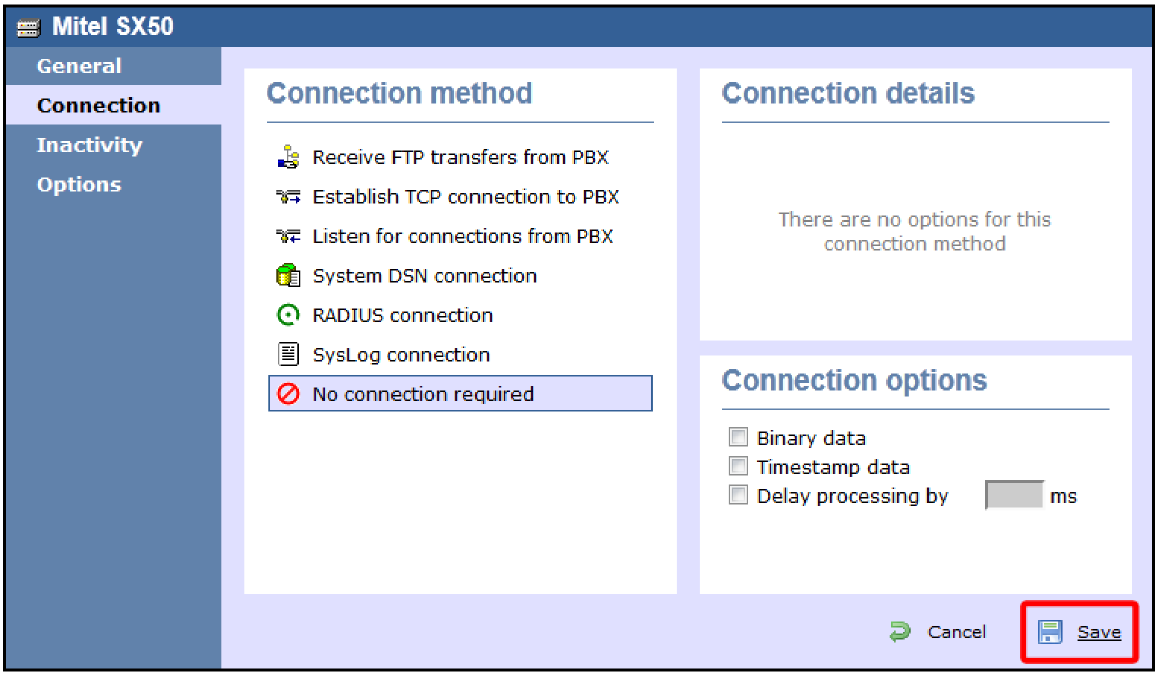
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Mitel SX50** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Mitel SX2000

These instructions help you configure your Mitel SX2000 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Mitel SX2000.TDT`

`Mitel SX2000.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Mitel SX2000 phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from your Mitel to the PC that NetPBX is installed and running on. By default, the SMDR output of your Mitel is not enabled. For more information about enabling and configuring the SMDR output, you should speak to your system maintainer.

Installing NetPBX

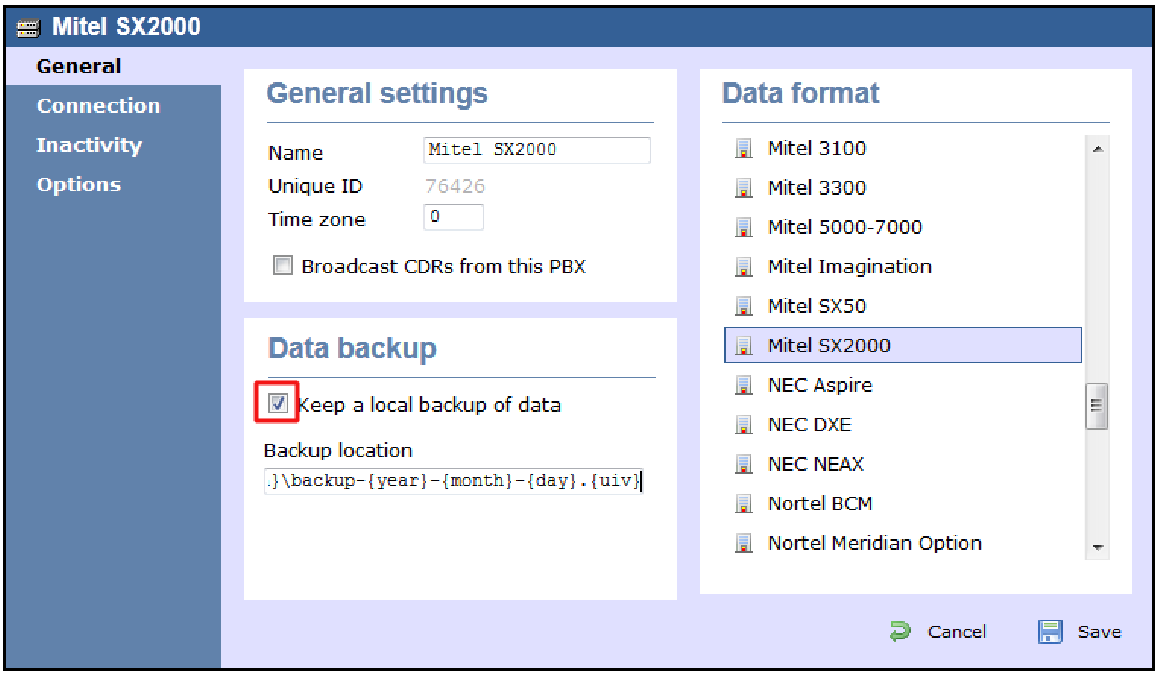
To collect call logging data from the serial port of your Mitel and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

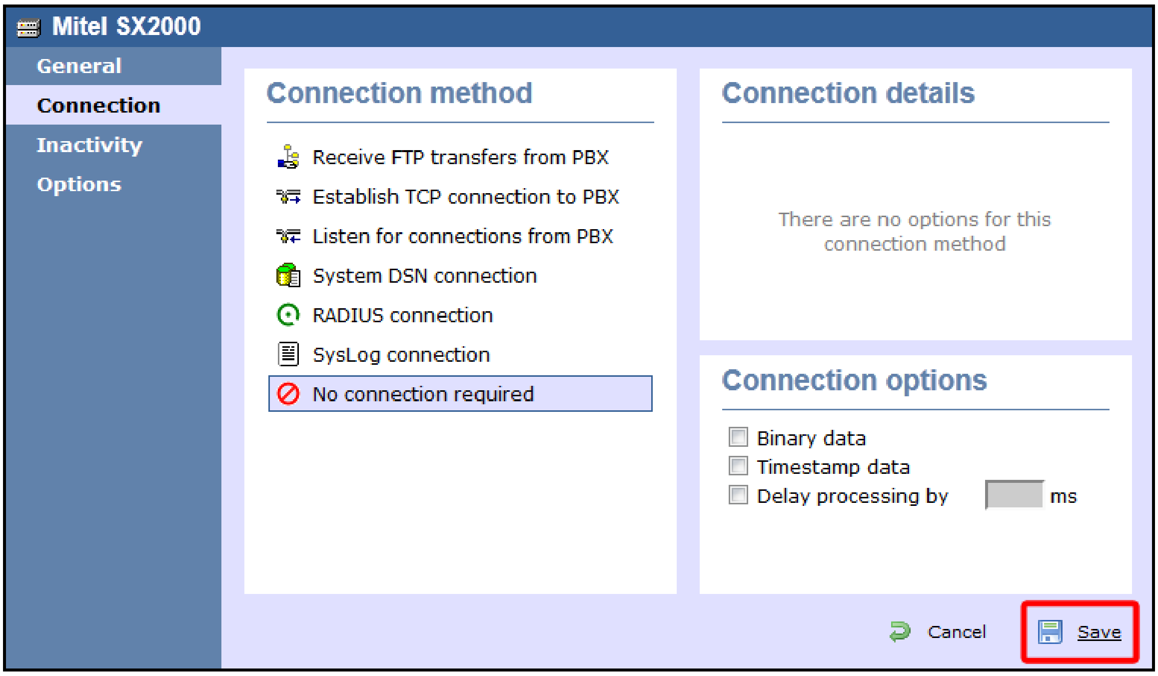
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Mitel SX2000`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.
5. Click on the Save button to apply the settings.



NEC

NEC Aspire

The NEC Aspire can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

NEC Aspire - Serial connection

These instructions help you configure your NEC Aspire phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

NEC Aspire.TDT

NEC Aspire.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure the SMDR output on your NEC Aspire:

1. Log in to your PC Pro/Web Pro software.

2. To configure SMDR output by serial port, apply the following settings for each system adapter:

Adapter	Programming code	Value	Description
NTCPU - Serial	10-21-02	1	NTCPU Hardware Setup - Baud Rate for COM Port. Choose the baud rate from the three available options: 0 = 4800, 1 = 9600, and 2 = 38400
	35-01-01	1	SMDR Options - Output Port Type
CTA/CTU - Serial	15-02-19	1	Multi-Line Telephone Basic Data Setup - CTA/CTU Data Communication Module
	15-02-20	1	Multi-Line Telephone Basic Data Setup - Baud Rate for CTA/CTU port. Choose from the three available options: 0 = 4800, 1 = 9600, and 2 = 38400
	35-01-01	4	SMDR Options - Output Port Type
	35-01-02	Extension number that the CTA/CTU adaptor is attached to.	SMDR Options - Output Destination Number

3. Apply the following settings in the programming sections below:

Programming code	Value	Description

14-01-06	1	Basic Trunk Data Setup - SMDR Print.
15-01-03	1	Basic Extension Data Setup - SMDR Print.
35-01-03	0	SMDR Options - Header Language.
35-01-04	0	SMDR Options - Omit (Mask) Digits.
35-01-05	0	SMDR Options - Minimum Number of SMDR Digits.
35-01-06	0	SMDR Options - Minimum Call Duration.
35-01-07	0	SMDR Options - Minimum Ringing Time.
35-01-08	Default	SMDR Options - SMDR Format.
35-02-01	0	SMDR Output Options - Toll Restricted Call.
35-02-02	1	SMDR Output Options - PBX Calls.
35-02-03	1	SMDR Output Options - Display Trunk Name or Numbers.
35-02-04	0	SMDR Output Options - Daily Summary.
35-02-05	0	SMDR Output Options - Weekly Summary.
35-02-06	0	SMDR Output Options - Monthly Summary.
35-02-08	1	SMDR Output Options - Incoming calls.
35-02-09	0	SMDR Output Options - Print Name or Numbers.
35-02-10	0	SMDR Output Options - All Lines Busy (ALB) Output.
35-02-12	0	SMDR Output Options - DID Table Name Output.
35-02-13	1	SMDR Output Options - CLI Output when DID to Trunk.
35-02-14	1	SMDR Output Options - Date.
35-02-15	1	SMDR Output Options - CLI/DID Number Switching.
35-02-16	1	SMDR Output Options - Print Trunk Name or Received Dialled Number.
35-02-17	0	SMDR Output Options - Print Account Code or Caller ID Name.
35-02-18	Default	SMDR Output Options - Caller ID Name Output Method.

80-05-01	1	Date Format for SMDR and System Reports.

Installing NetPBX

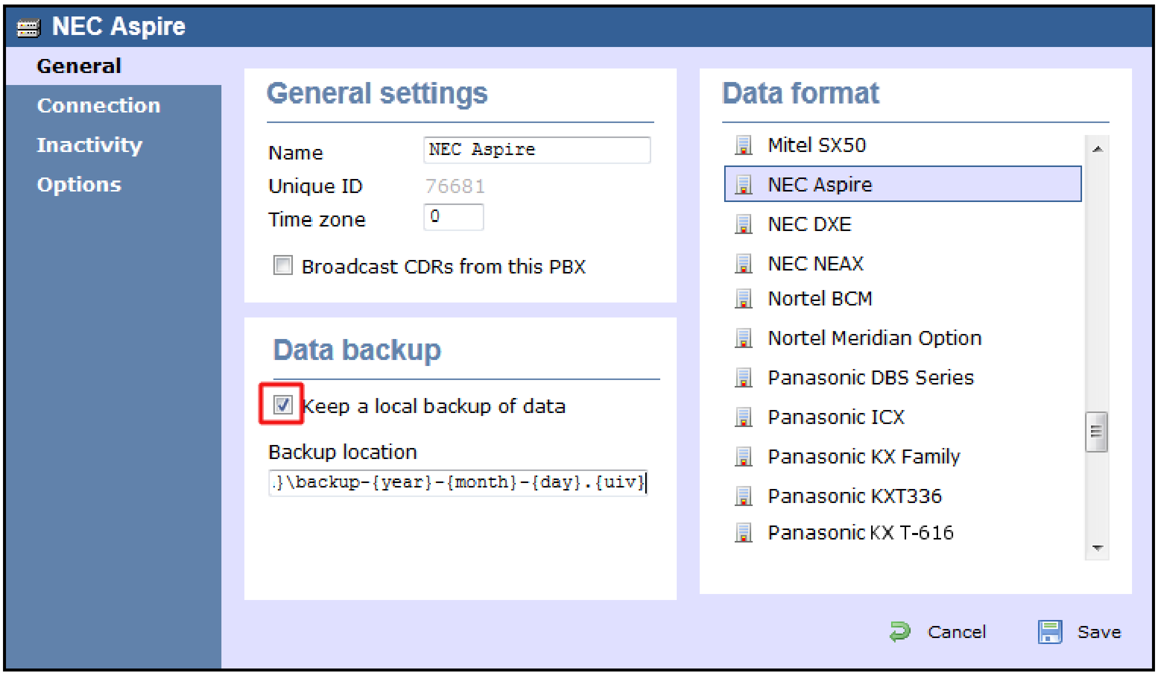
To capture SMDR data from your NEC Aspire using a serial connection, you first need to install the NetPBX software to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

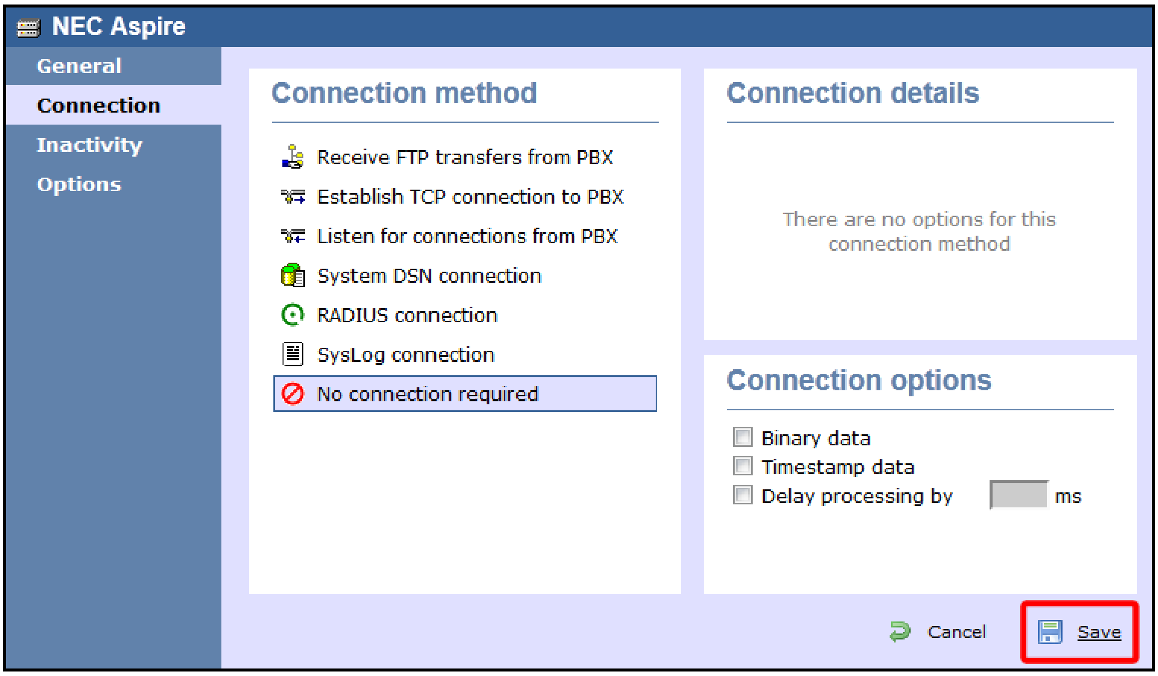
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`NEC Aspire`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



NEC Aspire - IP connection

These instructions help you configure your NEC Aspire to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

NEC Aspire.TDT

NEC Aspire.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure the SMDR output on your NEC Aspire:

1. Log in to your PC Pro/Web Pro software.

2. To configure SMDR output using an IP connection, apply the following settings for each system adapter:

Adapter	Programming code	Value	Description
NTCPU - IP	10-12-01	IP address of the PC running TIM Enterprise.	NTUCPU Network Setup - IP Address.

	10-20-01	TCP port that TIM Enterprise will connect to. We recommend using `9000` and incrementing it for each NEC Aspire you configure.	LAN Setup for External Equipment.

3. Apply the following settings in the programming sections below:

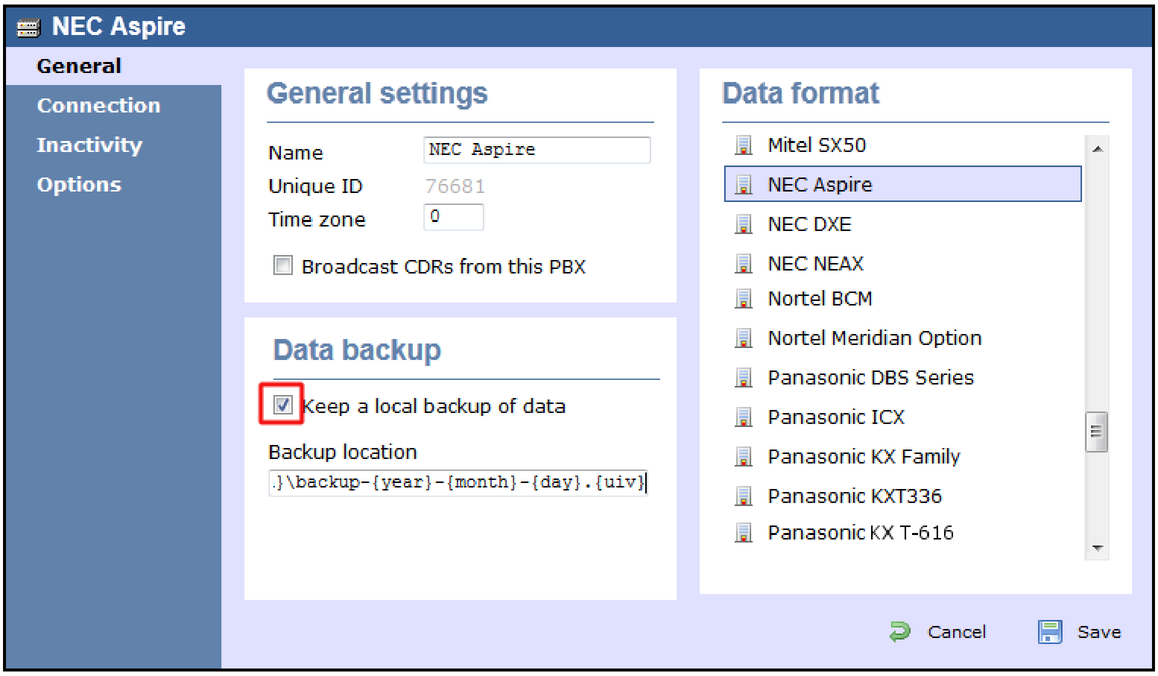
Programming code	Value	Description
14-01-06	`1`	Basic Trunk Data Setup - SMDR Print.
15-01-03	`1`	Basic Extension Data Setup - SMDR Print.
35-01-03	`0`	SMDR Options - Header Language.
35-01-04	`0`	SMDR Options - Omit (Mask) Digits.
35-01-05	`0`	SMDR Options - Minimum Number of SMDR Digits.
35-01-06	`0`	SMDR Options - Minimum Call Duration.
35-01-07	`0`	SMDR Options - Minimum Ringing Time.
35-01-08	Default	SMDR Options - SMDR Format.
35-02-01	`0`	SMDR Output Options - Toll Restricted Call.
35-02-02	`1`	SMDR Output Options - PBX Calls.
35-02-03	`1`	SMDR Output Options - Display Trunk Name or Numbers.
35-02-04	`0`	SMDR Output Options - Daily Summary.
35-02-05	`0`	SMDR Output Options - Weekly Summary.
35-02-06	`0`	SMDR Output Options - Monthly Summary.
35-02-08	`1`	SMDR Output Options - Incoming calls.
35-02-09	`0`	SMDR Output Options - Print Name or Numbers.
35-02-10	`0`	SMDR Output Options - All Lines Busy (ALB) Output.
35-02-12	`0`	SMDR Output Options - DID Table Name Output.
35-02-13	`1`	SMDR Output Options - CLI Output when DID to Trunk.
35-02-14	`1`	SMDR Output Options - Date.

35-02-15	1	SMDR Output Options - CLI/DID Number Switching.
35-02-16	1	SMDR Output Options - Print Trunk Name or Received Dialled Number.
35-02-17	0	SMDR Output Options - Print Account Code or Caller ID Name.
35-02-18	Default	SMDR Output Options - Caller ID Name Output Method.
80-05-01	1	Date Format for SMDR and System Reports

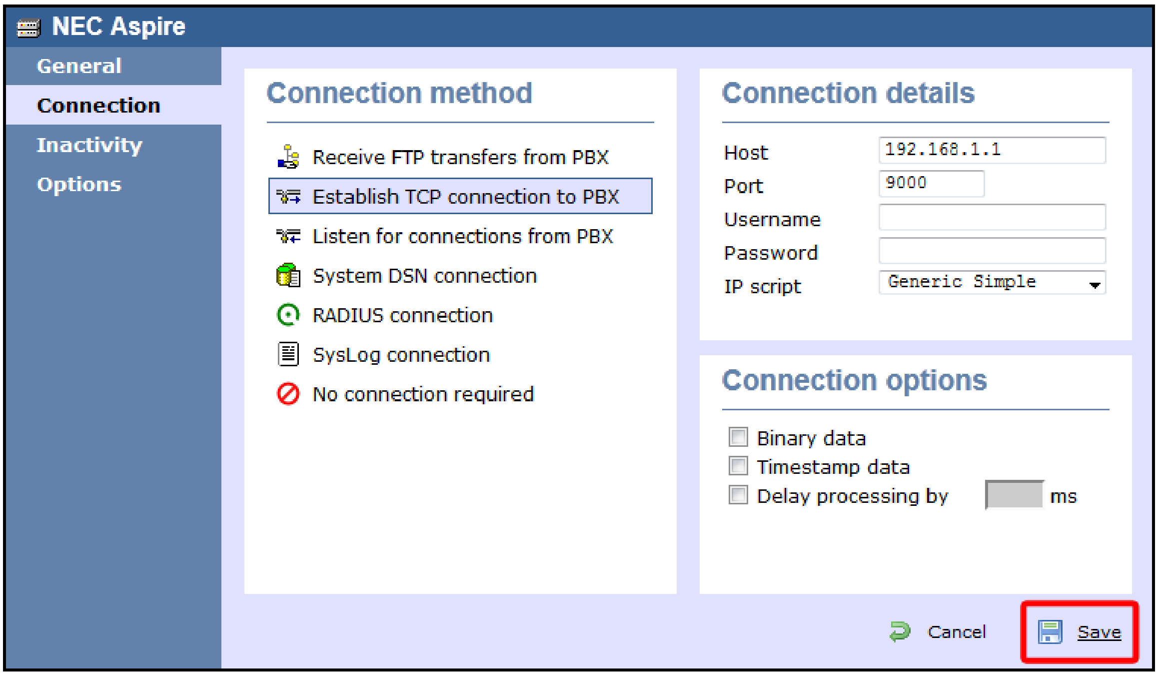
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your NEC Aspire:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`NEC Aspire`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the `Connection method` list.
5. In the `Host` field, enter the IP address of your NEC Aspire.
6. In the `Port` field, enter the port number you configured whilst programming code **10-20-01** (above).
7. Leave the `Username` and `Password` fields blank.
8. In the `IP script` field, select **`Generic Simple`** from the drop-down list.
9. Click on the Save button to apply the settings.



NEC DXE

These instructions help you configure your NEC DXE phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

NEC DXE.TDT

NEC DXE.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configure your SMDR output

The NEC DXE phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from your NEC DXE to the PC that NetPBX is installed and running on. By default, the SMDR output of your NEC DXE is not enabled. For more information about enabling and configuring the SMDR output, contact your system maintainer.

Installing NetPBX

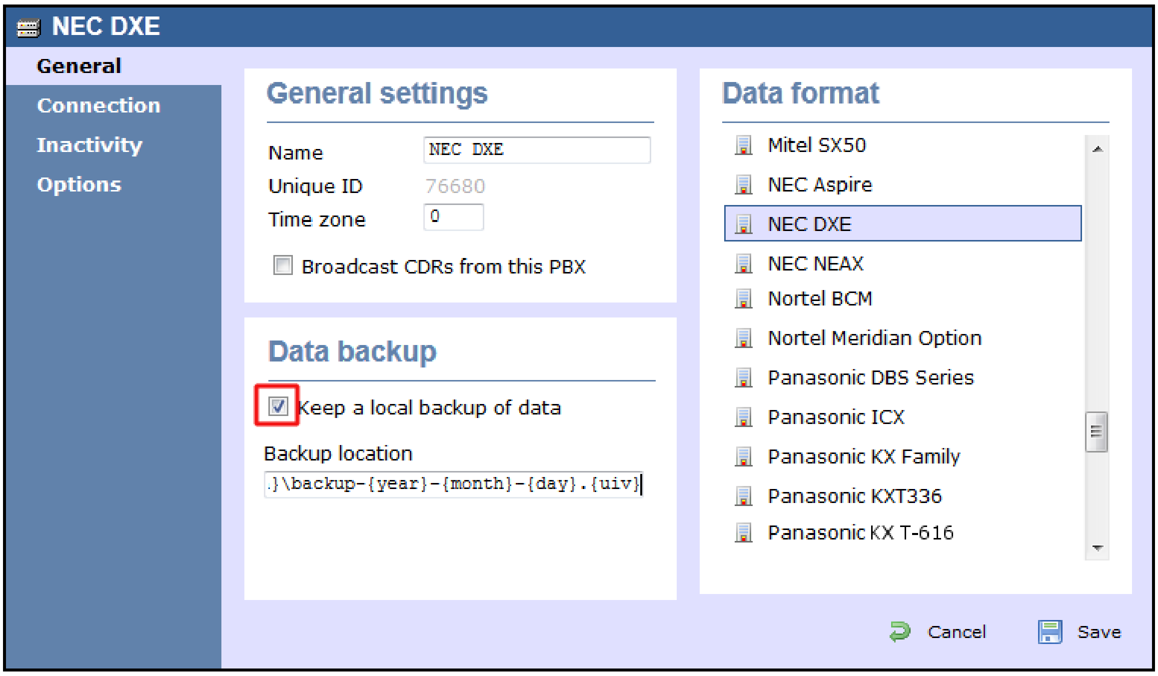
To collect call logging data from the serial port of your NEC DXE and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

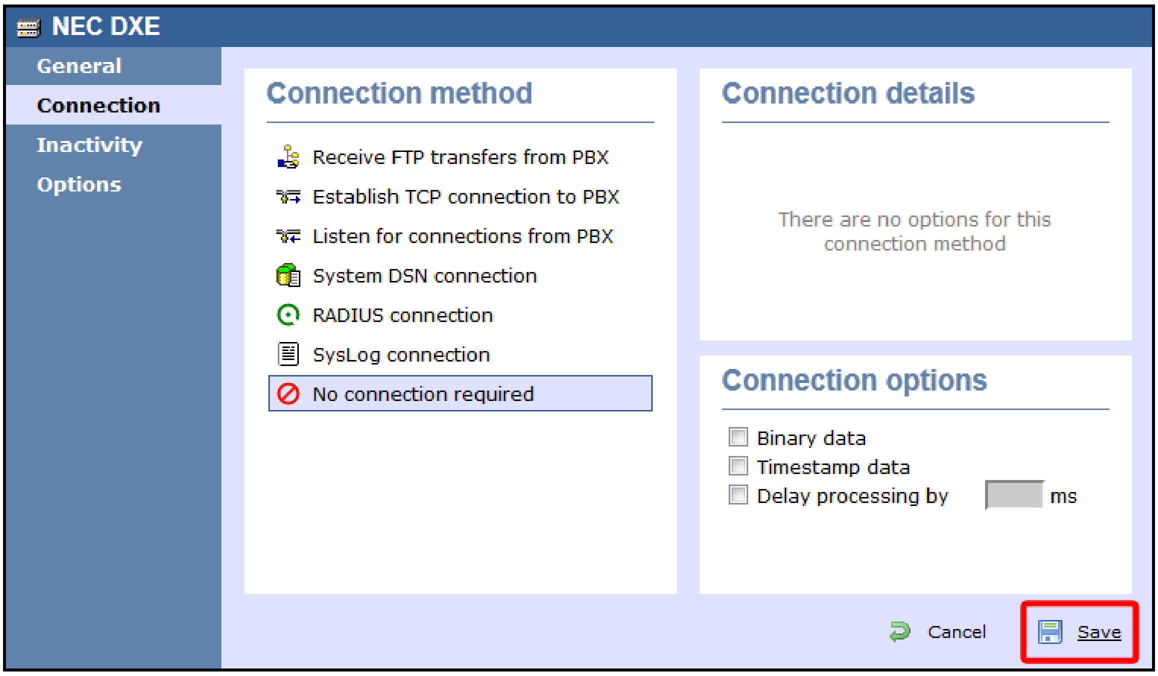
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Director, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **NEC DXE** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



NEC NEAX

The NEC NEAX can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

NEC NEAX - Serial connection

These instructions help you configure your NEC NEAX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`NEC NEAX.TDT`

`NEC NEAX.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

Using the Customer Administration Terminal (CAT), enter the following settings in the system-programming mode:

Field name	Details
CM40	Default output port and attributes: **9600 baud, 8 data bits, no parity, 2 stop bits, DTR/RTS flow control.**
CM13+05	Enable SMDR for incoming calls to required stations.
CM13+06	Enable SMDR for outgoing calls to required stations.
CM35+14	Enable SMDR for outgoing calls to required trunk routes.
CM35+49	Enable SMDR for incoming calls to required trunk routes.
CM08	If SMDR for incoming calls is enabled, specify whether the setting applies to all incoming calls or only to those that use account codes. Also, include `ANI/Caller ID` for incoming calls. **NOTE 1:** The `ANI/Caller ID` is required to provide SMDR data for incoming calls, even if this feature is enabled by **CM13+05** and **CM35+49**. **NOTE 2:** Use CDR formats **#501** (2400 IMS), **#505** (2000 IPS), **#506** (2000 IVS).

Installing NetPBX

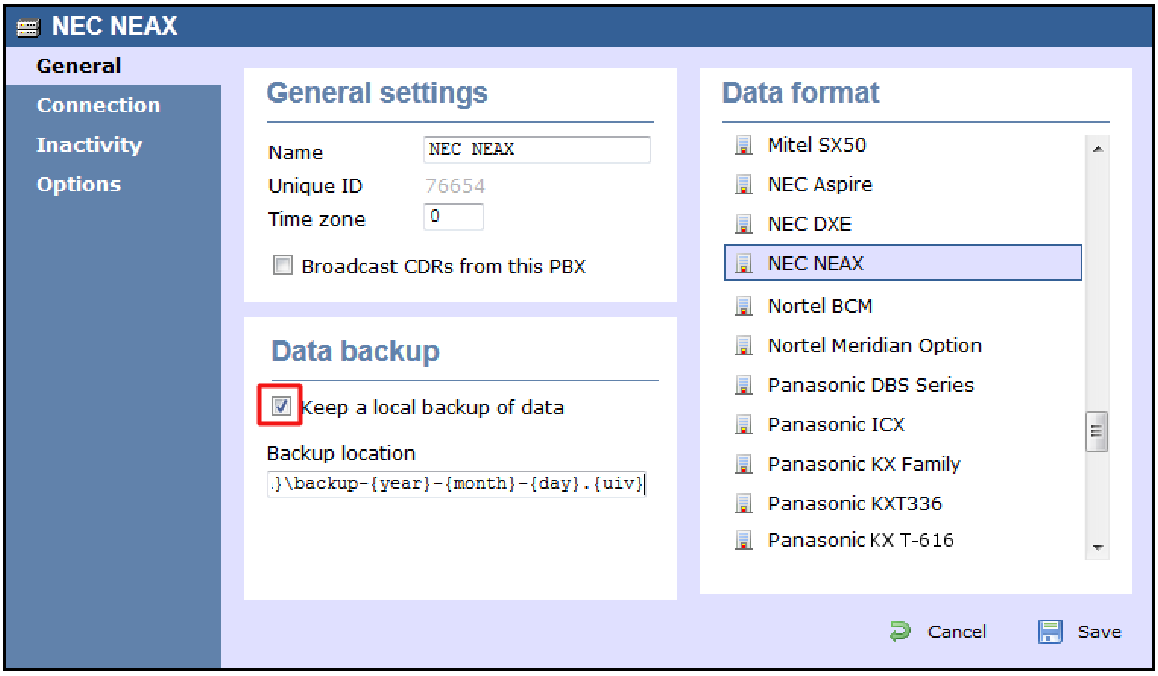
To capture SMDR data from your NEC NEAX using a serial connection, you first need to install the NetPBX software to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

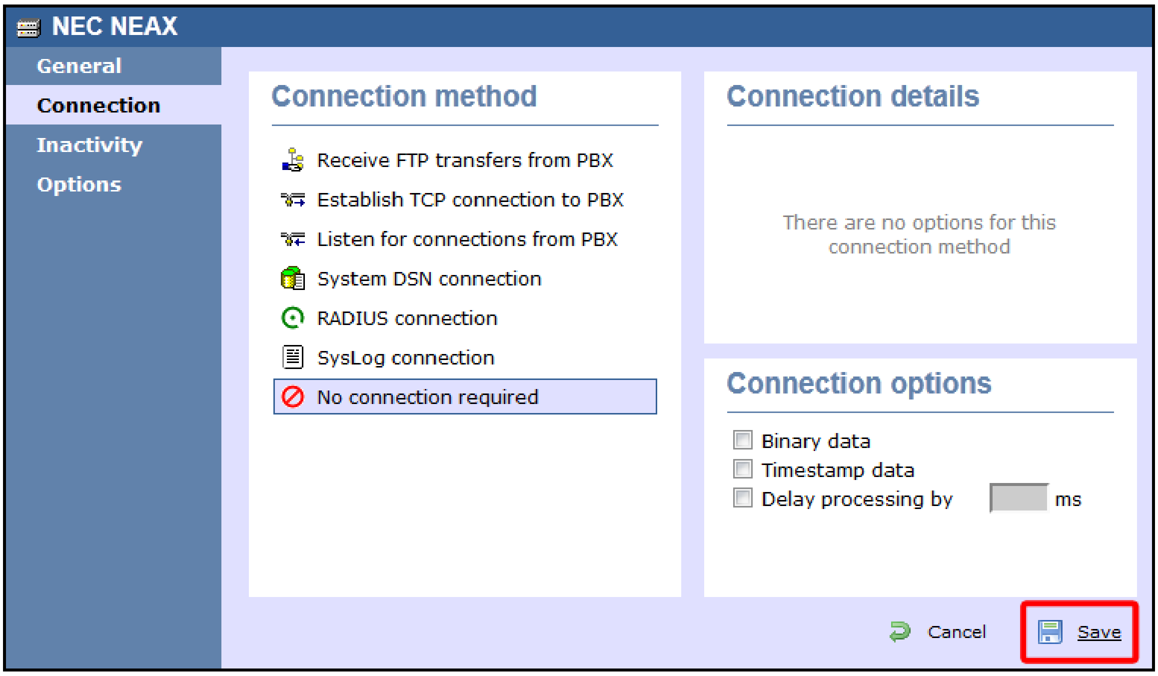
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`NEC NEAX`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



NEC NEAX - IP connection

These instructions help you configure your NEC NEAX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

NEC NEAX.TDT

NEC NEAX.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

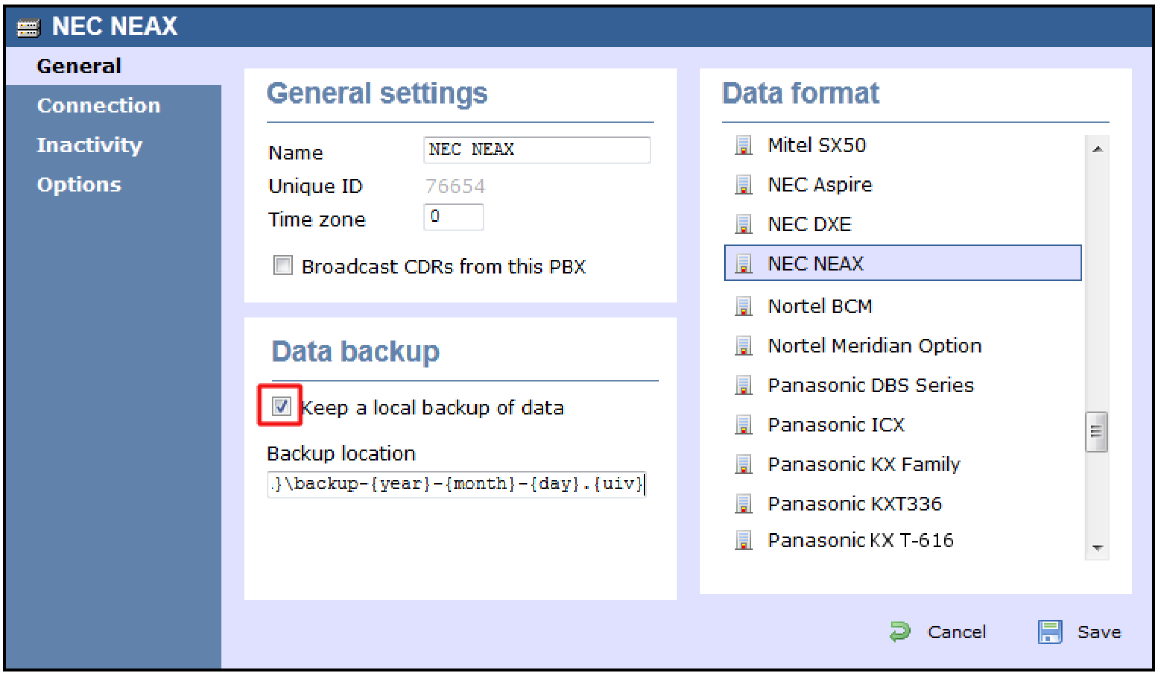
Configure the SMDR output

By default, the SMDR output of your NEC NEAX is not enabled. For more information about enabling and configuring the SMDR output, contact your system maintainer.

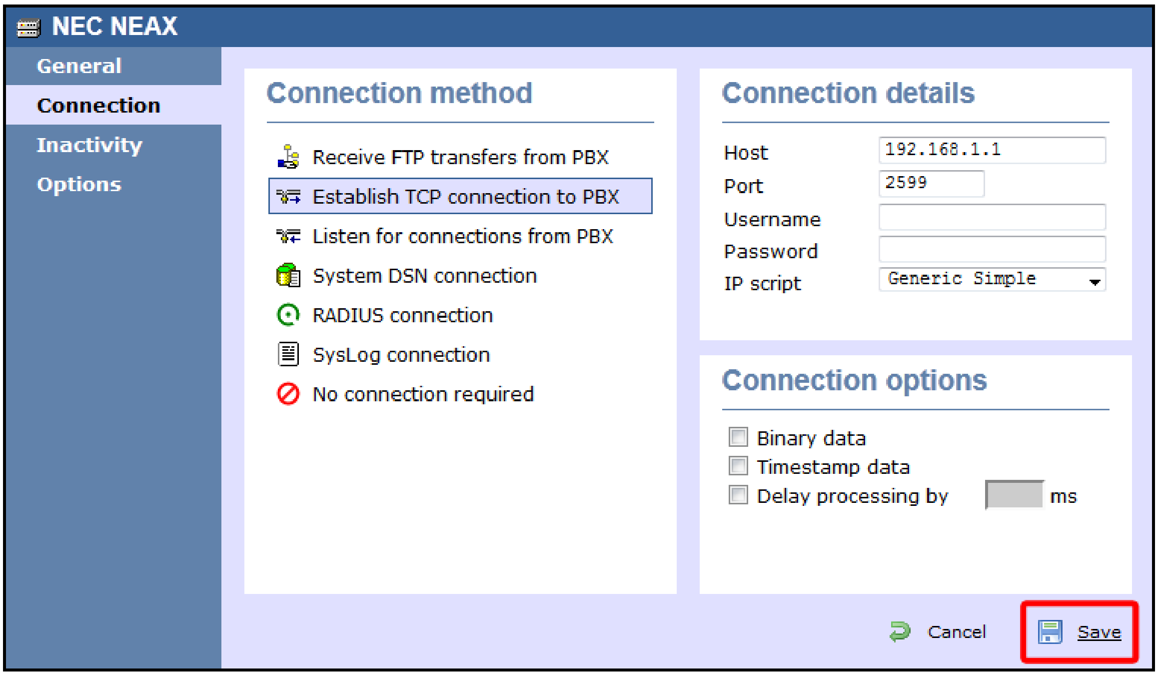
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your NEC NEAX:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of the PBX object. Select **`NEC NEAX`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the `Connection method` list.
5. In the `Host` field, enter the IP address of your NEC NEAX.
6. In the `Port` field, enter **`2599`**.
7. Leave the `Username` and `Password` fields blank.
8. In the `IP script` field, select **`Generic Simple`** from the drop-down list.
9. Click on the Save button to apply the settings.



NEC XN120

The NEC XN120 can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

NEC XN120 - Serial connection

These instructions help you configure your NEC XN120 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

NEC DXE.TDT

NEC DXE.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure the SMDR output on your NEC XN120:

1. Log in to your PC Pro/Web Pro software.

2. To configure SMDR output by serial port, apply the following settings:

Adapter	Programming code	Value	Description
NTCPU - Serial	**10-21-02**	1	NTCPU Hardware Setup - Baud Rate for Com Port. Choose from the three available options: 0(4800), 1(9600) and 2(38400).
	35-01-01	1	SMDR Options - Output Port Type.

3. Apply the following settings in the programming sections below:

Programming code	Value	Description
14-01-06	1	Basic Trunk Data Setup - SMDR Print.
15-01-03	1	Basic Extension Data Setup - SMDR Print.
35-01-03	0	SMDR Options - Header Language.
35-01-04	0	SMDR Options - Omit (Mask) Digits.
35-01-05	0	SMDR Options - Minimum Number of SMDR Digits.
35-01-06	0	SMDR Options - Minimum Call Duration.
35-01-07	0	SMDR Options - Minimum Ringing Time.
35-01-08	Default	SMDR Options - SMDR Format.
35-02-01	0	SMDR Output Options - Toll Restricted Call.
35-02-02	1	SMDR Output Options - PBX Calls.
35-02-03	1	SMDR Output Options - Display Trunk Name or Numbers.
35-02-04	0	SMDR Output Options - Daily Summary.
35-02-05	0	SMDR Output Options - Weekly Summary.
35-02-06	0	SMDR Output Options - Monthly Summary.
35-02-08	1	SMDR Output Options - Incoming calls.
35-02-09	0	SMDR Output Options - Print Name or Numbers.
35-02-10	0	SMDR Output Options - All Lines Busy (ALB) Output.

35-02-12	`0`	SMDR Output Options - DID Table Name Output.
35-02-13	`1`	SMDR Output Options - CLI Output when DID to Trunk.
35-02-14	`1`	SMDR Output Options - Date.
35-02-15	`1`	SMDR Output Options - CLI/DID Number Switching.
35-02-16	`1`	SMDR Output Options - Print Trunk Name or Received Dialled Number.
35-02-17	`0`	SMDR Output Options - Print Account Code or Caller ID Name.
35-02-18	Default	SMDR Output Options - Caller ID Name Output Method.
80-05-01	`1`	Date Format for SMDR and System Reports.

Installing NetPBX

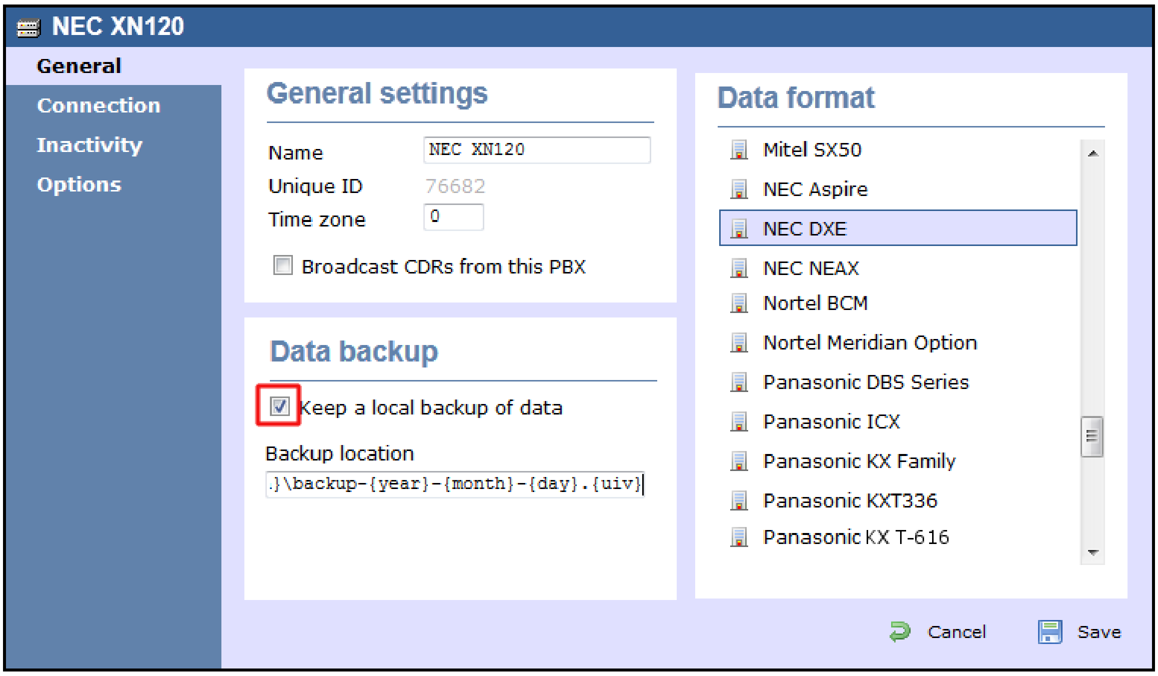
To capture SMDR data from your NEC XN120 using a serial connection, you first need to install the NetPBX software to collect the data from the serial port and send it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

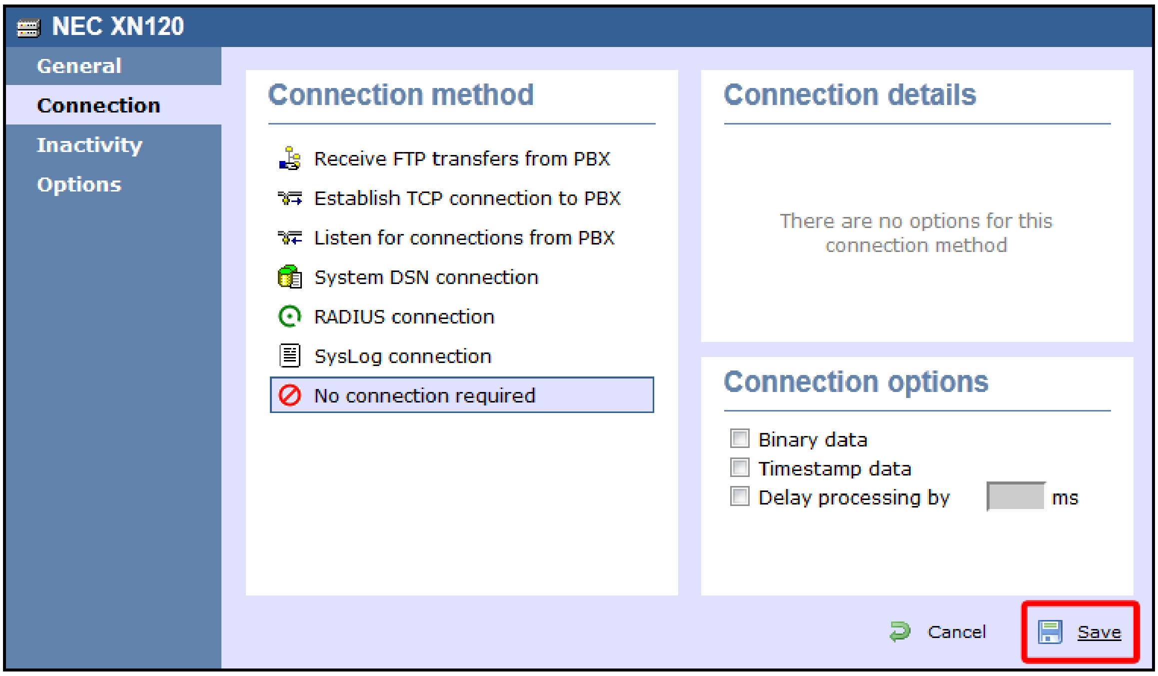
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure the PBX object in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`NEC DXE`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings.



NEC XN120 - IP connection

These instructions help you configure your NEC XN120 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

NEC DXE.TDT

NEC DXE.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure the SMDR output on your NEC XN120:

1. Log in to your PC Pro/Web Pro software.

2. To configure SMDR output using an IP connection, apply the following settings:

Adapter	Programming code	Value	Description

NTCPU - IP	**10-12-01**	IP address that TIM Enterprise will connect to.	NTUCPU Network Setup - IP Address.
	10-20-01	TCP port that TIM Enterprise will connect to. We recommend using `9000` and incrementing it for each NEC XN120 you configure.	LAN Setup for External Equipment.

3. Apply the following settings in the programming sections below:

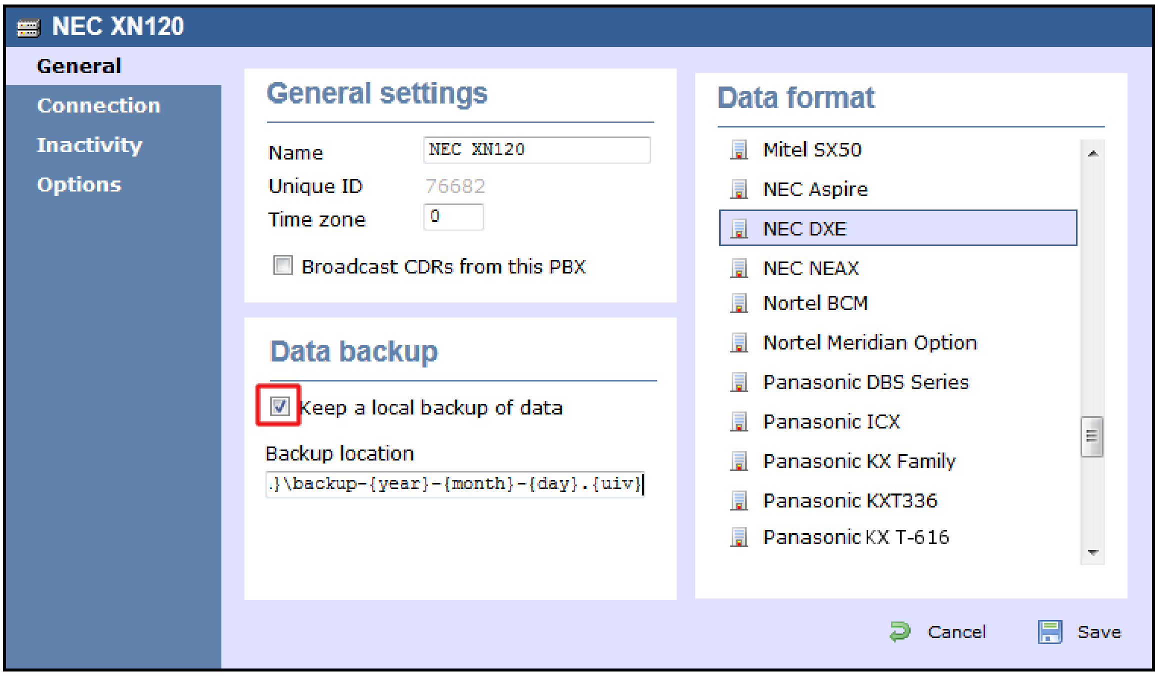
Programming code	Value	Description
14-01-06	`1`	Basic Trunk Data Setup - SMDR Print.
15-01-03	`1`	Basic Extension Data Setup - SMDR Print.
35-01-03	`0`	SMDR Options - Header Language.
35-01-04	`0`	SMDR Options - Omit (Mask) Digits.
35-01-05	`0`	SMDR Options - Minimum Number of SMDR Digits.
35-01-06	`0`	SMDR Options - Minimum Call Duration.
35-01-07	`0`	SMDR Options - Minimum Ringing Time.
35-01-08	Default	SMDR Options - SMDR Format.
35-02-01	`0`	SMDR Output Options - Toll Restricted Call.
35-02-02	`1`	SMDR Output Options - PBX Calls.
35-02-03	`1`	SMDR Output Options - Display Trunk Name or Numbers.
35-02-04	`0`	SMDR Output Options - Daily Summary.
35-02-05	`0`	SMDR Output Options - Weekly Summary.
35-02-06	`0`	SMDR Output Options - Monthly Summary.
35-02-08	`1`	SMDR Output Options - Incoming calls.
35-02-09	`0`	SMDR Output Options - Print Name or Numbers.
35-02-10	`0`	SMDR Output Options - All Lines Busy (ALB) Output.
35-02-12	`0`	SMDR Output Options - DID Table Name Output.

35-02-13	1	SMDR Output Options - CLI Output when DID to Trunk.
35-02-14	1	SMDR Output Options - Date.
35-02-15	1	SMDR Output Options - CLI/DID Number Switching.
35-02-16	1	SMDR Output Options - Print Trunk Name or Received Dialled Number.
35-02-17	0	SMDR Output Options - Print Account Code or Caller ID Name.
35-02-18	Default	SMDR Output Options - Caller ID Name Output Method.
80-05-01	1	Date Format for SMDR and System Reports.

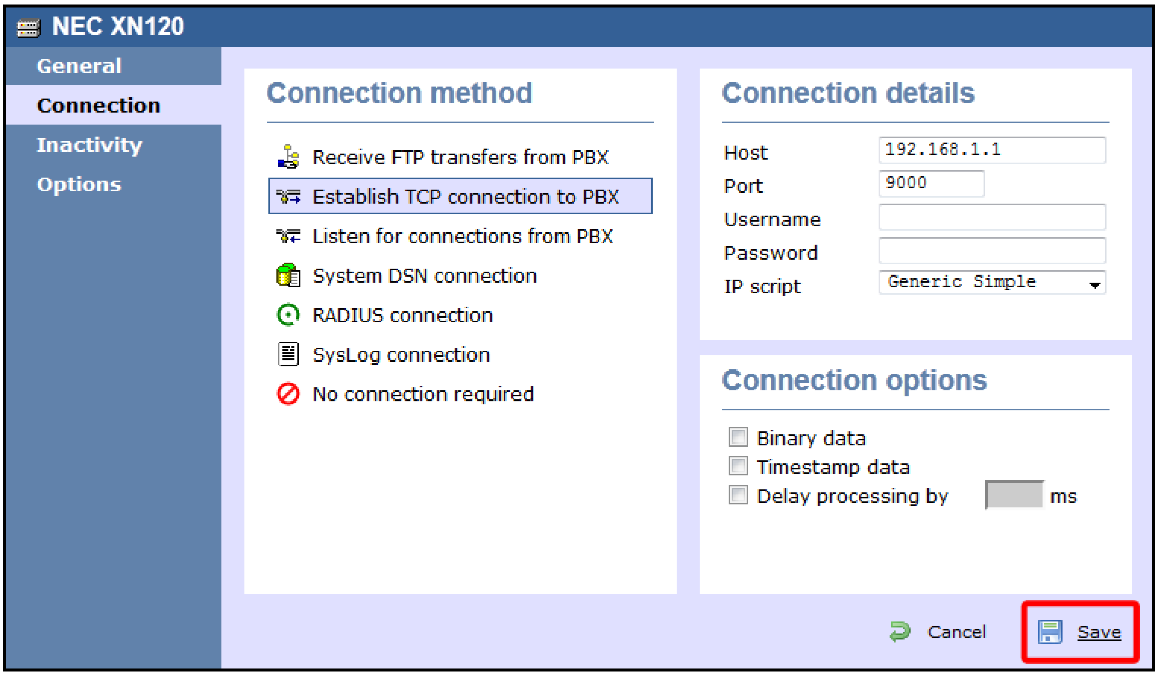
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your NEC XN120:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **NEC DXE** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your NEC XN120.
6. In the **Port** field, enter the port number you configured whilst programming code **10-20-01** (above).
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Generic Simple** from the drop-down list.
9. Click on the Save button to apply the settings.



NEC SV8100

These instructions help you configure your NEC SV8100 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

NEC DXE.TDT

NEC DXE.TDS

Required Tasks

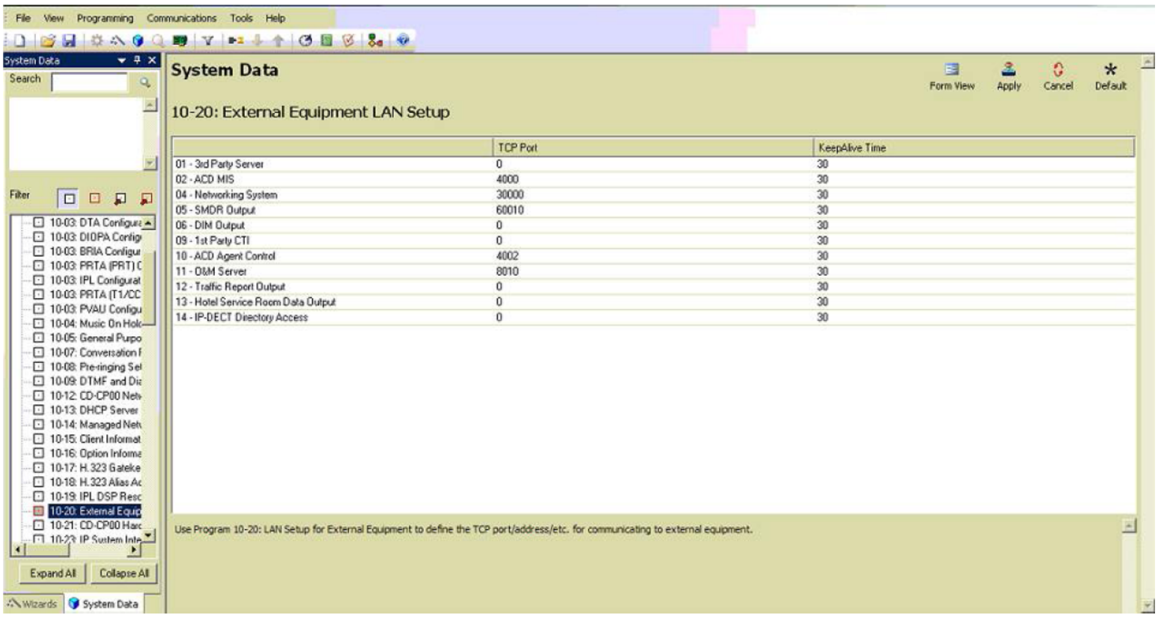
Configure the SMDR output

Configure TIM Enterprise

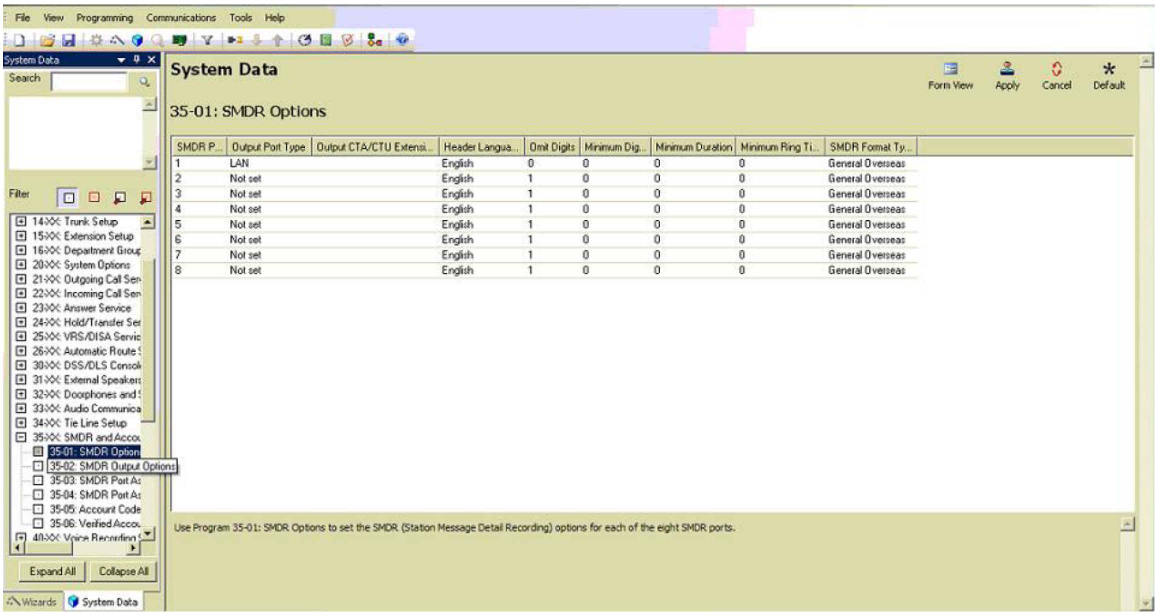
Configuring the SMDR output

Follow the instructions below to configure your NEC SV8100 for use with TIM Enterprise:

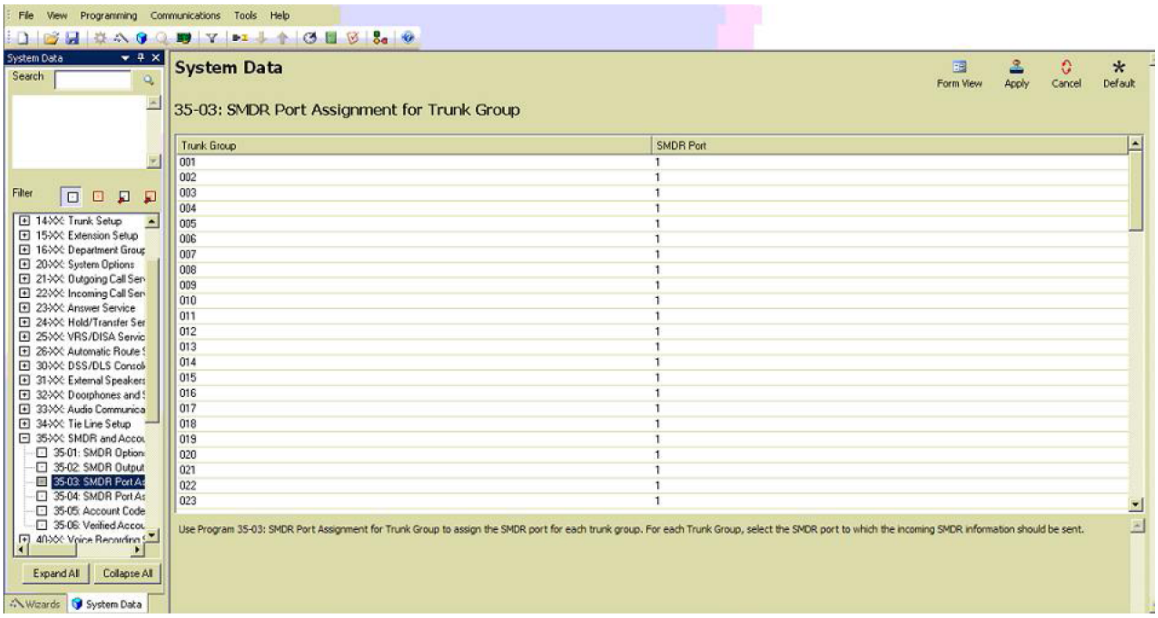
External equipment LAN setup



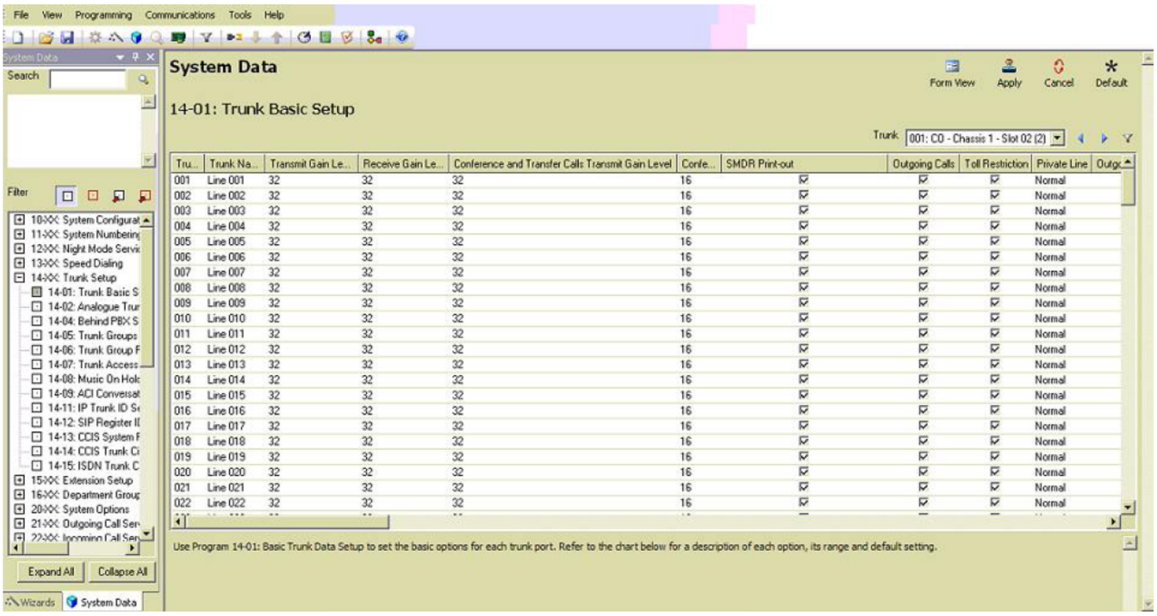
SMDR options



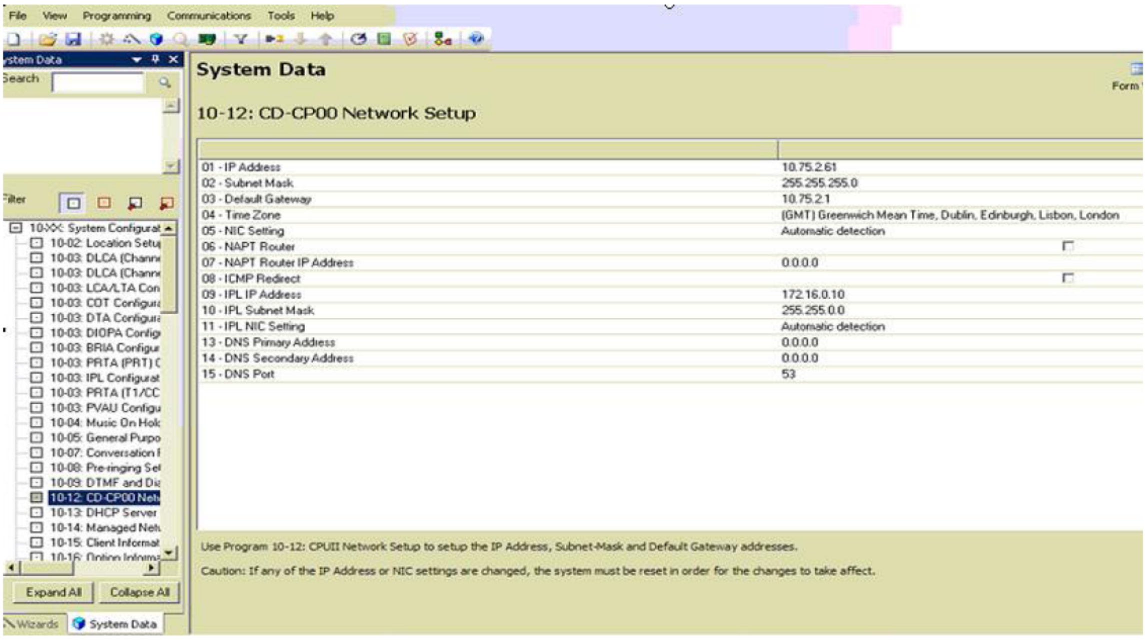
SMDR port assignment for trunk groups



Trunk Basic setup



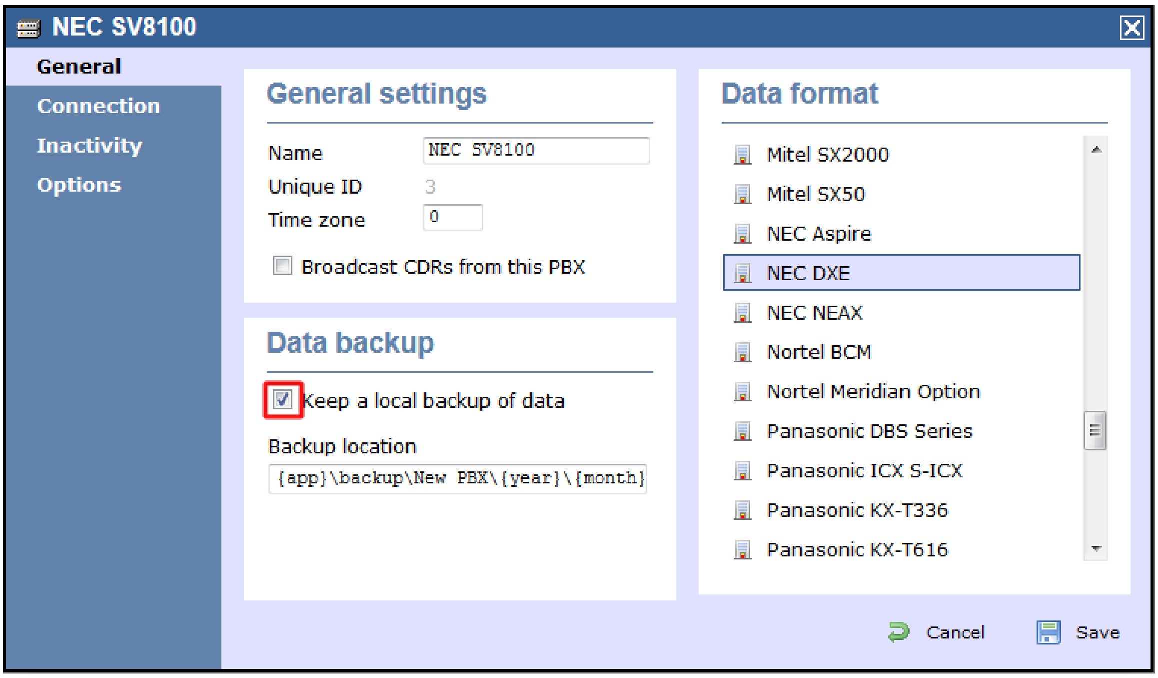
CD DP00 Network setup



Configuring TIM Enterprise

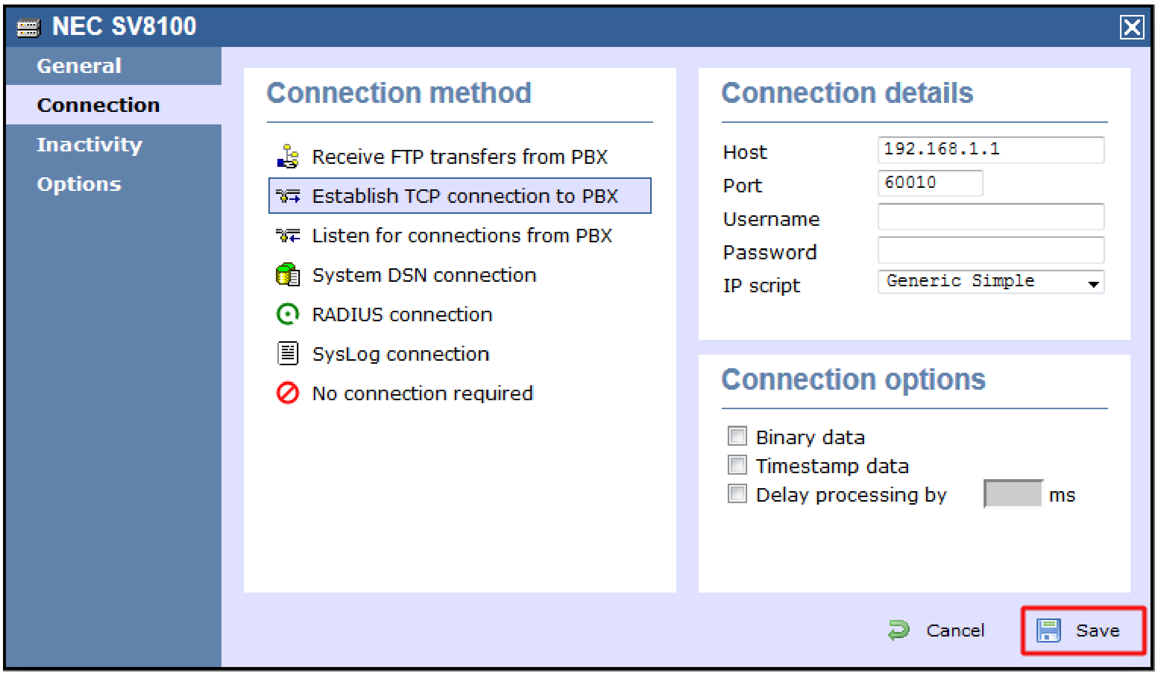
Follow the steps below to configure TIM Enterprise to collect the SMDR data from your NEC SV8100:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **NEC DXE** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your NEC SV8100.
6. In the **Port** field, enter **60010**.
7. Leave the **Username** and **Password** fields blank.

8. In the `IP script` field, select **`Generic Simple`** from the drop-down list.
9. Click on the Save button to apply the changes.



Nortel

Nortel BCM up to v3.x

Please refer to Avaya BCM up to v3.x.

Nortel BCM v4.x+

Please refer to Avaya BCM v4.x+.

Nortel Meridian Option Series

Please refer to Avaya Meridian Option Series.

Nortel Norstar

Please refer to Avaya Norstar.

Panasonic

Panasonic DBS Series

These instructions help you configure your Panasonic DBS Series phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Panasonic DBS Series.TDT

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure your Panasonic DBS Series to output SMDR data to TIM Enterprise. The configuration needs to be performed from the Operator phone:

1. Press the ON/OFF key.
2. Press the RECALL key.
3. Press # # to enter the `Programming mode`.
4. Navigate to `Call logging/Remote programming` parameters.
5. Go to `Call logging - Parity check` and select **1**, then press the # key.
6. Go to `Call logging - Even/Odd parity` and select **1**, then press the # key.
7. Go to `Call logging - Baud rate (SMDR)` and select **4**, then press the # key.
8. Go to `Call logging - Stop bit` and select **1**, then press the # key.
9. Go to `Call logging - Data length` and select **4**, then press the # key.
10. Go to `Call logging - Printing selection out/in` and select **1** for incoming and outgoing calls.
11. Go to `Call logging - Printing selection local/long distance calls` and select **1** to print all outgoing calls, then press the # key.
12. Press the ON/OFF key to save the settings.

Installing NetPBX

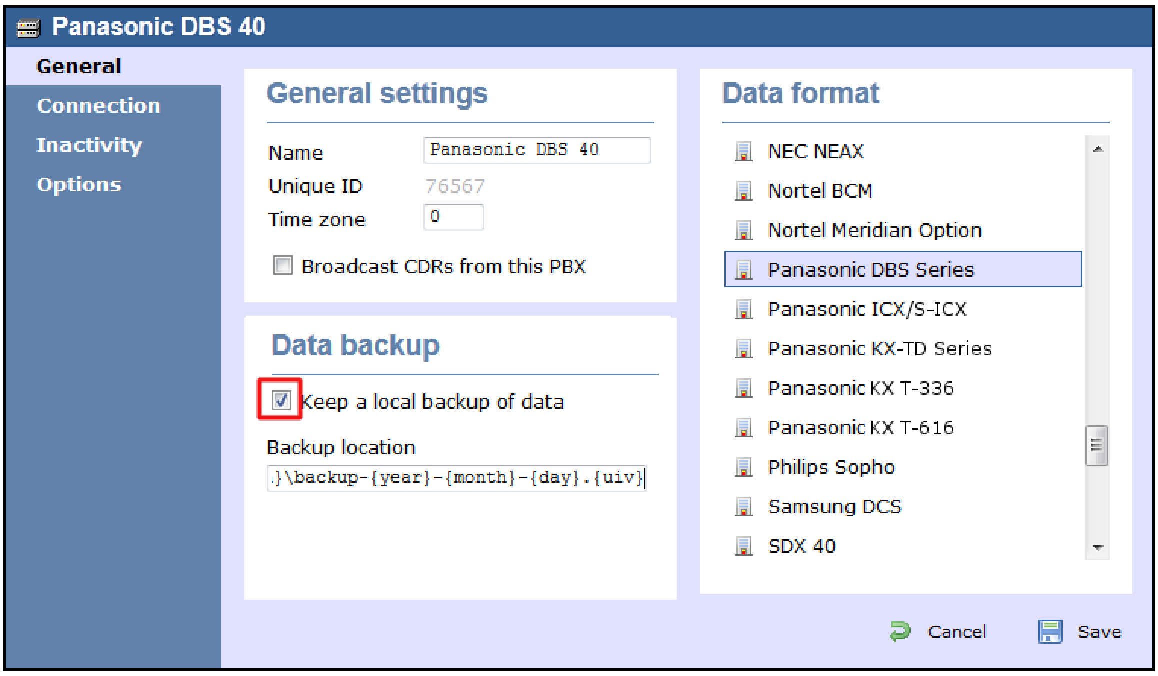
The Panasonic DBS Series phone system sends SMDR information via a serial connection. To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

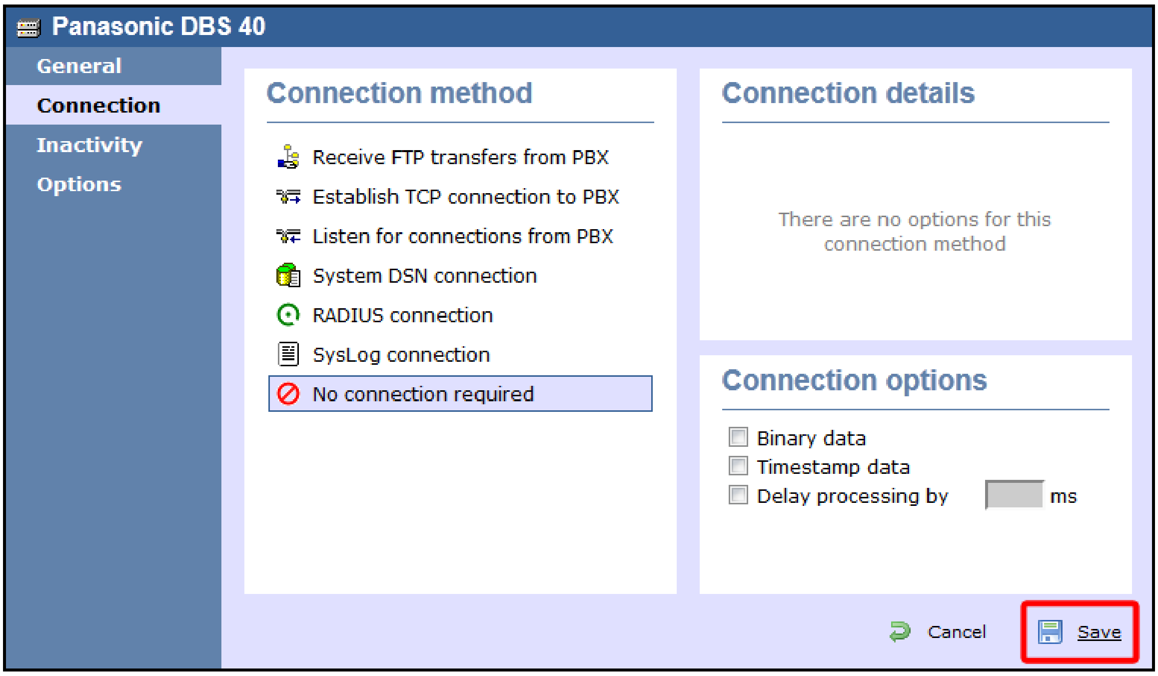
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **Panasonic DBS Series** from the `Data format` list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.
5. Click on the Save button to apply the settings.



Panasonic ICX/S-ICX

These instructions help you configure your Panasonic ICX/S-ICX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Panasonic ICX S-ICX.TDT`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring the SMDR output

The Panasonic ICX/S-ICX phone system sends SMDR information via a serial connection. You need to directly connect a serial cable from the Panasonic ICX/S-ICX phone system to the PC that NetPBX is installed and running on. For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

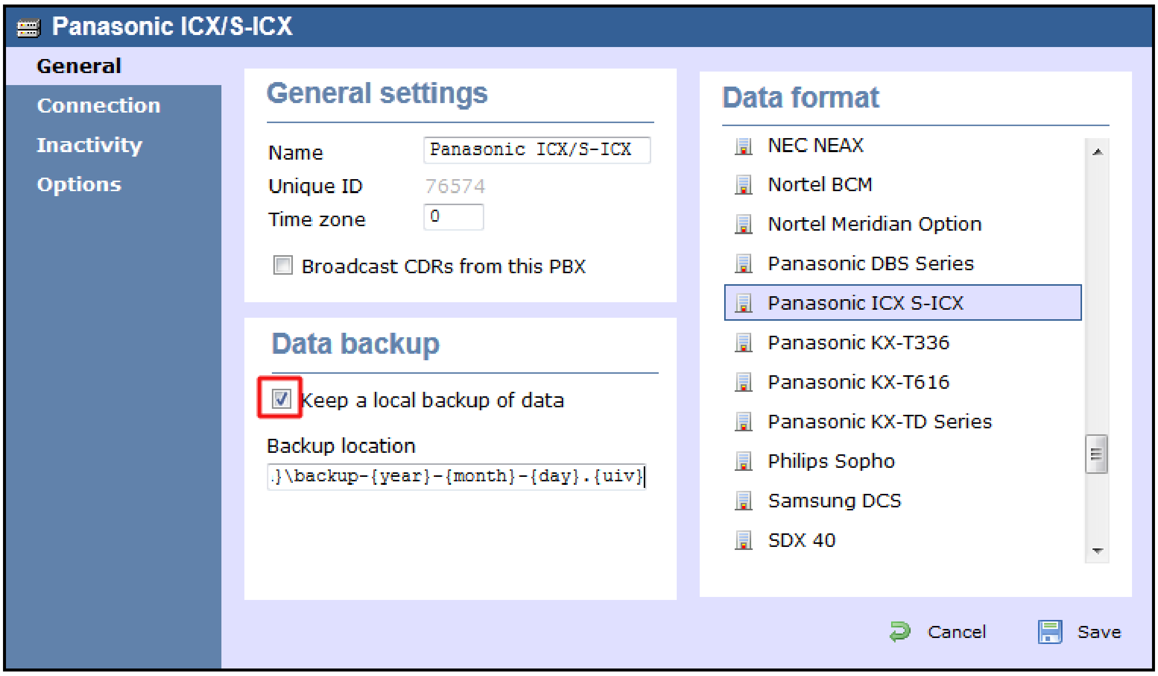
The Panasonic ICX/S-ICX phone system sends SMDR information via a serial connection. To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

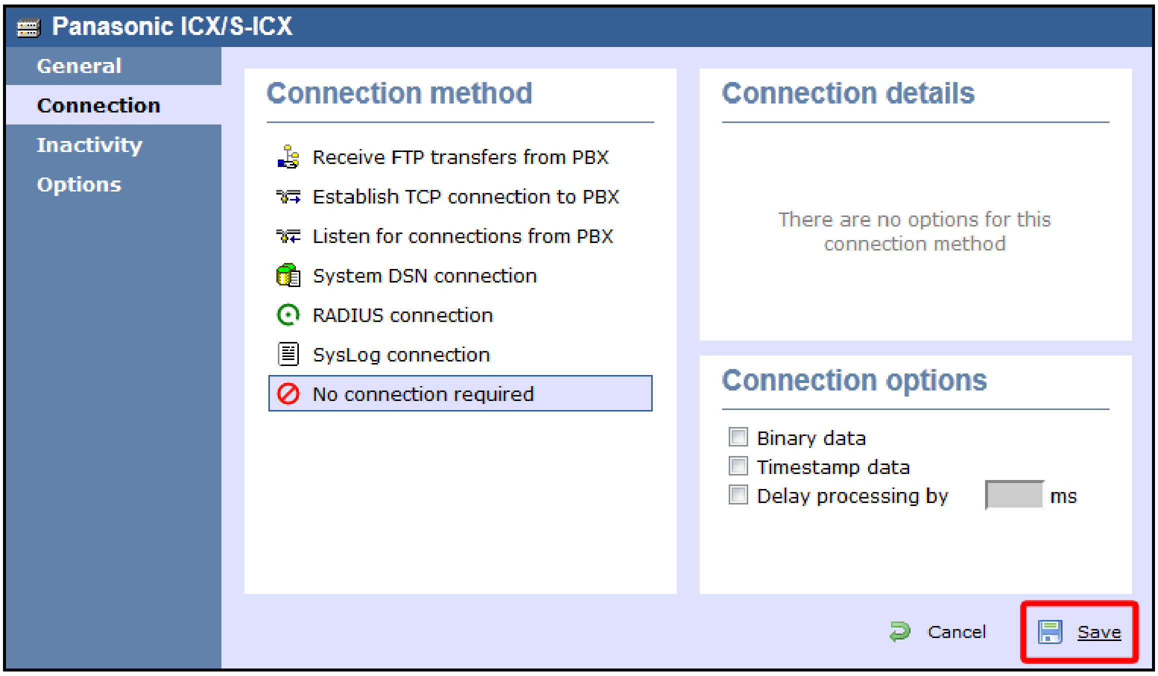
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Panasonic ICX S-ICX`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.

5. Click on the Save button to apply the settings.



Panasonic KX-TA/E

These instructions help you configure your Panasonic KX-TA/TE phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Panasonic KX-TD Series.TDT

Panasonic KX-TD Series.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring the SMDR output

Follow the steps below to configure your Panasonic KX-TA/TE to output SMDR data to TIM Enterprise. The configuration needs to be performed from a Panasonic KX-T7130 phone:

1. Set the System Program Switch on the EMSS Control Unit to the Programming position.
2. Press - * followed by the # key, then enter your system password.
3. Press # # to enter the `Programming mode`.
4. Go to programming code **800** and set each of the fields as shown below. Press Store and then Next after each entry in order to move to the next field:

SMDR field	Value
NL-Code	`CR+LF`
Baud Rate	`9600`
Word Length	`8 bits`
Parity	`None`
Stop Bit	`1 bit`

5. Go to programming code **`801`** and set each of the fields as shown below. Press Store and then Next after each entry in order to move to the next field:

SMDR field	Value
Page Length	Leave as default
Skip Perf	Leave as default

6. Go to programming code **`802`** and set each of the fields as shown below. Press Store and then Next after each entry in order to move to the next field:

SMDR field	Value
Outgoing	`On`
Incoming	`On`

7. Set the System Program Switch back to Store position.

Installing NetPBX

The Panasonic KX-TA/TE phone system sends SMDR information via a serial connection. To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

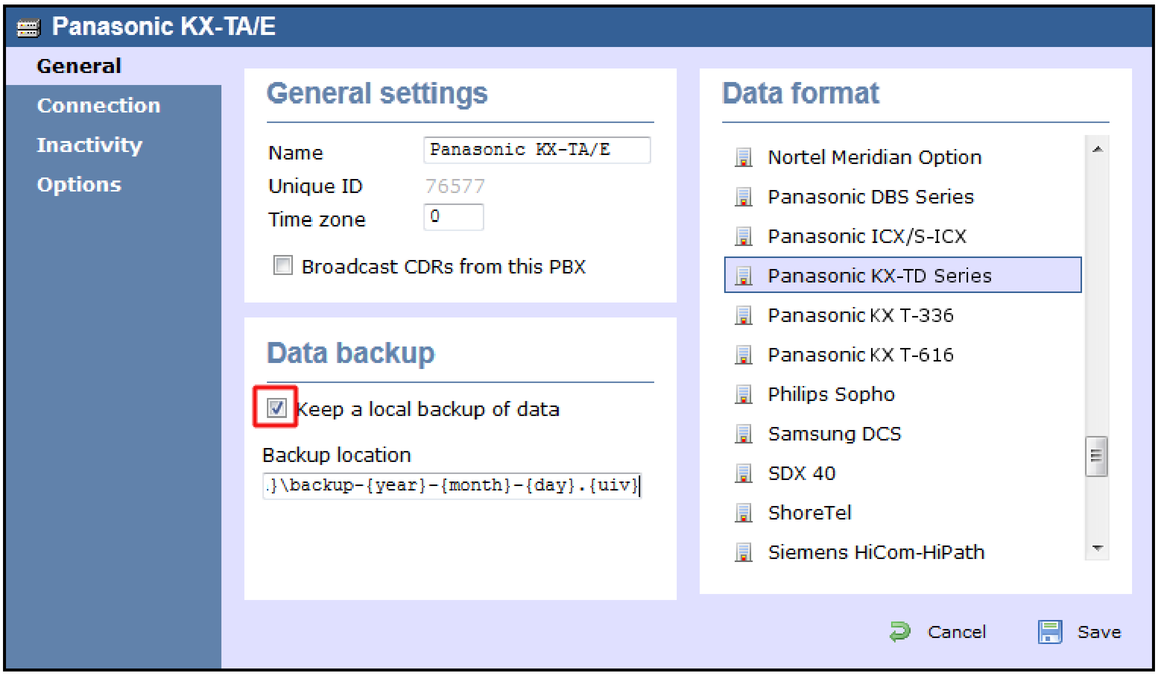
Install and configure NetPBX

Configuring TIM Enterprise

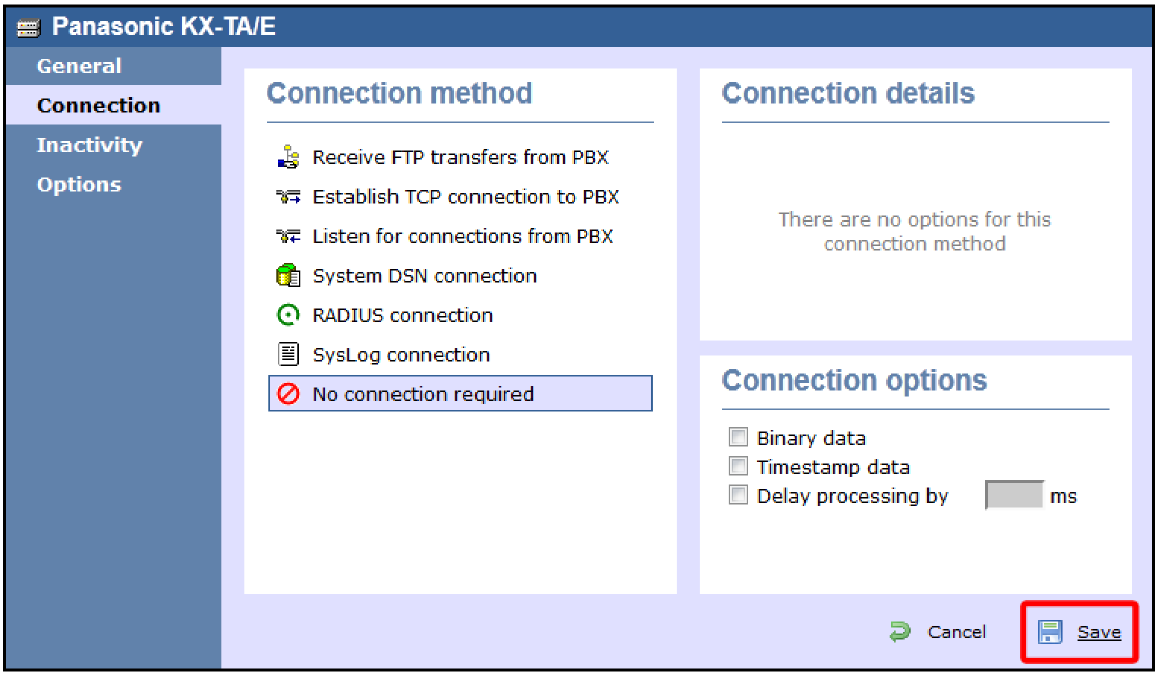
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Panasonic KX-TD Series`** from the **`Data`**

`format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the `Connection` tab and select **`No connection required`** from the `Connection method` list.
5. Click on the `Save` button to apply the settings.



Panasonic KX-TDA/E/NCP500/1000

The Panasonic KX-TDA/E/NCP500/1000 can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

Panasonic KX-TDA/E/NCP500/1000 - Serial connection

These instructions help you configure your Panasonic KX-TDA/E/NCP500/1000 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Panasonic KX-TD Series.TDT

Panasonic KX-TD Series.TDS

Required Tasks

Configure the SMDR output

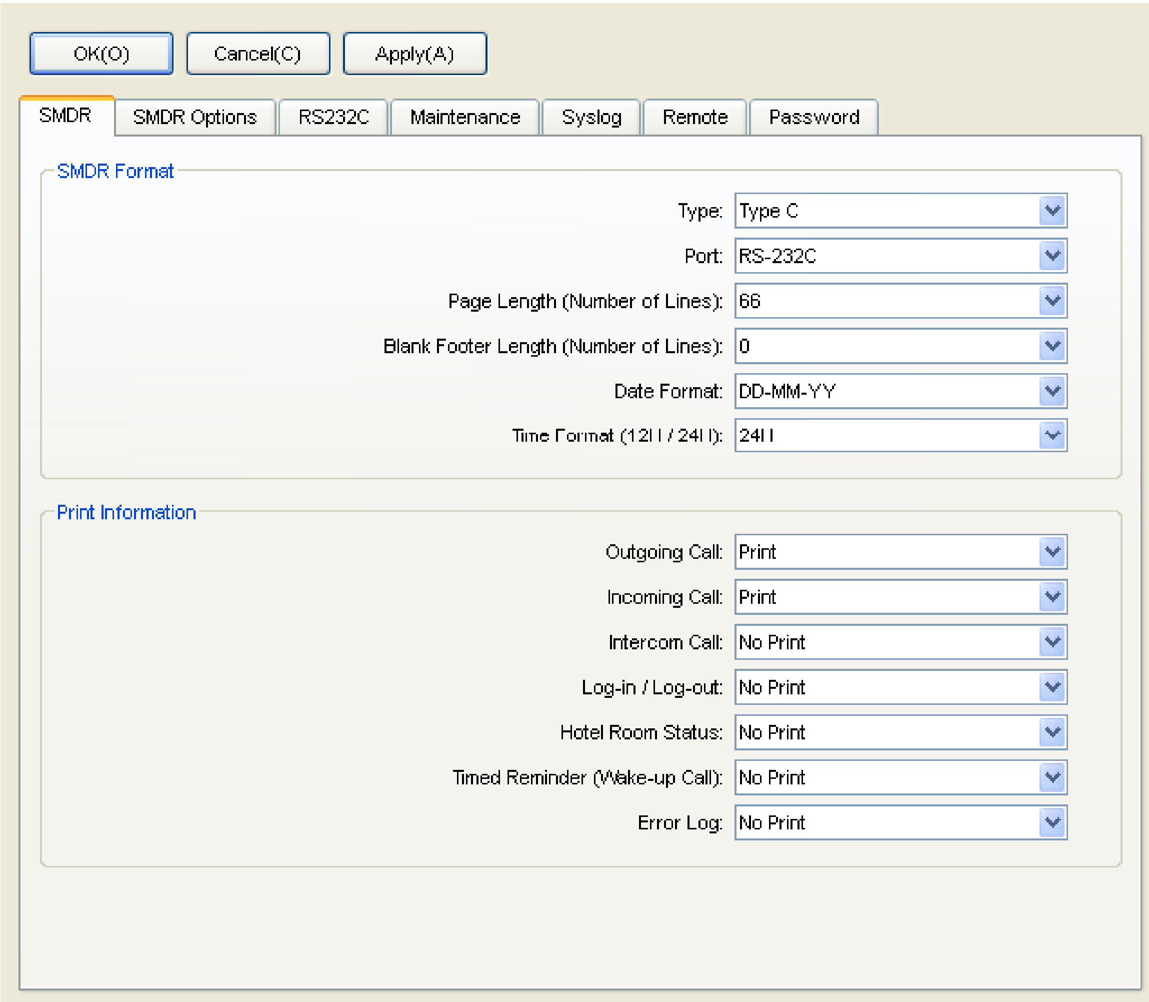
Install NetPBX

Configure TIM Enterprise

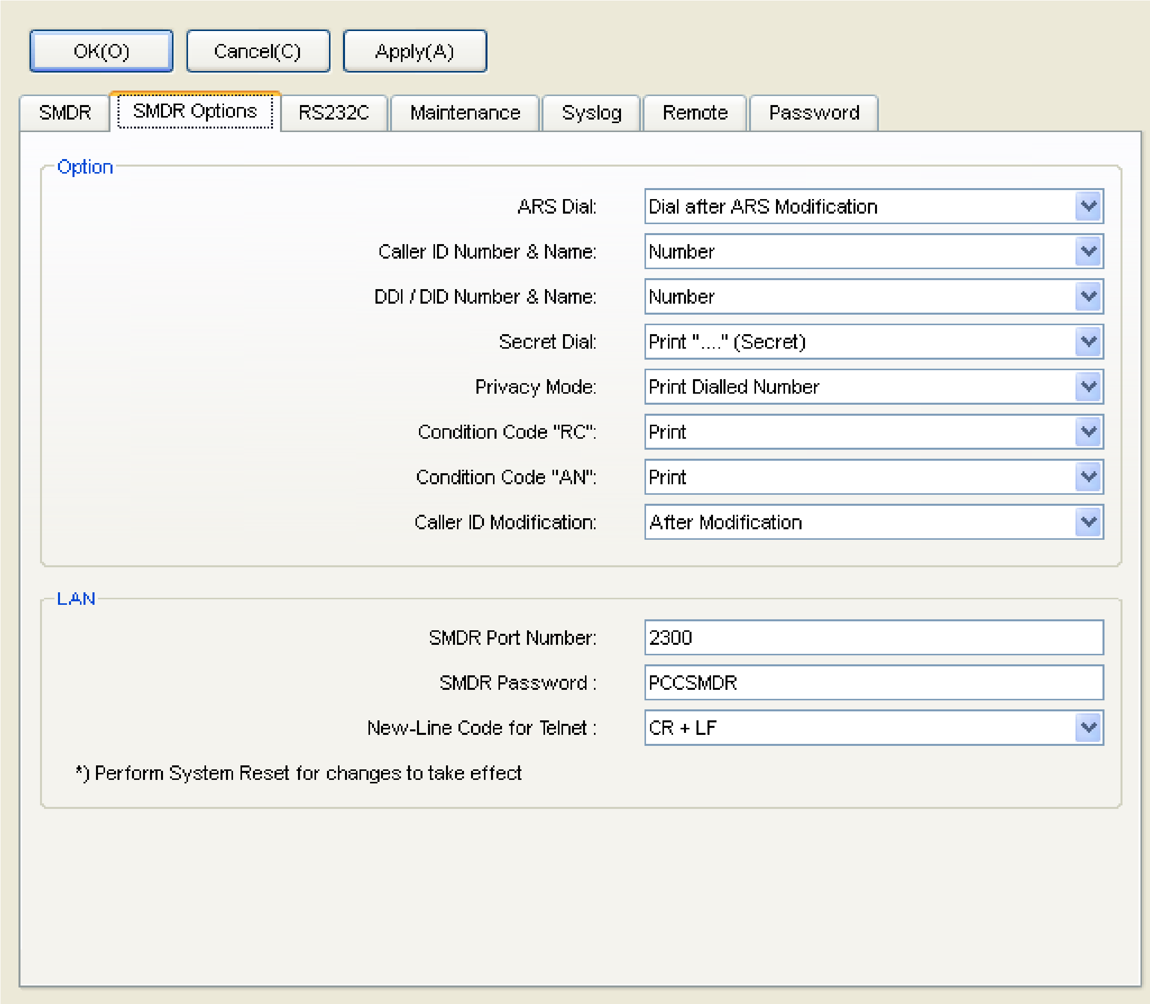
Configuring the SMDR output

Follow the steps below to configure your Panasonic phone system to output SMDR to TIM Enterprise.

1. Log in to the Panasonic Maintenance Console program.
2. Click on the 11. Maintenance tab from the left-hand menu.
3. Click on the SMDR tab and configure the options as shown below:



4. Click on the SMDR Options tab and configure the options as shown below:



5. Click on the Apply button to save the changes.

Installing NetPBX

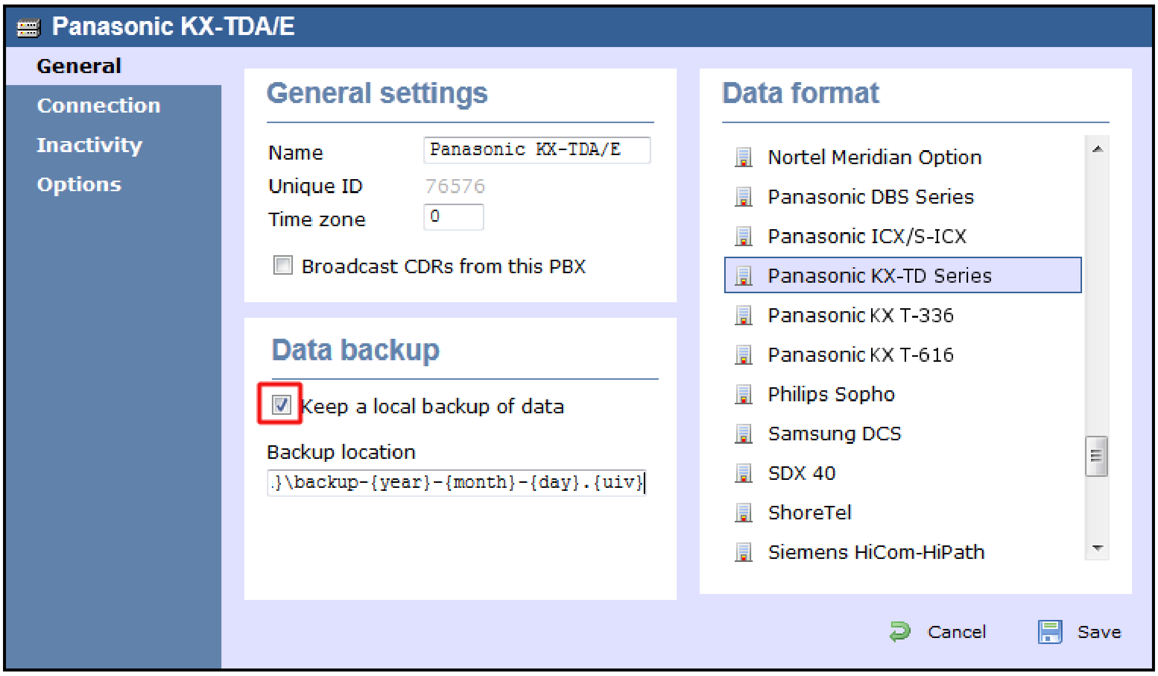
The Panasonic KX-TDA/E/NCP500/1000 phone systems can send SMDR information via a serial connection. To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

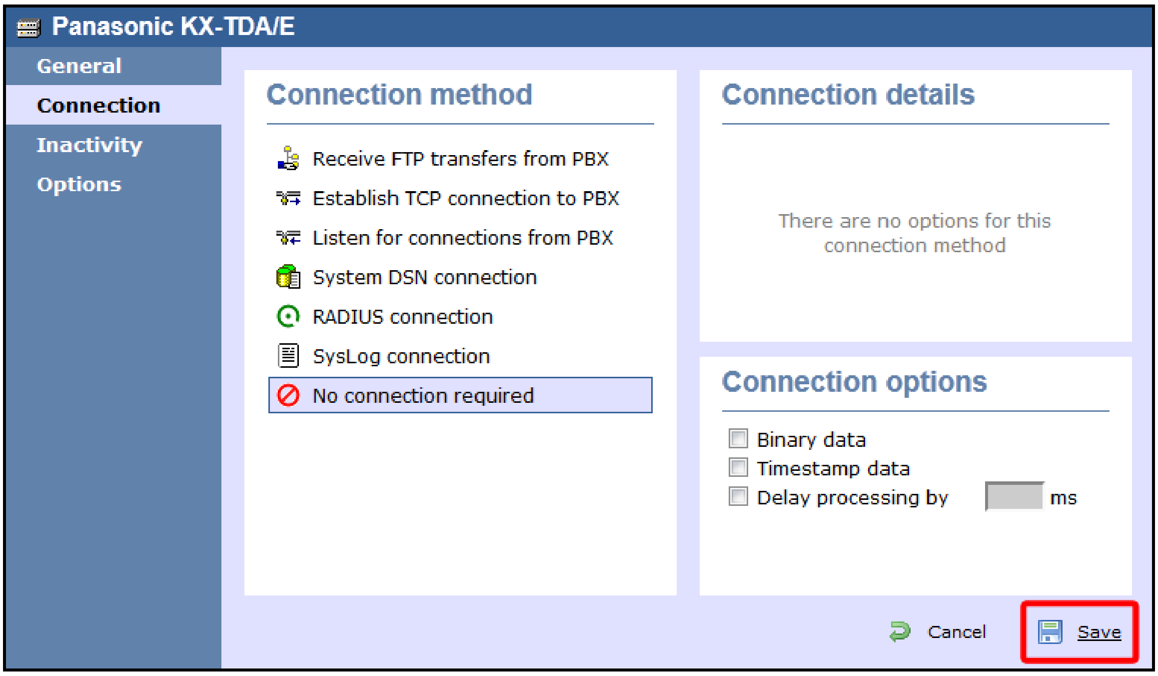
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Panasonic KX-TD Series`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.
5. Click on the Save button to apply the settings.



Panasonic KX-TDA/E/NCP500/1000 - IP connection

These instructions help you configure your Panasonic KX-TDA/E/NCP500/1000 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Panasonic KX-TD Series.TDT

Panasonic KX-TD Series.TDS

Required Tasks

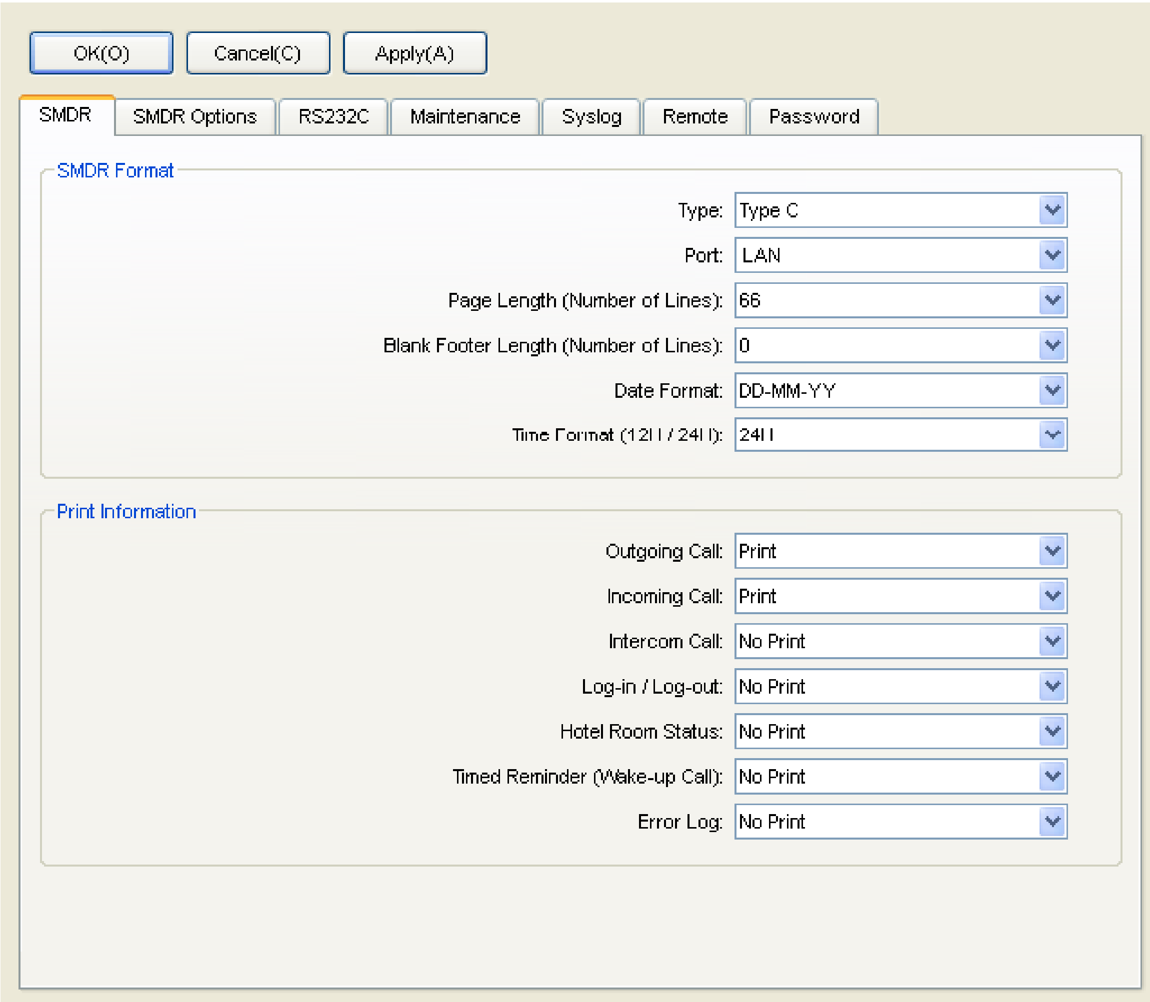
Configure the SMDR output

Configure TIM Enterprise

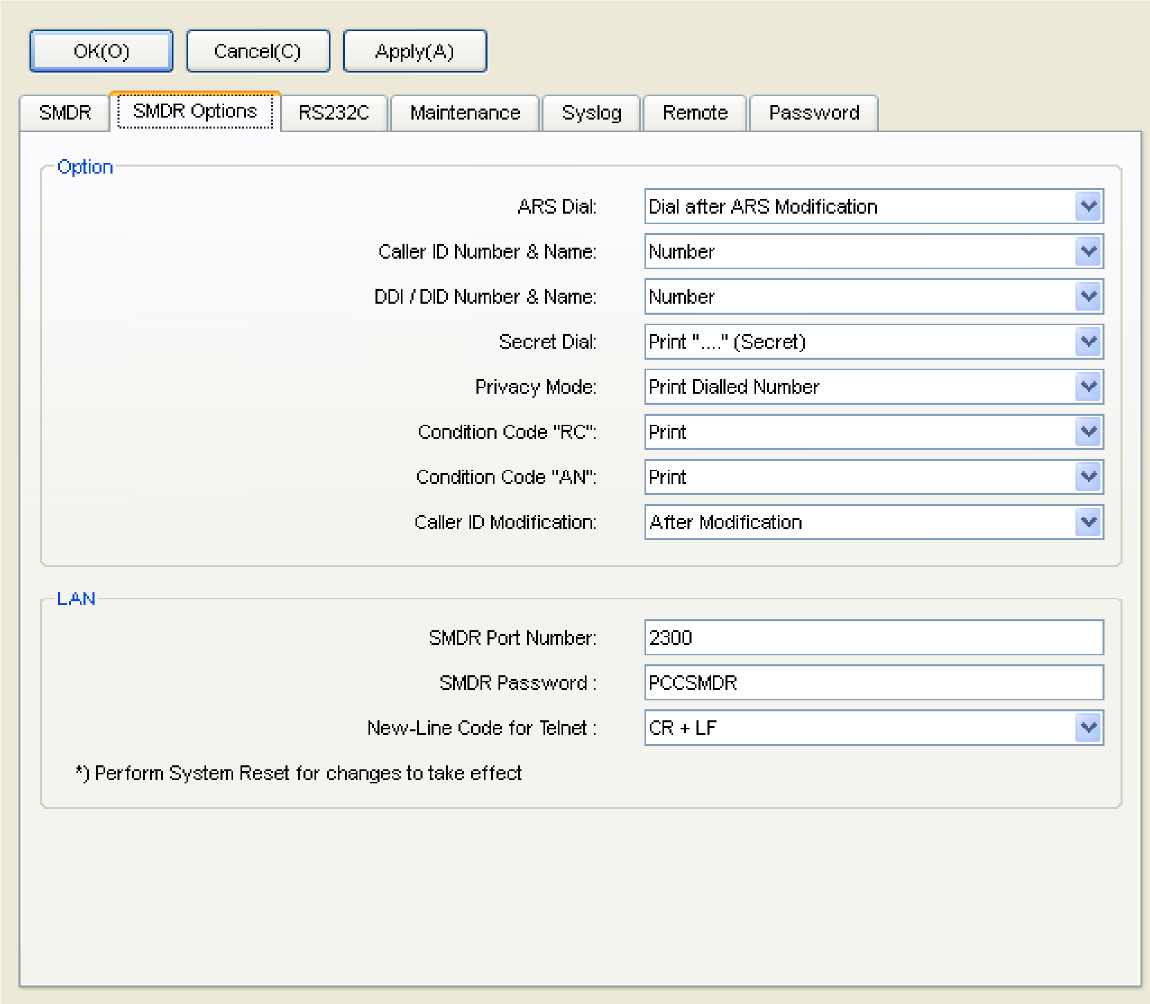
Configuring the SMDR output

Follow the steps below to configure your Panasonic phone system to output SMDR to TIM Enterprise.

1. Log in to the Panasonic Maintenance Console program.
2. Click on the 11. Maintenance tab from the left-hand menu.
3. Click on the SMDR tab and configure the options as shown below:



4. Click on the SMDR Options tab and configure the options as shown below:

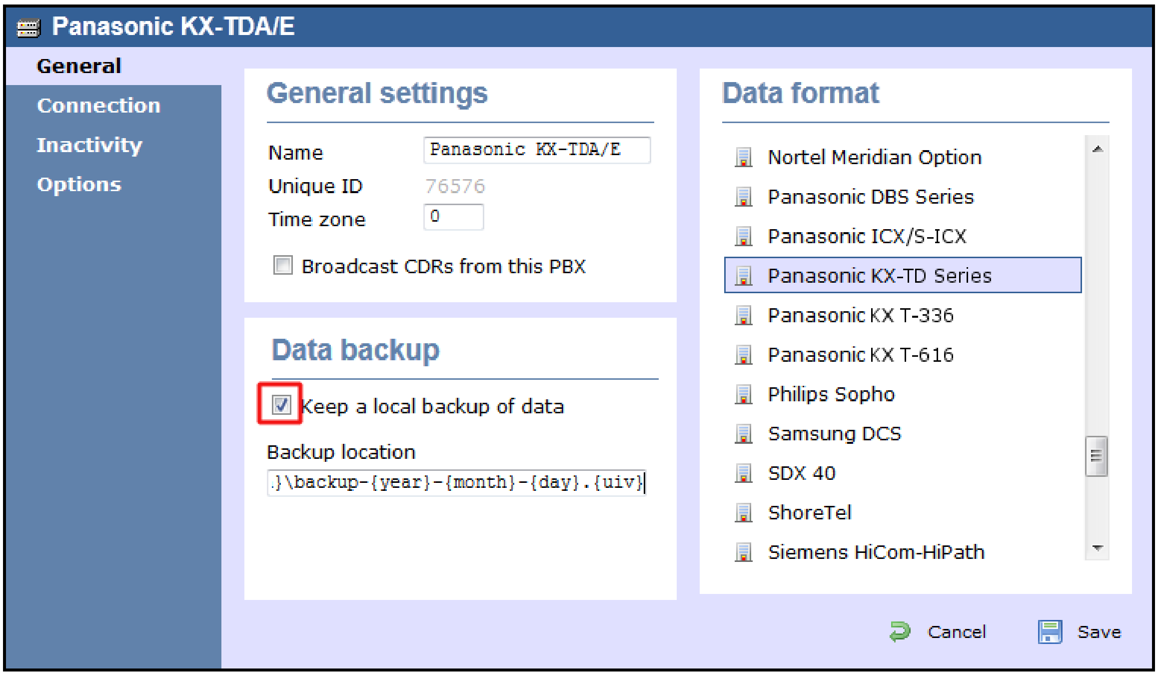


5. Click on the Apply button to save the changes.

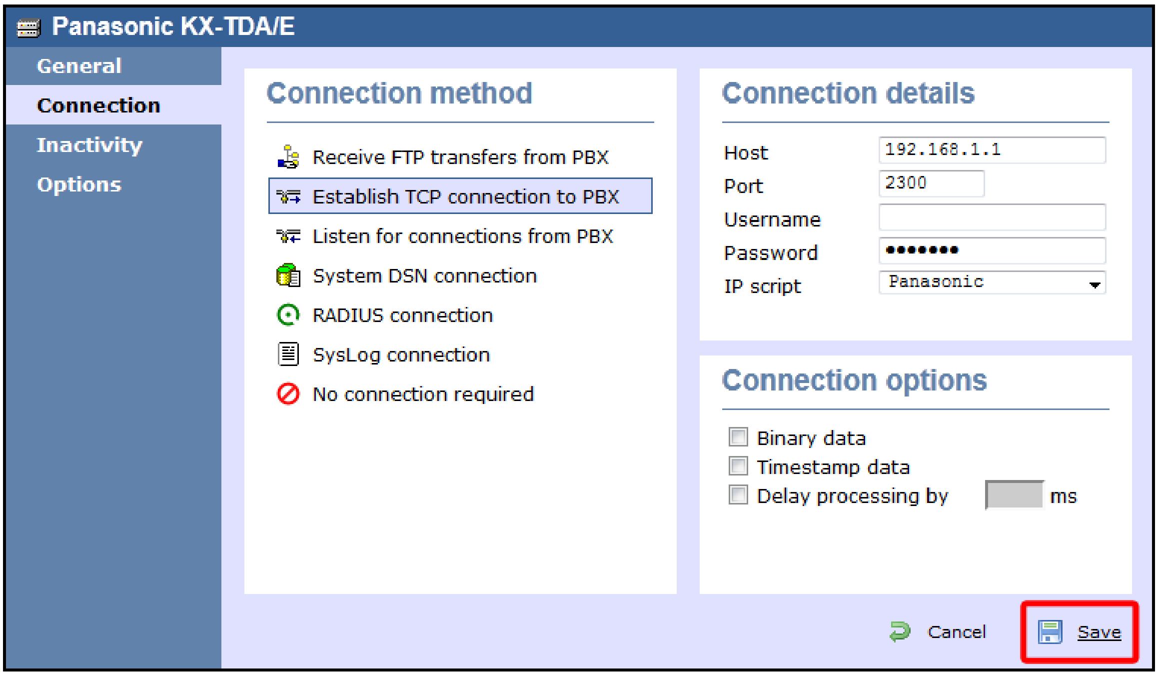
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Panasonic phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open. In the General tab, select **`Panasonic KX-TD Series`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of your phone system.
6. In the **Port** field, enter **2300**.
7. Leave the **Username** field blank.
8. In the **Password** field, enter the password required to connect to your phone system, by default **PCCSMDR**.
9. In the **IP script** field, select **Panasonic** from the drop-down list.
10. Click on the Save button to apply the settings.



Panasonic KX-TD Series

These instructions help you configure your Panasonic KX-TD Series phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Panasonic KX-TD Series.TDT

Panasonic KX-TD Series.TDS

Required Tasks

Configure the SMDR output

Install NetPBX

Confiure TIM Enterprise

Configuring your SMDR output

Follow the instructions below to configure your Panasonic KX-TD phone system to output SMDR data to TIM Enterprise. The configuration needs to be performed from a Digital Proprietary Telephone (DPT) such as the KX-T7431, KX-T7433, KX-T7436, KX-T7230, KX-T7235.

1. Press the PROG + * + # buttons simultaneously, then enter your system password.
2. Enter programming mode **800** and press the Next button.
3. Press the Select button to set the **Outgoing** option to **All**, then click on the Store button. Click Next .
4. Press the Select button to set the **Incoming** option to **All**, then press the Store button.
5. Press the End button to complete the configuration.

Installing NetPBX

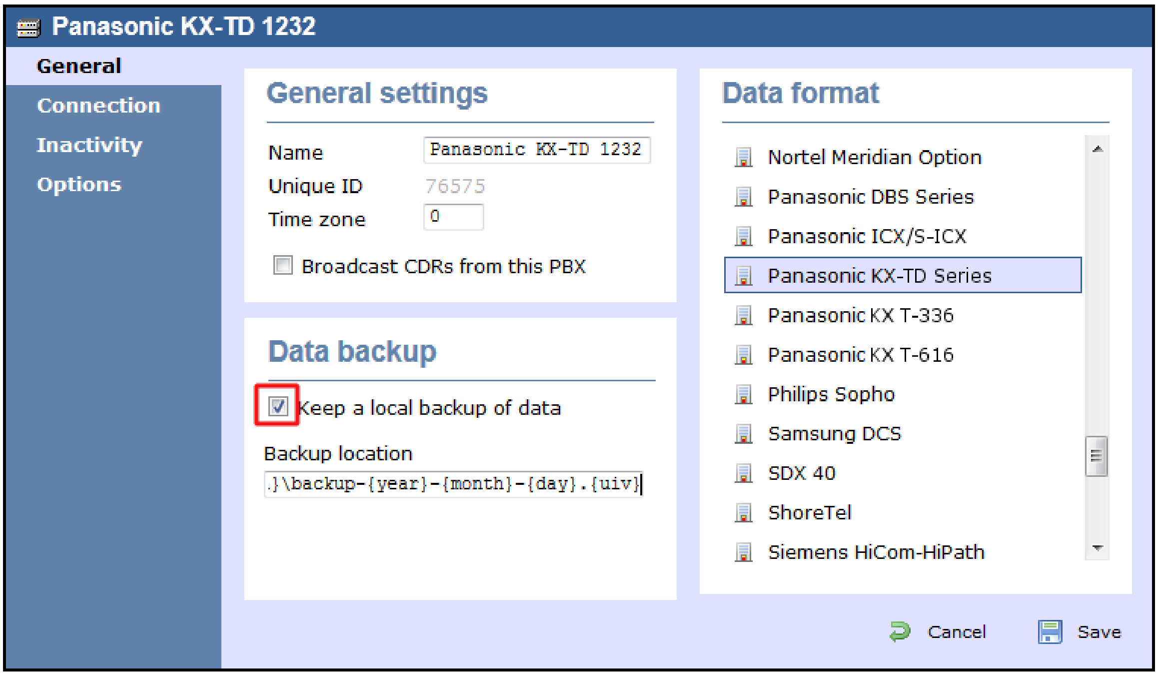
The Panasonic KX-TD Series phone system sends SMDR information via a serial connection. To collect the call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

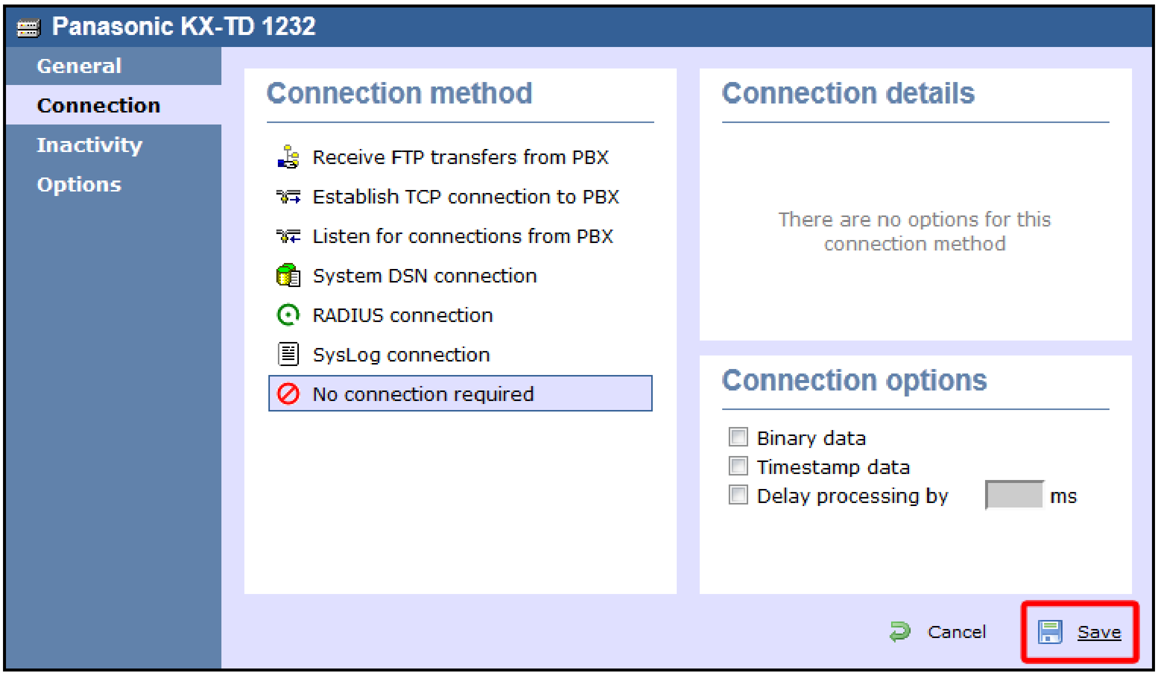
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Panasonic KX-TD Series** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings.



Samsung

Samsung DCS

These instructions help you configure your Samsung DCS phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Samsung DCS.TDT`

`Samsung DCS.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

Follow the instructions below to configure your Samsung DCS to output SMDR data to TIM Enterprise. The configuration needs to be performed from an LCD handset.

1. Open `Programming` and select `725`.

2. Program each option as presented below:

SMDR field	Value
Page Header	`Yes`
Lines per page	`1`
Incoming Call	`Yes`
Outgoing Call	`Yes`
Authorise Code	`Yes`
SMDR Start Time	`Yes`
In/Out Group	`No`
DND Calls	`No`
Wake-Up Calls	`No`
Directory Names	`None`
Caller ID Data	`Yes`
Abandoned Call	`Yes`
No of Dial Mask	`00`

DID Num/Name	**Yes**

3. Next, press the SPKR key and select **804**.
4. Dial **0** and use the arrow keys to select **SMDR**.
5. Press the TRSF key to complete the configuration.

Installing NetPBX

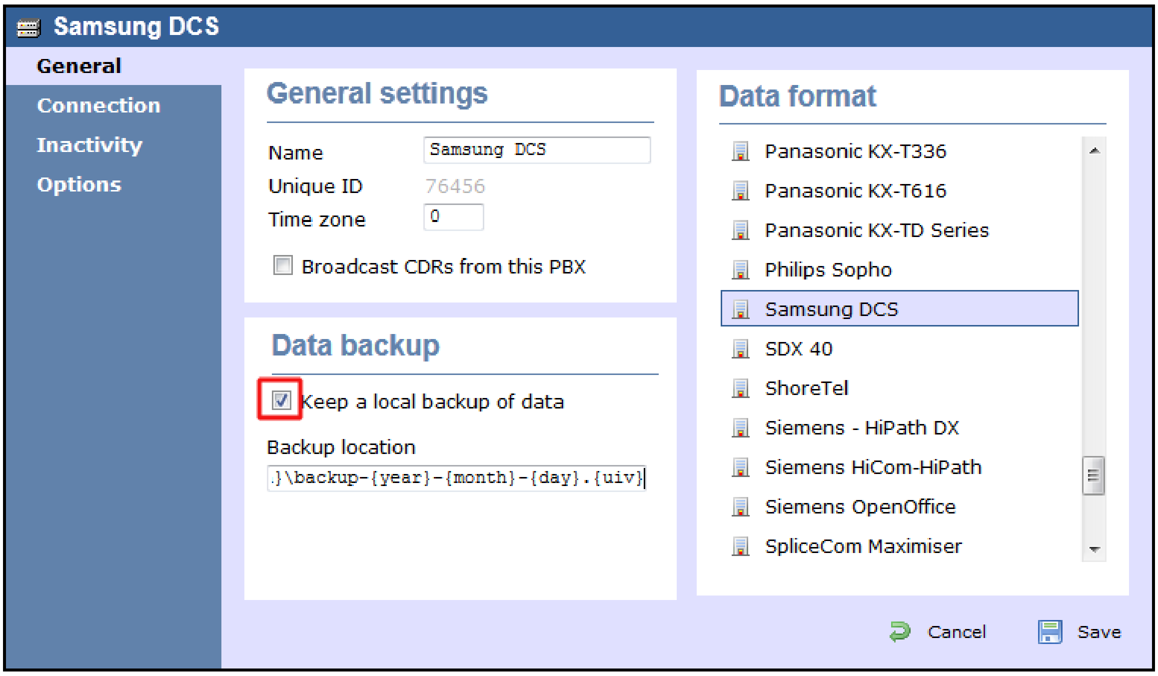
The Samsung DCS phone system sends SMDR data via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

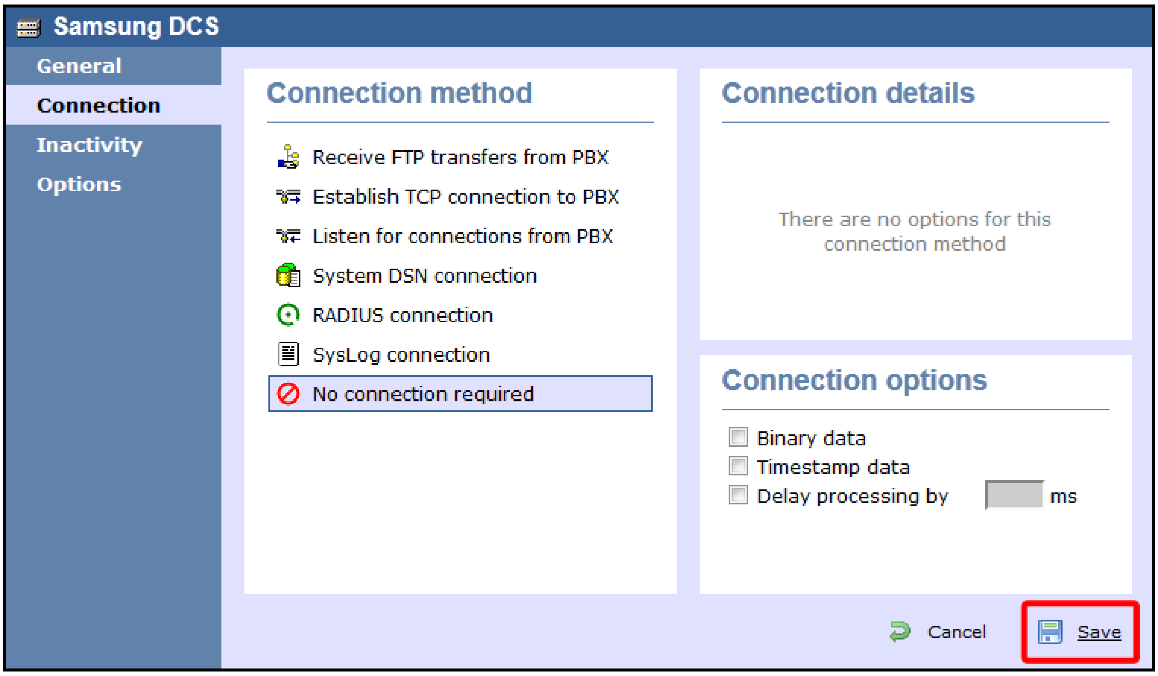
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Samsung DCS** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Samsung iDCS

The Samsung iDCS can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

Samsung iDCS - Serial connection

These instructions help you configure your Samsung iDCS phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Samsung DCS.TDT

Samsung DCS.TDS

Required Tasks

Configure the SMDR output

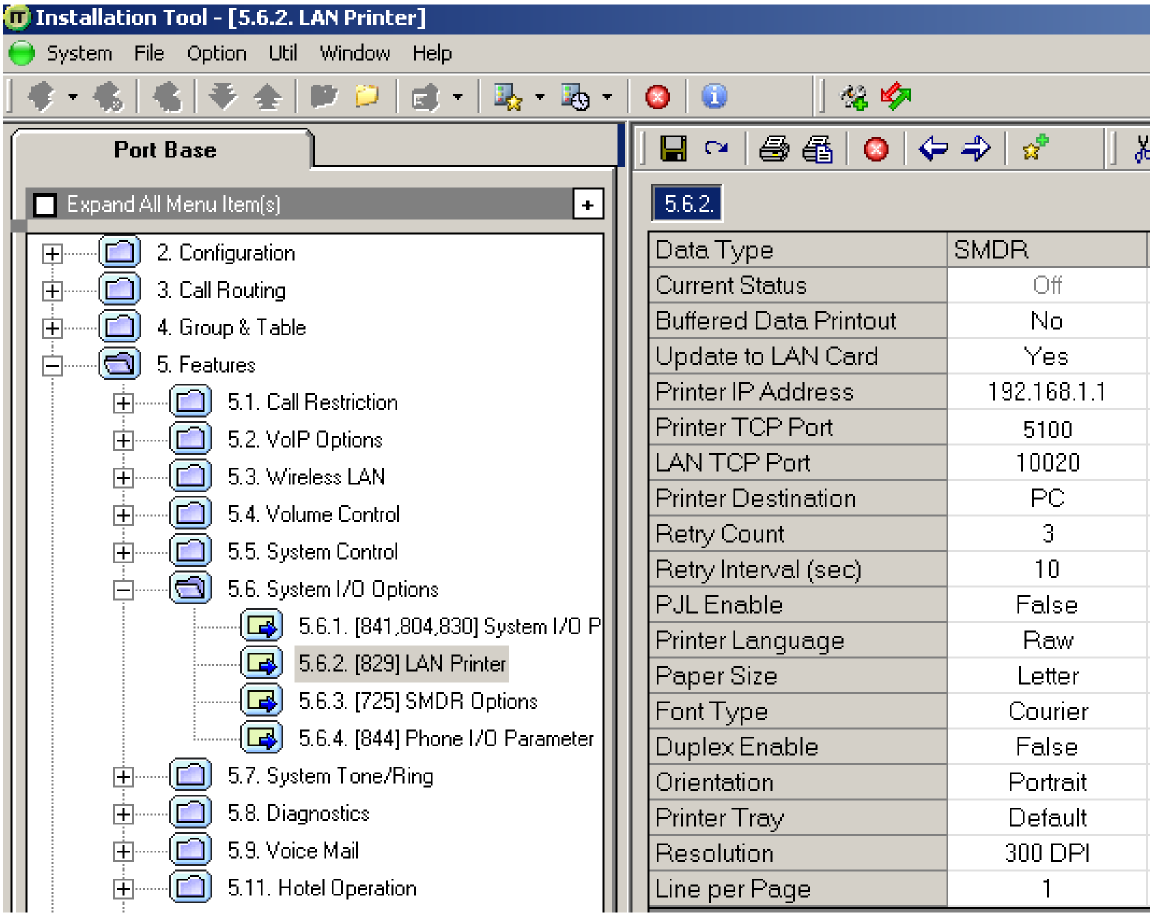
Install NetPBX

Configure TIM Enterprise

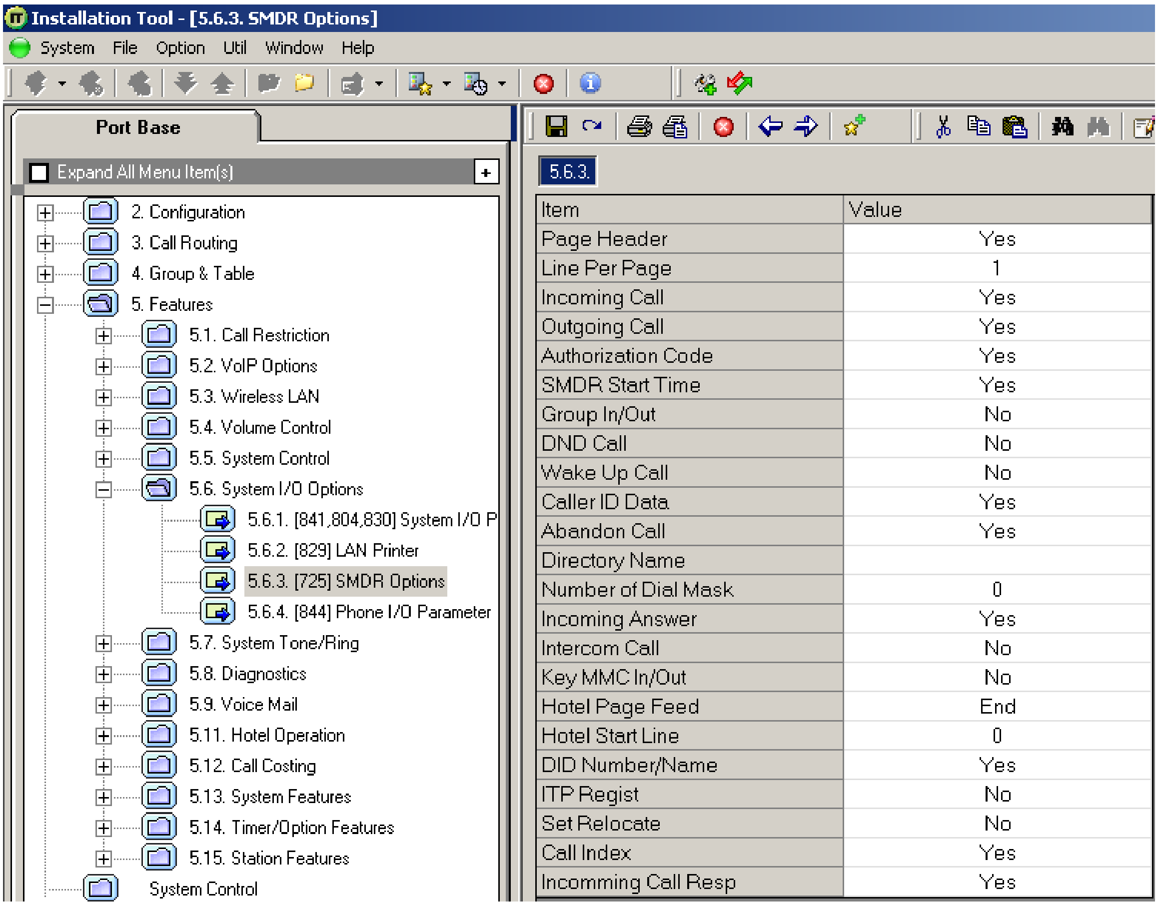
Configuring your SMDR output

Follow the instructions below to configure your Samsung iDCS to output SMDR data to TIM Enterprise.

1. Log in to the Samsung Installation Tool software.
2. Click on the 5. Features option from the left-hand menu.
3. Click on the 5.6 System I/O Options tab and select 5.6.2. LAN Printer .
4. In the **LAN Printer** options configure the entries in the **SMDR** column, as shown below:



5. Click on the Save icon to save the settings.
6. Click on the 5.6.3. SMDR Options tab and configure the following settings:



7. Click on the Save icon at the top of the window to save the settings.

Installing NetPBX

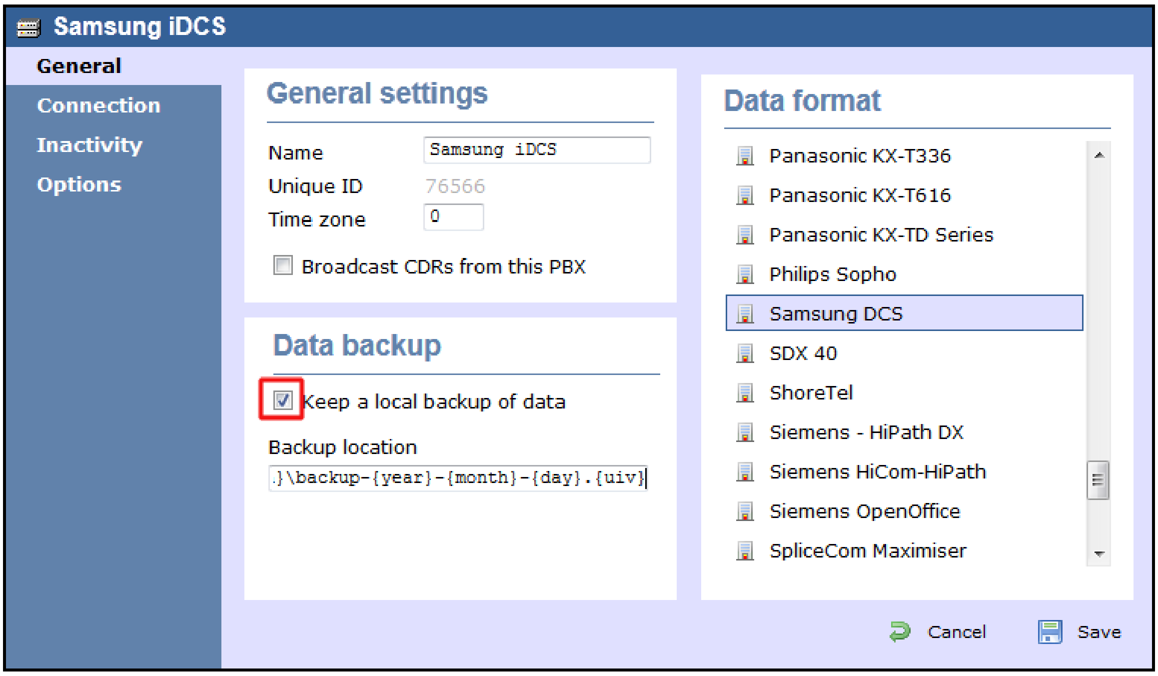
The Samsung iDCS phone system can send its SMDR data via a serial connection. To collect the data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

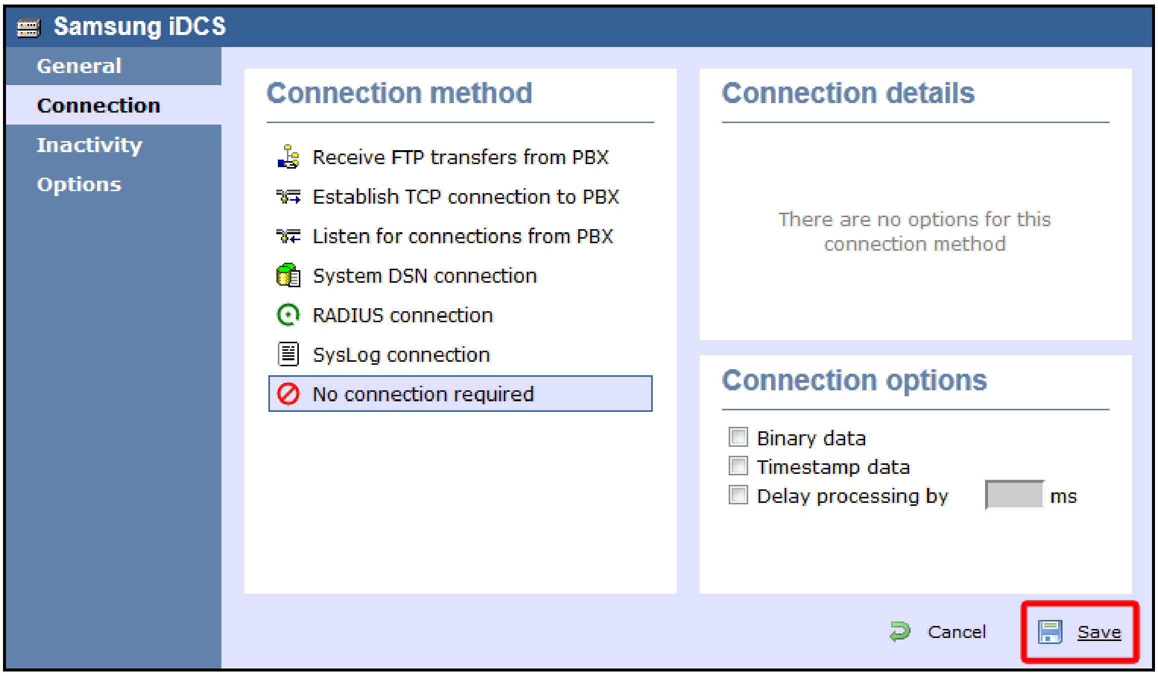
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Samsung DCS`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the **`Connection method`** list.
5. Click on the Save button to apply the settings.



Samsung iDCS - IP connection

These instructions help you configure your Samsung iDCS phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Samsung DCS.TDT

Samsung DCS.TDS

Required Tasks

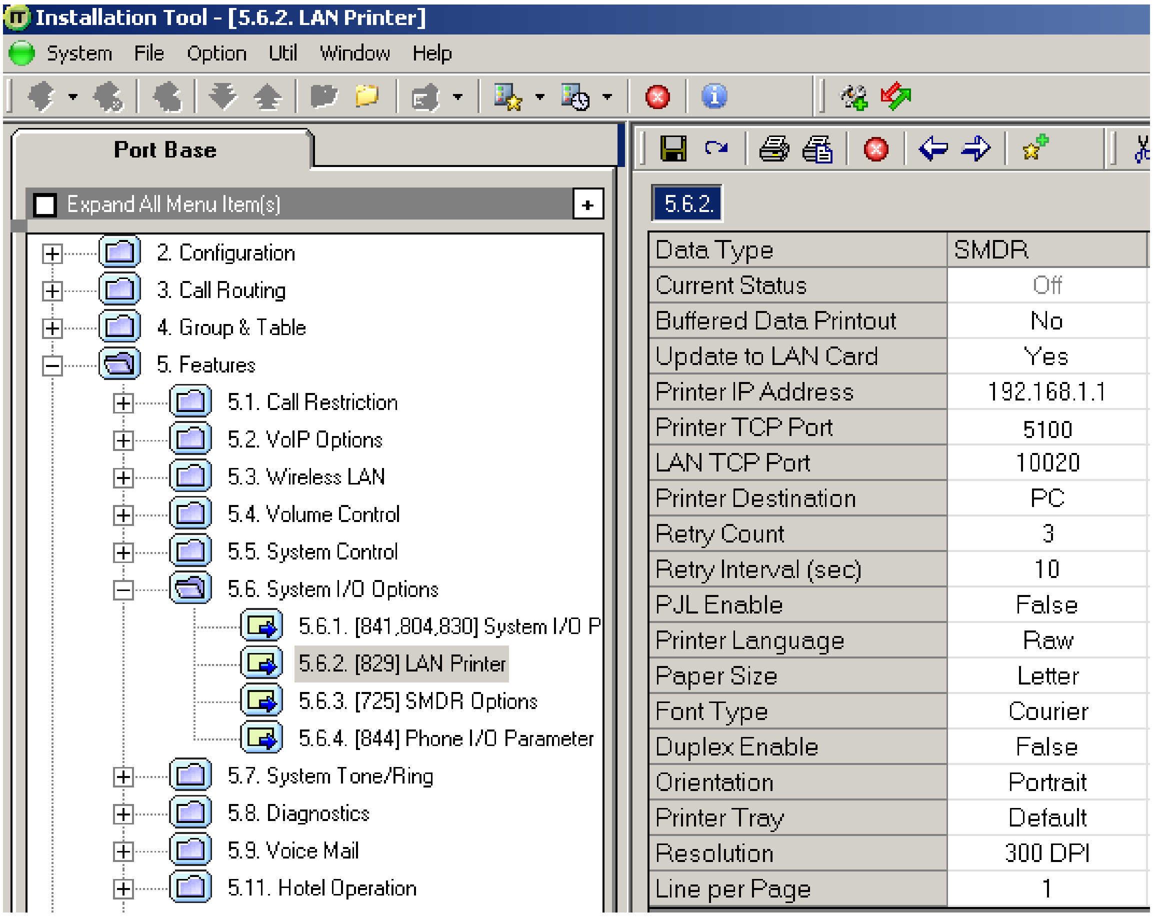
Configure the SMDR output

Configure TIM Enterprise

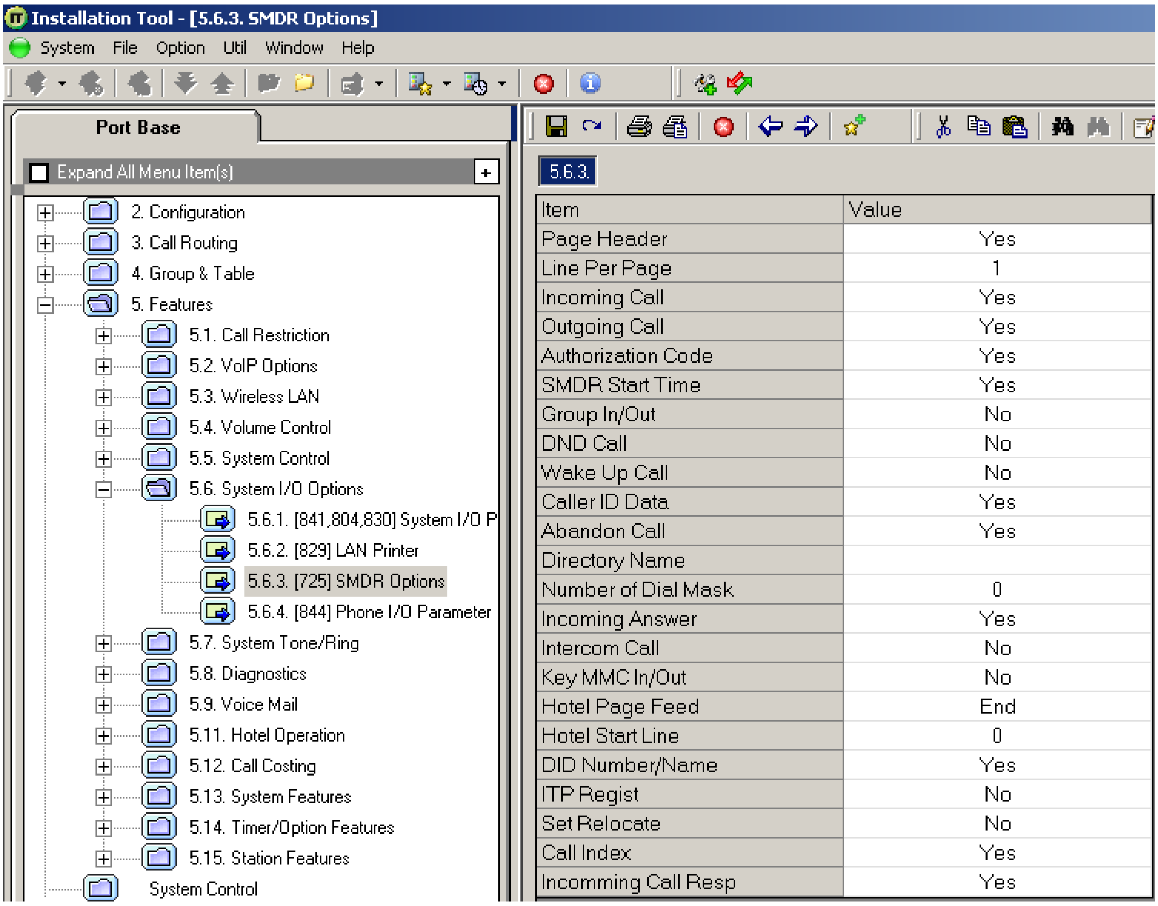
Configuring your SMDR output

Follow the instructions below to configure your Samsung iDCS phone system to output SMDR data to TIM Enterprise.

1. Log in to the Samsung Installation Tool software.
2. Click on the 5. Features option from the left-hand menu.
3. Click on the 5.6 System I/O Options tab and select 5.6.2. LAN Printer .
4. In the `LAN Printer` options, configure the entries in the `SMDR` column, as shown below:



5. Click on the Save icon to save the settings.
6. Click on the 5.6.3. SMDR Options tab and configure the following settings:

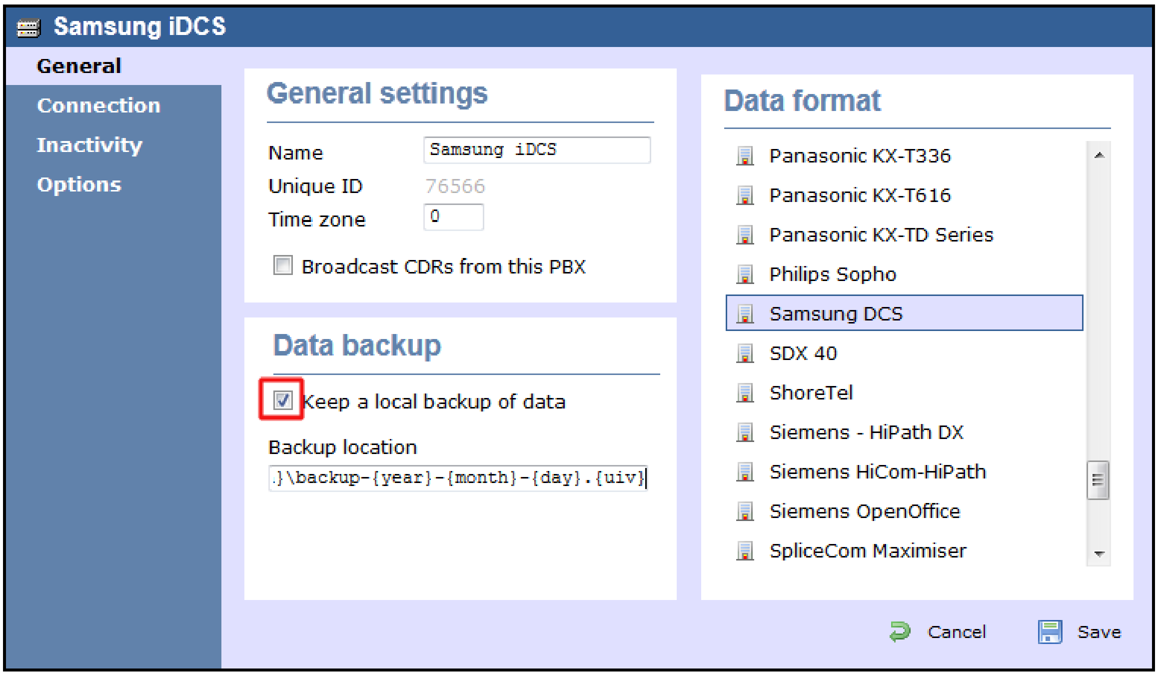


7. Click on the Save icon at the top to save the settings.

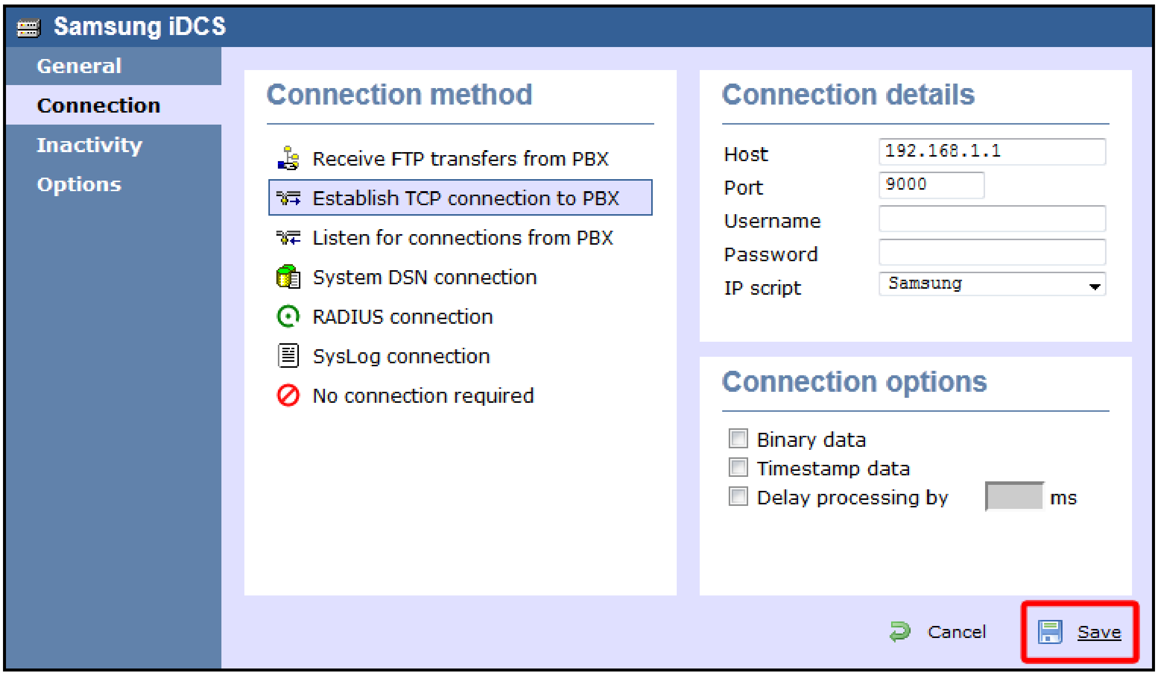
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Samsung phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Samsung DCS** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of of your Samsung iDCS.
6. In the **Port** field, enter **9000**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Samsung** from the drop-down list.
9. Click on the Save button to apply the settings.



Samsung OfficeServ

These instructions help you configure your Samsung OfficeServ phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

Samsung DCS.TDT

Samsung DCS.TDS

Required Tasks

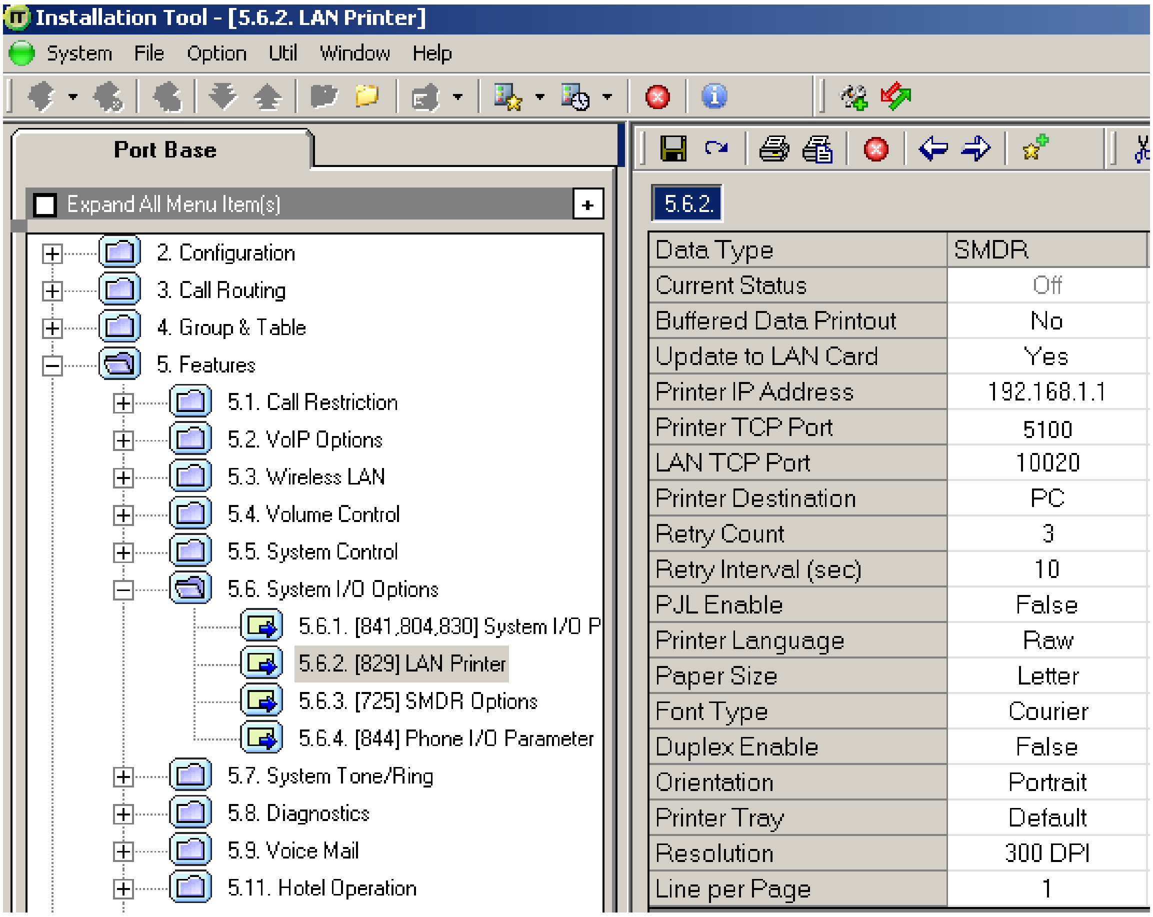
Configure the SMDR output

Configure TIM Enterprise

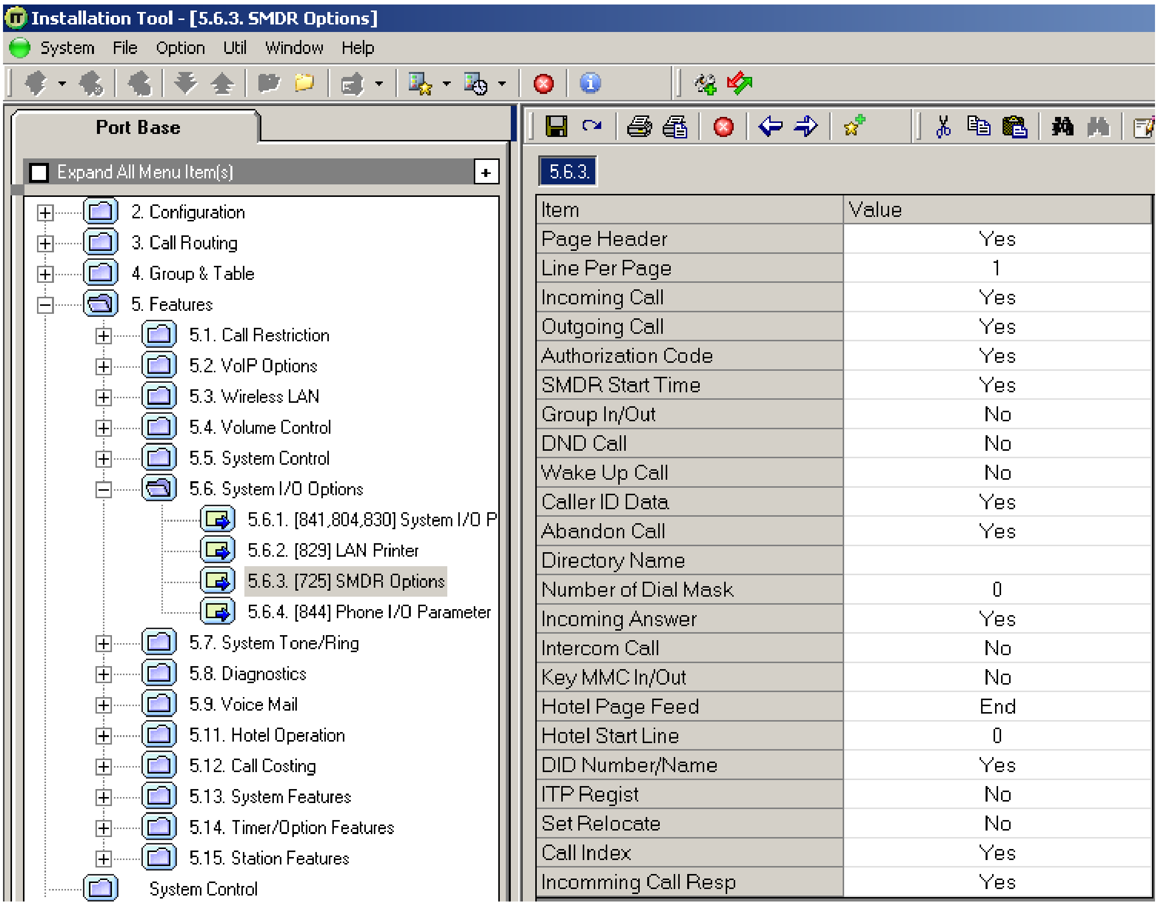
Configuring your SMDR output

Follow the instructions below to configure your Samsung OfficeServ phone system to output SMDR data to TIM Enterprise.

1. Log in to the Samsung Installation Tool software.
2. Click on the 5. Features option from the left-hand menu.
3. Click on the 5.6 System I/O Options tab and select 5.6.2. LAN Printer .
4. In the **LAN Printer** options, configure the entries in the **SMDR** column, as shown in the screenshot below, modifying the value of the **Printer IP Address** field accordingly, in order to match the IP address of the computer running TIM Enterprise.



5. Click on the **Save** icon to save the settings.
6. Click on the **5.6.3. SMDR Options** tab and configure the following settings:

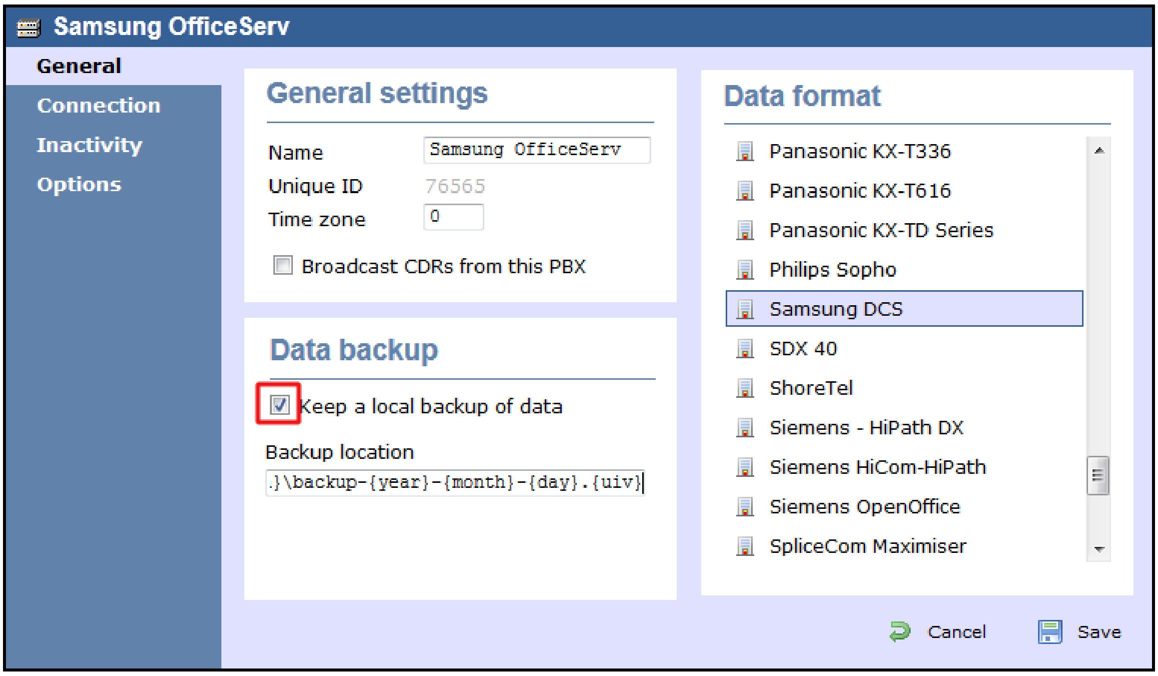


7. Click on the **Save** icon at the top to save the settings.

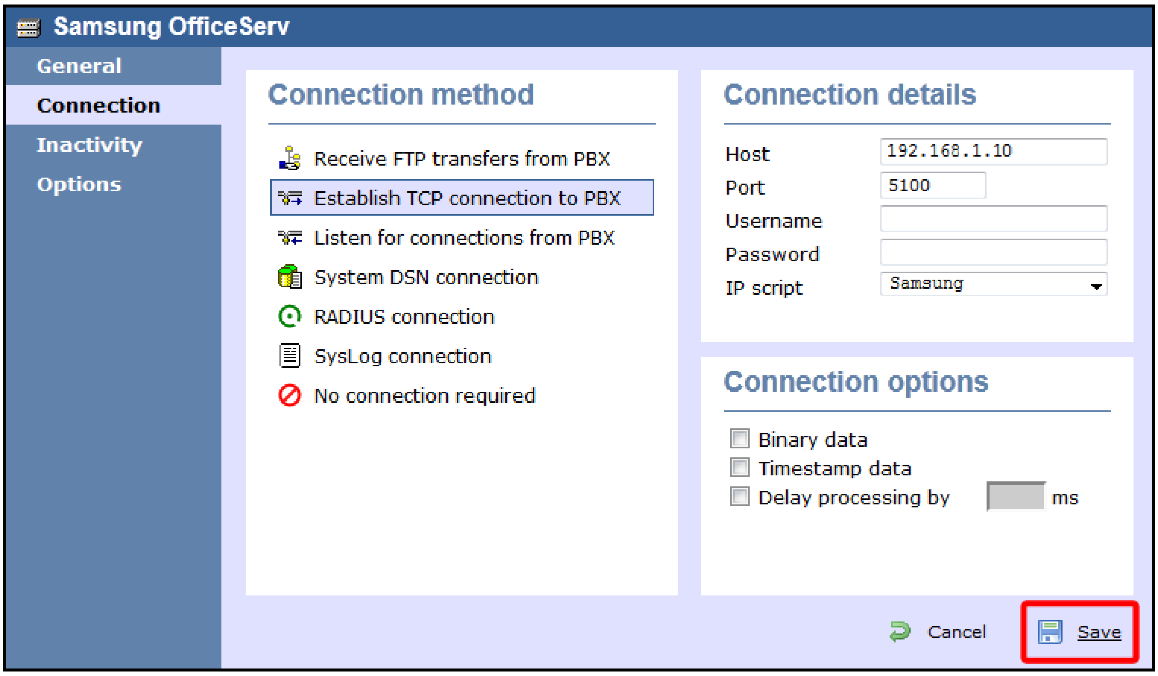
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Samsung phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Samsung DCS** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of of your Samsung OfficeServ.
6. In the **Port** field, enter **5100**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Samsung** from the drop-down list.
9. Click on the Save button to apply the settings.



ShoreTel

ShoreTel PBX

These instructions help you configure your ShoreTel phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a DSN connection with this PBX.

Support Files

ShoreTel.TDT

ShoreTel.TDS

ShoreTel.DBS

Required Tasks

Configure the SMDR output

Set up a DSN connection

Configure TIM Enterprise

Configuring your SMDR output

By default, the ShoreTel phone system writes its CDR data to a MySQL database called **ShoreWareCDR**. In order for TIM Enterprise to connect to the database and collect the call logging data, you need to create a username and password in the MySQL database on the ShoreWare Server. Contact your system maintainer if you are not familiar with this procedure.

The following information is required for TIM Enterprise to connect to the Shoretel ShoreWareCDR database:

- IP address or hostname of the ShoreWare Server where the MySQL database resides.
- Username and Password of the **ShoreWareCDR** database.

Setting up a DSN connection

To enable TIM Enterprise to work with your ShoreTel phone system, you first need to set up a DSN connection by following the steps below:

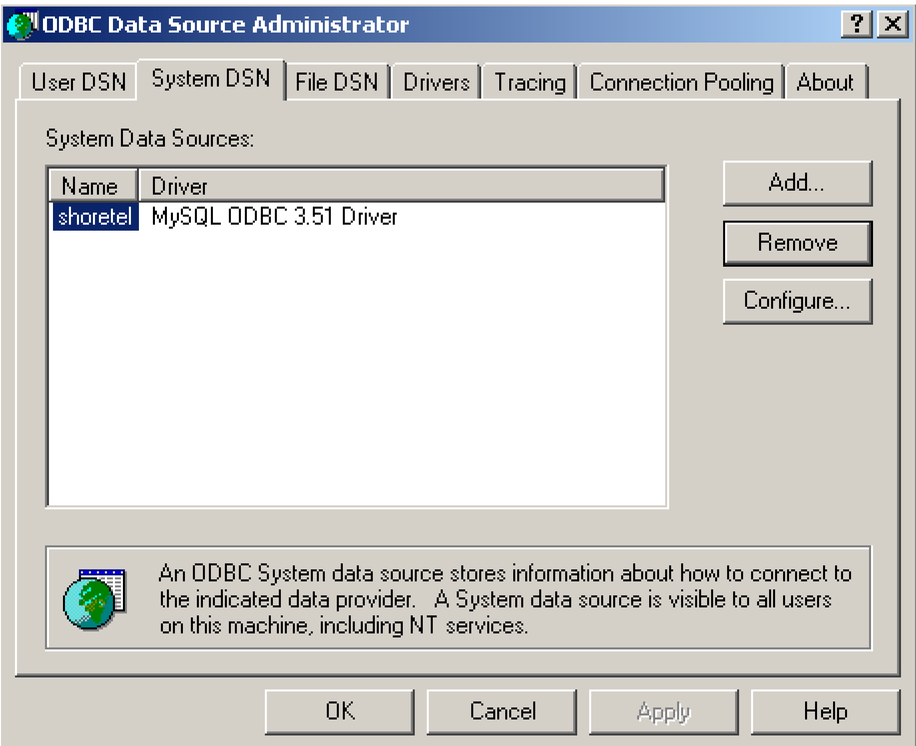
1. Open Windows Control Panel and select the **Administrative Tools** icon.

2. Double-click on the **Data Sources (ODBC)** icon to open the `ODBC Data Source Administrator` window

> For a 64 bit system, access the `ODBC Data Source Administrator` from the following location `C:\Windows\SysWOW64\odbcad32.exe`

3. Click on the **System DSN** tab.
4. Click on the **Add** button.
5. Select `MySQL ODBC 3.51 Driver` from the driver list and click **Finish**. If you cannot see the `MySQL ODBC 3.51 Driver` option in the drop-down list, you can download it from http://www.mysql.com.
6. In the `Name` field, enter `shoretel`.
7. In the `Description` field, enter `TIM Enterprise link to ShoreTel`.
8. In the `Server` field, enter the IP address or hostname of your ShoreWare Server.
9. In the `Username` field, enter the username for your ShoreWareCDR database.
10. In the `Password` field, enter the password for your ShoreWareCDR database.
11. In the `Database` drop-down list, select `ShoreWareCDR`.
12. Click on the **Test** button to confirm the information you entered is correct and that the connection is successful.
13. Click on the **OK** button to close the window.

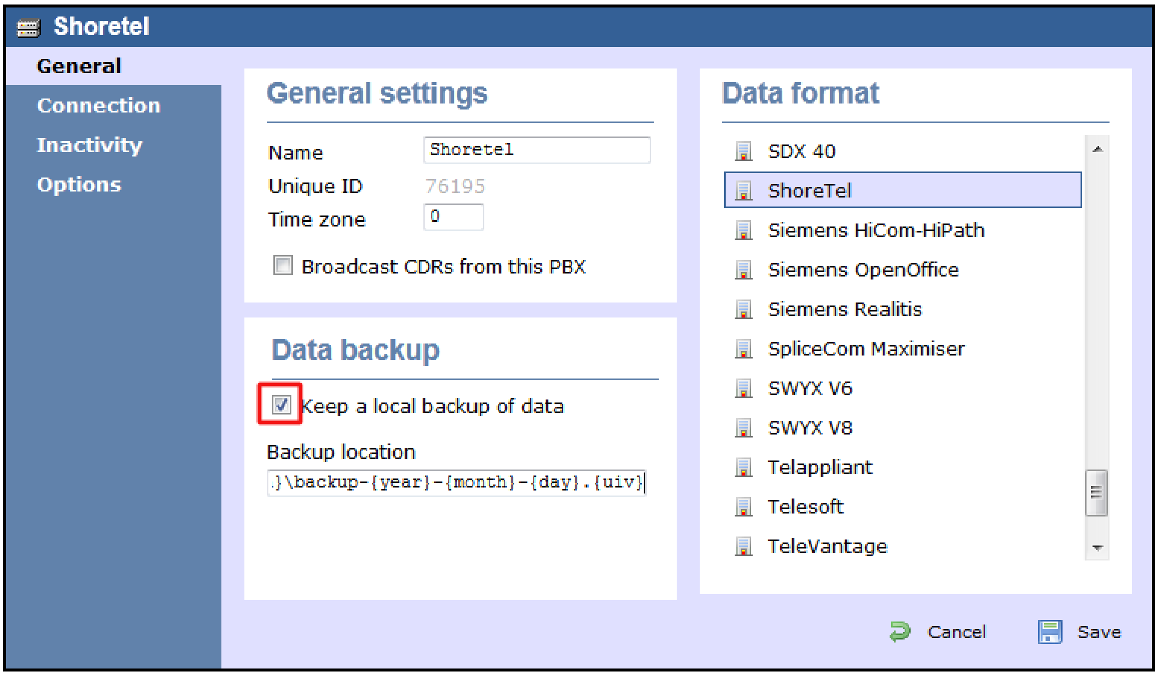
An example of an ODBC entry is shown below:



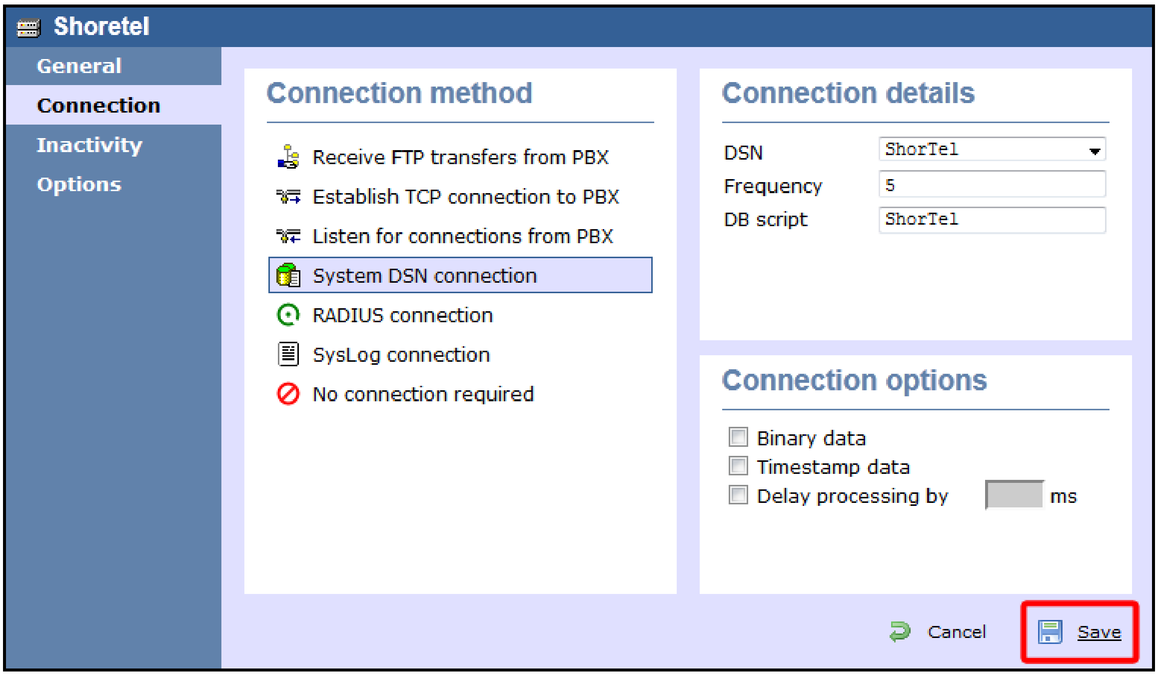
Configuring TIM Enterprise

Once the DSN connection has been set up, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open. In the General tab, select **ShoreTel** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **System DSN connection** from the **Connection method** list.
5. In the **DSN** field, select **ShoreTel** from the drop-down list.
6. In the **Frequency** field, enter **5** to check for data every five seconds.
7. In the **DB script** field, select **ShoreTel** from the drop-down list.
8. Click on the Save button to apply the settings.



Siemens

Siemens HiCom-HiPath

The Siemens HiCom/HiPath can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

Siemens HiCom/HiPath - Serial connection

These instructions help you configure your Siemens HiCom/HiPath phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Siemens HiCom-HiPath.TDT`

`Siemens.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

When configuring your Siemens HiCom/HiPath phone system to send SMDR data via a serial connection, you need to directly connect a serial cable from the Siemens HiCom/HiPath phone system to the PC that NetPBX is installed and running on.

For more information about the output and configuration of your SMDR data, please contact your system maintainer.

Installing NetPBX

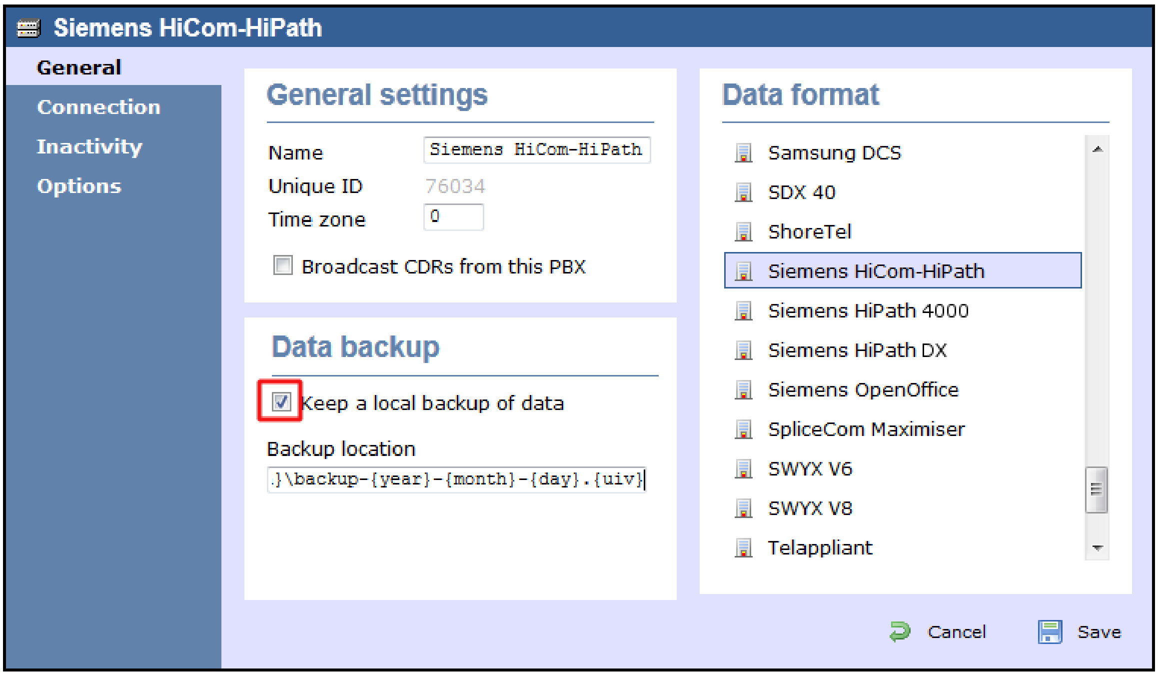
To collect call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

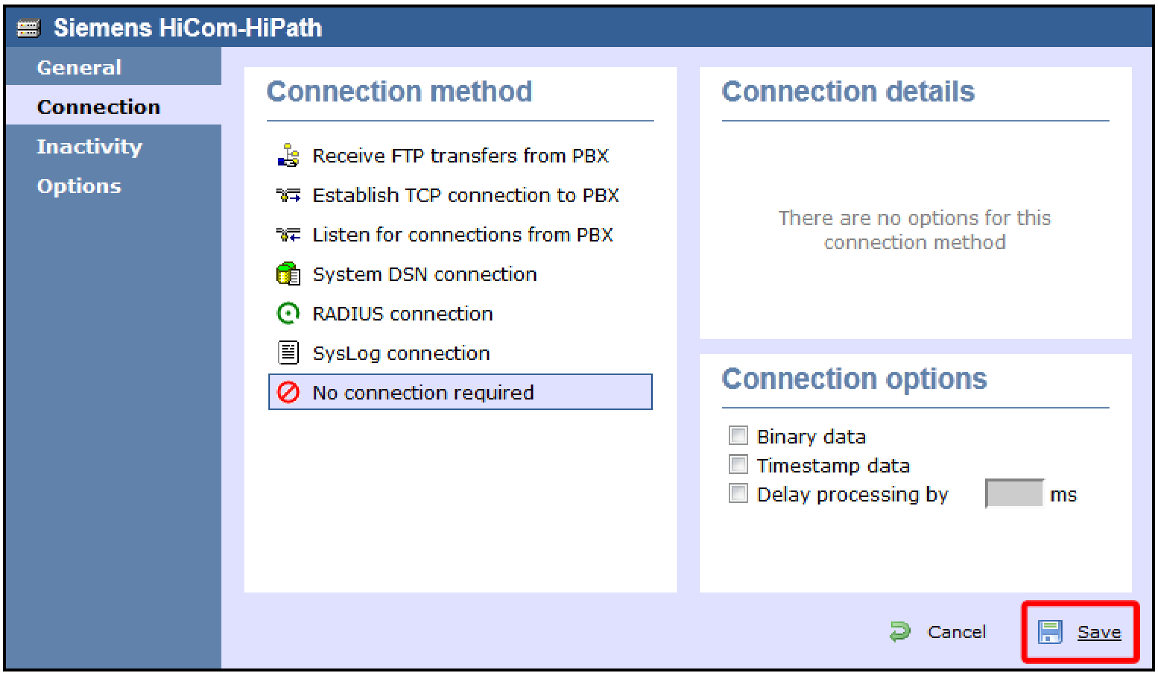
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Siemens HiCom-HiPath`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab, select **`No connection required`** from the **`Connection method`** list.
5. Click on the Save button to apply the settings.



Siemens HiCom/HiPath - IP connection

These instructions help you configure your Siemens HiCom/HiPath phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

Siemens HiCom-HiPath.TDT

Siemens.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

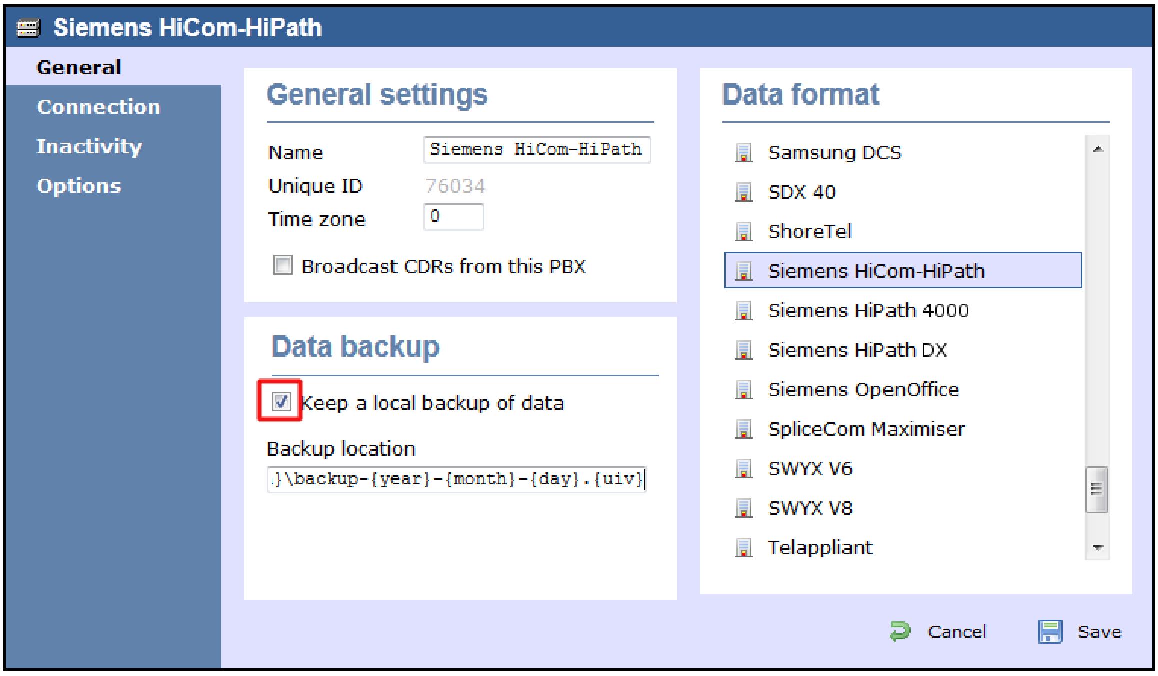
Configuring your SMDR output

By default, the SMDR output of a Siemens HiCom/HiPath phone system is not enabled. Contact your system maintainer for information about how to configure the SMDR output for incoming, outgoing and internal calls.

Configuring TIM Enterprise

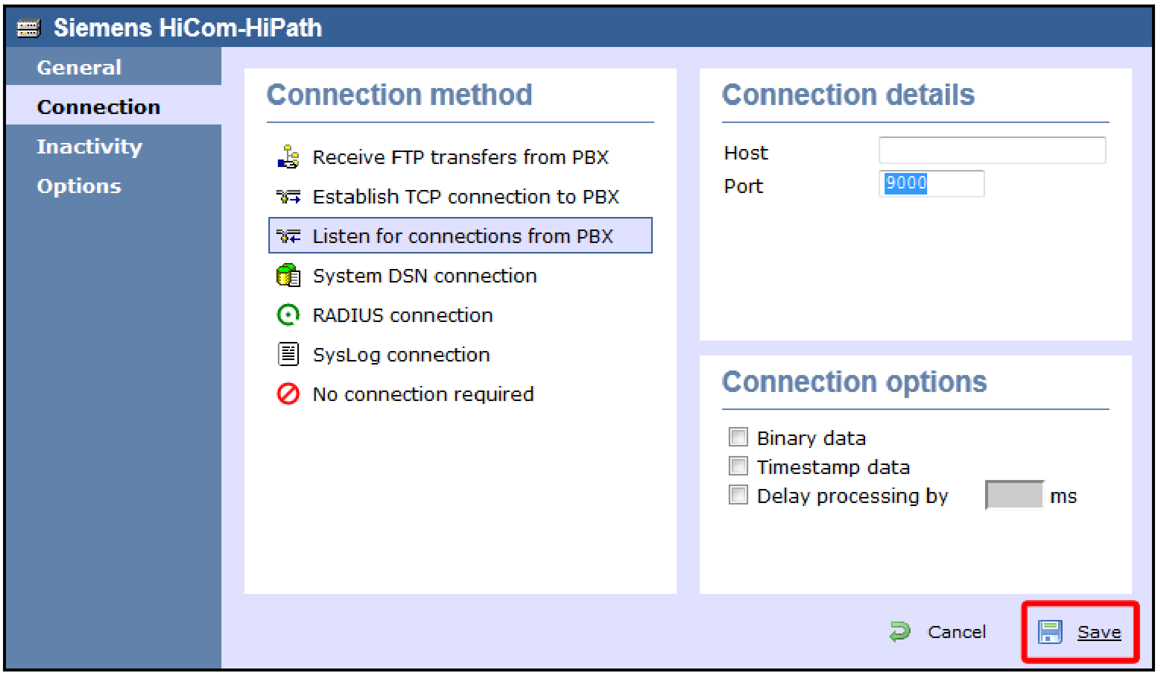
Follow the steps below to configure TIM Enterprise to listen for SMDR data from your Siemens HiCom/HiPath:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Siemens HiCom-HiPath`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Listen for connections from PBX`** from the `Connection method` list.
5. Leave the `Host` field blank.

6. In the **Port** field, enter **9000**.
7. Click on the **Save** button to apply the settings.



Siemens OpenOffice

These instructions help you configure your Siemens OpenOffice phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a DSN connection with this PBX.

Support Files

- **Siemens OpenOffice.TDT**
- **Siemens.TDS**
- **Siemens.DBS**

Required Tasks

- Configure the SMDR output
- Set up a DSN connection
- Configure the interface file
- Configure TIM Enterprise

Configuring your SMDR output

By default, the SMDR output of a Siemens OpenOffice phone system is not enabled. For information about how to configure the output for incoming, outgoing and internal calls, contact your system maintainer.

Setting up a DSN connection

To enable TIM Enterprise to work with the Siemens OpenOffice, you first need to set up a DSN connection, by following the steps below:

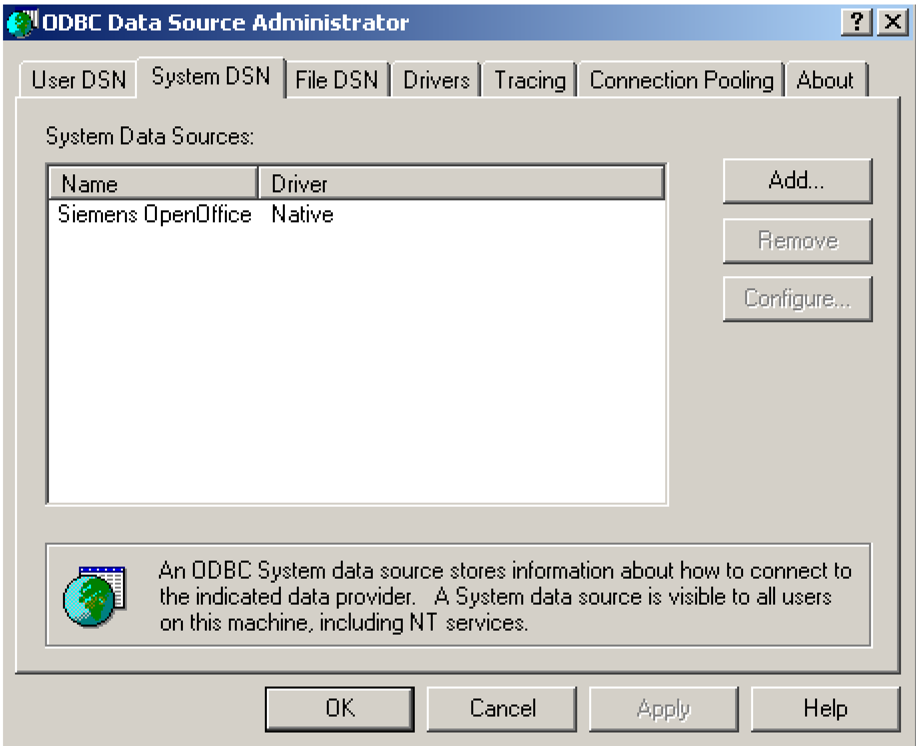
1. Open Windows Control Panel
2. Double-click on the **Administrative tools** icon

3. Double-click on the Data Sources (ODBC) icon to open the **ODBC Data Source Administrator** window

For a 64 bit system, access the **ODBC Data Source Administrator** from the following location **C:\Windows\SysWOW64\odbcad32.exe**

4. Click on the System DSN tab
5. Click on the Add button
6. Select **Native** from the driver list and click Finish
7. In the **Data source name** field enter **Siemens OpenOffice**
8. Click on the OK button to save the changes

An example of an ODBC entry is shown below:



Configuring the interface file

Follow the steps below to configure the interface file to establish an HTTPS connection with your Siemens OpenOffice:

1. Open the **Siemens OpenOffice.TDT** file, located by default in **C:\Program Files (x86)\Tri-Line\TIM Enterprise\config**.
2. Edit the file to point to the IP address of your Siemens OpenOffice and enter the relevant username and password, as shown below.

```
'Siemens OpenOffice
'
' When using the https connection method, add the following to the main.cfg in the [Options] section
' GhostFile = data.pbx
' FileScoutInterval = 10

Type = SCRIPT

[Options]

ScriptFile = Siemens.tds

' Options, None, Https
ConnectionType = Https

' Options, Fixed Width, Delimited
FileFormat     = Delimited

' Options, for Delimited File type
Delimiter      = |

' Options, for Https Connection
'IPAddress     = 127.0.0.1
'Username      = user
'Password      = password
BackupFile     = {app}\backup\{year}\{month}\backup-{year}{month}{day}.{sitecode}

'Access codes, comma delimited and sorted in descending length order
' defualt value is none
AccessCodes = 9

'SplitTandem = True
```

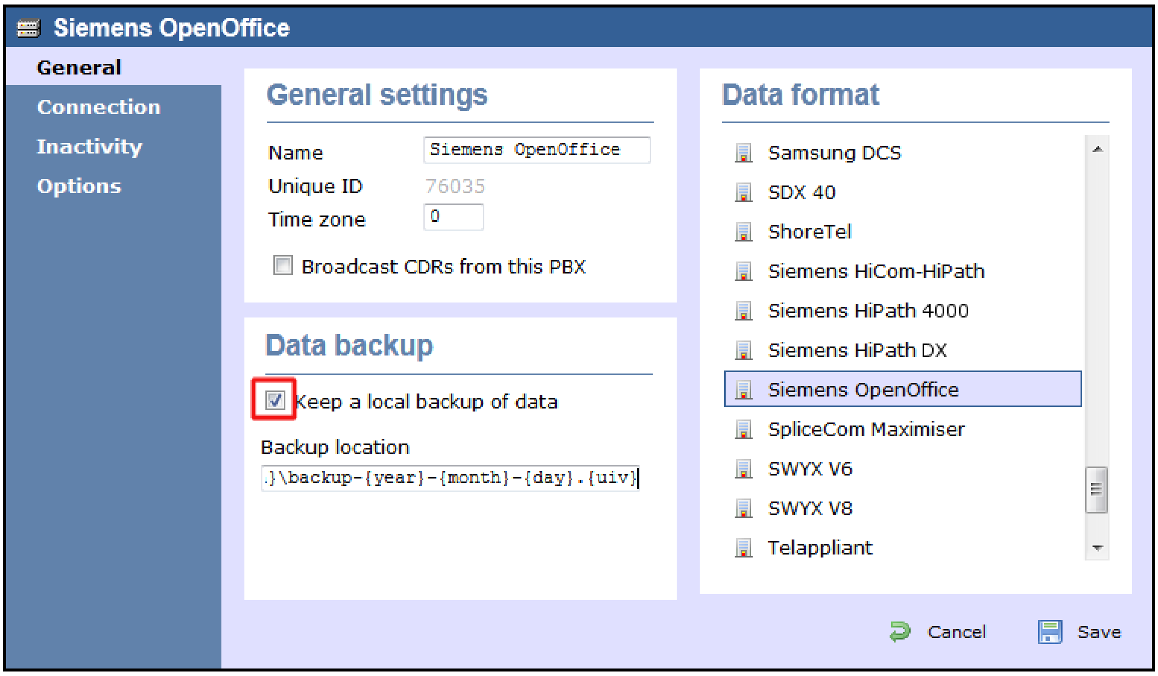
3. Remove the apostrophe (') in front of the amended fields to enable them. An example of a configured interface file is shown below:

```
'Siemens OpenOffice
'
' When using the https connection method, add the following to the main.cfg in the [Options] section
' GhostFile = data.pbx
' FileScoutInterval = 10

Type = SCRIPT

[Options]

ScriptFile = Siemens.tds

' Options, None, Https
ConnectionType = Https

' Options, Fixed Width, Delimited
FileFormat     = Delimited

' Options, for Delimited File type
Delimiter      = |

' Options, for Https Connection
IPAddress      = 192.168.1.1
Username       = Siemens
Password       = OpenOffice
BackupFile     = {app}\backup\{year}\{month}\backup-{year}{month}{day}.{sitecode}

'Access codes, comma delimited and sorted in descending length order
' defualt value is none
AccessCodes = 9

'SplitTandem = True
```

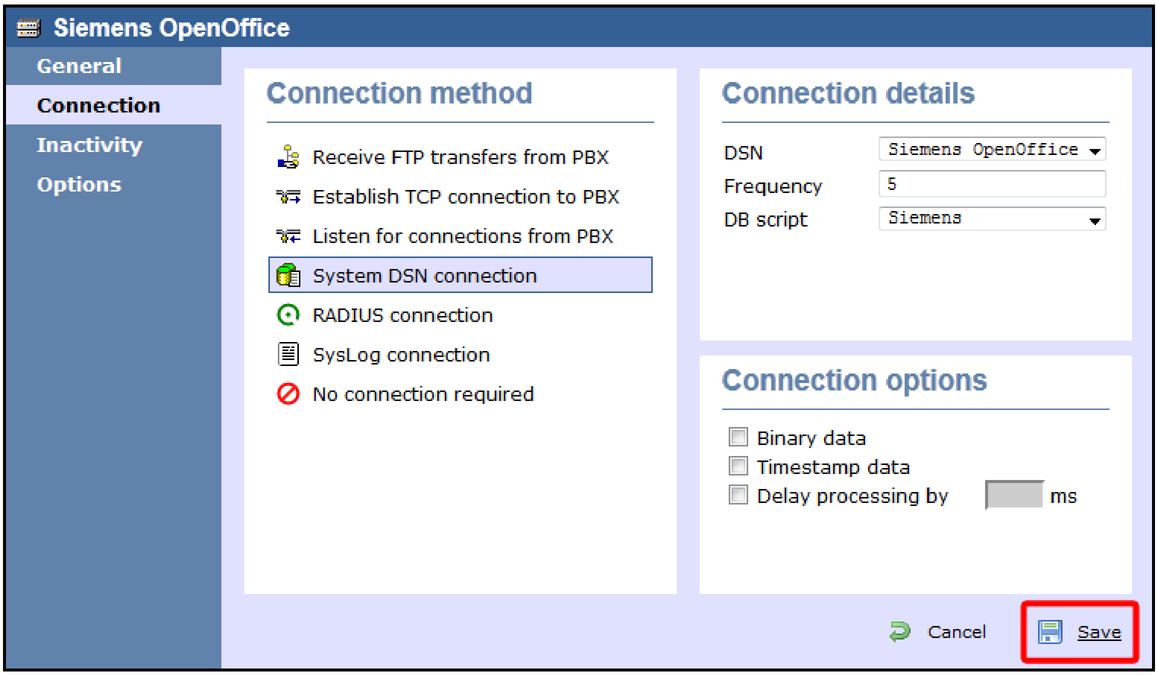
Configuring TIM Enterprise

Once the DSN connection has been set up, log in to TIM Enterprise and perform the following steps:

1. Click on the **Directory** tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Siemens OpenOffice** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the **Connection** tab and select **System DSN connection** from the **Connection method** list.
5. In the **DSN** field, select **Siemens OpenOffice** from the drop-down list.
6. In the **Frequency** field, enter **5** to check for data every five seconds.
7. In the **DB script** field, select **Siemens** from the drop-down list.
8. Click on the **Save** button to apply the settings.



Siemens HiPath 4000

These instructions help you configure your Siemens HiPath 4000 phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`Siemens HiPath 4000.TDT`

`Siemens HiPath 4000.TDS`

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

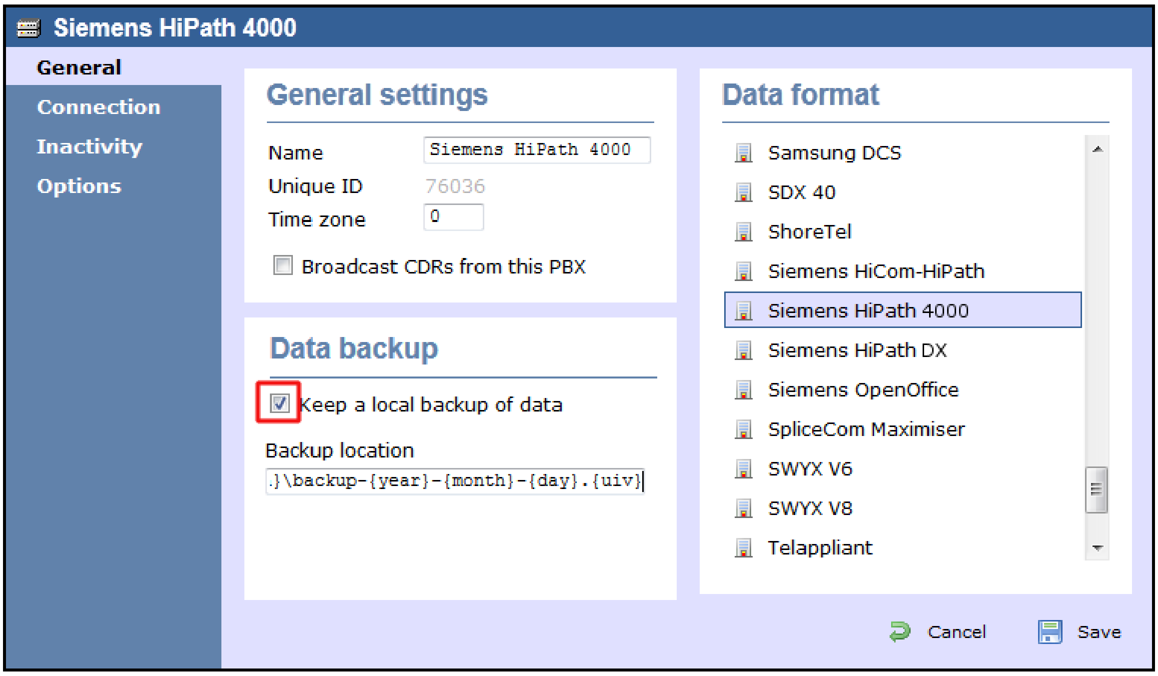
Configuring your SMDR output

By default, the SMDR output of a Siemens HiPath 4000 phone system is not enabled. For information about how to configure the output for incoming, outgoing and internal calls, contact your system maintainer.

Configuring TIM Enterprise

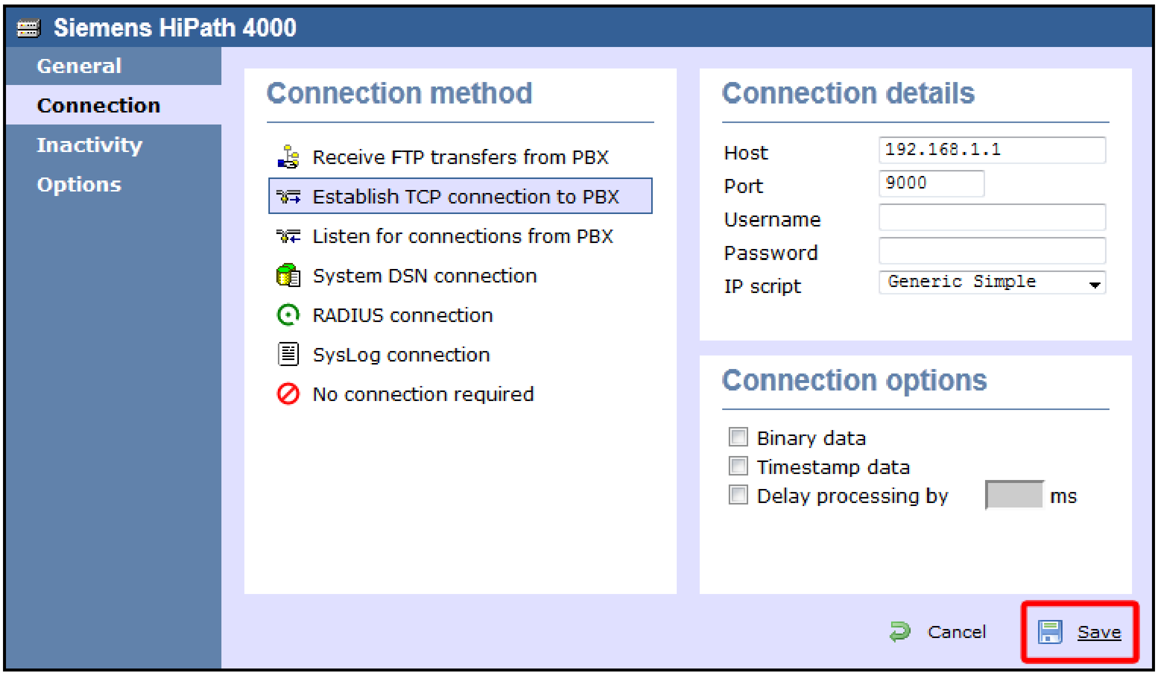
Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Siemens HiPath 4000:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Siemens HiPath 4000`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the **`Connection method`** list.
5. In the **`Host`** field, enter the IP address of your Siemens HiPath 4000.
6. In the **`Port`** field, enter **`9000`**.
7. Leave the **`Username`** and **`Password`** fields blank.
8. In the **`IP script`** field, select **`Generic Simple`** from the drop-down list.

9. Click on the Save button to apply the settings.



Siemens HiPath DX

The Siemens Realitis/HiPath DX can be configured to send its CIL output via a serial (RS232) or an IP connection. Click on the link below that relates to your preferred connection method.

Siemens Realitis/HiPath DX - Serial connection

These instructions help you configure your Siemens Realitis/HiPath DX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Siemens HiPath DX.TDT`

`Siemens HiPath DX.TDS`

Required Tasks

Configure the CIL output

Install NetPBX

Configure TIM Enterprise

Configuring your CIL output

When configuring your Siemens Realitis/Hipath DX to send its CIL information via a serial connection, you need to directly connect a serial cable from the phone system's wall box to the PC running NetPBX .

Your system maintainer needs to enable CIL output by setting it to the **`Full or unrestricted CIL`** format.

Installing NetPBX

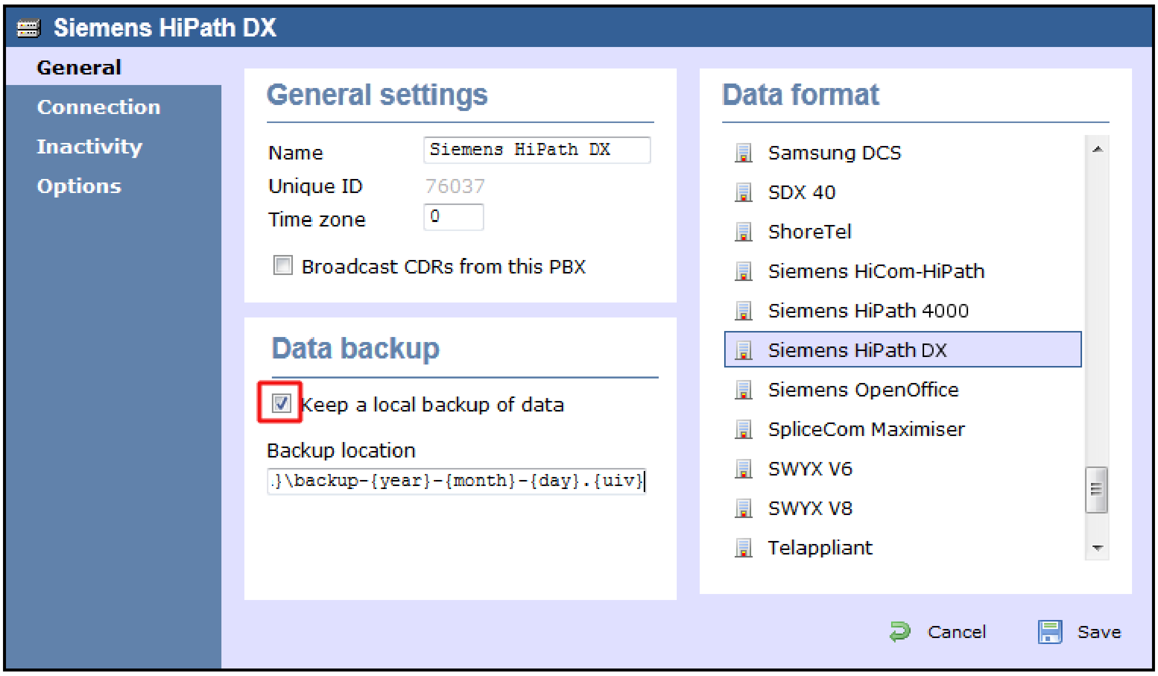
To collect call logging data from the serial port of your phone system and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

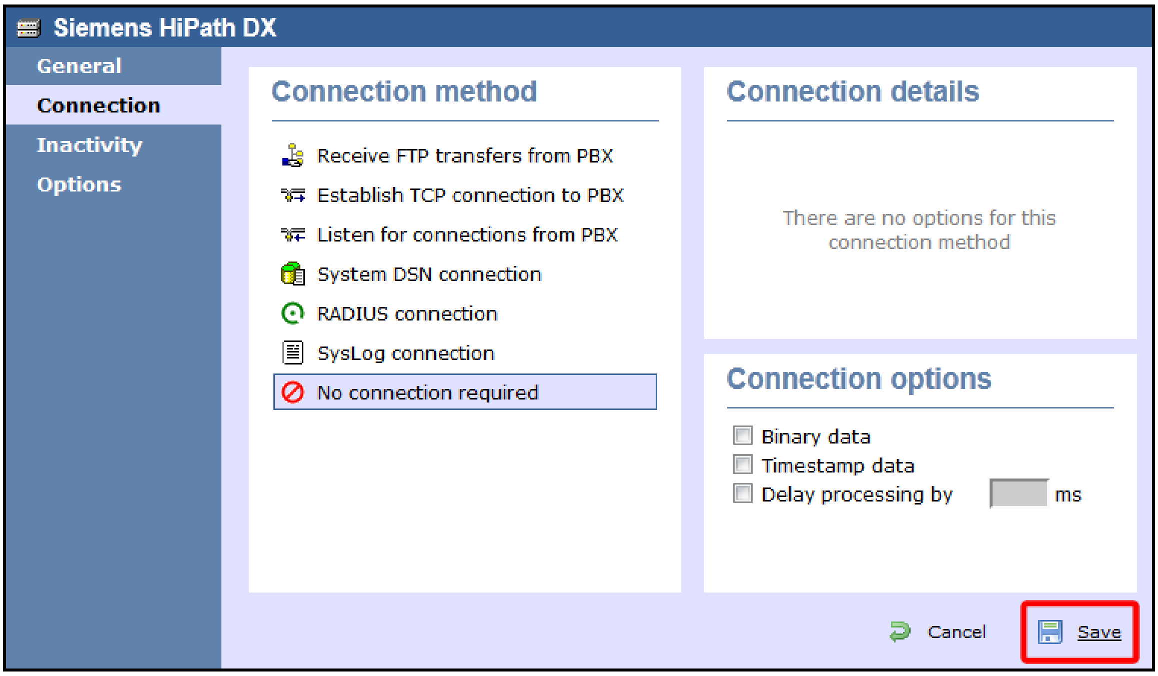
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Director, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Siemens HiPath DX** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



Siemens Realitis/HiPath DX - IP connection

These instructions help you configure your Siemens Realitis/HiPath DX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`Siemens HiPath DX.TDT`

`Siemens HiPath DX.TDS`

Required Tasks

Configure the CIL output

Configure TIM Enterprise

Configuring your CIL output

CIL access over Ethernet

In addition to CIL access over V.24 ports, all Realitis DX and iSDX systems with firmware revision 6.0 and above can send their CIL information by Ethernet. The System/UPI card - ACI - only allows a maximum of three such connections; subsequent connection requests are rejected.

To set up and activate this feature, a request must be made to Product Management at Siemens, Beeston.

Connecting to the CIL server

TIM Enterprise establishes a TCP connection to the IP address of the System/UPI card of your Siemens phone system.

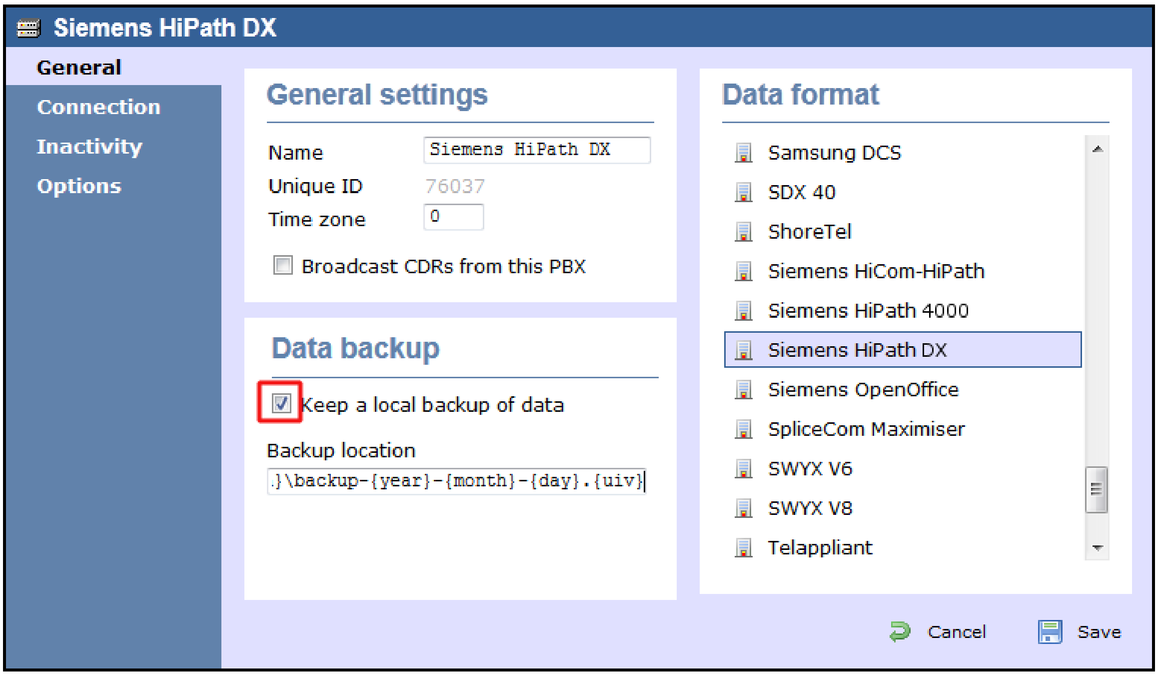
You can choose the IP address of the System/UPI card by setting the variable **`IPACT`** in the permanent database. Your local maintenance engineer should be able to program this address for you.

The default listening port is **`17257`**.

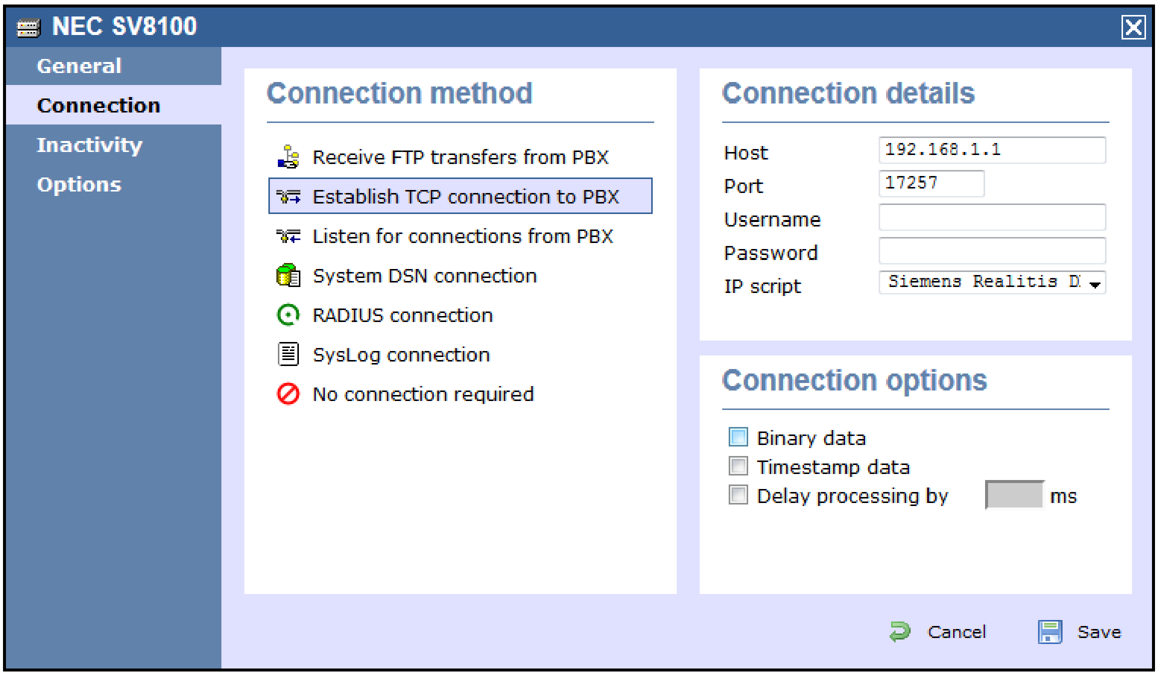
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Siemens phone system:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Siemens HiPath DX`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **Establish TCP connection to PBX** from the **Connection method** list.
5. In the **Host** field, enter the IP address of the System/UPI card of your phone system.
6. In the **Port** field, enter **17257**.
7. Leave the **Username** and **Password** fields blank.
8. In the **IP script** field, select **Siemens Realitis DX** from the drop-down list.
9. Click on the Save button to apply the settings.



SpliceCom

SpliceCom Maximiser

These instructions help you configure your Splicecom Maximiser phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a TCP connection to this PBX.

Support Files

`SpliceCom Maximiser.TDT`

`SpliceCom Maximiser.TDS`

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

Configuring the SMDR output

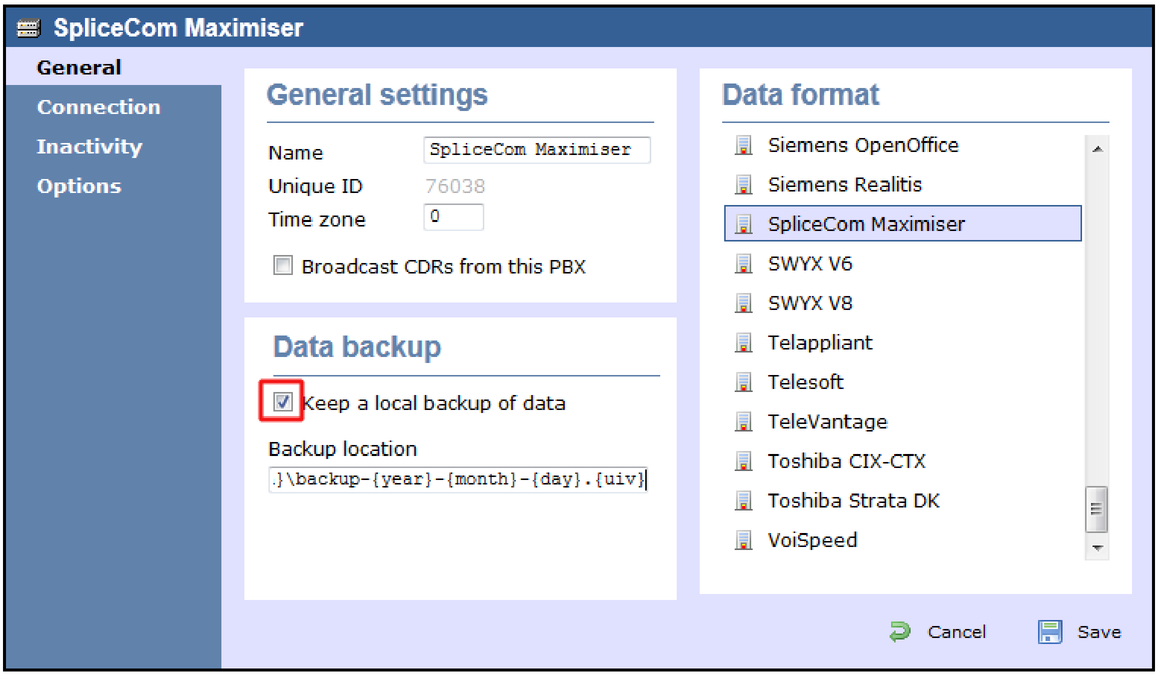
By default, the call logging output of the Splicecom Maximiser is enabled and you do not normally require a password to obtain it. To protect your call logging data, you can set a `Call Logging Password` in the `System Details` screen of your Maximiser's web management interface. If you decide to set a password, you need to enter this when configuring TIM Enterprise (below).

> Your system maintainer may have already set a call logging password for you.

Configuring TIM Enterprise

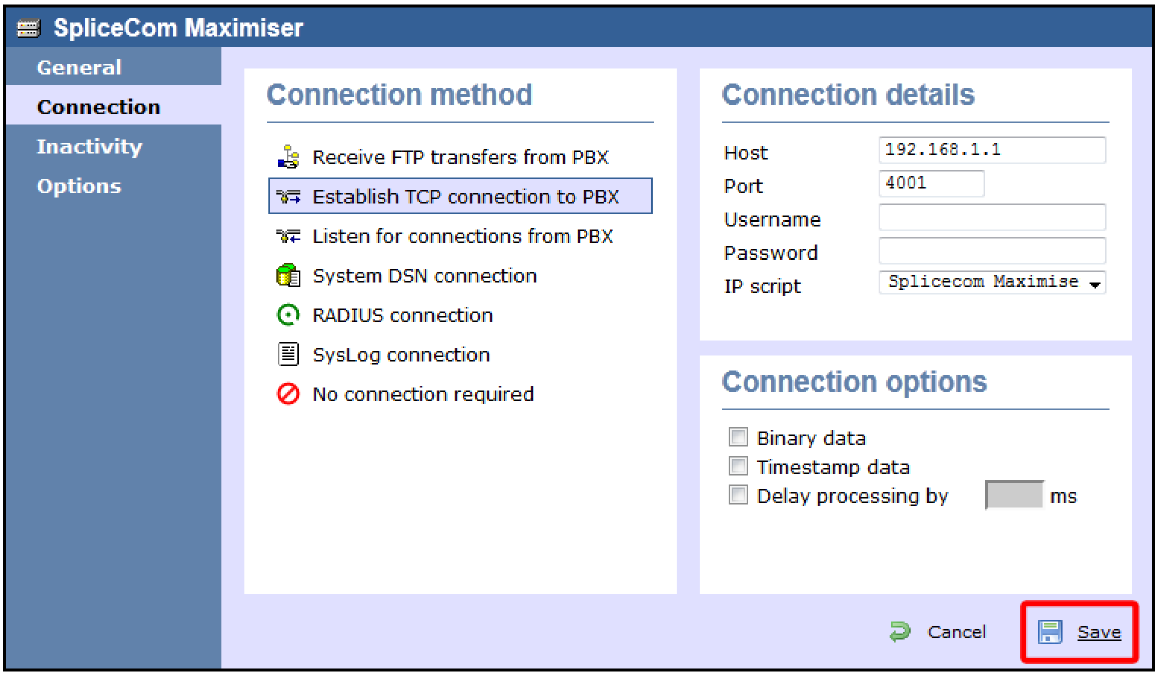
Follow the steps below to configure TIM Enterprise to collect the SMDR data from your Splicecom Maximiser:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Splicecom Maximiser`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`Establish TCP connection to PBX`** from the `Connection method` list.

5. In the **Host** field, enter the IP address of your Splicecom Maximiser.
6. In the **Port** field, enter **4001**.
7. Leave the **Username** field blank.
8. If your Maximiser has a **call logging password** set, enter it in the **Password** field; if not, leave it blank.
9. In the **IP script** field, select **Splicecom Maximiser** from the drop-down list.
10. Click on the Save button to apply the settings.



Swyx

SwyxWare

These instructions help you configure your SwyxWare phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

SwyxWare outputs the SMDR data to a file

Support Files

SWYX V6.TDT

SWYX V6.TDS

Required Tasks

Configure the SMDR output

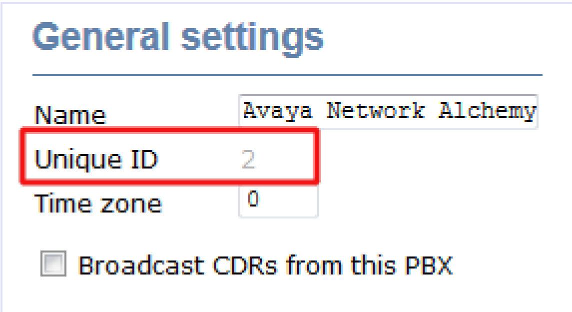
Configure TIM Enterprise

Configuring your SMDR output

Follow the steps below to configure the SwyxWare to output SMDR data to a file in a specific location:

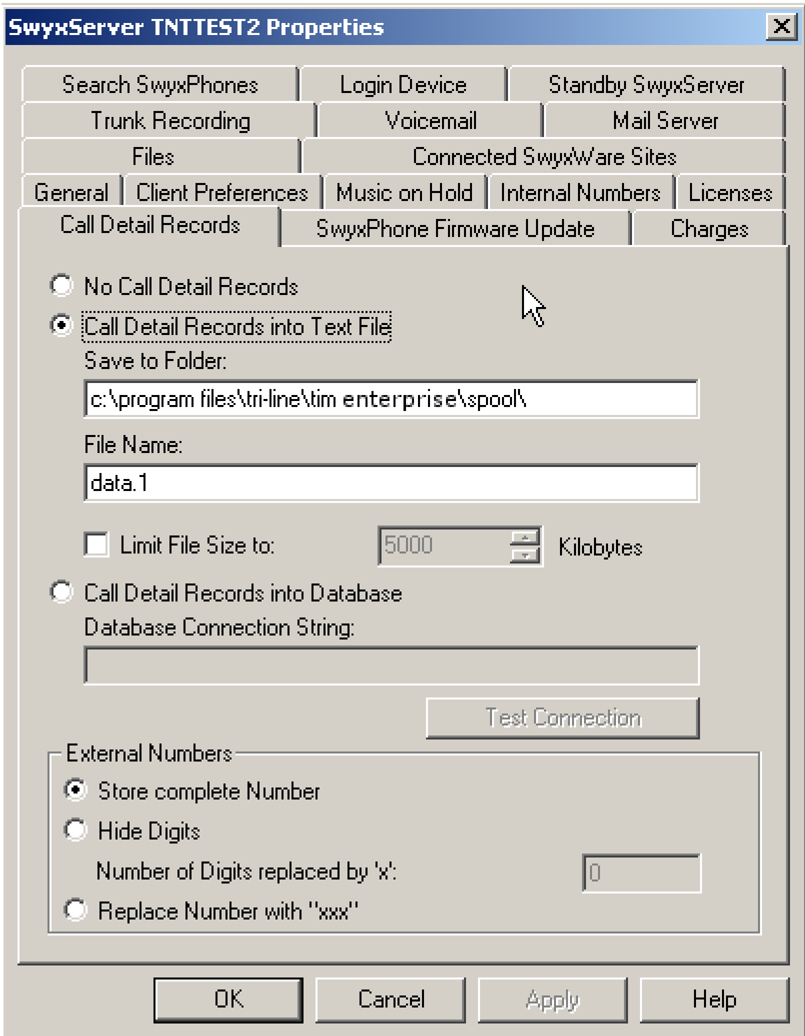
1. Log in to your SwyxWare Administration Tool.
2. Right-click on the Swyx server you want to configure and click on the Properties button.

3. In the **Properties** window, click on the Call Detail Records tab.
4. Click on the **Call Detail Records into Text File** radio button.
5. In the **Save to Folder** field, enter **\program files\tri-line\tim Enterprise\spool**. If you are using a mapped drive enter the driver letter.
6. In the **File Name** field, enter **data.{sitecode}**, replacing **{sitecode}** with the ID of the site you are logging. The site ID is displayed in the general properties of the site object, in the **Unique ID** field, as shown below:



7. Click on the OK button and close the SwyxWare Administration Tool.

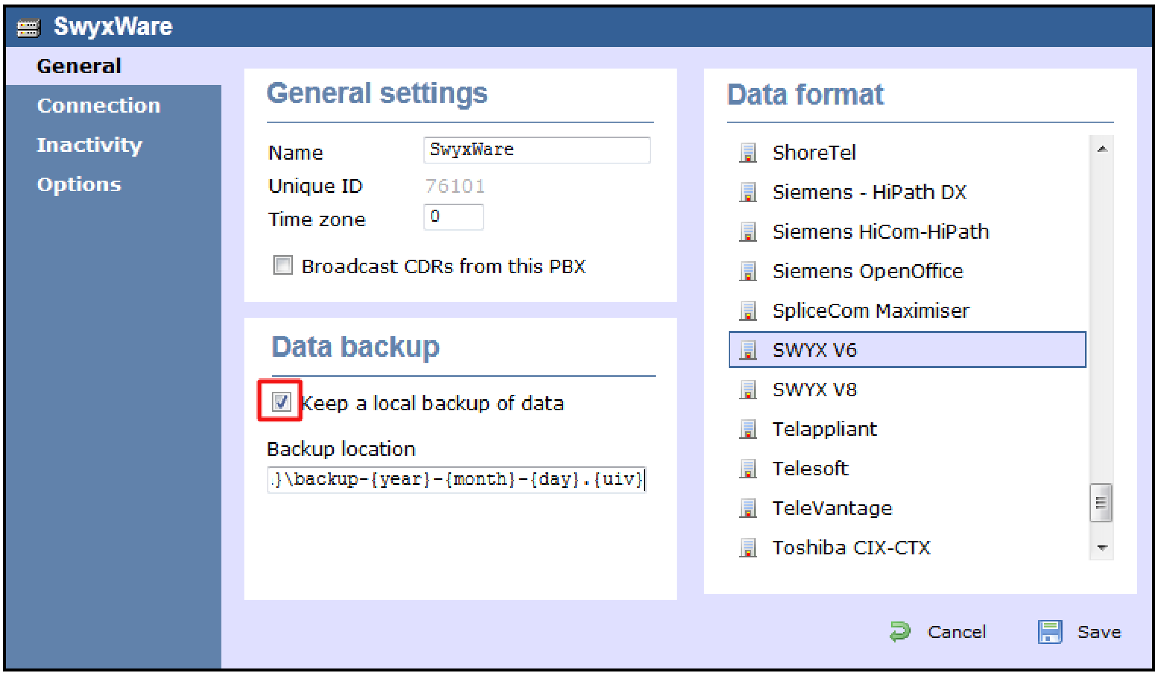
Here is an example of the SwyxWare Administration properties window:



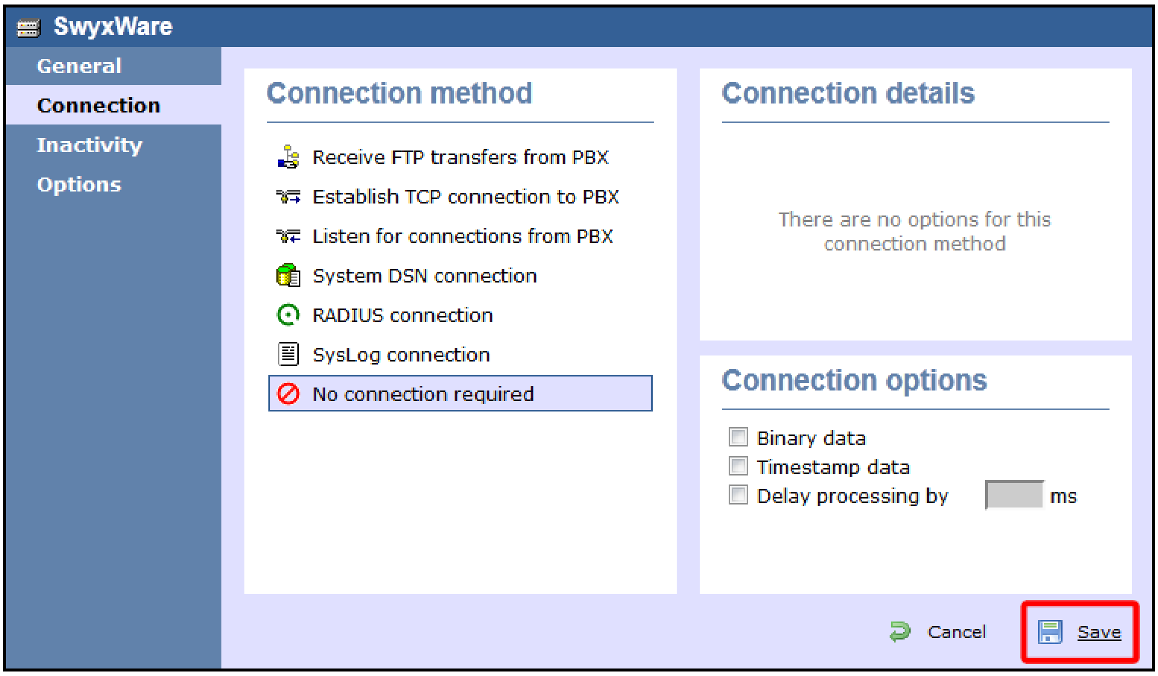
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to receive SMDR data from your SwyxWare:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`SWYX V6`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Tadiran

Coral

These instructions help you configure your Coral Flexicom phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Coral Flexicom 200.TDT

Required Tasks

Configure the SMDR output

Install NetPBX

Configure TIM Enterprise

Configuring your SMDR output

The Coral Flexicom phone system sends its SMDR data via a serial connection. You need to directly connect a serial cable from the phone system to the PC that NetPBX is installed and running on.

For more information about the output and configuration of your SMDR data, contact your system maintainer.

Installing NetPBX

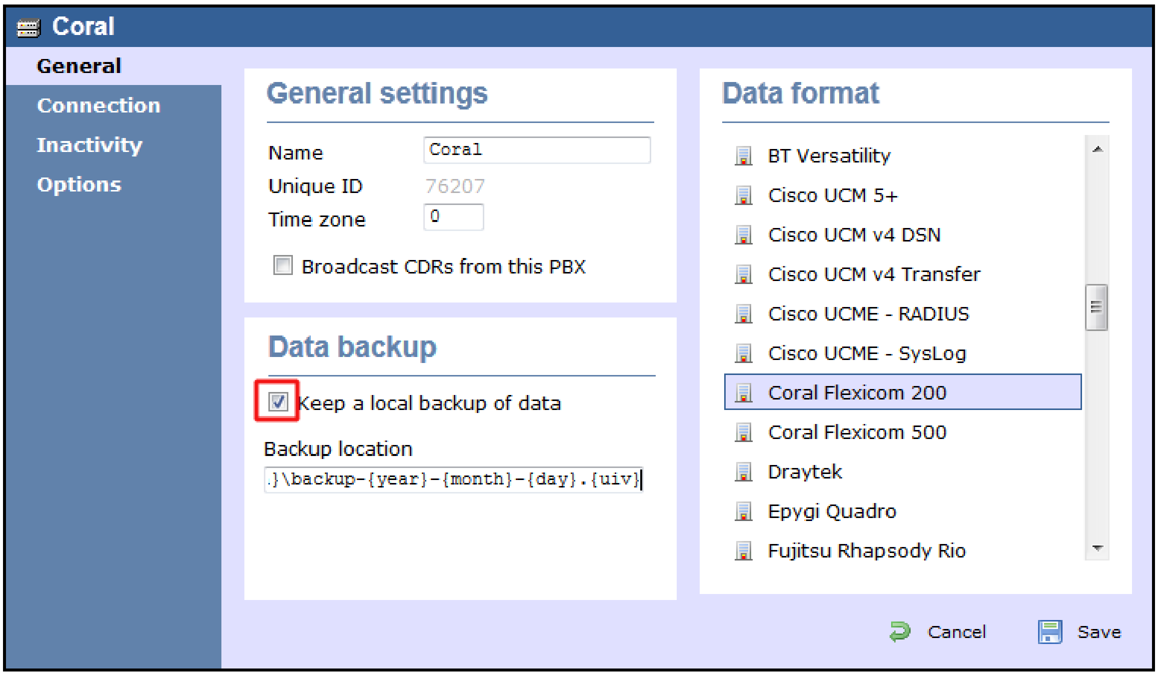
To collect call logging data from the serial port and send it to TIM Enterprise, you need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

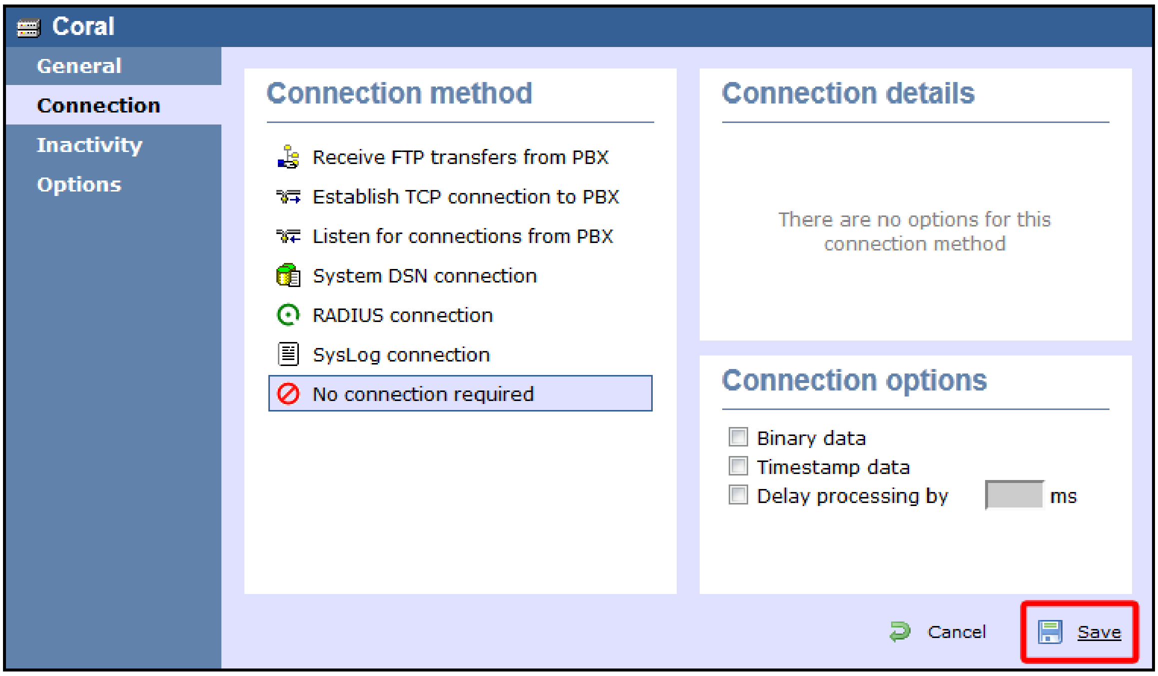
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Coral Flexicom 200** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. In the Connection tab, select **No connection required** from the **Connection method** list.

5. Click on the Save button to apply the settings.



Toshiba

Toshiba CIX/CTX

The Toshiba CIX/CTX can be configured to send its SMDR data over a serial (RS232) or an IP connection. Click on one of the links below that relates to your preferred connection method.

Toshiba CIX/CTX - Serial connection

These instructions help you configure your Toshiba CIX/CTX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

Toshiba CIX-CTX.TDT

Toshiba CIX-CTX.TDS

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

When configuring your Toshiba CIX/CTX phone system to output its SMDR data via a serial connection, you need to directly connect a serial cable from the phone system to the PC running NetPBX.

For more information about the output and configuration of your SMDR data, contact your system maintainer.

Installing NetPBX

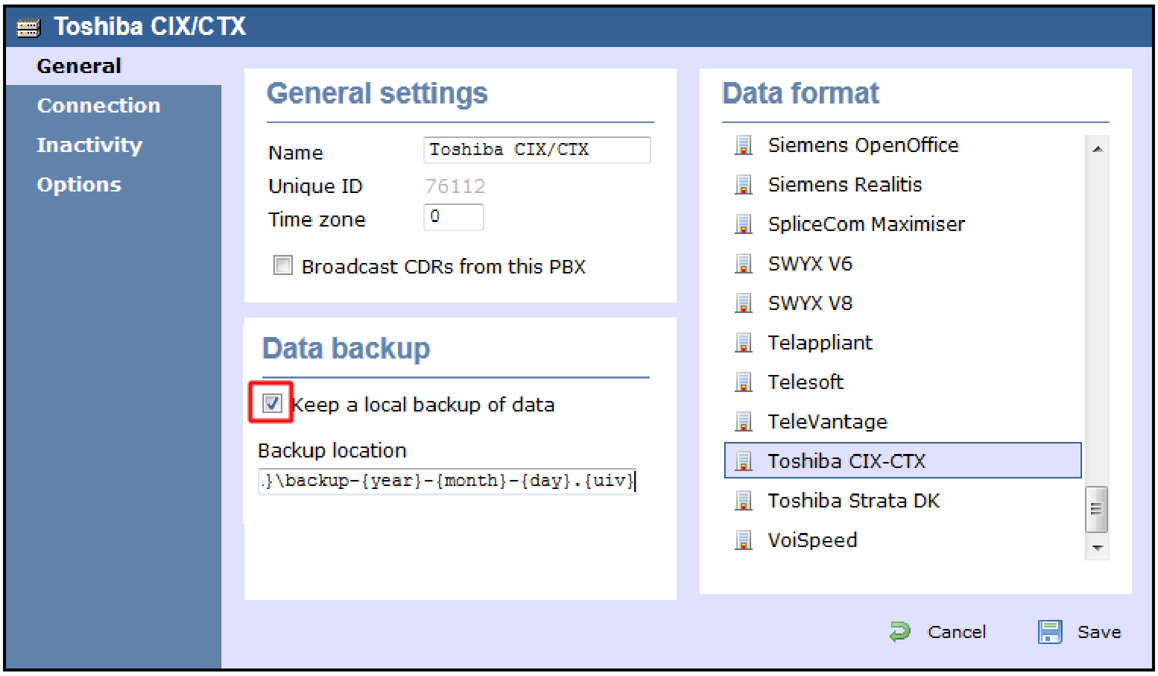
To collect call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

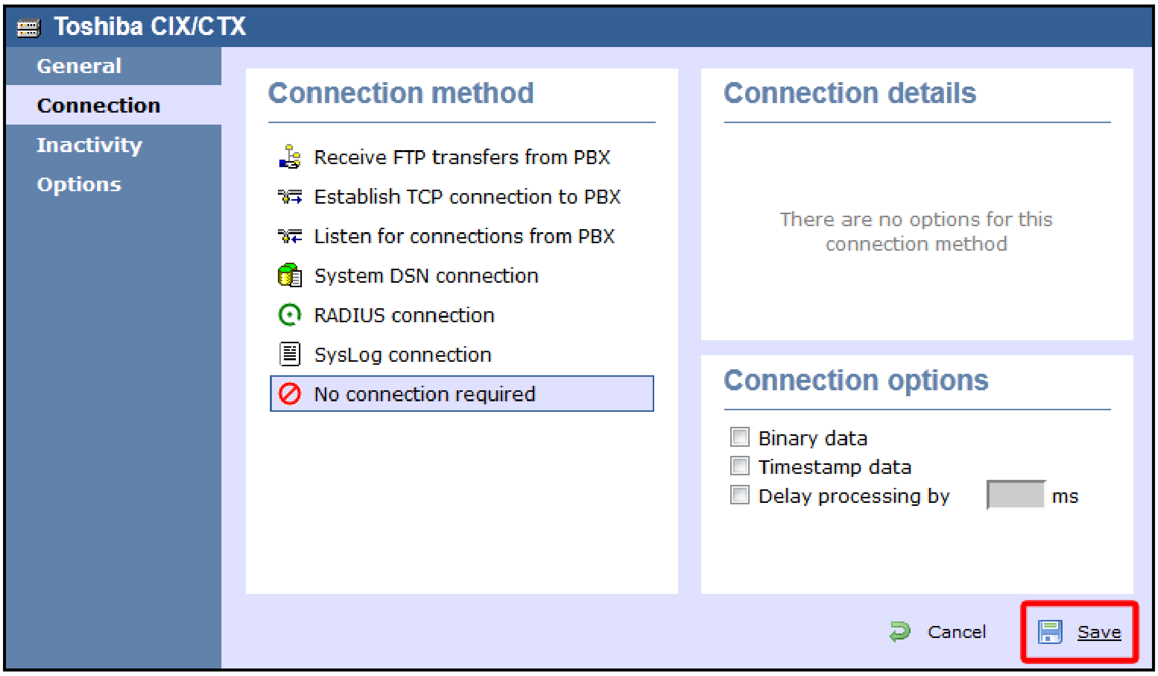
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select `Properties`.
3. A new window will open, displaying the general properties of your PBX object. Select **`Toshiba CIX-CTX`** from the `Data format` list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select **`No connection required`** from the `Connection method` list.
5. Click on the Save button to apply the settings.



Toshiba CIX/CTX - IP connection

These instructions help you configure your Toshiba CIX/CTX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise listens for connections from this PBX.

Support Files

Toshiba CIX-CTX.TDT

Toshiba CIX-CTX.TDS

Required Tasks

Configure the SMDR output

Configure TIM Enterprise

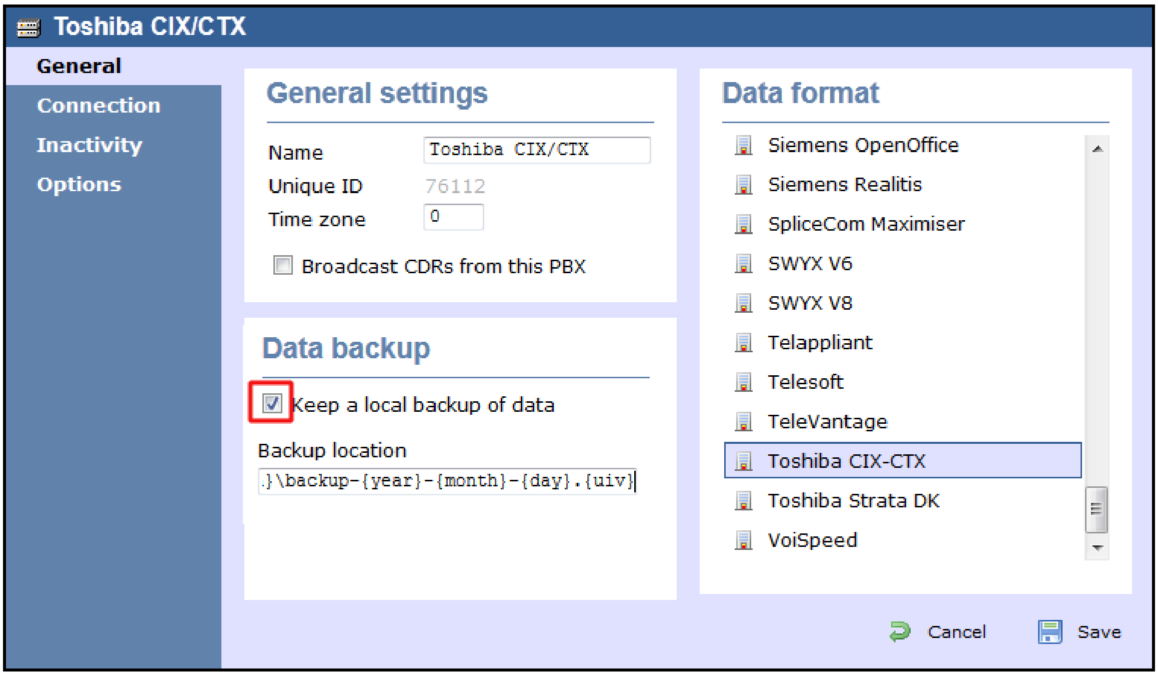
Configuring your SMDR output

By default, the SMDR output of your Toshiba CIX/CTX is not enabled. Contact your system maintainer to enable call logging output for incoming, outgoing and internal calls.

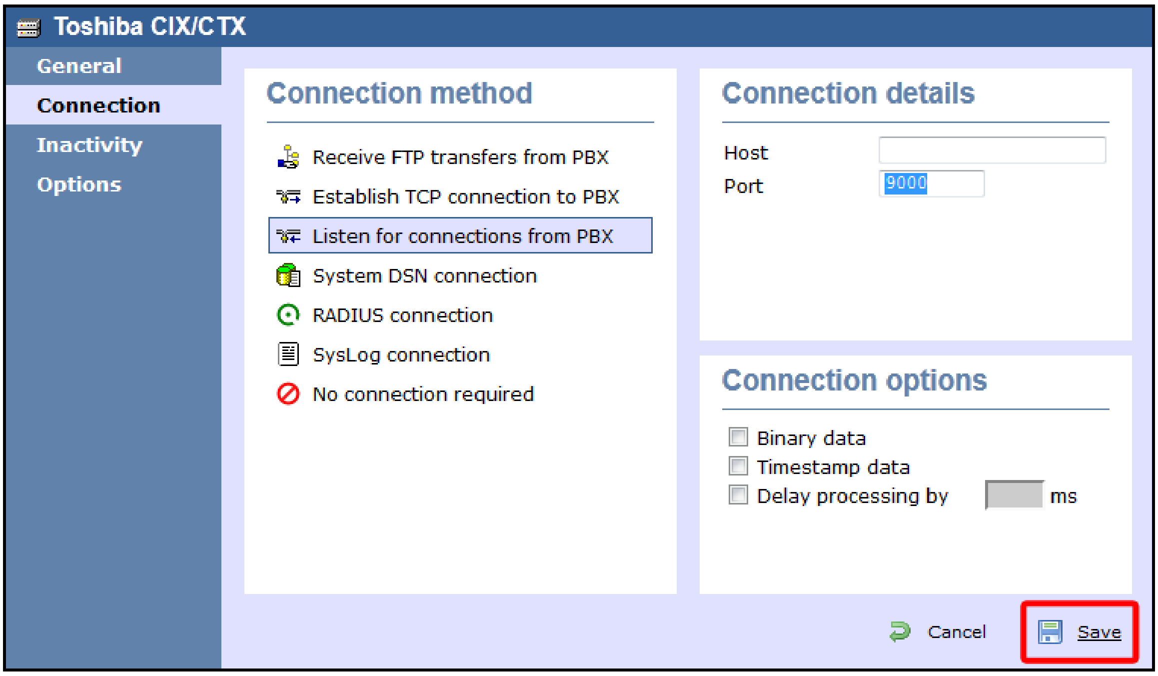
Configuring TIM Enterprise

Follow the steps below to configure TIM Enterprise to listen for SMDR data from your Toshiba CIX/CTX:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **Toshiba CIX-CTX** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



4. Click on the Connection tab and select **`Listen for connections from PBX`** from the `Connection method` list.
5. Leave the `Host` field blank.
6. In the `Port` field, enter **`9000`**.
7. Click on the Save button to apply the settings.



Toshiba Strata DK

These instructions help you configure your Toshiba Strata DK phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

TIM Enterprise establishes a serial connection with this PBX.

Support Files

`Toshiba Strata DK.TDT`

`Toshiba Strata DK.TDS`

Required Tasks

- Configure the SMDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your SMDR output

The Toshiba Strata DK phone system sends SMDR information via a serial connection when it is fitted with a Small Options Card. You need to directly connect a serial cable from the phone system to the PC that NetPBX is installed and running on.

For more information about the output and configuration of your SMDR data, contact your system maintainer.

Installing NetPBX

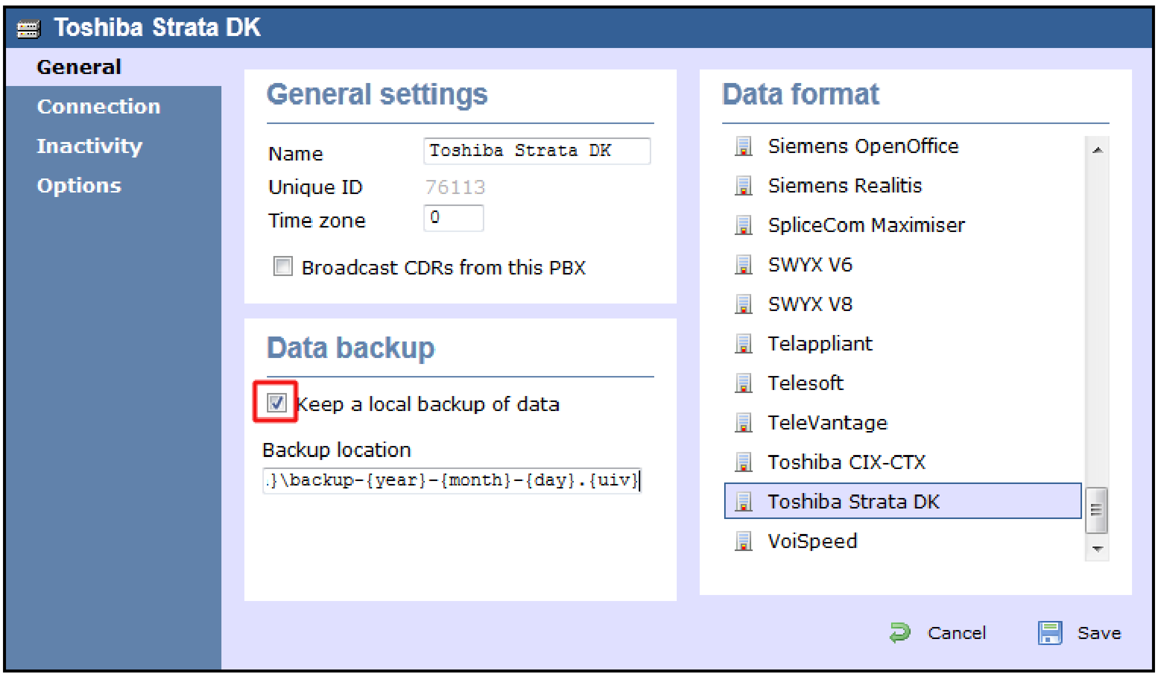
To collect call logging data from the serial port and send it to TIM Enterprise, you first need to install the NetPBX software. For setup instructions, click on the link below:

Install and configure NetPBX

Configuring TIM Enterprise

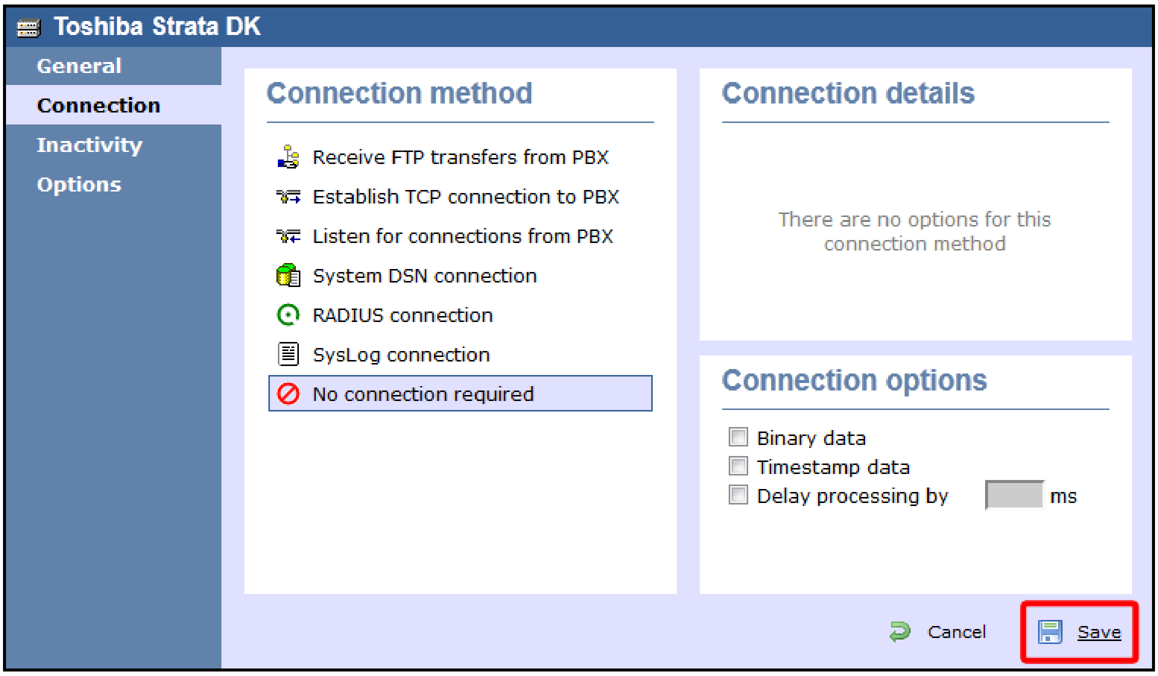
Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **`Properties`**.
3. A new window will open, displaying the general properties of your PBX object. Select **`Toshiba Strata DK`** from the **`Data format`** list and tick the **`Keep a local backup of data`** box, as shown below:



4. Click on the Connection tab and select `No connection required` from the `Connection method` list.

5. Click on the Save button to apply the settings.



VoiSpeed

VoiSpeed PBX

These instructions help you configure your VoiSpeed PBX phone system to work with TIM Enterprise. Contact your system maintainer if you are not familiar with the configuration of your PBX.

Connection Type

VoiSpeed PBX outputs the SMDR data to a file

Support Files

`VoiSpeed.TDT`

Required Tasks

- Configure the CDR output
- Install NetPBX
- Configure TIM Enterprise

Configuring your CDR output

The VoiSpeed phone system outputs its CDR data to a file. To configure the output, contact your system maintainer.

TIM Enterprise can be installed on the same machine as the VoiSpeed server; however, you should confirm this first with your system maintainer as it may impact system performance.

Installing NetPBX

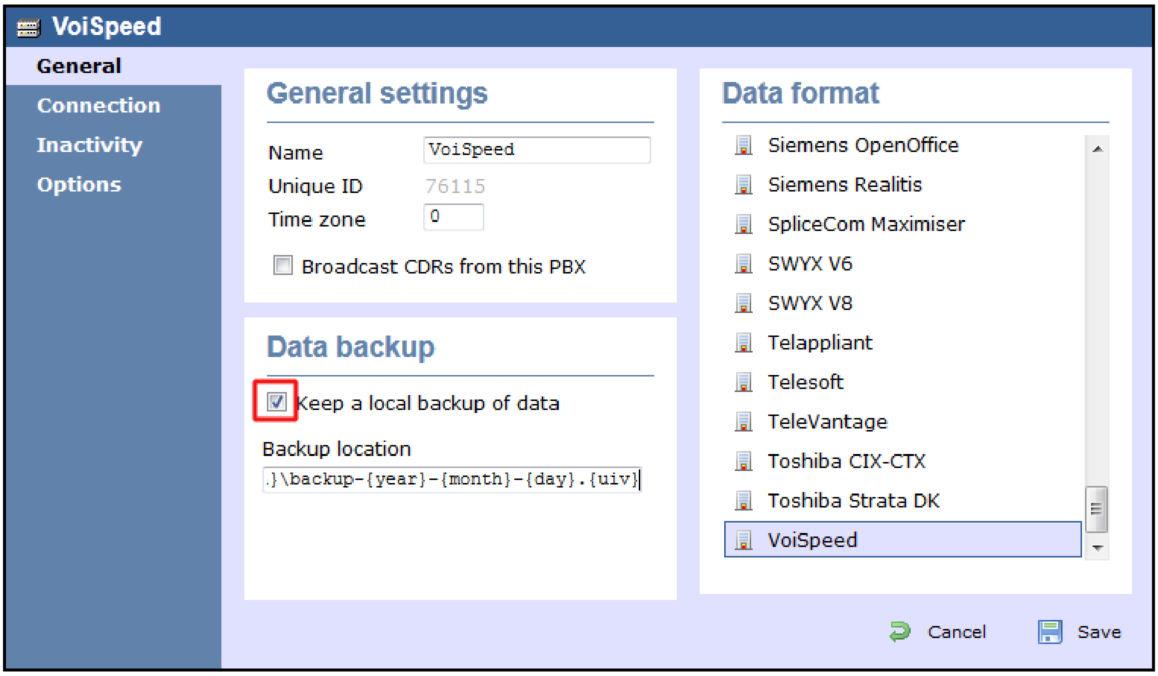
Since your VoiSpeed phone system outputs its call logging data to a file, you first need to install the NetPBX software in order to collect the contents of the call logging file and forward it to TIM Enterprise. For setup instructions, click on the link below:

Install and configure NetPBX

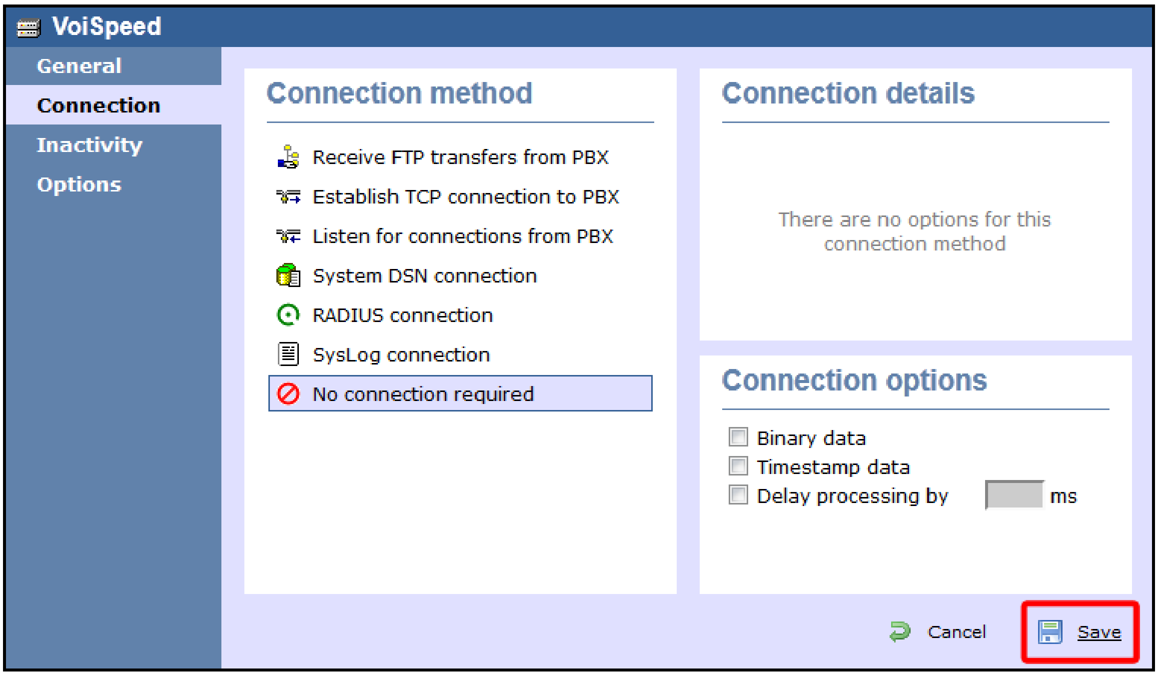
Configuring TIM Enterprise

Once NetPBX is configured and collecting data, log in to TIM Enterprise and perform the following steps:

1. Click on the Directory tab.
2. Locate the PBX object you want to configure in the Directory, right-click on it and select **Properties**.
3. A new window will open, displaying the general properties of your PBX object. Select **VoiSpeed** from the **Data format** list and tick the **Keep a local backup of data** box, as shown below:



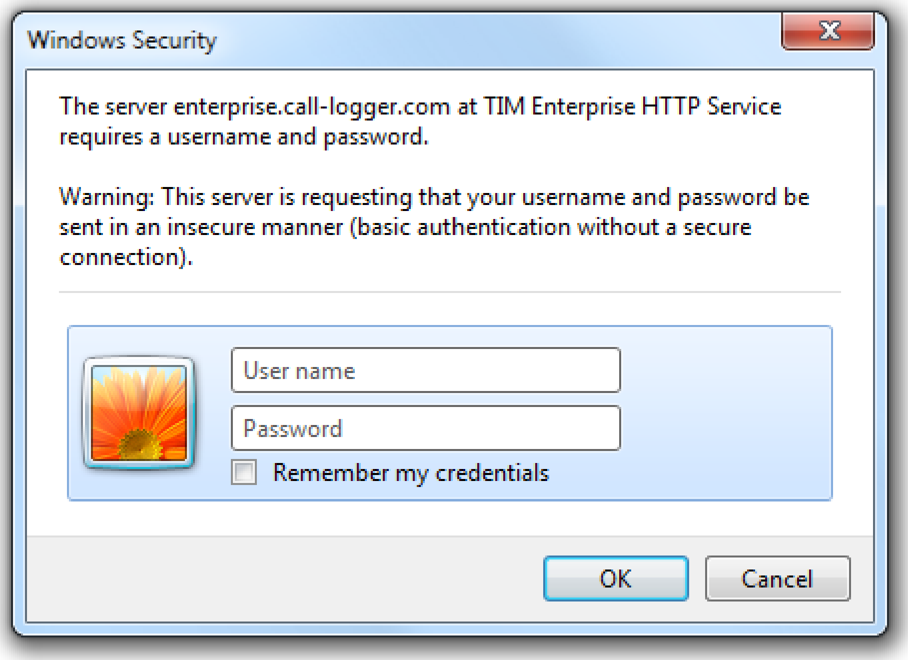
4. Click on the Connection tab and select **No connection required** from the **Connection method** list.
5. Click on the Save button to apply the settings.



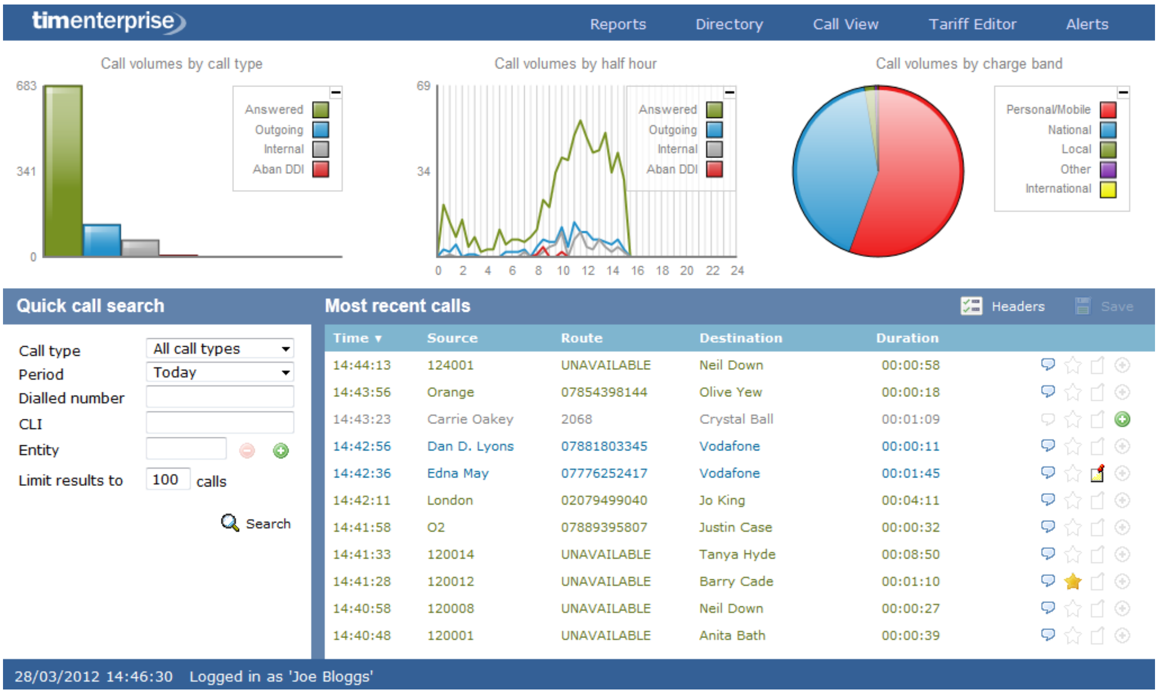
Accessing the system

TIM Enterprise resides on a centralised machine within your network where it runs as a service and, due to its in-built web server, it can be accessed via a standard web browser from any other PC on your network.

To access TIM Enterprise, open a web browser, go to the IP address or host name of the computer running TIM Enterprise and log in using your username and password.



After successfully logging in, the following "dashboard" screen will be displayed.



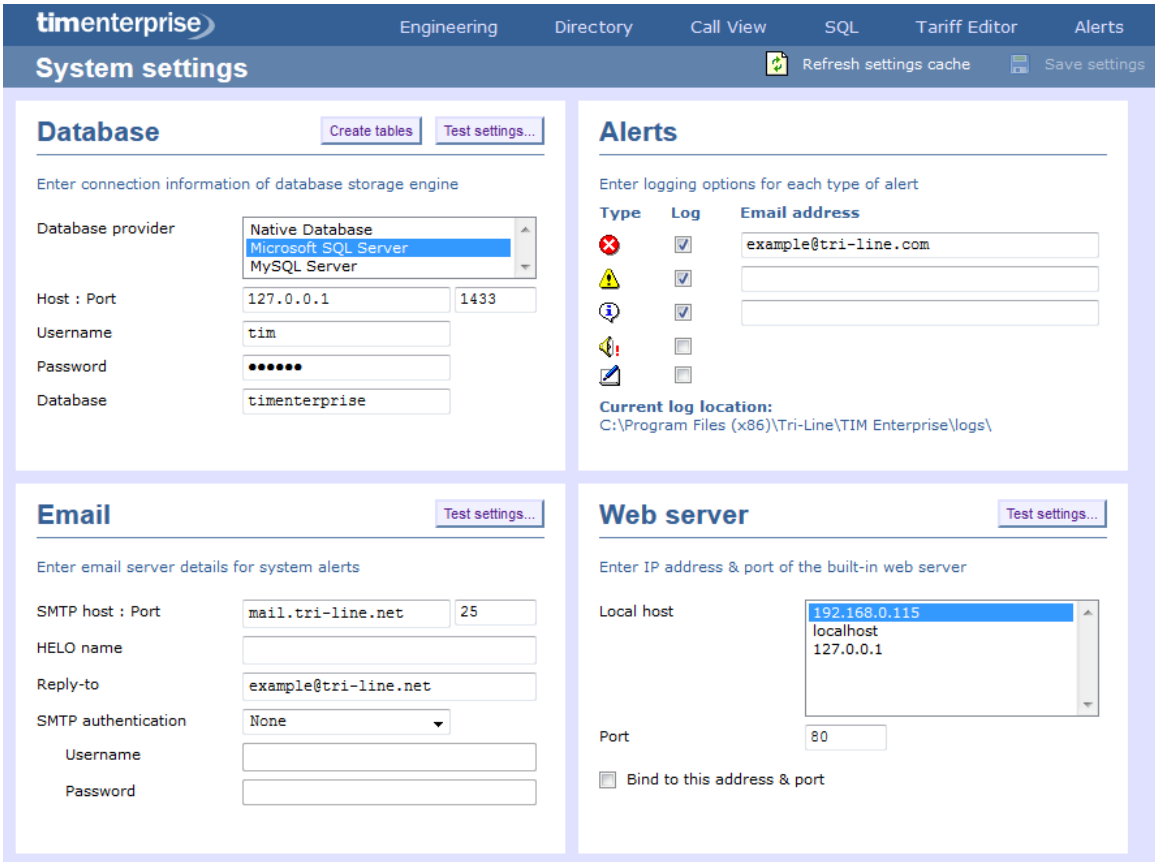
You may find that your access is restricted to a specific site or group. If you need to access other sites or groups, speak to your system administrator to get additional privileges.

Root account

Root account overview

The root account in TIM Enterprise allows you to access and configure the general settings of the system, such as its database, the license details or the backup and restore function. The root user is also able to access two additional tabs, Engineering and SQL, which are not available to admin or standard web users.

When logging in to TIM Enterprise with the root credentials, the System settings screen will be displayed:



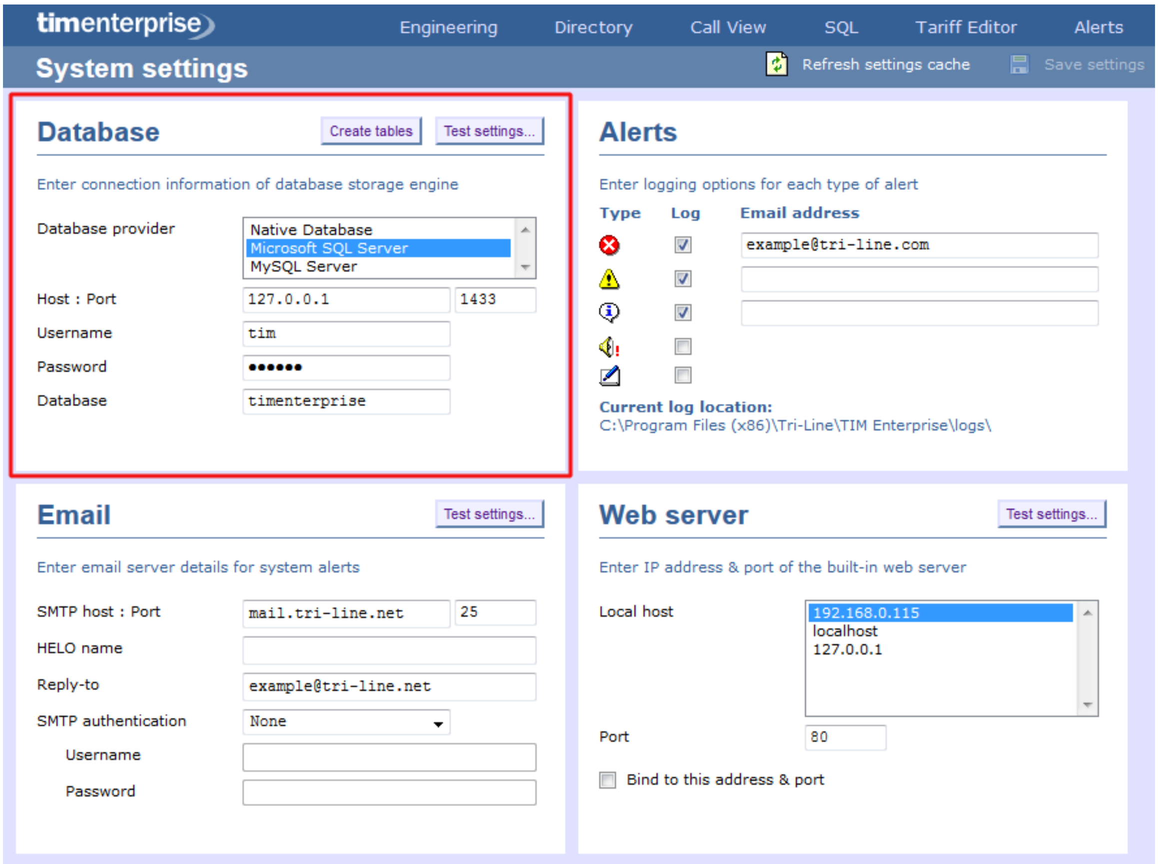
System settings

System settings

- Database
- Alerts
- Email
- Web server
- Remote access & diagnostics

Database

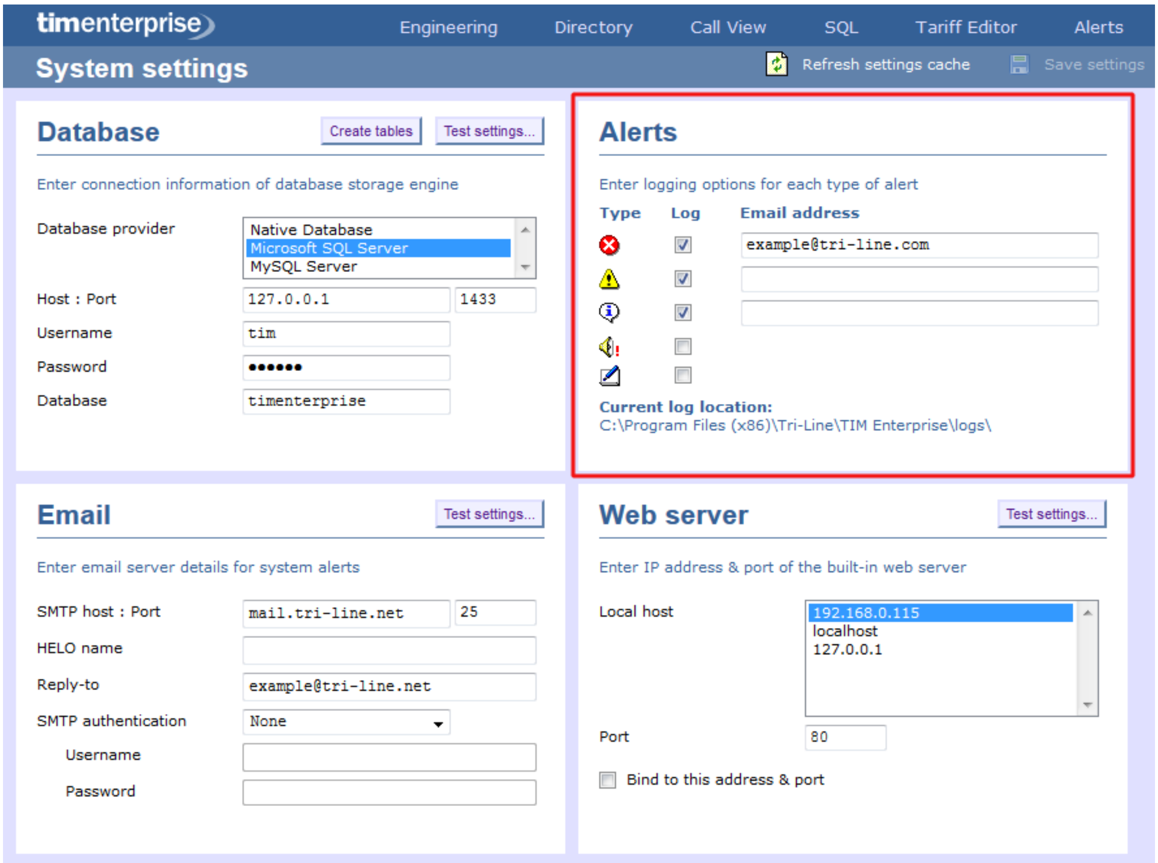
The `Database` section allows you to enter the connection information of your database storage engine.



Field	Description
Database provider	Select the database you are trying to connect to. Be default, TIM Enterprise is connected to a Native database.
Host: Post	Enter the Host name or IP address of the database and the relevant port number.
Username	Enter the username required to log in to the database.
Password	Enter the password required to log in to the database.
Database	Enter the name of the database.

Alerts

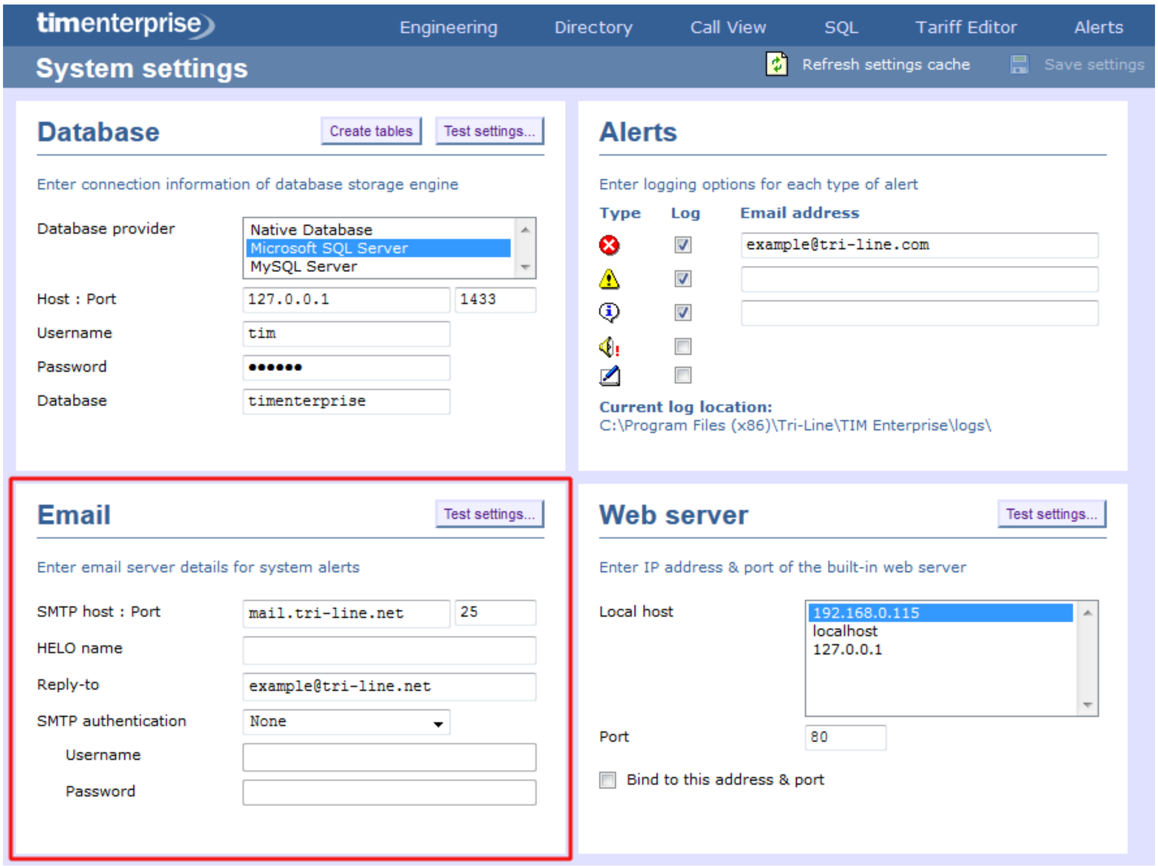
TIM Enterprise can be configured to raise an alert when particular events occur whilst the system is running. The alerts can be saved to a log file on a disk or sent as an email notification.



Alert	Description
Critical	A critical alert notifies you of any events that are detrimental to the system, e.g. database failure
Warning	A warning alert notifies you of any non-critical events that have occurred on the system, e.g. you have exceeded your license limit
Information	An information alert notifies you of any system events that have occurred on the system, e.g. if the application service has been restarted
Voice audit	An alert that notifies you of progress during call recording operations
Audit	Provides very detailed information about ongoing system events, primarily used for fault-finding

Email

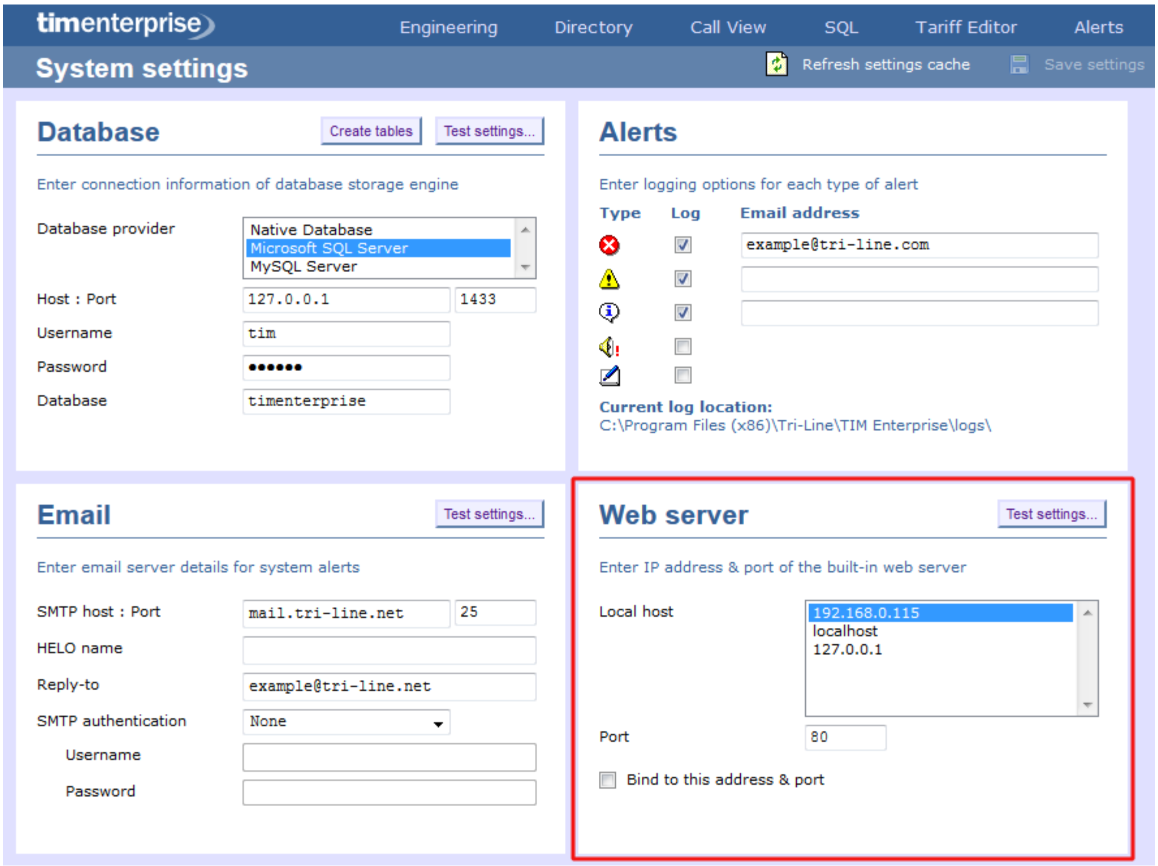
This section allows you to configure the details of your mail server in order to enable TIM Enterprise to send out scheduled reports, call alarms, missed call notifications or system alerts.



Field name	Description
SMTP host: Port	The IP address or host name of your company's mail server and the port number, which by default is 25
HELO name	The greeting name required by your mail server to identify the computer that is sending the email. In most cases, this is the network name of the server running TIM Enterprise
Reply-to address	The email address you want to use to send a test email, in order to verify your email settings
SMTP authentication	The authentication method used by your mail server. Choose **None** if the authentication is automatic or not used
Username	Enter the username of the SMTP authentication
Password	Enter the password of the SMTP authentication

Web server

TIM Enterprise has its own built-in web server and it can be accessed from any PC on your network without the need of any additional software. To configure, choose the IP address and port number that you want the web service to listen on.



Remote access & diagnostics

This feature is reserved for future use.

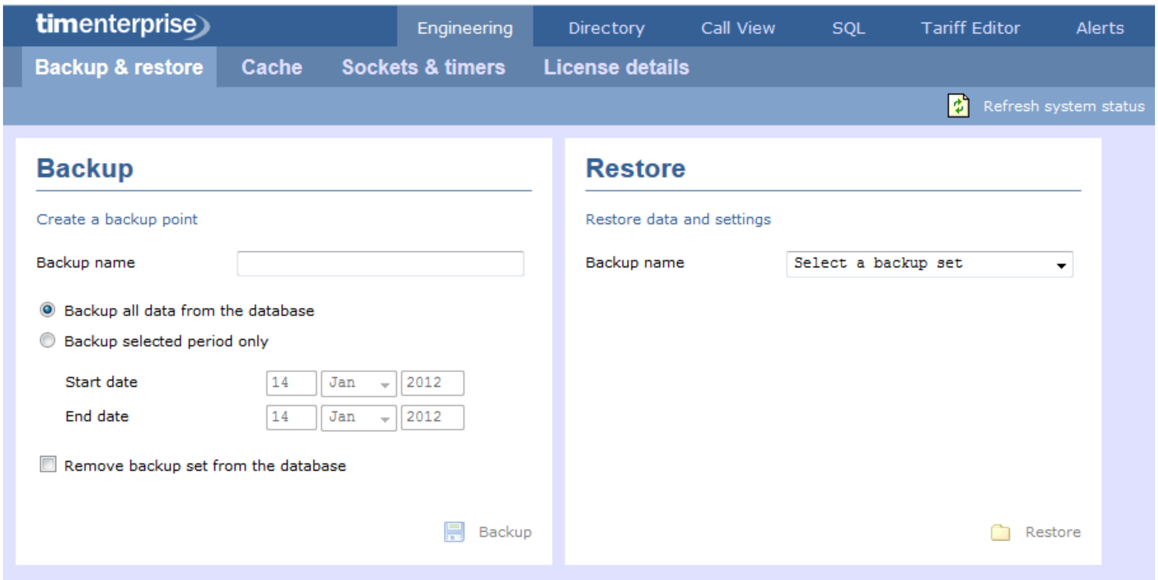
Engineering

Engineering

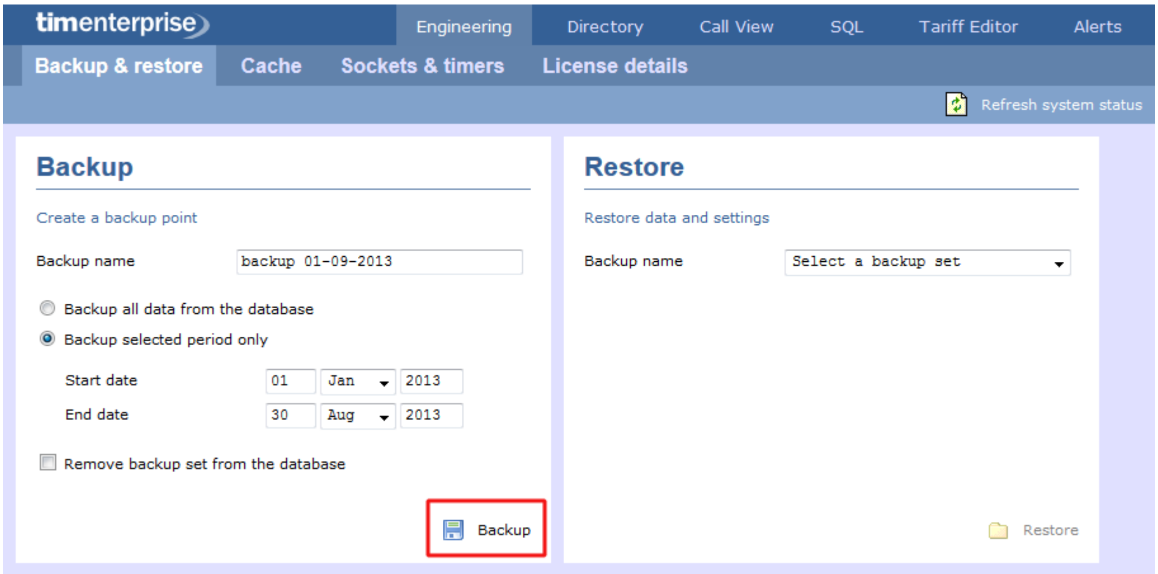
- Backup & restore
- Cache
- Sockets & timers
- License details

Backup & restore

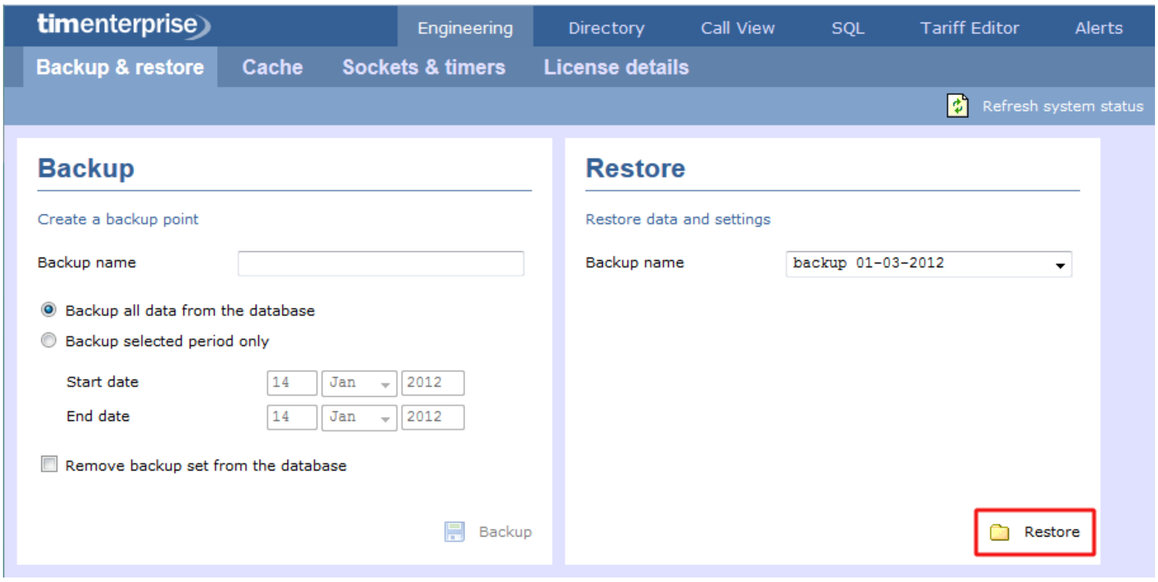
This section allow you to create or restore a system backup.



To create a backup of the database, enter a name for the backup file, select the period you want to run the backup for, then click on the Backup button, as shown below:

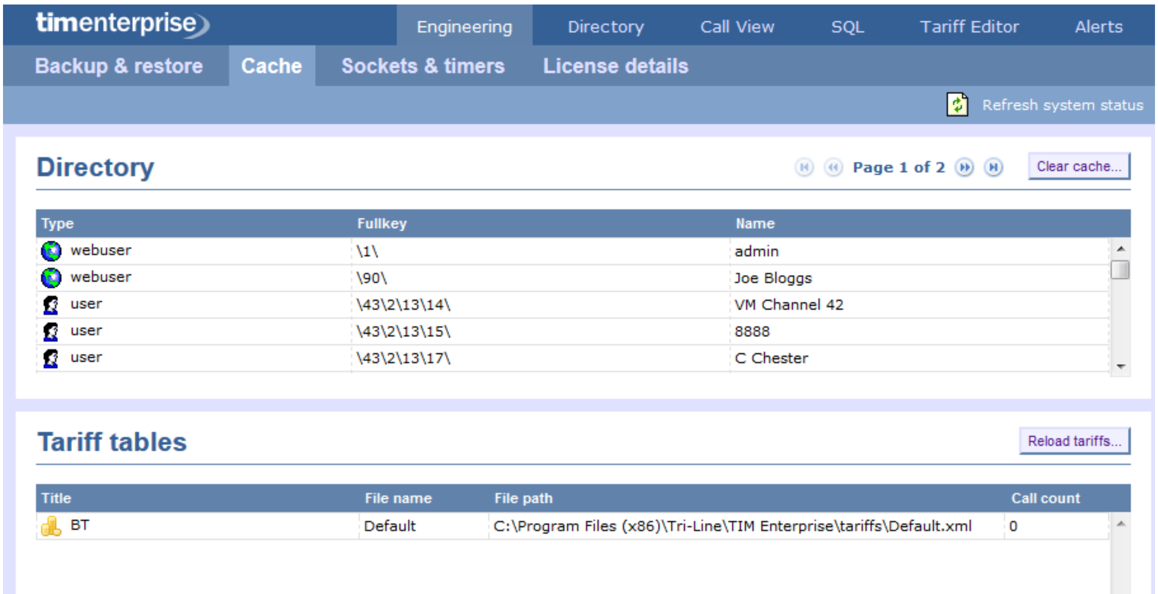


To restore an existing backup, select it from the drop-down list and click on the Restore button.



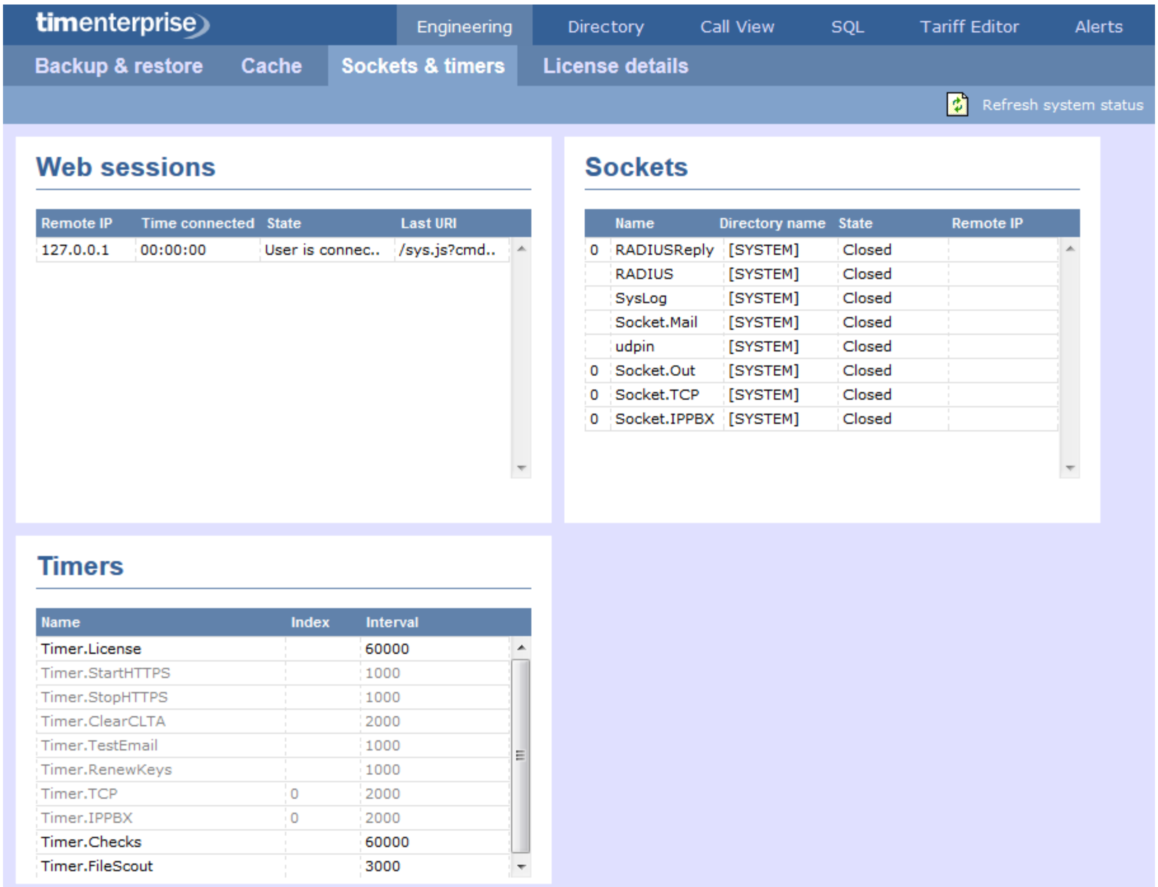
Cache

This section displays information about the data cashed by the system and allows you to reload a tariff table if any changes were made.



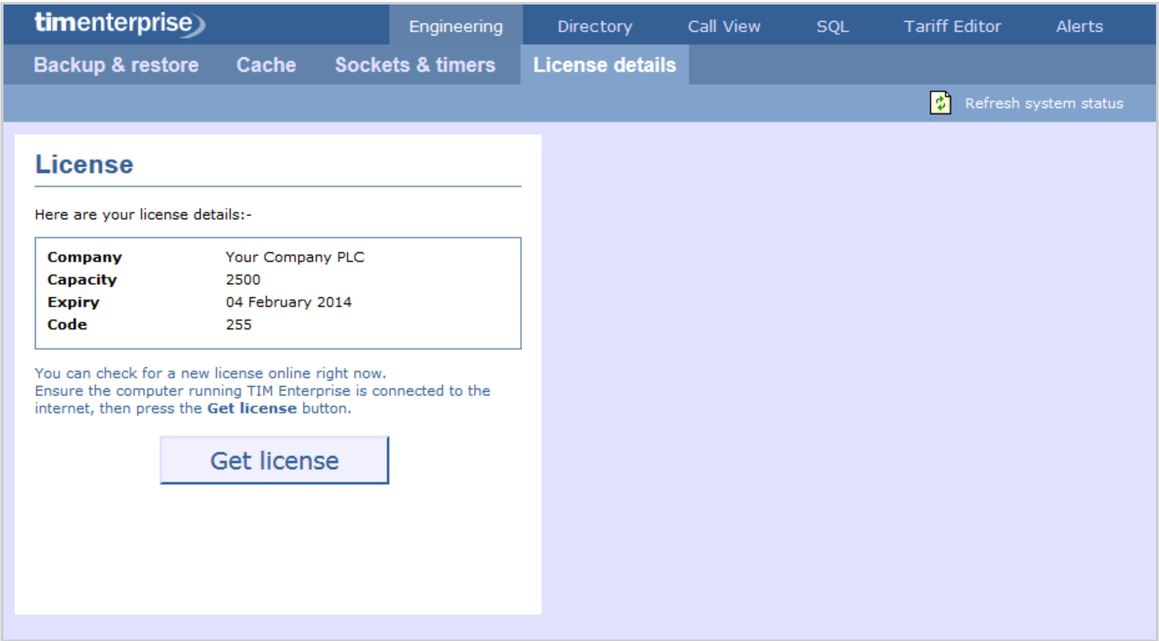
Sockets and timers

This section displays information about the web sessions in progress, the status of the currently established sockets and the interval timers set up on the system.



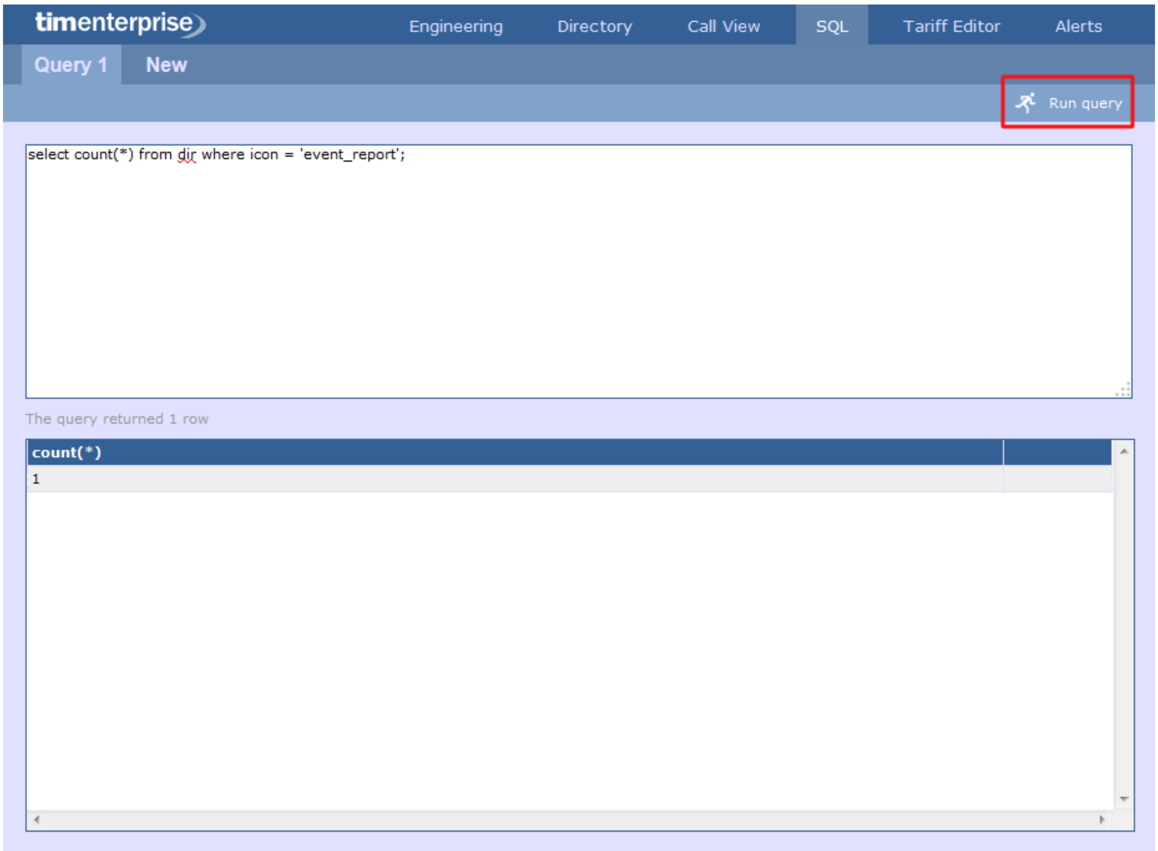
License details

This section contains information about your software license, such as the number of users it covers or the expiry date. If you need to update your license details, click on the Get license button.



SQL

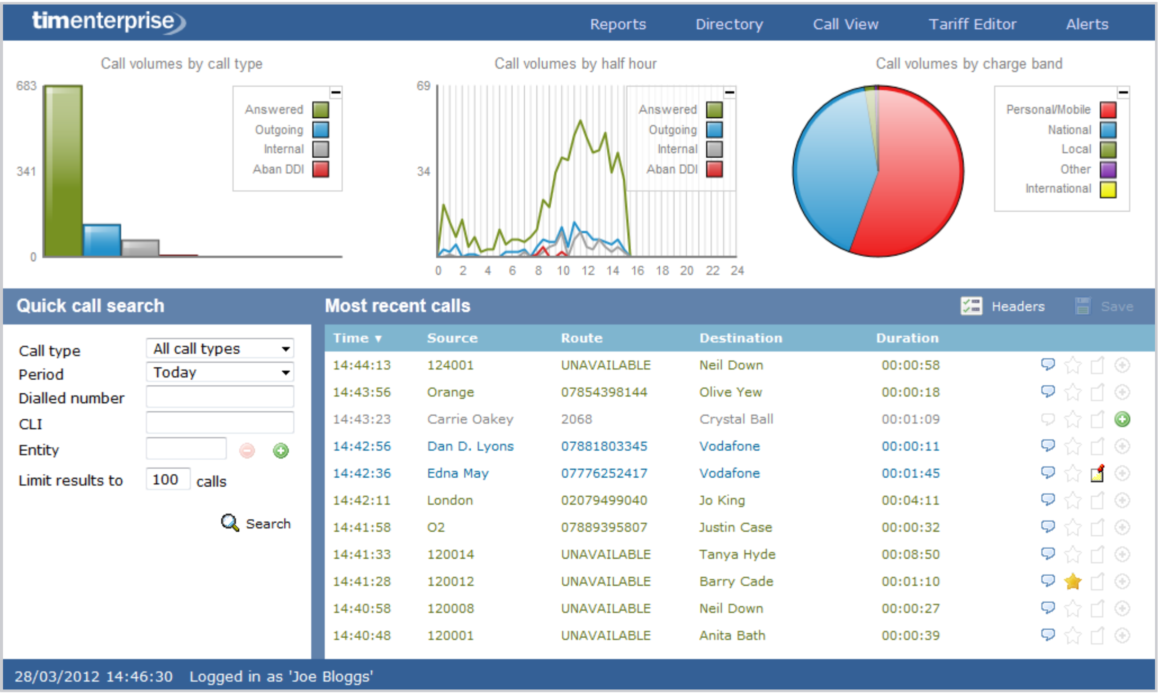
The **SQL** tab allows you to query the TIM Enterprise database, in order to retrieve specific information related to your calls, reports, users, etc. In the example below, the query will display how many scheduled reports are configured on the system.



Main screen

Overview

When logging in to TIM Enterprise, the following dashboard screen is displayed:



The information you see on this screen is relevant only to the area to which you've been granted access. For example:

- If you are a site administrator, the graphs, live call view and any other call-related information will be derived from calls that happened only on your own site and not those from any other sites within the system.
- If your login account is restricted to a specific user group (department), the statistics will relate only to the call information for users within that particular group.

The dashboard screen consists of a toolbar along the top of the page and three main panels.

The toolbar is the main menu that you use to navigate the major features of TIM Enterprise. The tabs that make up the toolbar differ according to the type of account you use to log in with. The screenshot above displays an example dashboard screen for a user account that has administrative privileges whereby all of the tabs are present; however, for a restricted web user account, some of the tabs might not be visible.

The three panels that make up the dashboard screen are as follows:

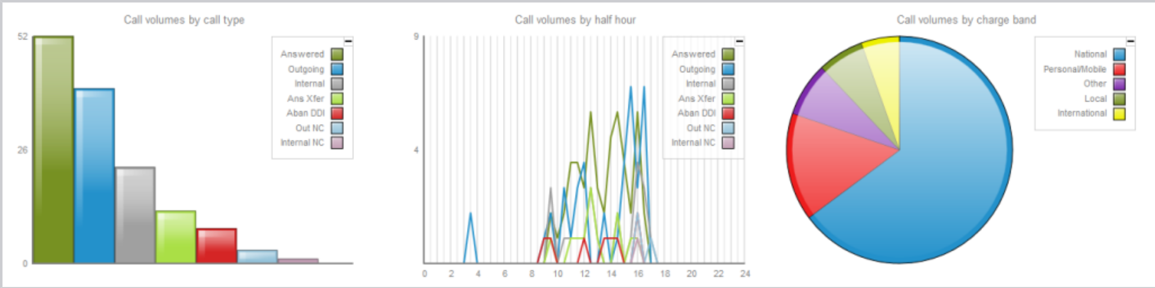
- Summary graphs
- Quick call search
- Most recent calls

Summary graphs

The summary graphs panel consists of three separate graphs, each organising their information using different criteria, as described below:

- Call volumes by call type

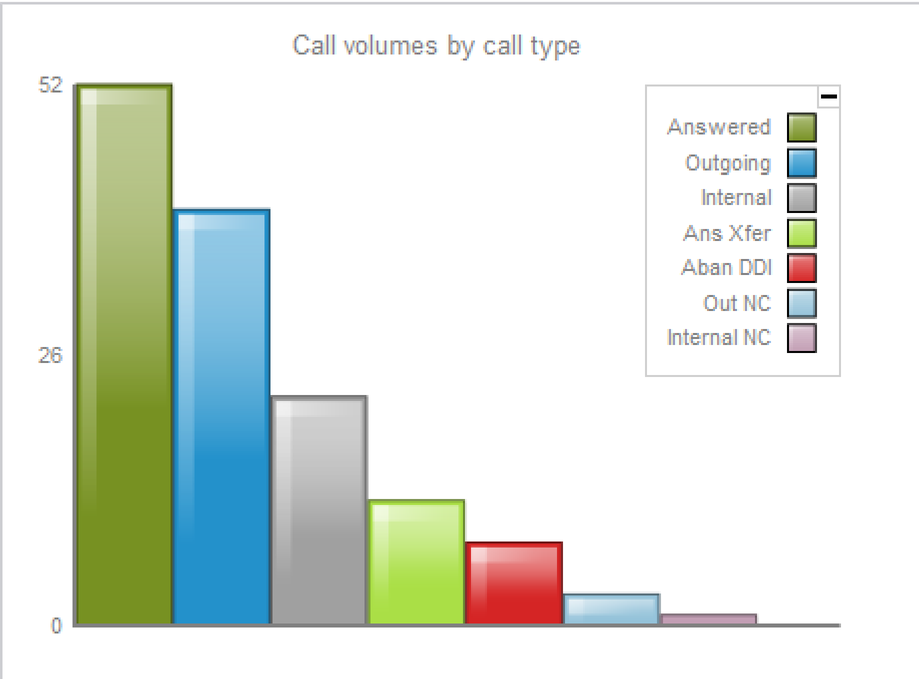
- Call volumes by half hour
- Call volumes by charge band



The information you see in each graph pertains only to the area which the logged-in user has been granted access to.

Call volume by call type

This first graph shows a snapshot of calls for the current day, based on the type of call, e.g. inbound, outbound, missed.



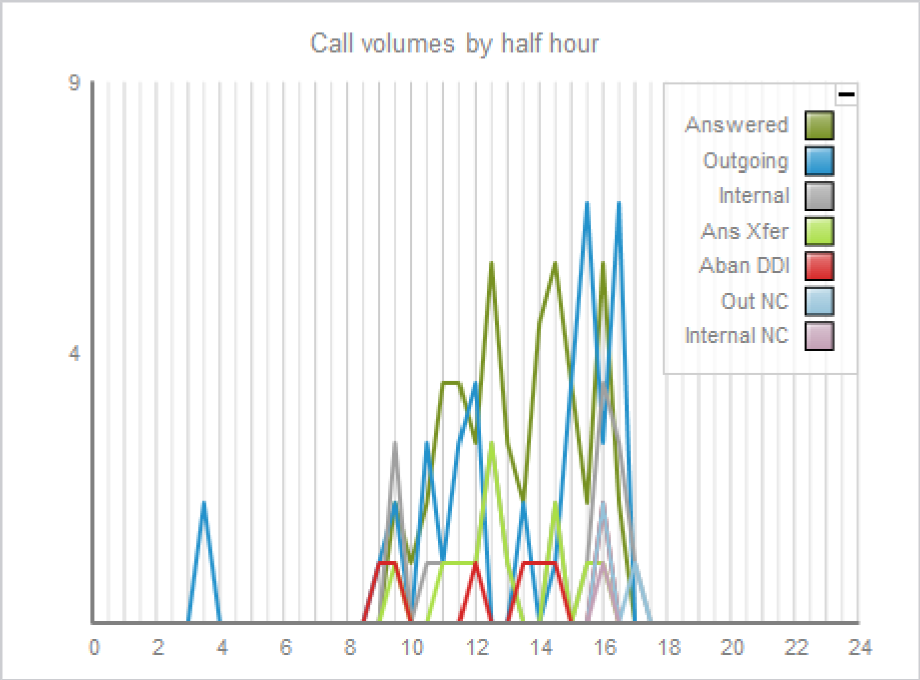
Each call type in the graph is colour-coded as follows:

- **Green**: Incoming calls
- **Light green**: Answered transferred calls
- **Blue**: Outgoing calls
- **Light blue**: Outgoing non-connected calls
- **Grey**: Internal calls
- **Mauve**: Internal non-connected calls
- **Red**: Abandoned DDI (Direct Dialled In) calls

- **Pink**: Tandem calls

Call volume by half hour

This graph shows a snapshot of calls for the current day, broken down by half-hour, allowing you to quickly identify peaks and troughs in call volumes to identify busy periods.



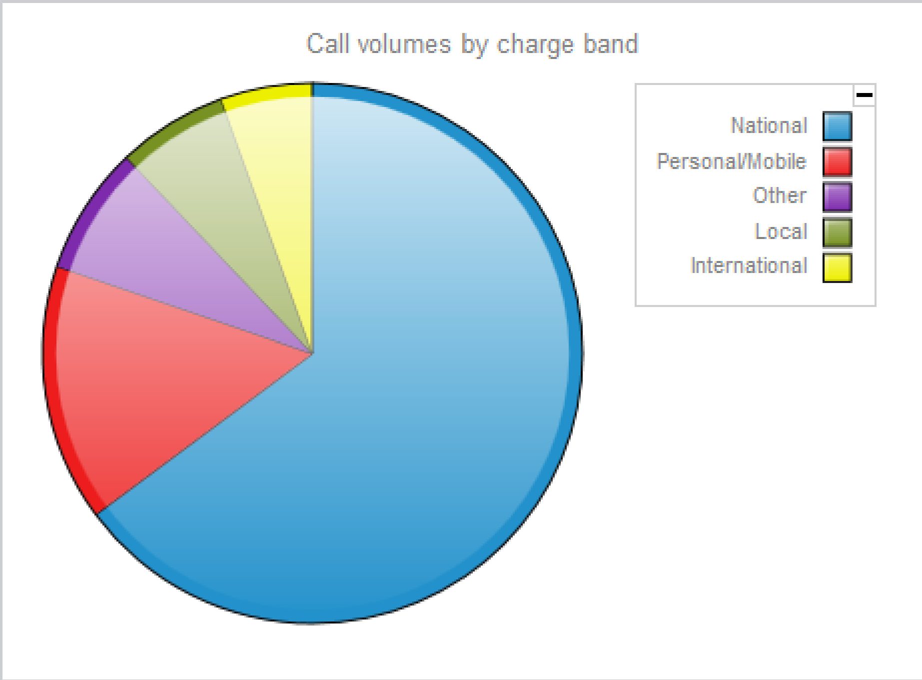
Each call type is colour-coded as follows:

- **Green**: Incoming calls
- **Light green**: Answered transferred calls
- **Blue**: Outgoing calls
- **Light blue**: Outgoing non-connected calls
- **Grey**: Internal calls
- **Mauve**: Internal non-connected calls
- **Red**: Abandoned DDI (Direct Dialled In) calls
- **Pink**: Tandem calls

> The same call type colour scheme applies throughout TIM Enterprise.

Call volume by charge band

This graph shows a snapshot of calls for the current day, based on their destination, allowing you to identify where you call most often. Calls are grouped into geographical locations such as `Mobile, National, Local, International` etc.

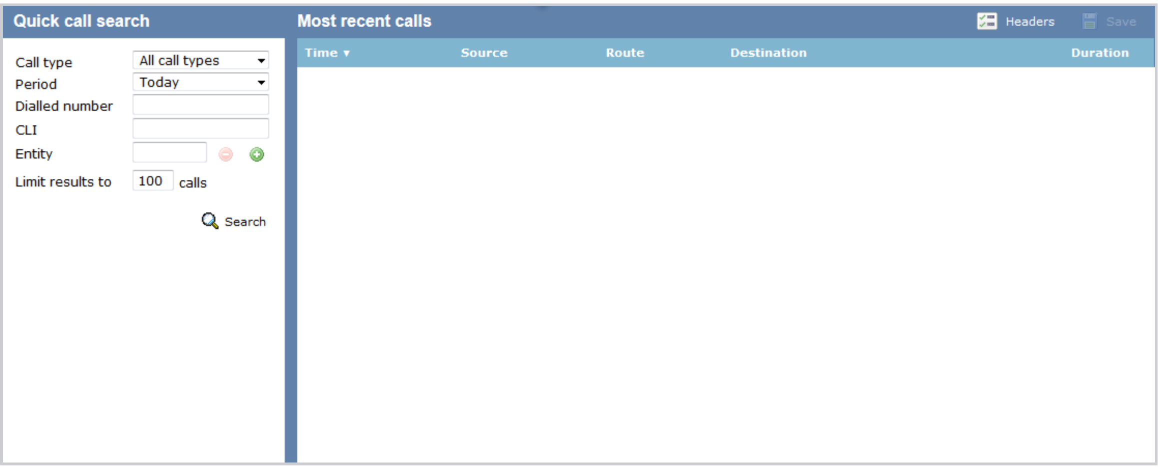


By default, the following colour scheme is used to identify calls to each geographical group:

- **Red**: Personal/Mobile calls
- **Green**: Local calls
- **Blue**: National calls
- Yellow: International calls
- Purple: Other calls

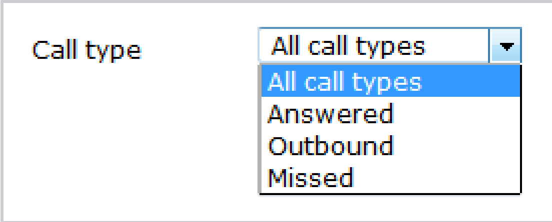
Quick call search

The `Quick call search` panel offers a rapid way to locate specific calls in the central database, as an alternative to running a full call report. You can refine your search results by using the filters described below:



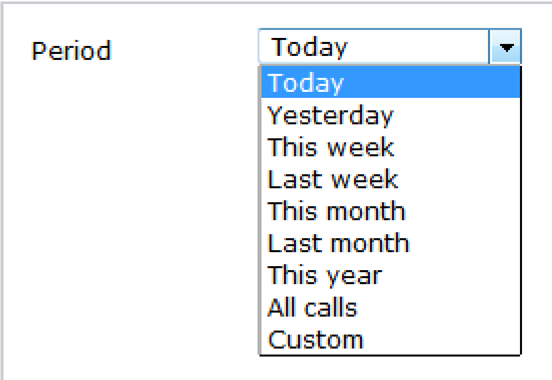
Call type

This filter allows you to define the type of call you want your search results to cover, e.g. incoming, outgoing, internal etc. To include all types of call, set this to **`All call types`**.



Period

The `Period` search field defines the time period the results should cover. To choose a period, select it from the drop-down list.



There are several preset reporting periods available for selection, based on the standard Gregorian calendar. The following table describes how the start and end times are defined for each preset period:

Field	Description
Today	The start and end dates are set to the current date. The start time is set to `00:00:00` and the end time to `23:59:59`.
Yesterday	The start and end dates are set to the current date minus one day. The start time is set to `00:00:00` and the end time to `23:59:59`.
This week	The start date is set to the first day (normally Monday) of the current week. The end date is set to the current day. The start time is set to `00:00:00` and the end time to the current time.
Last week	The start date is set to the date of the last Monday, and the end date is set to the start date plus seven days. The start time is set to `00:00:00` and the end time to `23:59:59`.
This month	The start date is set to the first day of the current month. The end date is set to the current day. The start time is set to `00:00:00` and the end time to the current time.
Last month	The start date for this period is set in three stages: The day is set to the first day of the month. The month is set to the previous month. The year is set to the current year, unless it is currently January, in which case, the previous year is used. The start and end times are set to `00:00:00` and `23:59:59` respectively.
This year	The start date is set to the first day of the first month of the current year, whilst the end date is set to today's date. The start and end times are set to `00:00:00` and `23:59:59` respectively.
All calls	The start and end dates and times are set to the dates and times of the first and last call in the entire call database, respectively.
Custom	Enter the start and end dates and times into the boxes provided. The start and end times are linked to their respective dates.

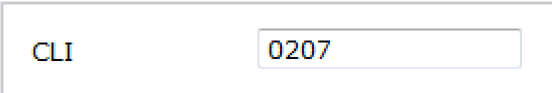
Dialled number

The `Dialled number` field allows you to filter your results by the number that was dialled. You can also specify a partial number to match all calls beginning with that number, e.g. to show all calls to London, enter `0207`.

CLI

Calling Line Identification (CLI) is the telephone number of the remote caller in an incoming call scenario.

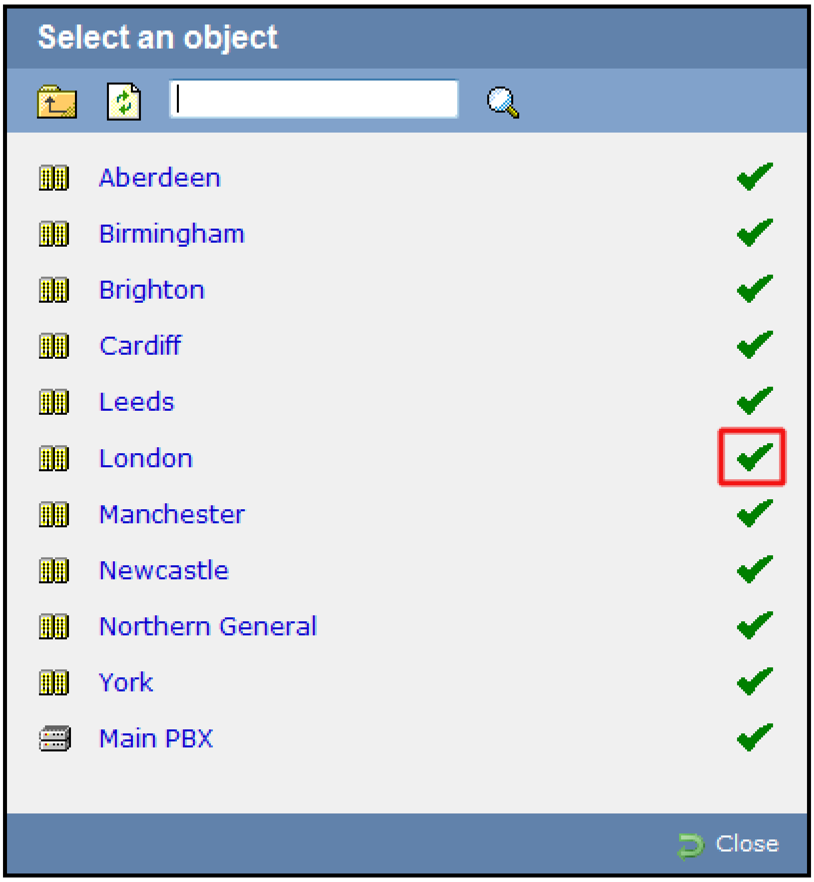
You can filter your results to show only calls that originate from a specific CLI or those whose CLI matches a particular pattern of digits. For example, to report on all incoming calls from London, you could enter **0207**.



Entity

If you want to limit the search results to a particular site, group or user, click on the button, as shown below:

A new window will open, allowing you to navigate through the Directory in order to locate the entity whose calls the search results should include. To select an entity, click on the icon alongside it.

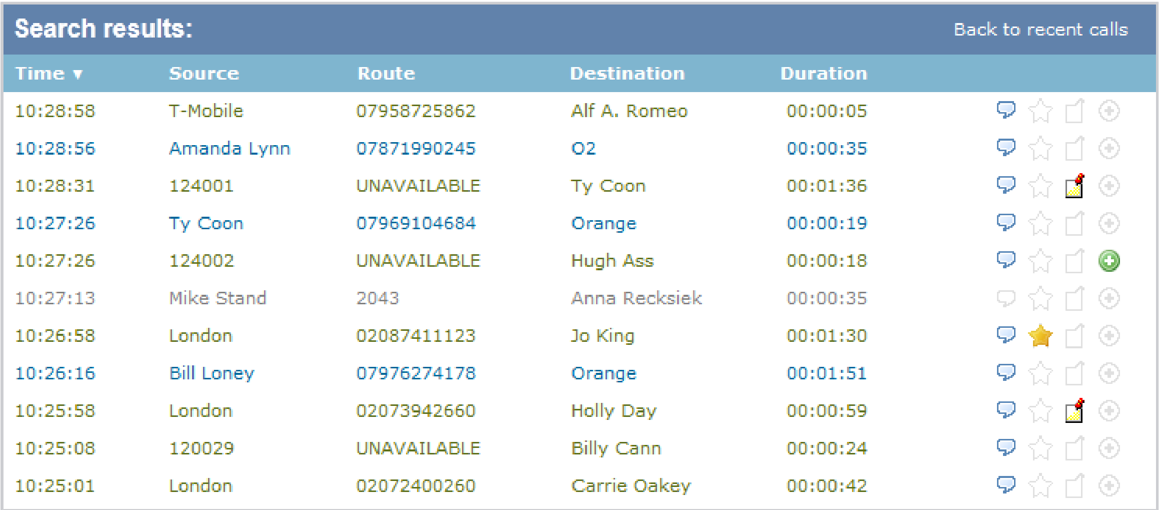


If you want to search for a specific entity, you can enter its name in the search bar at the top of the window and click on the icon.

Limit results to

This feature enables you to specify the maximum number of search results you want to retrieve. Set the limit by entering a value in the field provided, e.g. entering **50** in the `Limit results to` field, will return a maximum of 50 results.

The search results will show in a new panel entitled `Search results`, as shown below:

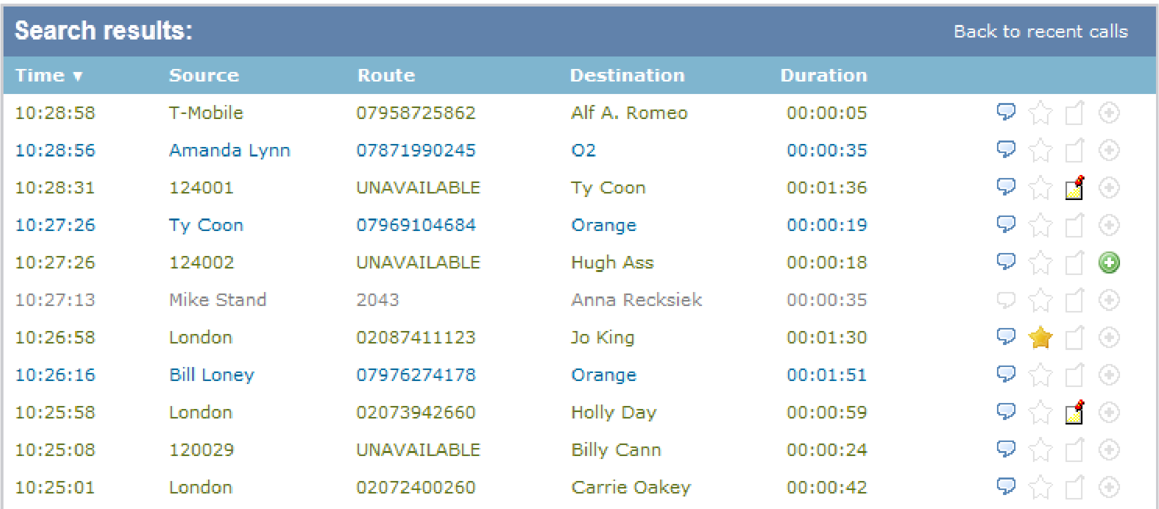

Search results: Back to recent calls

Time ▾	Source	Route	Destination	Duration
10:28:58	T-Mobile	07958725862	Alf A. Romeo	00:00:05
10:28:56	Amanda Lynn	07871990245	O2	00:00:35
10:28:31	124001	UNAVAILABLE	Ty Coon	00:01:36
10:27:26	Ty Coon	07969104684	Orange	00:00:19
10:27:26	124002	UNAVAILABLE	Hugh Ass	00:00:18
10:27:13	Mike Stand	2043	Anna Recksiek	00:00:35
10:26:58	London	02087411123	Jo King	00:01:30
10:26:16	Bill Loney	07976274178	Orange	00:01:51
10:25:58	London	02073942660	Holly Day	00:00:59
10:25:08	120029	UNAVAILABLE	Billy Cann	00:00:24
10:25:01	London	02072400260	Carrie Oakey	00:00:42

To close the search results and return to the `Most recent calls` panel, click on the Back to recent calls link, at the top-right corner of the panel.

Most recent calls

By default, the `Most recent calls` panel displays the latest calls to have been processed by TIM Enterprise, with the most recent towards the top of the list. To sort the results by a different column, click on the relevant column header.


Search results: Back to recent calls

Time ▾	Source	Route	Destination	Duration
10:28:58	T-Mobile	07958725862	Alf A. Romeo	00:00:05
10:28:56	Amanda Lynn	07871990245	O2	00:00:35
10:28:31	124001	UNAVAILABLE	Ty Coon	00:01:36
10:27:26	Ty Coon	07969104684	Orange	00:00:19
10:27:26	124002	UNAVAILABLE	Hugh Ass	00:00:18
10:27:13	Mike Stand	2043	Anna Recksiek	00:00:35
10:26:58	London	02087411123	Jo King	00:01:30
10:26:16	Bill Loney	07976274178	Orange	00:01:51
10:25:58	London	02073942660	Holly Day	00:00:59
10:25:08	120029	UNAVAILABLE	Billy Cann	00:00:24
10:25:01	London	02072400260	Carrie Oakey	00:00:42

Each call type is colour-coded using a system-wide colour scheme, as follows:

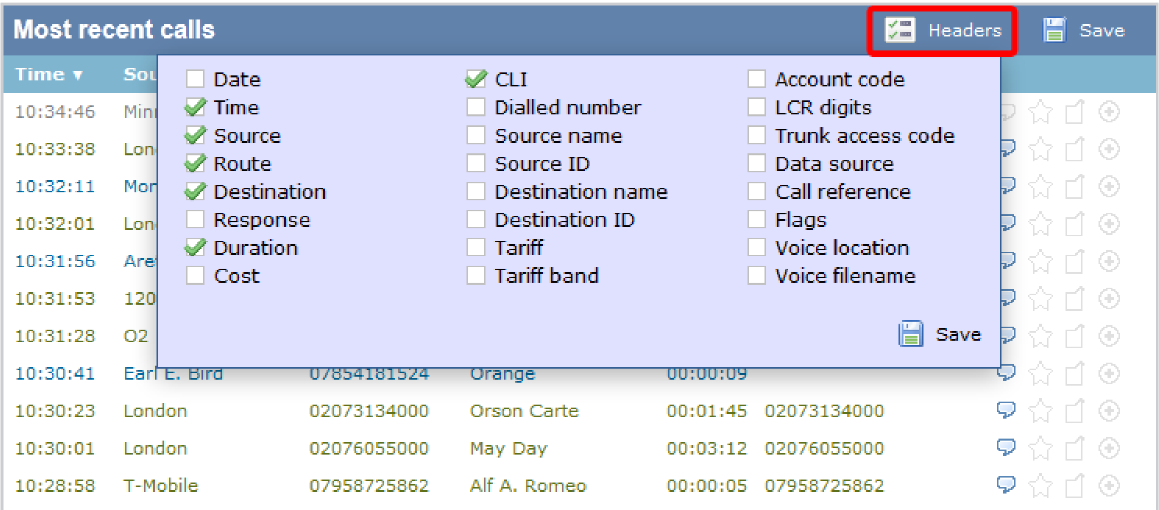
- **Green**: Incoming calls
- **Light green**: Answered transferred calls
- **Blue**: Outgoing calls
- **Light blue**: Outgoing non-connected calls
- **Grey**: Internal calls

- Mauve: Internal non-connected calls
- **Red**: Abandoned DDI (Direct Dialled In) calls
- **Pink**: Tandem calls

> The calls you see in the `Most recent calls` panel pertain only to the area to which the logged-in user has been granted access; administrators see calls from all sites.

Columns headers

The column headers shown in the most recent calls list are specific to each web user and can be customised by clicking on the Headers button, which will display the following selection panel:



Include a column header in the list by ticking the box alongside each one. Click on the Save button to apply any changes.

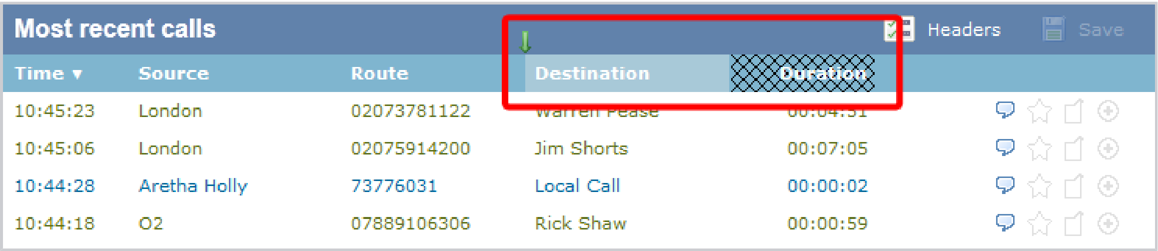
Each column header is described below:

Field name	Description
Date	The date the call started
Time	The time the call started
Source	The place from where the call originated
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number

Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The time it took for the call to be answered (in seconds)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call
CLI	The telephone number of the remote caller for inbound calls
Dialled number	The number that was dialled in order to reach a particular destination
Source name	The name of the person who made the call
Source ID	The ID of the person who made the call
Destination name	The name of the destination called, e.g. Manchester, Tri-Line, London
Destination ID	The ID of the destination called
Tariff	The name of the tariff table that was used to cost the call, e.g. BT
Tariff band	The specific tariff band that was used to cost the call, e.g. International, National, Mobile etc.
Account code	The account code associated with the call
LCR Digits	The Least Cost Routing (LCR) digits used to route the call
Trunk access code	The trunk access code used to access a group of channels
Data source	The location where the call originated
Call reference	Any call reference number associated with the call
Flags	Any flags associated with a call, as described below: ▪ The call has no associated voice recording ▪ The call has an associated voice recording; click on the icon to listen to the call ▪ The call has not been scored; click on the icon to score the call ▪ The call has been scored; click on the icon to review scoring information for the call ▪ The call has not been annotated; click on the icon to add a note to the call ▪ The call has one or more associated notes; click on the icon to review the note(s) ▪ The call has no related transfer legs ▪ The call has related transfer legs; click on the icon to view all transfers associated with the call
Voice location	The unique ID of the call recording device that captured audio for the call
Voice filename	The unique call reference identifying any voice recording associated with the call

Reordering column headers

Each column header can be reordered by clicking and dragging it to the new location, as shown below:



Most recent calls

Time ▼	Source	Route	Destination	Duration
10:45:23	London	02073781122	Warren Pease	00:04:51
10:45:06	London	02075914200	Jim Shorts	00:07:05
10:44:28	Aretha Holly	73776031	Local Call	00:00:02
10:44:18	O2	07889106306	Rick Shaw	00:00:59

Columns can be sorted by clicking the relevant column header, with each click toggling between ascending and descending order.

> Any layout changes you make to the `Most recent calls` panel are saved only for the current web user and do not affect other web users.

Reports

What are reports?

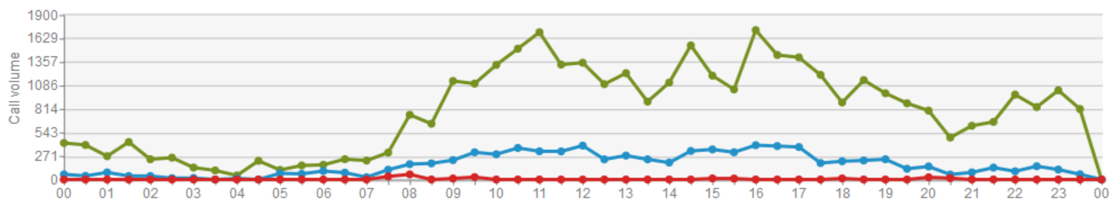
Reports are the means by which your telephone call data is presented to you in a visual, meaningful way. Although the results of each report type differ substantially, running each of them involves following a similar procedure. All report types accept filters and options, allowing you to tailor the results to exactly the information you are looking for.

The reports can be run on demand at any time, or be scheduled to run at predetermined times in the future.

Below is an example output of the `Call Analysis` report:

My call analysis 2012-04-16 13:04:30

Top \ UK \ London \ Accounts \ About this report

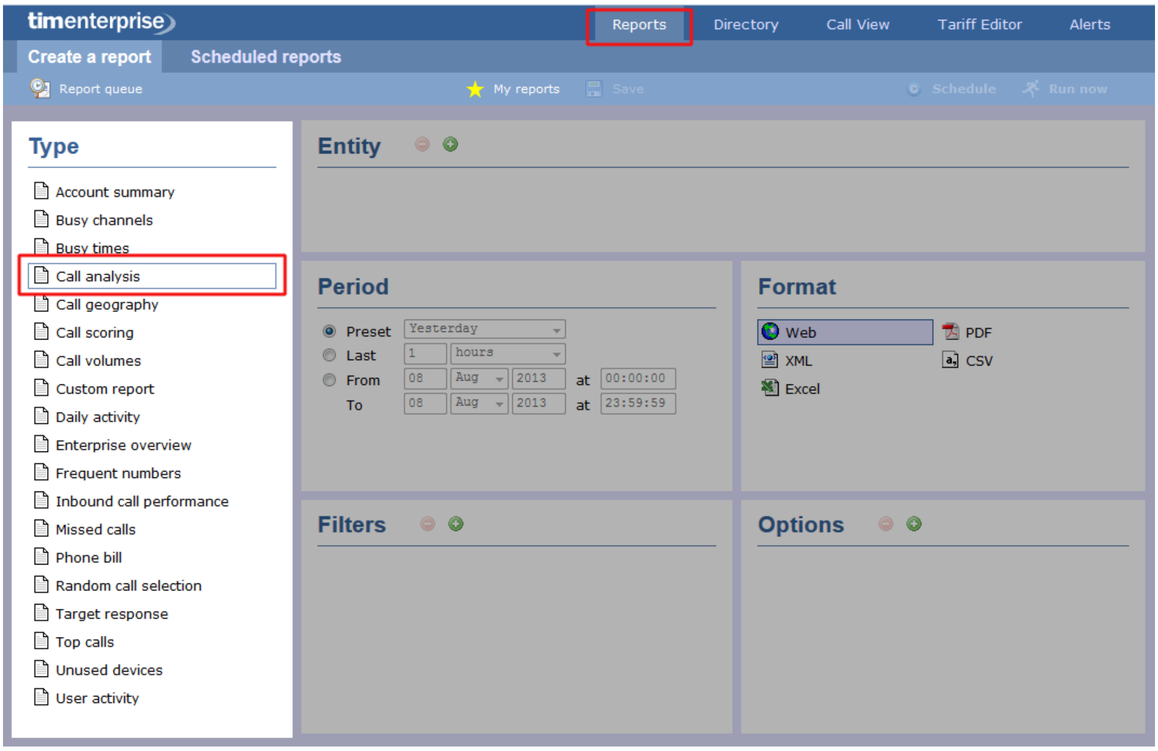


Time slot ▲	Missed Σ	Missed Duration (s) Max	Missed Duration (s) Avg	Answered Σ	Answered Ring time (s) Max	Answered Ring time (s) Avg	Answered Duration Max	Answered Duration Avg	Outbound Σ	Outbound Duration Max	Outbound Duration Avg	Outbound Duration Total	Outbound Cost Avg	Outbound Cost Total
00:00 - 00:29	-	-	-	426	11	-	00:07:34	00:01:28	60	00:00:32	00:00:11	00:11:45	0.036	2.171
00:30 - 00:59	-	-	-	403	-	-	00:09:26	00:01:35	42	00:00:53	00:00:23	00:16:47	0.057	2.406
01:00 - 01:29	-	-	-	272	-	-	00:07:57	00:01:34	83	00:02:31	00:00:29	00:41:18	0.073	6.051
01:30 - 01:59	-	-	-	437	-	-	00:05:19	00:01:23	41	00:00:35	00:00:13	00:09:29	0.039	1.615
02:00 - 02:29	-	-	-	236	10	-	00:08:02	00:01:30	41	00:00:34	00:00:14	00:10:02	0.039	1.592
02:30 - 02:59	-	-	-	255	4	-	00:03:30	00:01:05	16	00:02:06	00:01:10	00:18:54	0.155	2.476
03:00 - 03:29	-	-	-	139	-	-	00:04:43	00:01:29	18	00:00:11	00:00:06	00:01:50	0.030	0.540
03:30 - 03:59	-	-	-	106	-	-	00:09:51	00:01:16	-	-	-	-	-	-
04:00 - 04:29	-	-	-	47	8	1	00:01:35	00:00:43	13	00:00:34	00:00:13	00:03:01	0.038	0.490
04:30 - 04:59	-	-	-	218	19	2	00:06:12	00:00:51	-	-	-	-	-	-
05:00 - 05:29	-	-	-	111	25	2	00:06:33	00:01:20	72	00:02:25	00:00:29	00:35:17	0.073	5.276
05:30 - 05:59	-	-	-	164	8	1	00:11:33	00:01:33	66	00:00:49	00:00:14	00:15:26	0.040	2.628
06:00 - 06:29	-	-	-	171	25	2	00:05:11	00:01:10	99	00:00:35	00:00:09	00:16:21	0.033	3.290
06:30 - 06:59	-	-	-	237	13	-	00:05:14	00:01:10	80	00:00:34	00:00:10	00:13:58	0.034	2.696
07:00 - 07:29	-	-	-	221	25	1	00:06:54	00:01:29	27	00:00:29	00:00:13	00:06:07	0.038	1.029
07:30 - 07:59	36	51	16	314	39	2	00:03:31	00:00:52	114	00:26:48	00:02:24	04:33:49	0.149	16.997

Reports overview video

Running reports on demand

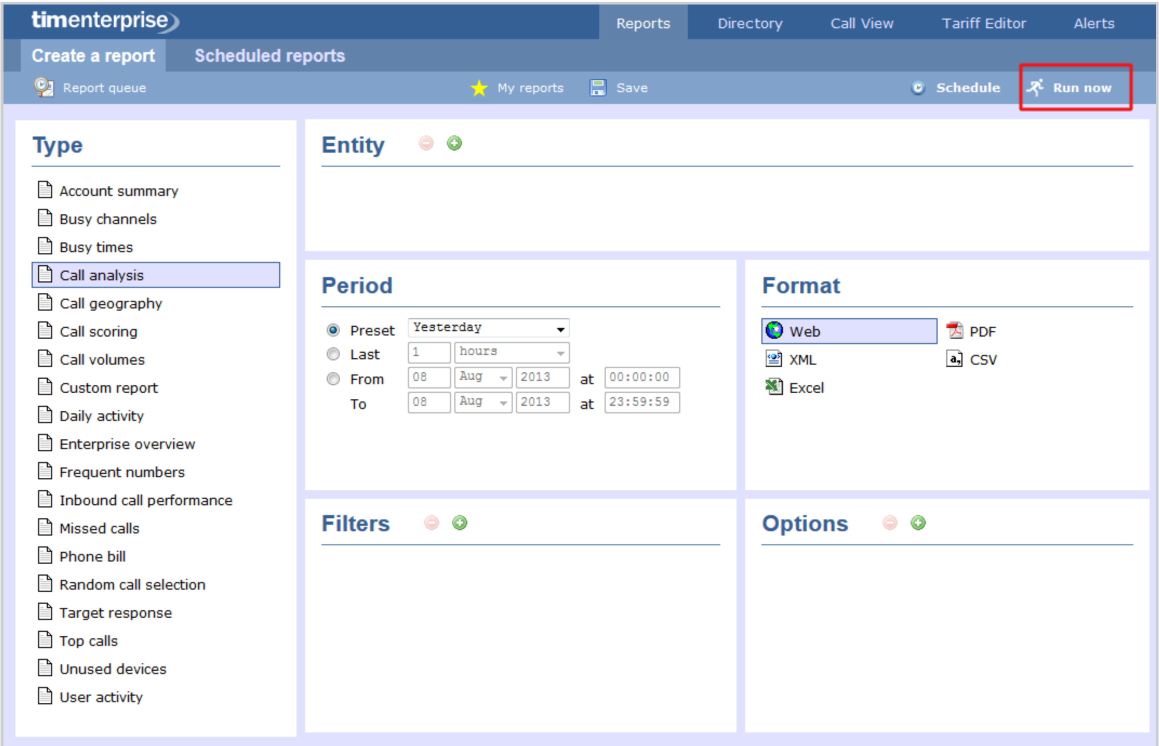
To run a report on demand, click on the Reports tab and select the report you want to run from the **Type** list on the left-hand side of the screen, as shown below:



To change any of the report's parameters, refer to the relevant instructions from the following pages:

- Entity
- Period
- Filters
- Options
- Format

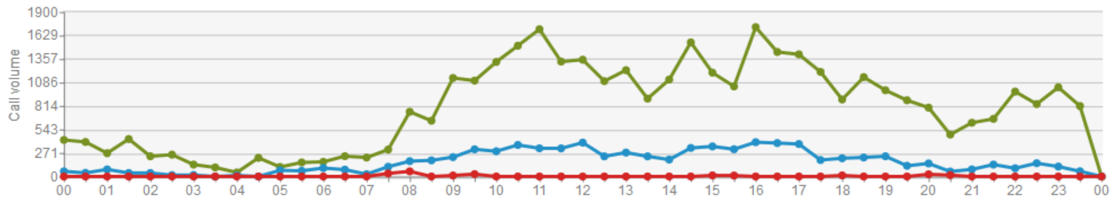
When you are ready to run the report, click on the Run now button, as shown below:



When the report has finished, its results will open in a new browser window. The example below shows a Call Analysis report in **Web** format:

My call analysis 2013-08-20 13:04:30

Top \ UK \ London \ Accounts \ About this report



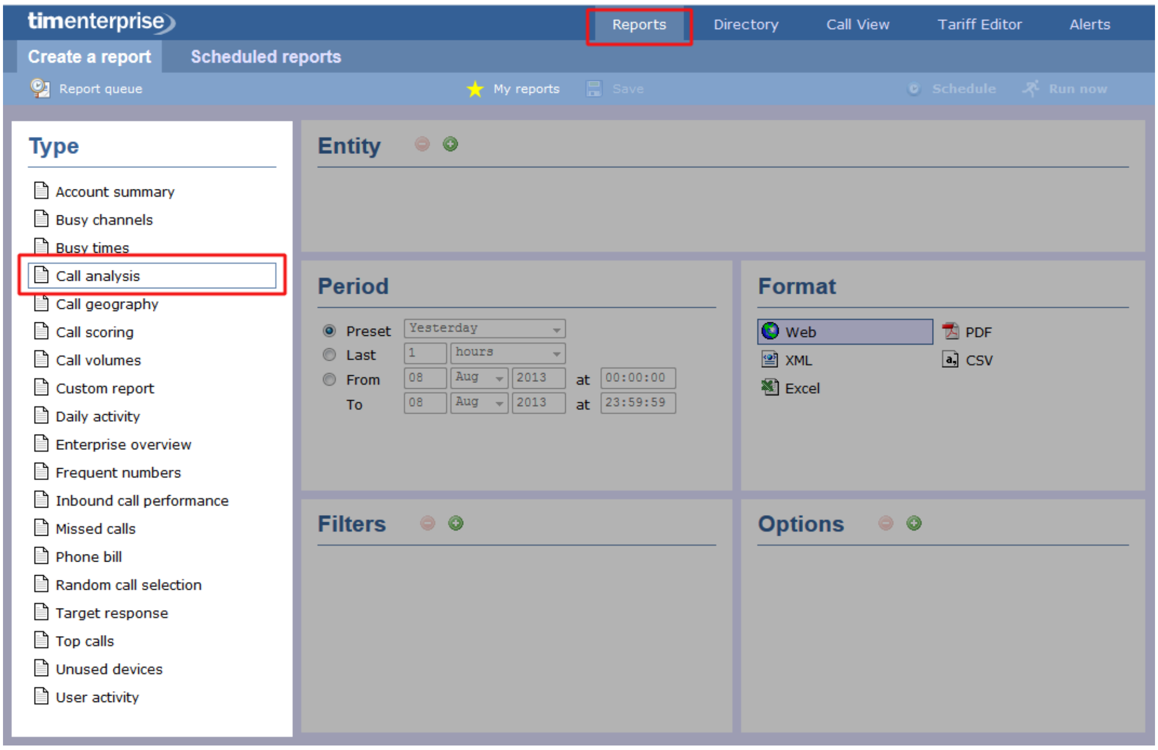
	Missed			Answered					Outbound					
		Duration (s)			Ring time (s)		Duration			Duration			Cost	
Time slot ▲	Σ	Max	Avg	Σ	Max	Avg	Max	Avg	Σ	Max	Avg	Total	Avg	Total
00:00 - 00:29	-	-	-	426	11	-	00:07:34	00:01:28	60	00:00:32	00:00:11	00:11:45	0.036	2.171
00:30 - 00:59	-	-	-	403	-	-	00:09:26	00:01:35	42	00:00:53	00:00:23	00:16:47	0.057	2.406
01:00 - 01:29	-	-	-	272	-	-	00:07:57	00:01:34	83	00:02:31	00:00:29	00:41:18	0.073	6.051
01:30 - 01:59	-	-	-	437	-	-	00:05:19	00:01:23	41	00:00:35	00:00:13	00:09:29	0.039	1.615
02:00 - 02:29	-	-	-	236	10	-	00:08:02	00:01:30	41	00:00:34	00:00:14	00:10:02	0.039	1.592
02:30 - 02:59	-	-	-	255	4	-	00:03:30	00:01:05	16	00:02:06	00:01:10	00:18:54	0.155	2.476
03:00 - 03:29	-	-	-	139	-	-	00:04:43	00:01:29	18	00:00:11	00:00:06	00:01:50	0.030	0.540
03:30 - 03:59	-	-	-	106	-	-	00:09:51	00:01:16	-	-	-	-	-	-
04:00 - 04:29	-	-	-	47	8	1	00:01:35	00:00:43	13	00:00:34	00:00:13	00:03:01	0.038	0.490
04:30 - 04:59	-	-	-	218	19	2	00:06:12	00:00:51	-	-	-	-	-	-
05:00 - 05:29	-	-	-	111	25	2	00:06:33	00:01:20	72	00:02:25	00:00:29	00:35:17	0.073	5.276
05:30 - 05:59	-	-	-	164	8	1	00:11:33	00:01:33	66	00:00:49	00:00:14	00:15:26	0.040	2.628
06:00 - 06:29	-	-	-	171	25	2	00:05:11	00:01:10	99	00:00:35	00:00:09	00:16:21	0.033	3.290
06:30 - 06:59	-	-	-	237	13	-	00:05:14	00:01:10	80	00:00:34	00:00:10	00:13:58	0.034	2.696
07:00 - 07:29	-	-	-	221	25	1	00:06:54	00:01:29	27	00:00:29	00:00:13	00:06:07	0.038	1.029
07:30 - 07:59	36	51	16	314	39	2	00:03:31	00:00:52	114	00:26:48	00:02:24	04:33:49	0.149	16.997

If the results window does not appear after running your report, it may be because your browser is using a pop-up blocker. You should exclude pop-up blocking for the host name of the computer running TIM Enterprise.

Scheduling reports

How to schedule a report?

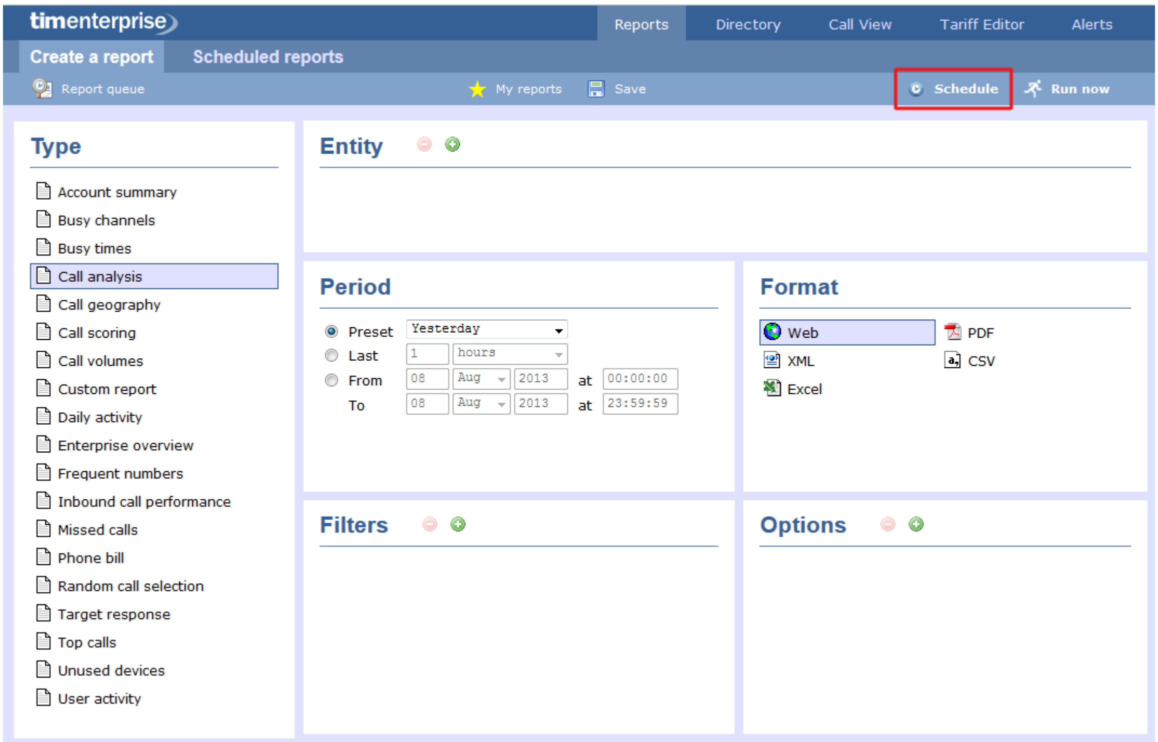
To schedule a report, click on the Reports tab and select the report you want to run from the available list on the left-hand side of the screen, as shown below:



To change any of the report's parameters, refer to the relevant page(s) in the list below:

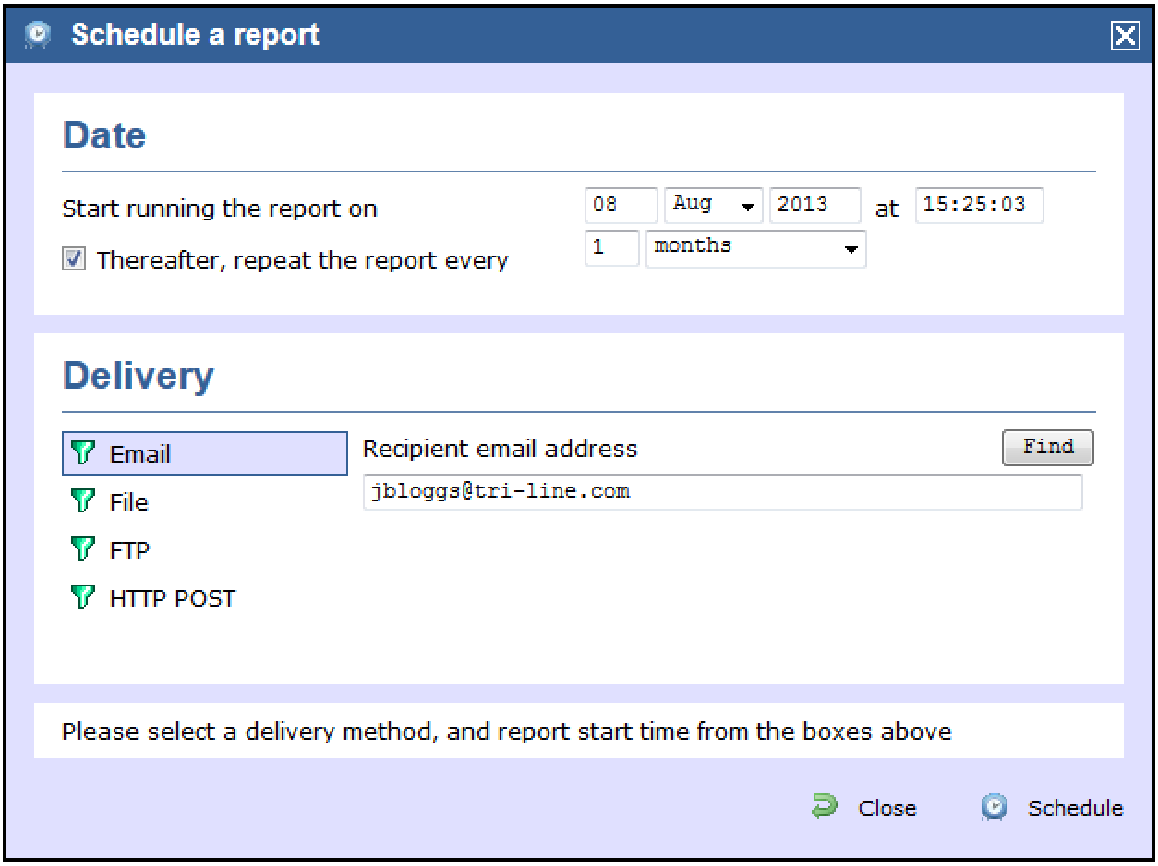
- Entity
- Period
- Filters
- Options
- Format

When you have configured these parameters, click on the Schedule button, as shown below:



A new window will open, where you can set the scheduling parameters of the report:

- when you want the report to first run
- how frequently you want the report to run
- how you want the report delivered
- who should receive the report

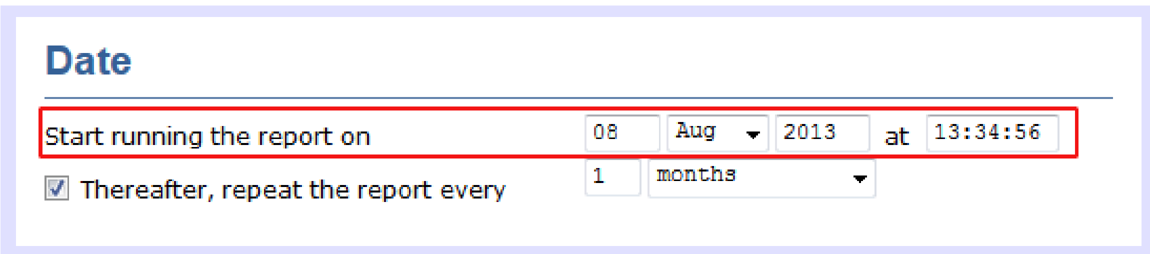


Scheduling parameters

The properties of a scheduled reports are web user specific, and can be seen or edited only by the web user that initially added the report in the system.

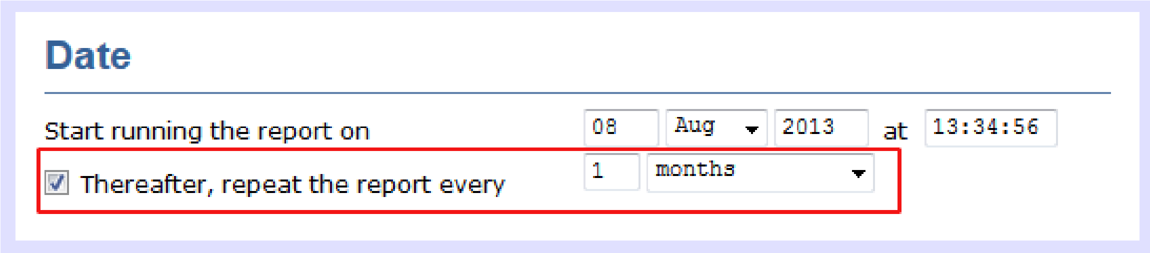
When do you want the first report to run?

Enter the future date and time that you want the report to run at, as shown below:



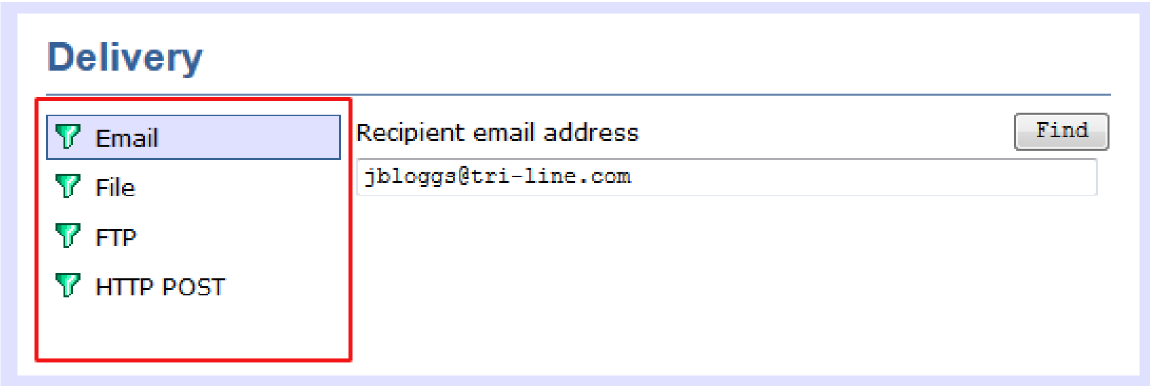
How often do you want the report to recur?

If you want the report to recur, tick the `Thereafter, repeat the report` box and select the frequency for re-runs from the drop-down list, as shown below:



How do you want the report delivered?

Select the method by which you want your report to be delivered and enter the destination parameters, as explained in the table below:



<table>
<tr><th>Delivery method</th><th>Description</th></tr>
<tr><td>E-mail</td><td>

Enter the e-mail address that you want the report to be delivered to
If you want the report to be e-mailed to more than one person, separate each address using the <code>;</code> symbol.

</td></tr>
<tr><td>File</td><td>

Type the full filename, including folder, of the location that you want the report to be saved as, e.g. <code>C:\My Reports\My Call Analysis.html</code>
The filename can include the following variables:

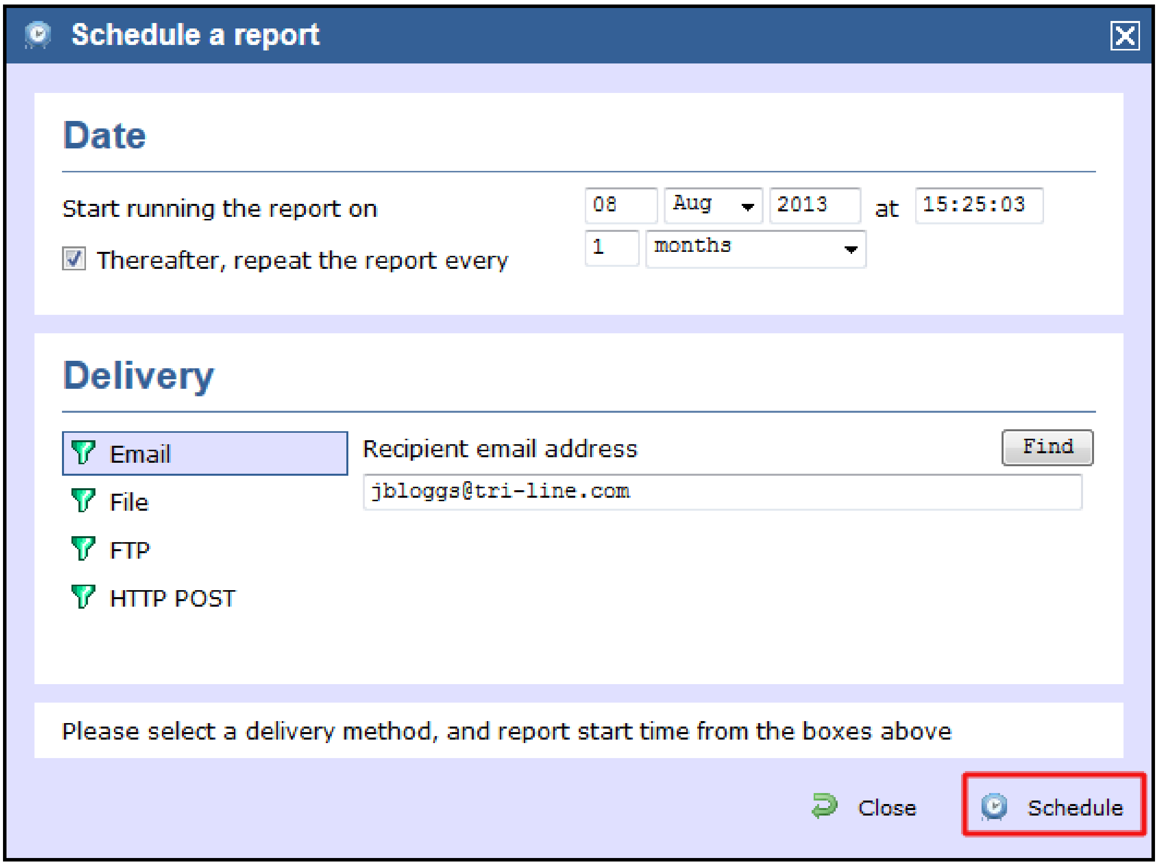
<table>
<tr><th>Variable</th><th>Description</th></tr>
<tr><td><code>{year}</code></td><td>The current year</td></tr>
<tr><td><code>{month}</code></td><td>The current month</td></tr>
<tr><td><code>{week}</code></td><td>The current week number</td></tr>
<tr><td><code>{day}</code></td><td>The current day of the month</td></tr>
<tr><td><code>{hhmmss}</code></td><td>The time that the report ran, in a compact hours, minutes and seconds format</td></tr>
<tr><td><code>{name}</code></td><td>The name given to the report</td></tr>
<tr><td><code>{uiv}</code></td><td>A unique numeric report identifier</td></tr>
</table>

To save the report to a network share, specify the filename using a UNC path. You must ensure that the user account running the TIM Enterprise service has access privileges to write to the file you have specified.

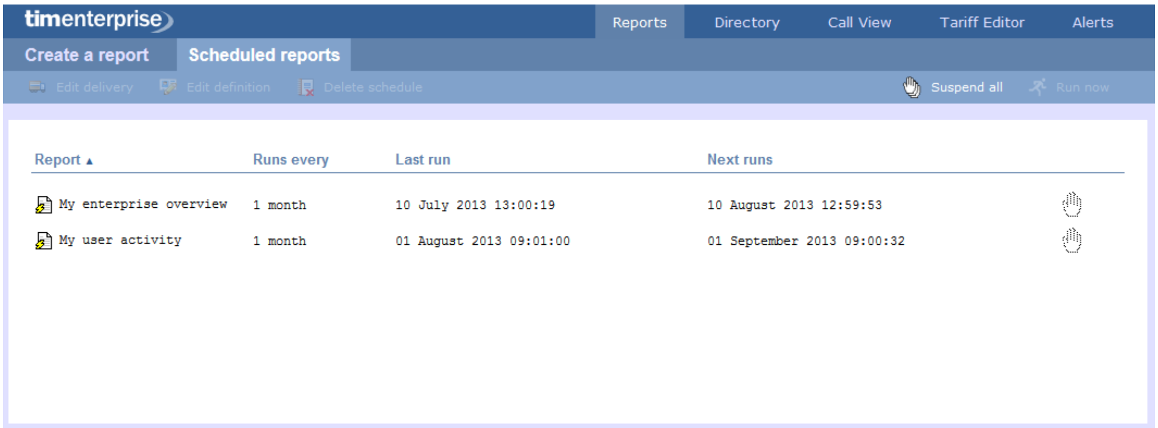
</td></tr>
</table>

<table>
<tr><td>FTP</td><td>
<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td><code>Host IP : port</code></td><td>Enter the IP address or host name of the FTP server.</td></tr>
<tr><td><code>Remote folder</code></td><td>Enter the name of the folder where you want the report to be saved.</td></tr>
<tr><td><code>Username</code></td><td>Enter the username required to connect to the FTP server.</td></tr>
<tr><td><code>Password</code></td><td>Enter the password required to connect to the FTP server.</td></tr>
</table>
</td></tr>
<tr><td>HTTP POST</td><td>
<table>
<tr><th>Field</th><th></th></tr>
<tr><td><code>Host IP : port</code></td><td>Enter the IP address and port number of the Web server.</td></tr>
<tr><td><code>Remote script</code></td><td>Enter the name of the script used to post the file to the Web server.</td></tr>
<tr><td><code>Username</code></td><td>Enter the username required to connect to the Web server, if applicable.</td></tr>
<tr><td><code>Password</code></td><td>Enter the password required to connect to the FTP server, if applicable.</td></tr>
</table>
</td></tr>
</table>

When you have configured the scheduling parameters, click on the Schedule button to save the report's definition.

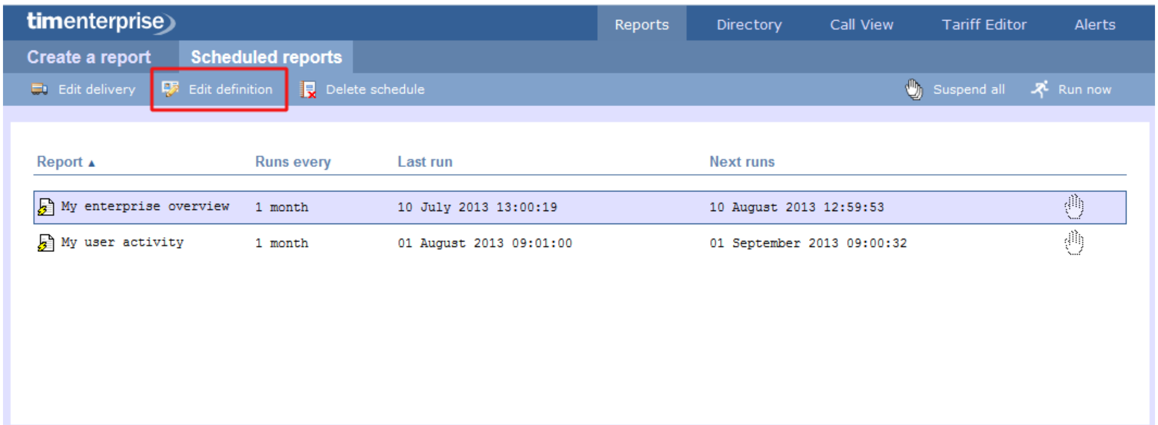


The newly-scheduled reports will be added to the `Scheduled reports` list, as shown below:

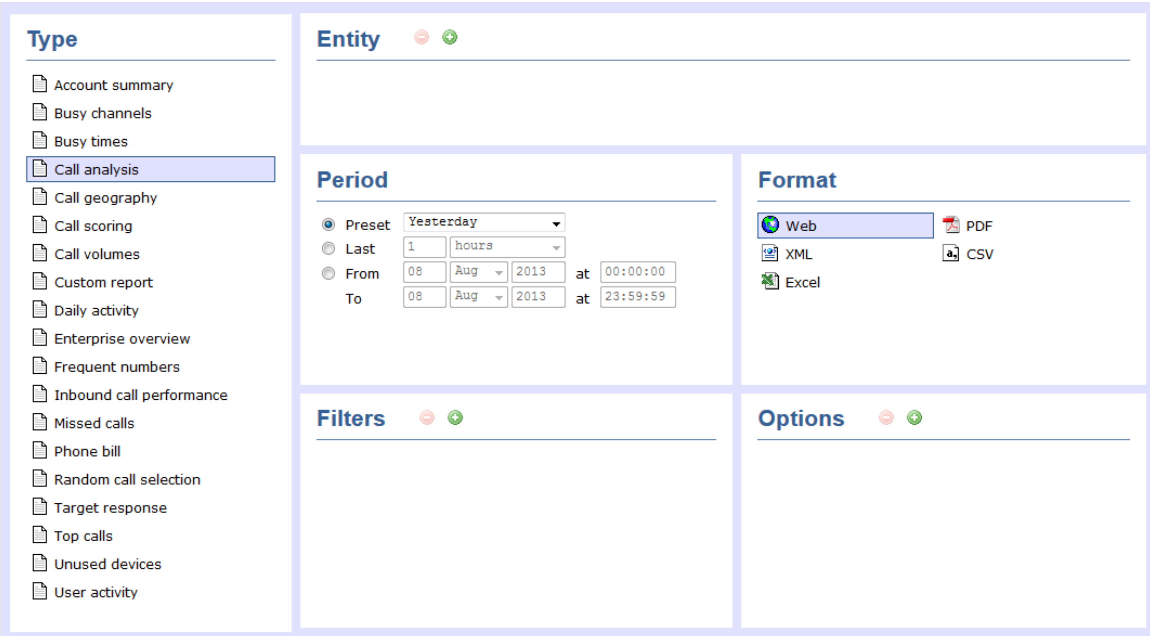


Editing the report definition

To edit the definition of a scheduled report, select it from the **Scheduled reports** list and click on the Edit definition button, as shown below:



A new window will open, where you can edit the entity, period, filters, options and format of the report.

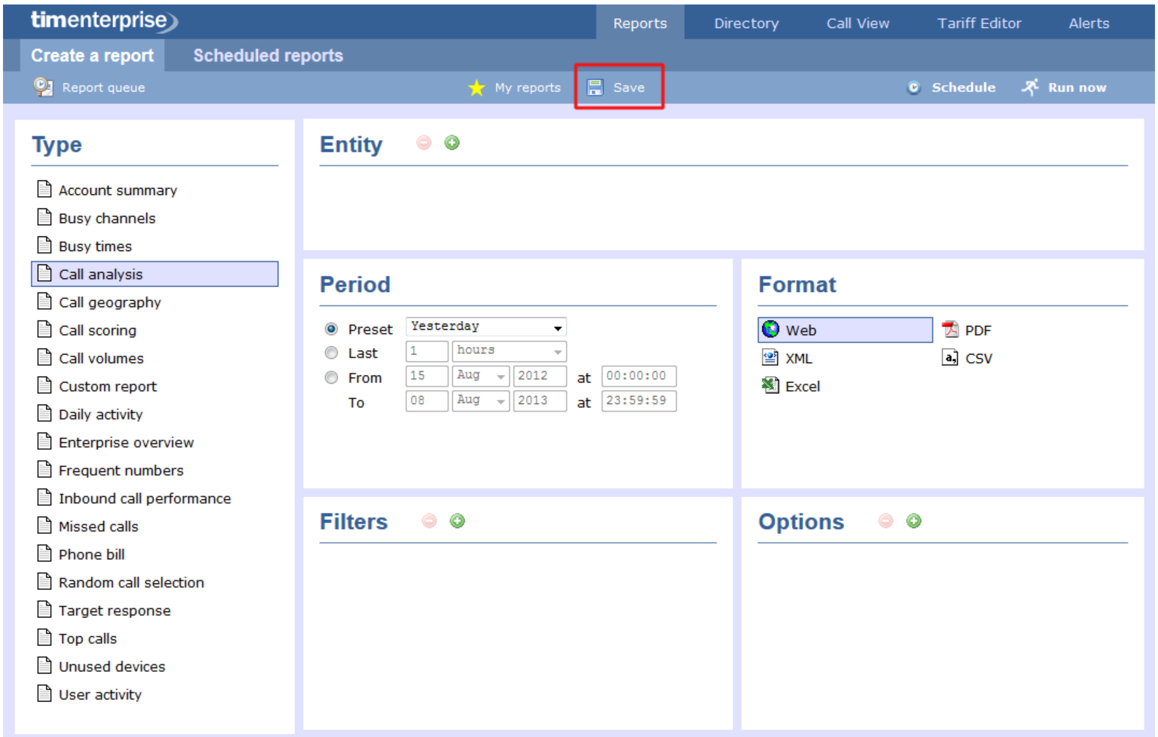


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period

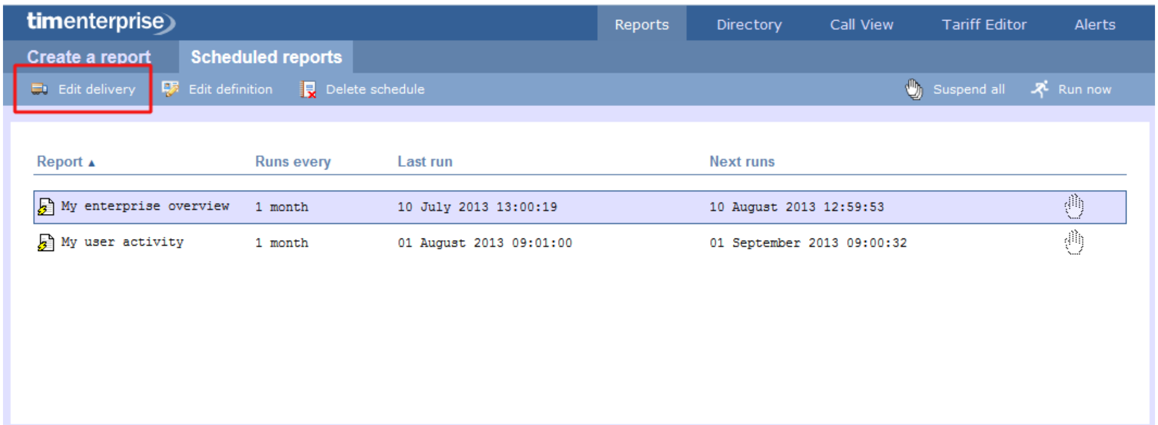
- Filters
- Options
- Format

To apply any changes to the report's definition, click on the Save button, as shown below:

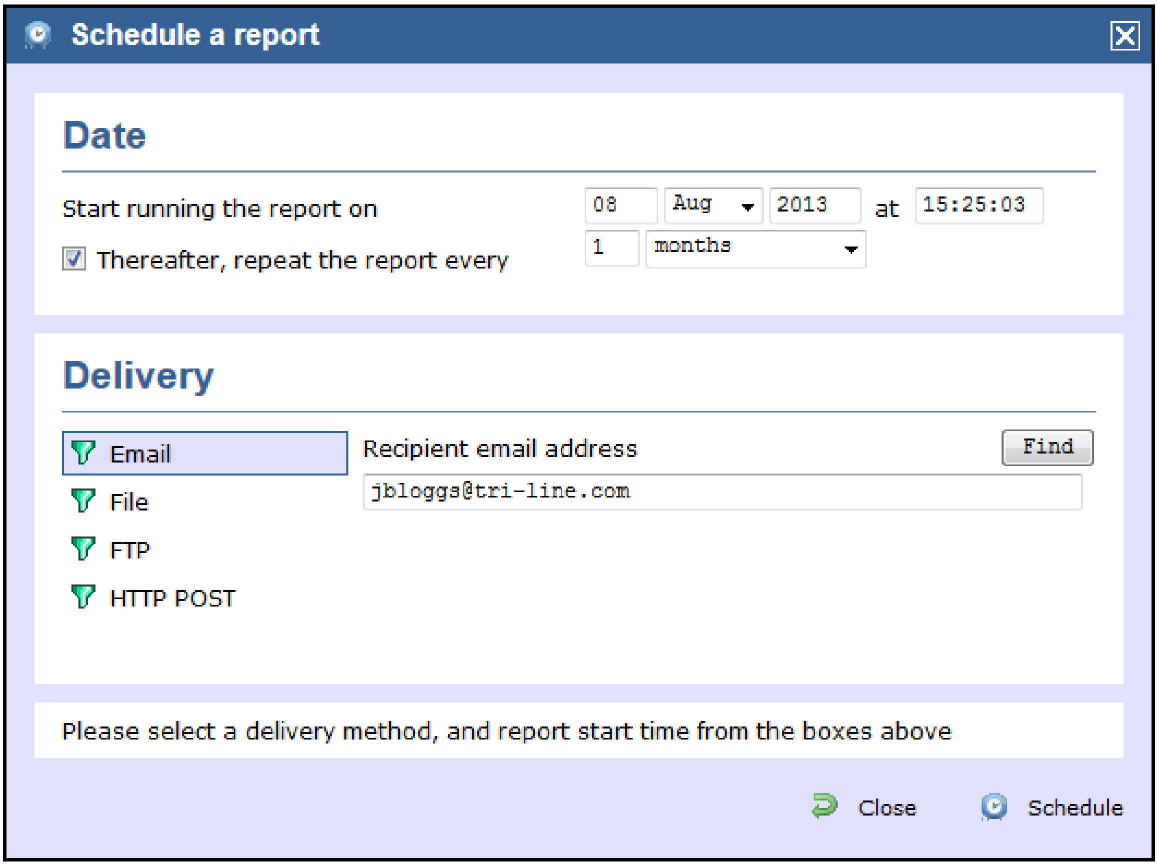


Editing the report delivery

To edit the delivery of a report, select it from the `Scheduled reports` list and click on the Edit delivery button, as shown below:



A new window will open, allowing you to edit the scheduling parameters of the report. For details about how to configure these parameters, refer to the Scheduling parameters section above.



Suspending a scheduled report

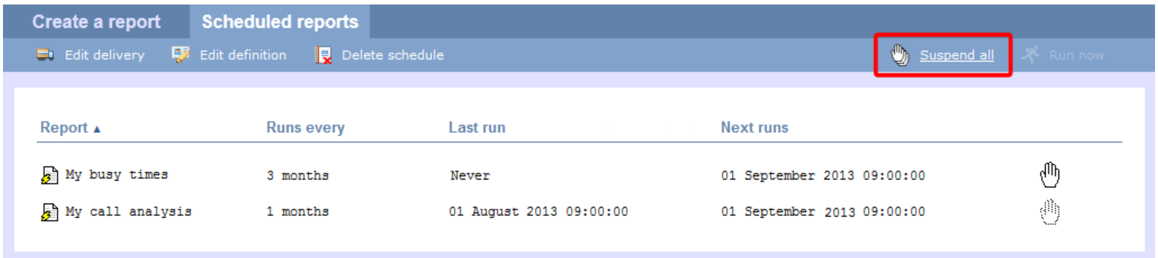
Suspend a report

To temporarily suspend the delivery of a report, select it from the `Scheduled reports` list and click on the icon, as shown below:

The icon will now become , highlighting the report is suspended, as shown below:

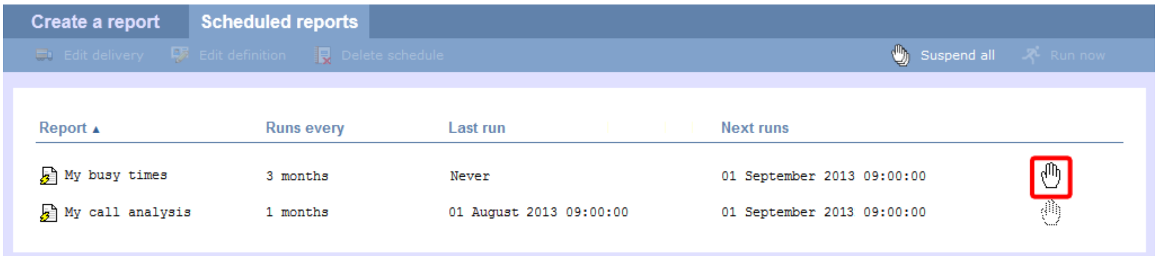
Suspend all reports

To suspend all of your scheduled reports, click on the Suspend all button at the top-right of the screen, as shown below:



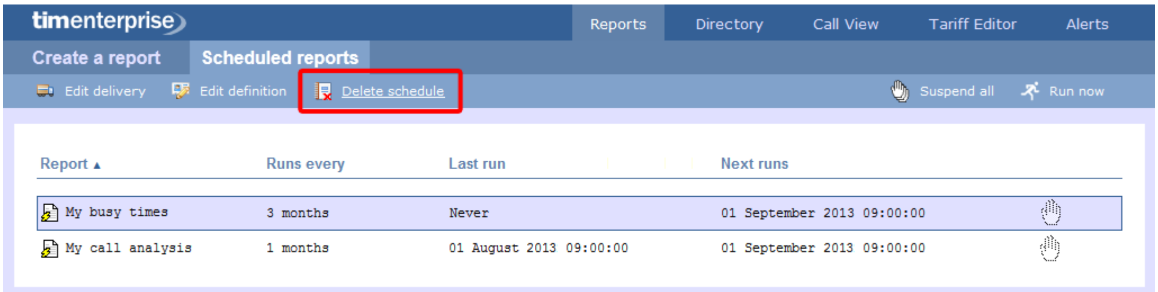
Resume running a suspended report

To resume running a suspended report, click on the icon, as shown below:

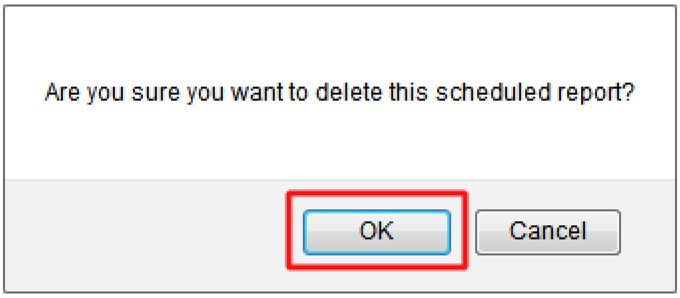


Deleting a scheduled report

To delete a scheduled report, select it from the **`Scheduled reports`** list and click on the Delete schedule button at the top-left of the screen, as shown below:

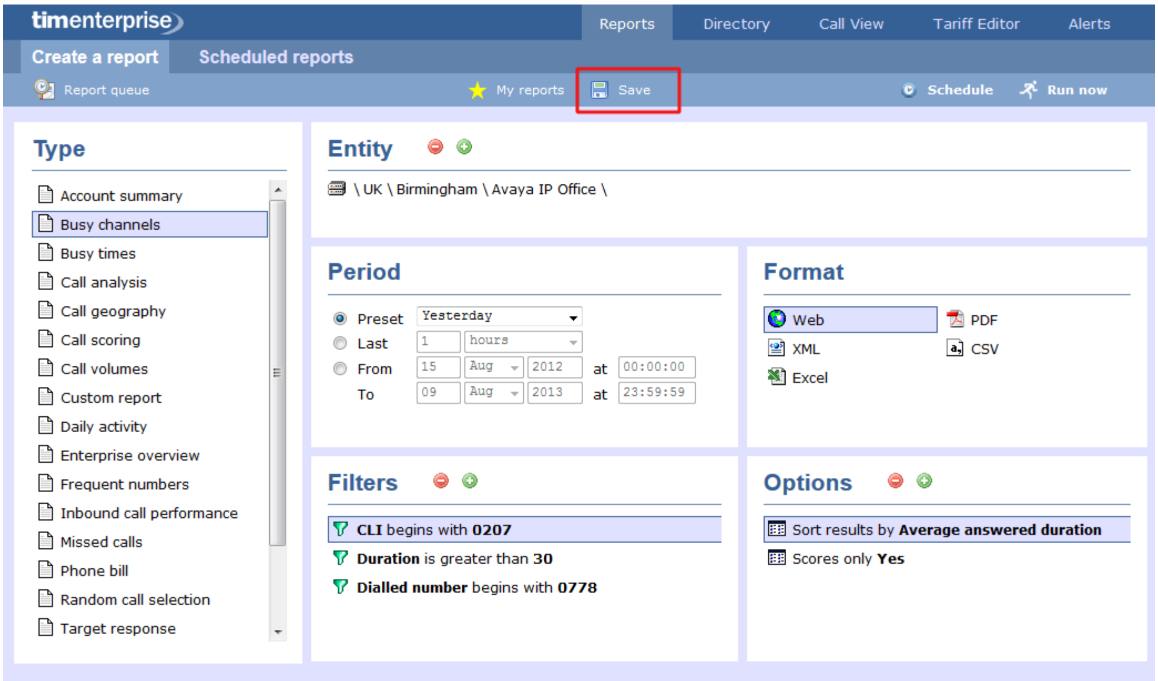


When prompted to confirm the deletion, click on the OK button to remove the report from the system.

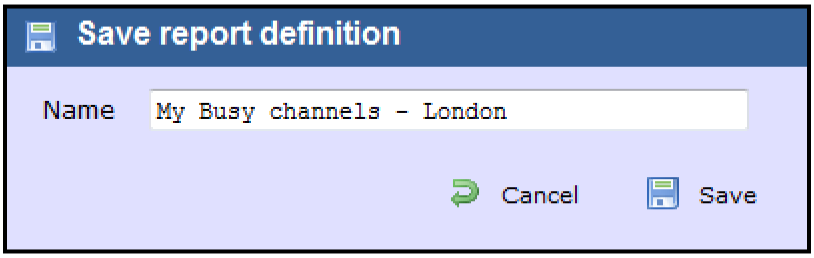


Saving reports

To save the definition of a complex report that you may need to re-run at a later time, configure its parameters and click on the Save butt on at the top-centre of the screen, as shown below:

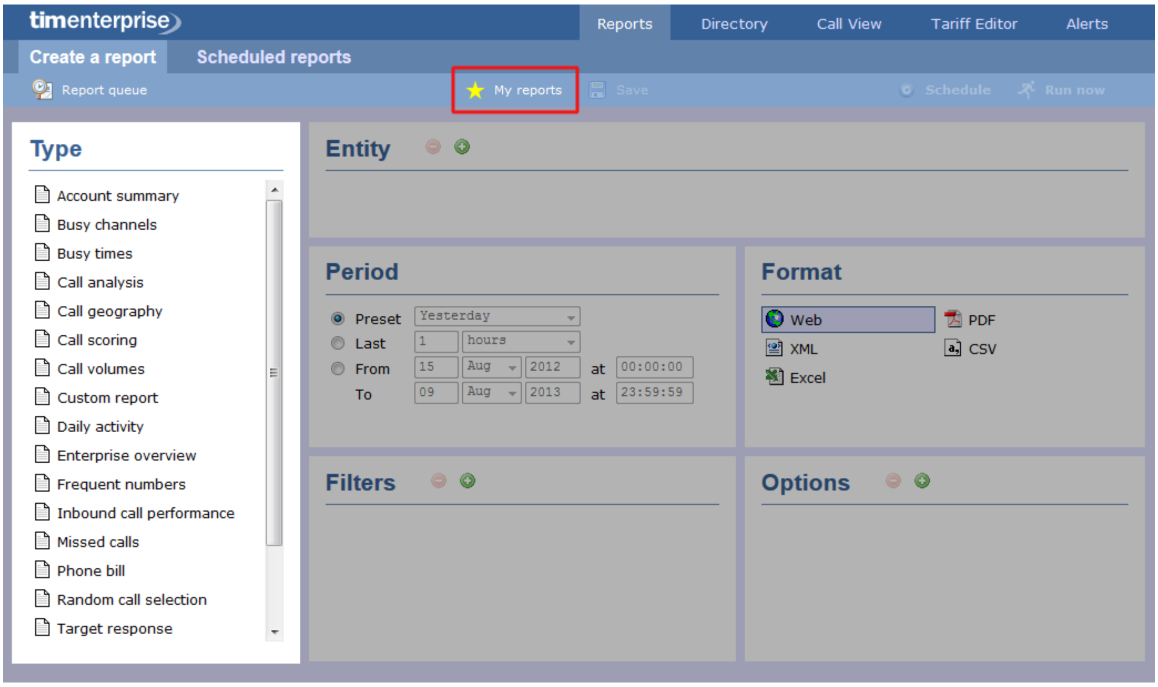


A new window will appear, allowing you to name the report's definition.

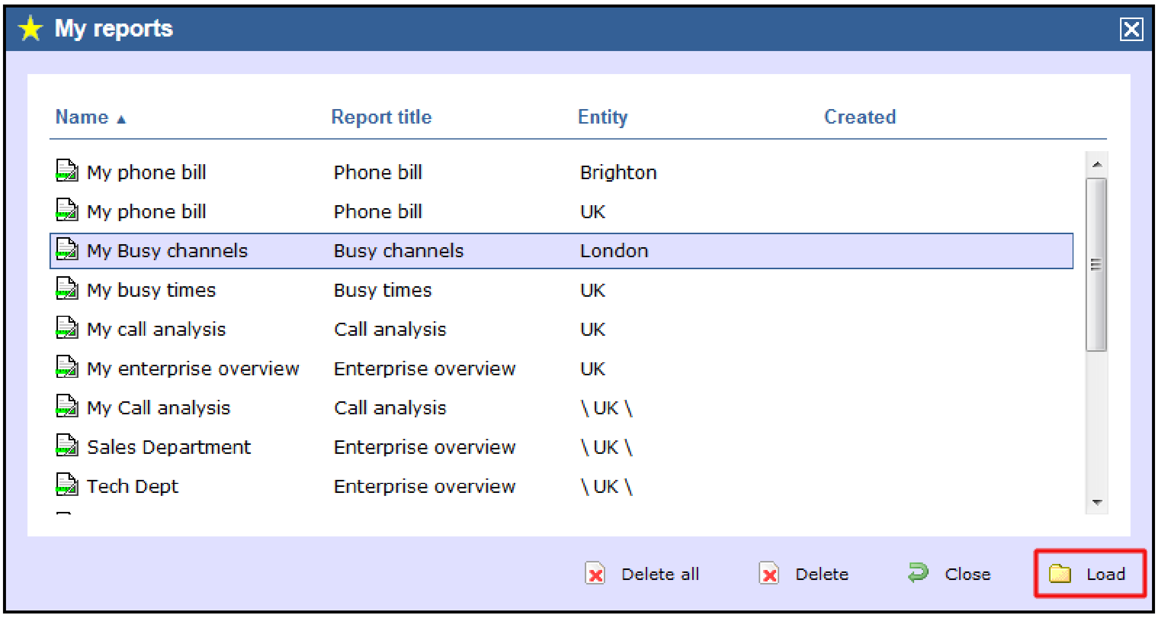


Accessing a saved report

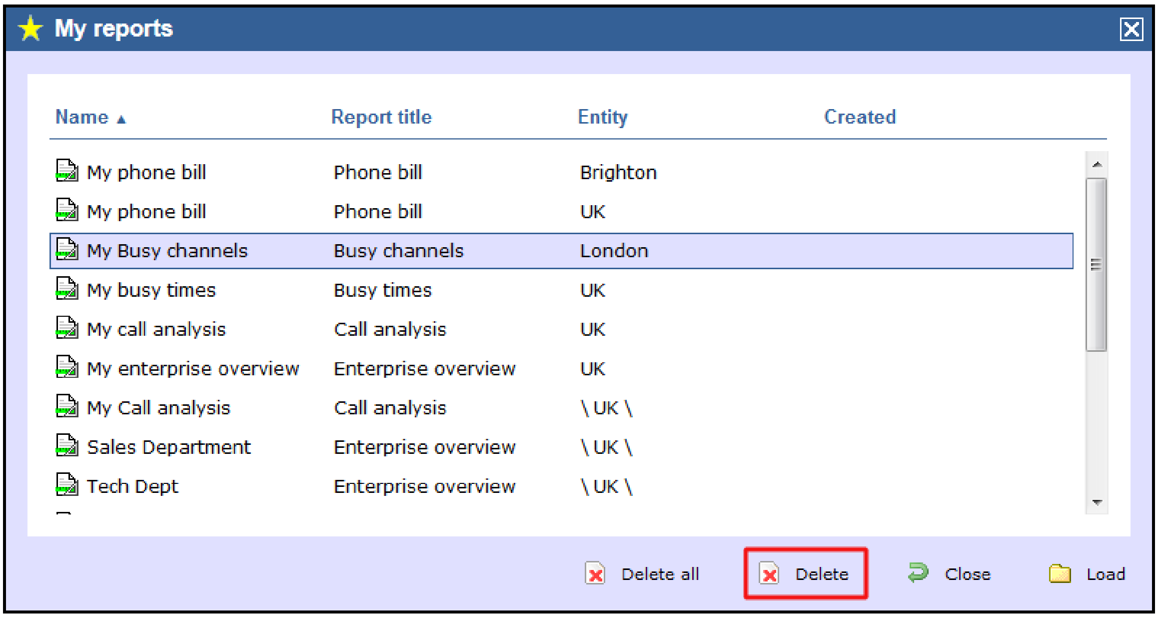
To access a saved report, click on the My reports button at the top-centre of the screen, as shown below:



A new window will open, displaying a list with all the reports previously saved in the system. To run or edit the properties of a report, select it from the list and click the Load button, as shown below:



To delete a saved report, select it from the list and click on the Delete button, as shown below:



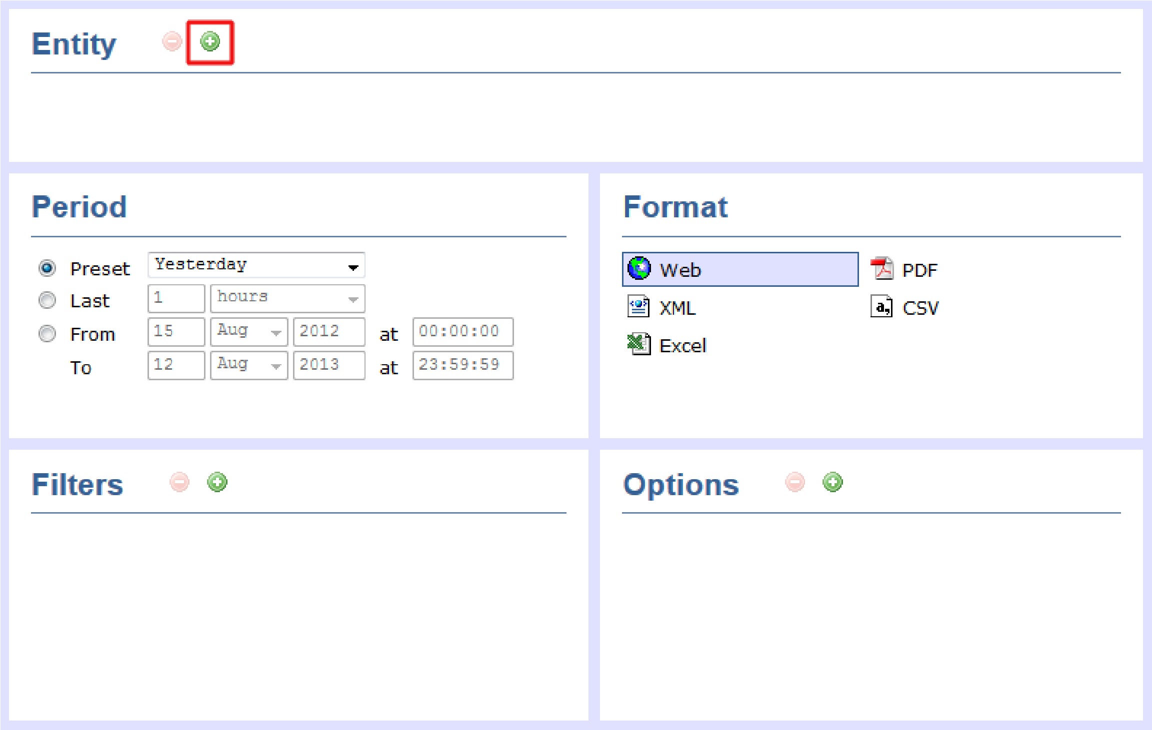
Report parameters

Entity

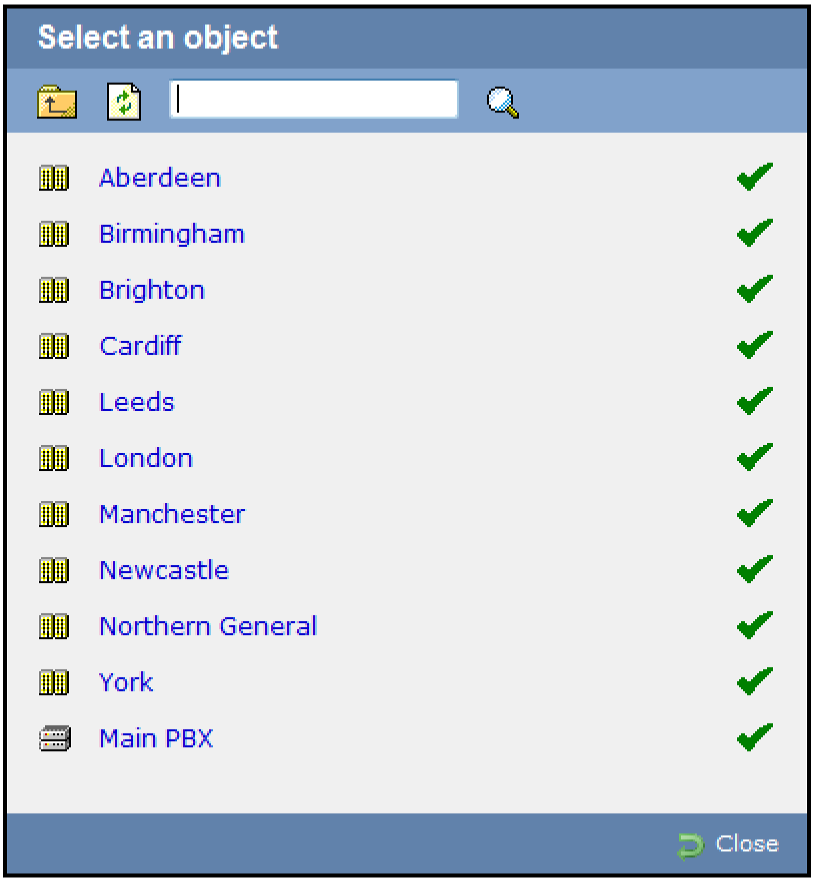
The **Entity** parameter allows you to select the part of your organisation whose calls the report should include, e.g. a site, a group or an individual user.

Selecting an entity

To select an entity, click on the  button, as shown below:

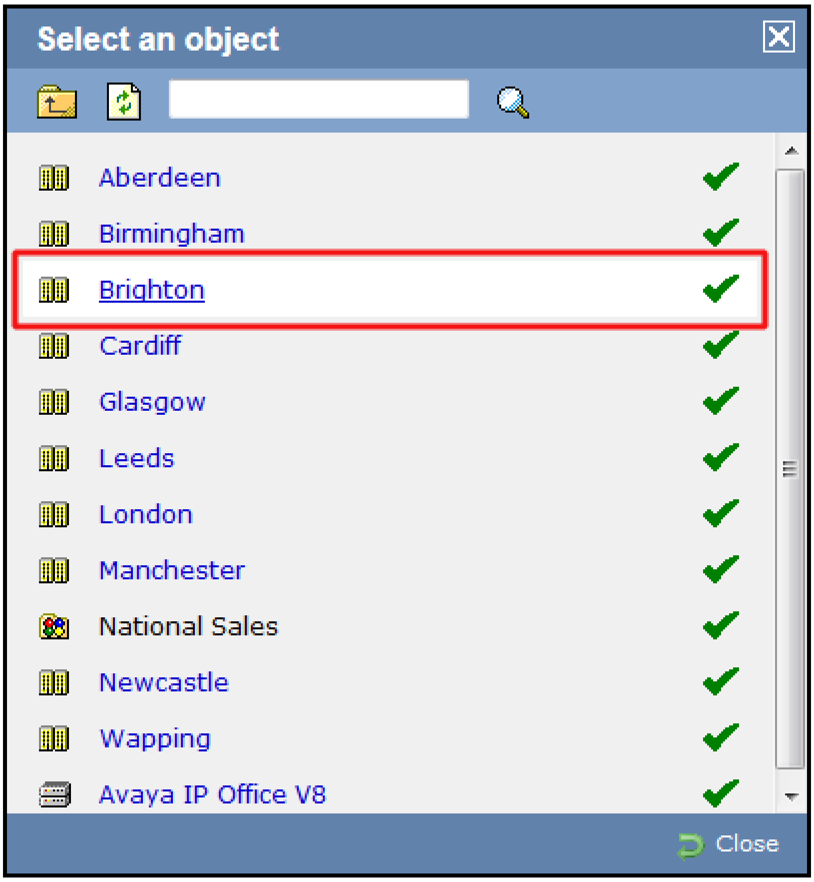


A new window will open, allowing you to navigate through the Directory in order to locate the entity you want to report on.

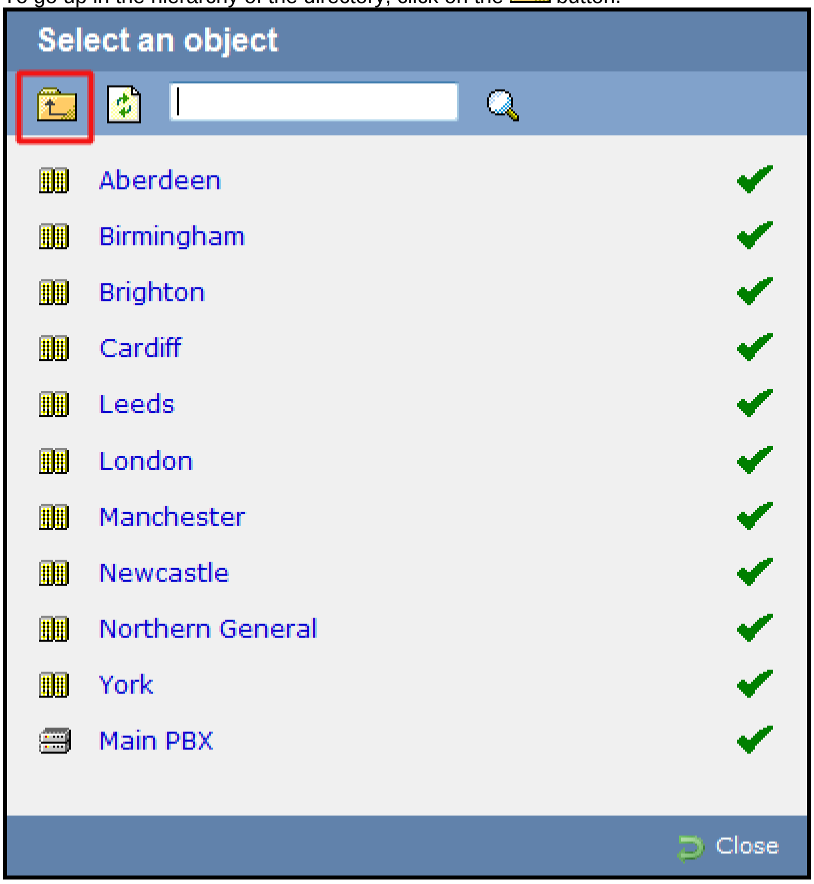


If your web account is restricted to a specific part of the Directory, only those entities which you are allowed to access will show in this window.

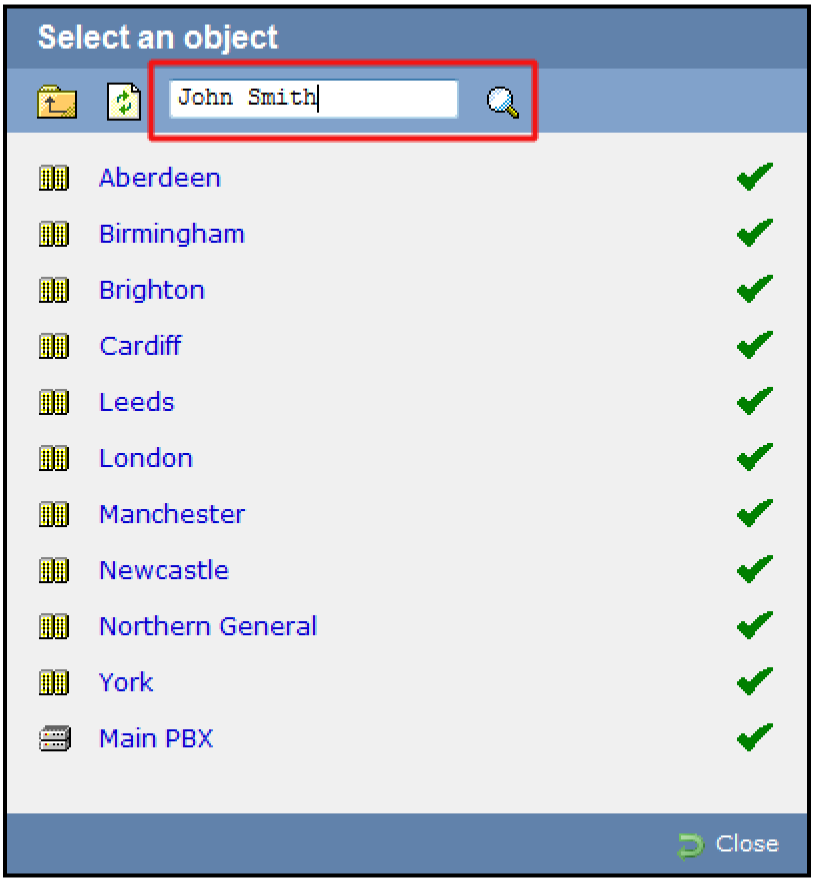
To drill-down into the directory structure, click on a hyperlink.



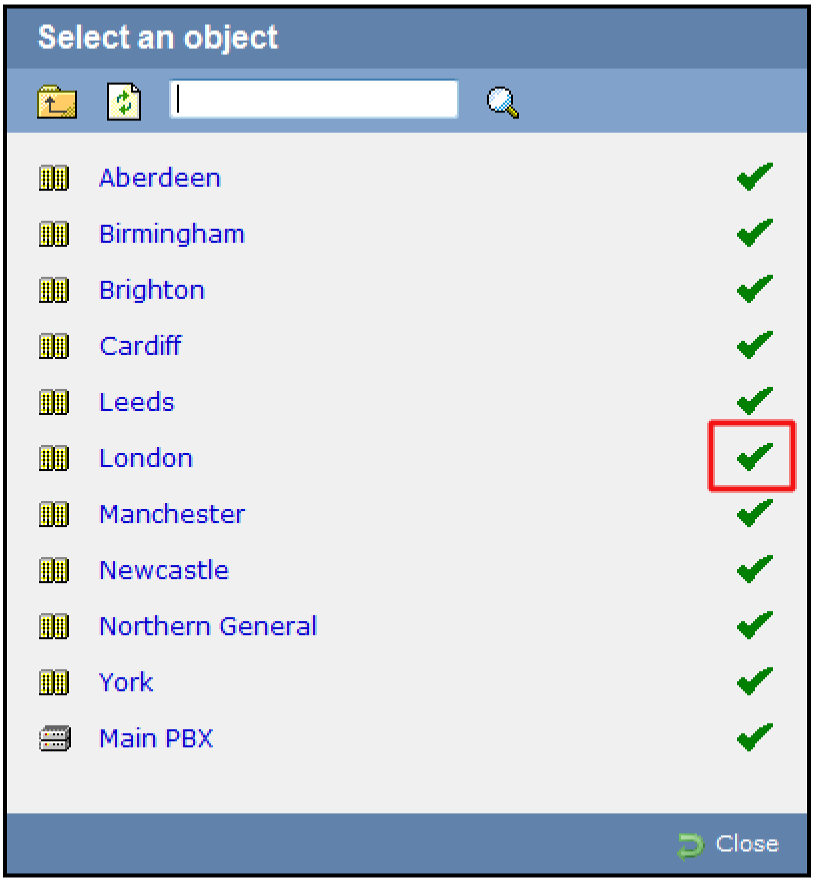
To go up in the hierarchy of the directory, click on the button.



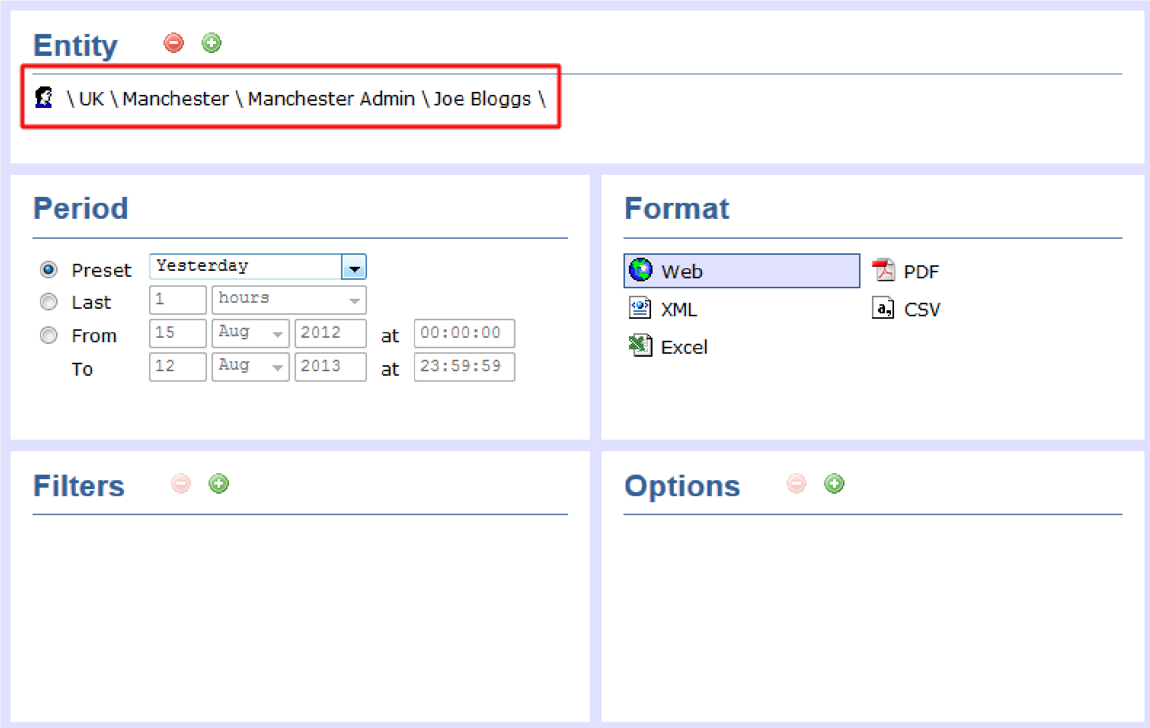
To search for a specific entity, e.g. site, group or user, enter its name in the search bar at the top of the window and click on the icon.



To select an entity, click on the icon alongside it.

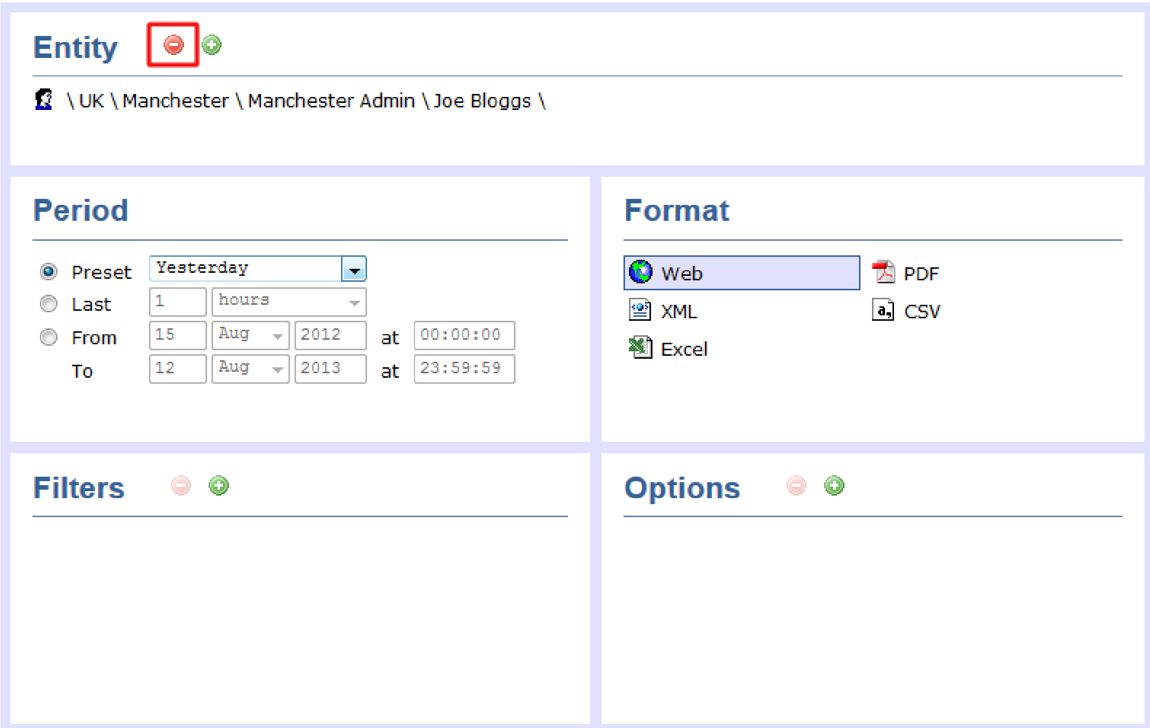


The name and directory path of the selected entity will be added in the `Entity` field, as shown below:



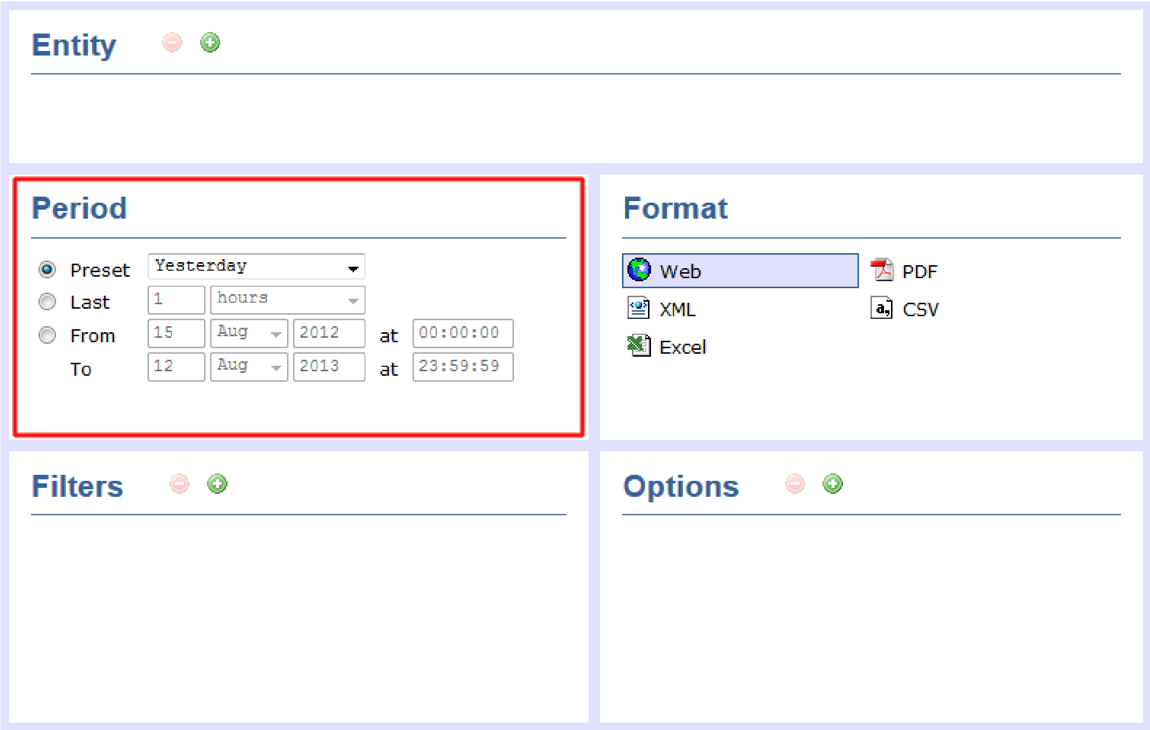
Deleting an entity

To delete an entity, select it from the `Entity` field and click on the button, as shown below:



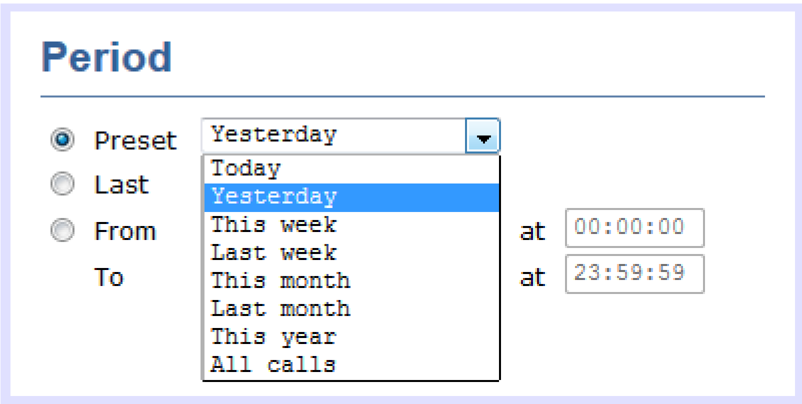
Period

The `Period` parameter allows you to specify a time span that covers the calls you want the report to include. This is known as the "reporting period".



Preset period

The **`Preset`** option contains several reporting periods available for selection, based on the standard Gregorian calendar. The table below describes how the start and end times are defined for each preset period:

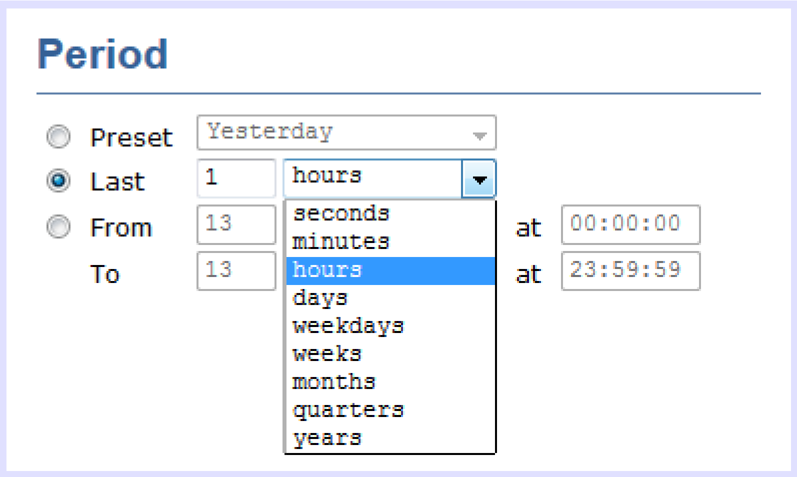


Period	Description
Today	The start and end dates are set to the current date. The start time is set to `00:00:00` and the end time to `23:59:59`.
Yesterday	The start and end dates are set to the current date minus one day. The start time is set to `00:00:00` and the end time to `23:59:59`.
This week	The start date is set to the first day of the current week (normally Monday). The end date is set to the current day. The start time is set to `00:00:00` and the end time to the current time.
Last week	The start date is set to the date of the last Monday, and the end date is set to the start date plus seven days. The start time is set to `00:00:00` and the end time to `23:59:59`.
This month	The start date is set to the first day of the current month. The end date is set to the current day. The start time is set to `00:00:00` and the end time to the current time.
Last month	The start date for this period is set in three stages: The day is set to the first day of the month. The month is set to the previous month. The year is set to the current year, unless it is currently January, in which case, the previous year is used. The start and end times are set to `00:00:00` and `23:59:59` respectively.

This year	The start date is set to the first day of the first month of the current year, whilst the end date is set to today's date. The start and end times are set to `00:00:00` and `23:59:59` respectively.
All calls	The start and end dates and times are set to the dates and times of the first and last call in the entire call database, respectively.

Last period

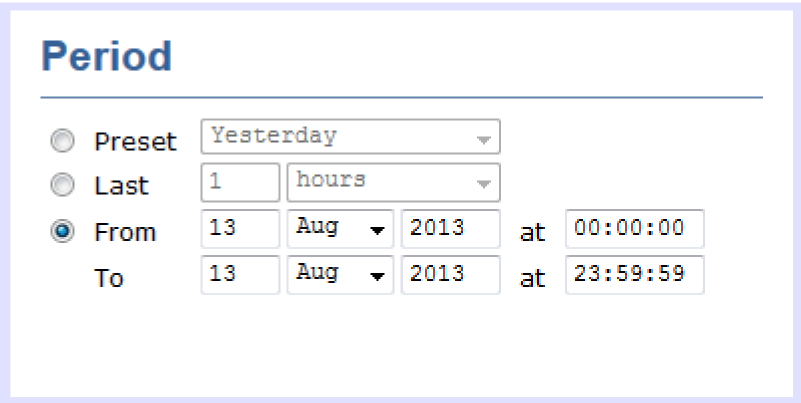
The `Last` period option is an alternative to the preset periods described above, allowing you to choose the number of minutes, days, months etc, you want to run the report for.



The start and end times are defined as for the `Preset` periods described above. For example, `Last week` is defined as Monday to Sunday of the previous week, while `Last 7 days` is the preceding 7 days from the current day.

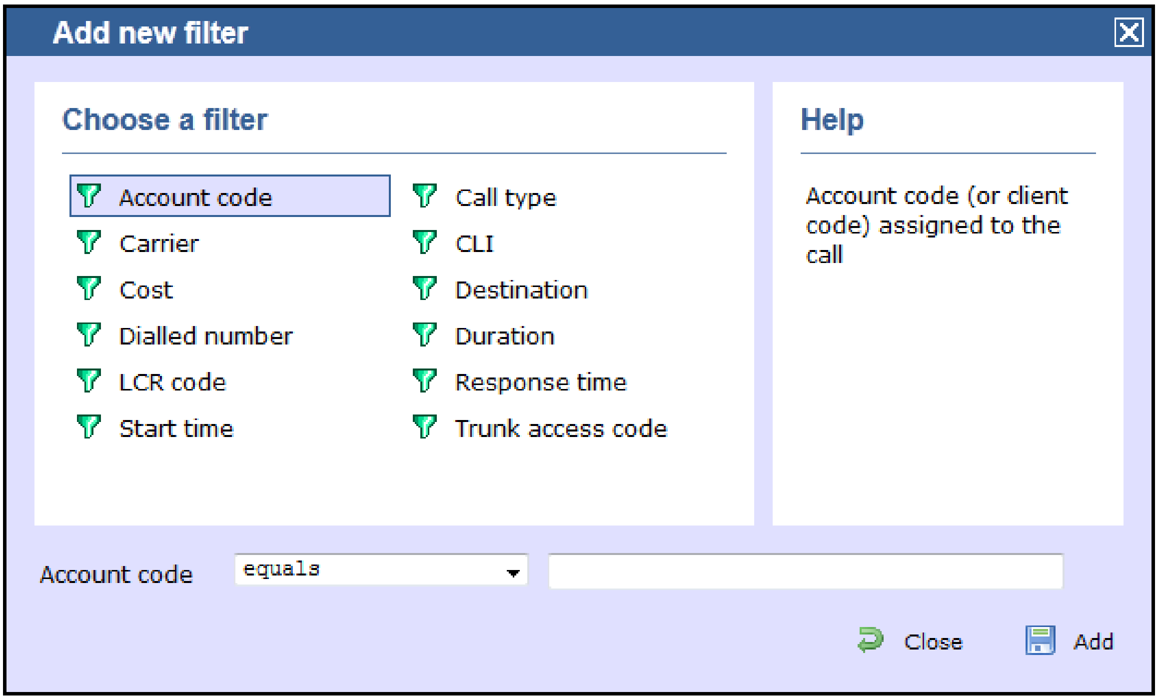
Custom period

In addition to the presets described above, it is possible to specify a custom reporting period by choosing `Custom period` from the `Period` drop-down list and specifying your own `Start date`, `Start time`, `End date` and `End time` of the period you want to report on.



Filters

The `Filter` parameter allows you to add one or more filters to your report in order to narrow down your search results. Each filter consists of two elements: a text box where you can enter the filtering value and a drop-down list containing the criteria by which this value should be matched in the results.



A list describing all filters available in TIM Enterprise is presented below; however, note that not all filters are relevant to all reports.

Click filter for details

Account code	LCR code	Destination
Carrier	Start time	Duration
Cost	Call type	Response time
Dialled number	CLI	Trunk access code

Account code

To filter a report by account code, enter the relevant value in the box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description
`equals`	Search for calls whose account code matches a particular value. In the example below, the results will show only calls whose account code is `1140`. Account Code — equals — 1140
`is not equal to`	Exclude calls whose account code matches a particular value. In the example below, the results will exclude calls whose account code is `1140`. Account code — is not equal to — 1140

begins with	Search for calls whose account code begins with a particular combination of digits. In the example below, the results will show only calls whose account code begins with **11**. Account code | begins with | 11
does not begin with	Exclude calls whose account code begins with a particular combination of digits. In the example below, the results will exclude calls whose account code begins with **11**. Account code | does not begin with | 11
ends with	Search for calls whose account code ends with a particular combination of digits. In the example below, the results will show only calls whose account code ends with **40**. Account codes | ends with | 40
does not end with	Exclude calls whose account code ends with a particular combination of digits. In the example below, the results will exclude calls whose account code ends with **40**. Account codes | does not end with | 40
contains	Search for calls whose account code contains a particular combination of digits. In the example below, the results will show only calls whose account code contains **14**. Account codes | contains | 14
does not contain	Exclude calls whose account code contains a particular combination of digits. In the example below, the results will exclude calls whose account code contains **14**. Account codes | does not contain | 14

Carrier

The carrier is the tariff table used to cost calls. If you use more than one carrier, you can choose to filter your results by displaying or excluding calls routed over a particular carrier.

Criteria	Description
equals	Search for calls that were routed over a particular carrier. In the example below, the results will show only calls routed over **BT** carrier. Carrier | equals | BT
is not equal to	Exclude calls that were routed over a particular carrier. In the example below, the results will exclude calls routed over **BT** carrier. Carrier | is not equal to | BT

Cost

You can define a cost filter to include calls above or below specific values by entering your criteria, as shown below:

Criteria	Description
`is greater than`	Search for calls whose cost is greater than a particular value. In the example below, the results will show only calls whose cost is greater than `5.00`. Cost is greater than ▼ 5.00
`is less than`	Search for calls whose cost is less than a particular value. In the example below, the results will show only calls whose cost is less than `15.00`. Cost is less than ▼ 15.00
`equals`	Search for calls whose cost is equal to a particular value. In the example below, the results will show only calls whose cost is `7.00`. Cost equals ▼ 7.00
`is not equal to`	Exclude calls whose cost is equal to a particular value. In the example below, the results will exclude calls whose cost is `1.00`. Cost is not equal ▼ 1.00

Dialled number

To filter a report by dialled number, enter the relevant value in the box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description
`equals`	Search for calls whose dialled number matches a particular value. In the example below, the results will show only calls whose dialled number is `02072652600`. Dialled number equals ▼ 02072652600
`is not equal to`	Exclude calls whose dialled number matches a particular value. In the example below, the results will exclude calls whose dialled number is `02072652600`. Dialled number is not equal to ▼ 02072652600
`begins with`	Search for calls whose dialled number begins with a particular combination of digits. In the example below, the results will show only calls whose dialled number begins with `00`. Dialled number begins with ▼ 00
`does not begin with`	Exclude calls whose dialled number begins with a particular combination of digits. In the example below, the results will exclude calls whose dialled number begins with `00`. Dialled number does not begin with ▼ 00

`ends with`	Search for calls whose dialled number ends with a particular combination of digits. In the example below, the results will show only calls whose dialled number ends with **2600**. Dialled number | ends with | 2600
`does not end with`	Exclude calls whose dialled number ends with a particular combination of digits. In the example below, the results will exclude calls whose dialled number ends with **2600**. Dialled number | does not end with | 2600
`contains`	Search for calls whose dialled number contains a particular combination of digits. In the example below, the results will show only calls whose dialled number contains **265**. Dialled number | contains | 265
`does not contain`	Exclude calls whose dialled number contains a particular combination of digits. In the example below, the results will exclude calls whose dialled number contains **265**. Dialled number | does not contain | 265

LCR code

To filter your results by Least Cost Routing (LCR) code, enter it in the box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description
`equals`	Search for calls whose LCR code matches a particular value. In the example below, the results will show only calls whose LCR code is **1470**. LCR code | equals | 1470
`is not equal to`	Exclude calls whose LCR code matches a particular value. In the example below, the results will exclude calls whose LCR code is **1470**. LCR code | is not equal to | 1470
`begins with`	Search for calls whose LCR code begins with a particular combination of digits. In the example below, the results will show only calls whose LCR code begins with **14**. LCR code | begins with | 14
`does not begin with`	Exclude calls whose LCR code begins with a particular combination of digits. In the example below, the results will exclude calls whose LCR code begins **14**. LCR code | does not begin with | 14

ends with	Search for calls whose LCR code ends with a particular combination of digits. In the example below, the results will show only calls whose LCR code ends with **70**. LCR code | ends with | 70
does not end with	Exclude calls whose LCR code ends with a particular combination of digits. In the example below, the results will exclude calls whose LCR code is **70**. LCR code | does not end with | 70
contains	Search for calls whose LCR code contains a particular combination of digits.In the example below, the results will show only calls whose LCR code contains **47**. LCR code | contains | 47
does not contain	Exclude calls whose LCR code contains a particular combination of digits. In the example below, the results will exclude calls whose LCR code contains **47**. LCR code | does not contain | 47

Start time

This option allows you to filter calls based on the time the call started. Specify the start time in the text box provided using the **hh:mm:ss** for mat and choose from the drop-down list the criteria by which you want this to be matched in the reports.

Criteria	Description
is greater than	Search for calls that started after a particular time. In the example below, the results will show only calls that began after 10 am. Start time | is greater than | 10:00:00
is less than	Search for calls that started before a particular time. In the example below, the results will show only calls that began before 10 am. Start time | is less than | 10:00:00
equals	Search for calls that started at a particular time. In the example below, the results will show only calls that started at **10:30:00**. Cost | equals | 10:30:00
is not equal to	Exclude calls that started at a particular time. In the example below, the results will exclude calls that started at **10:30:00**. Cost | is not equal | 10:30:00

Call type

This filter allows you to select the type of call you want to report on, in terms of where the call originated and where it was delivered, e.g. incoming, outgoing, internal, etc.

<table>
<tr><th>Call type</th><th>Description</th></tr>
<tr><td><code>All inbound</code>
<code>Inbound answered</code>
<code>Inbound DDI only</code>
<code>Inbound transfer only</code>
<code>Inbound missed call</code>
<code>All outbound calls</code>
<code>Outbound connected only</code>
<code>Outbound not connected only</code>
<code>Outbound operator assisted</code>
<code>Tandem</code>
<code>User mobile calls</code>
<code>User SMS</code>
<code>All internal</code>
<code>Internal answered only</code>
<code>Internal not answered only</code>
<code>Internal not connected</code>
<code>Private wire</code>
<code>Feature</code></td>
<td>
<table>
<tr><th>Criteria</th><th>Description</th></tr>
<tr><td><code>equals</code></td><td>Search for calls of a particular type. In the example below, the results will show only internal calls.

Call type | equals | All internal</td></tr>
<tr><td><code>is not equal to</code></td><td>Exclude calls of a particular type. In the example below, the results will show all call types, except internal calls.

Call type | is not equal | All internal</td></tr>
</table>

To report on all types of call, select the <code>(All call types)</code> option.
</td></tr>
</table>

CLI

Calling Line Identification (CLI) is the telephone number of the remote caller in an incoming call scenario. To filter a report by CLI, enter the relevant value in the box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description
`equals`	Search for calls whose CLI matches a particular value. In the example below, the results will show only calls whose CLI is **`02072652600`**. CLI equals 02072652600
`is not equal to`	Exclude calls whose CLI matches a particular value. In the example below, the results will exclude calls whose CLI is **`02072652600`**. CLI is not equal to 02072652600
`begins with`	Search for calls whose CLI begins with a particular combination of digits. In the example below, the results will show only calls whose CLI begins with **`0789`**. CLI begins with 0789
`does not begin with`	Exclude calls whose CLI begins with a particular combination of digits. In the example below, the results will exclude calls whose CLI begins with **`0789`**. CLI does not begin with 0789
`ends with`	Search for calls whose CLI ends with a particular combination of digits. In the example below, the results will show only calls whose CLI ends with **`2600`**. CLI ends with 2600
`does not end with`	Exclude calls whose CLI ends with a particular combination of digits. In the example below, the results will exclude calls whose CLI ends with **`2600`**. CLI does not end with 2600
`contains`	Search for calls whose CLI contains a particular combination of digits. In the example below, the results will show only calls whose CLI contains **`265`**. CLI contains 265
`does not contain`	Exclude calls whose CLI contains a particular combination of digits. In the example below, the results will exclude calls whose CLI contains **`265`**. CLI does not contain 265

Destination

If you want to filter calls to a specific, known destination, type the name of the destination in the text box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description

`equals`	Search for calls whose destination matches a particular name. In the example below, the results will show only calls whose destination is `Warren Smith`. Destination — equals — Warren Smith
`is not equal to`	Exclude calls whose destination matches a particular name. In the example below, the results will exclude calls whose destination is `Warren Smith`. Destination — is not equal to — Warren Smith
`begins with`	Search for calls whose destination name begins with a particular combination of letters. In the example below, the results will show only calls whose destination name begins with `Warren S`. Destination — begins with — Warren S
`does not begin with`	Exclude calls whose destination name begins with a particular combination of letters. In the example below, the results will exclude calls whose destination name begins with `Warren S`. Destination — does not begin with — Warren S
`ends with`	Search for calls whose destination name ends with a particular combination of letters. In the example below, the results will show only calls whose destination name ends with `Smith`. Destination — ends with — Smith
`does not end with`	Exclude calls whose destination name ends with a particular combination of letters. In the example below, the results will exclude calls whose destination name ends with `Smith`. Destination — does not end with — Smith
`contains`	Search for calls whose destination name contains a particular combination of letters. In the example below, the results will show only calls whose destination name contains `Warren`. Destination — contains — Warren
`does not contain`	Exclude calls whose destination name contains a particular combination of letters. In the example below, the results will exclude calls whose destination name contains `Warren`. Destination — does not contain — Warren

Duration

To filter calls above or below a particular duration, enter the duration (in seconds) in the text box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description

`is greater than`	Search for calls whose duration is longer than a particular value. In the example below, the results will show only calls whose duration is longer than **`30`** seconds. Duration — is greater than — 30
`is less than`	Search for calls whose duration is shorter than a particular value. In the example below, the results will show only calls whose duration is shorter than **`60`** seconds. Duration — is less than — 60
`equals`	Search for calls whose duration is equal to a particular value. In the example below, the results will show only calls whose duration is **`10`** seconds. Duration — equals — 10
`is not equal to`	Exclude calls whose duration is equal to a particular value. In the example below, the results will exclude calls whose duration is **`10`** seconds. Duration — is not equal — 10

Response time

This option allows you to filter calls based on their response time, measured in seconds. Specify the desired response time threshold in the text box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description
`is greater than`	Search for calls whose response time is longer than a particular value. In the example below, the results will show only calls whose response time is longer than **`10`** seconds. Response time — is greater than — 10
`is less than`	Search for calls whose response time is shorter than a particular value. In the example below, the results will show only calls whose response time is shorter than **`10`** seconds. Response time — is less than — 10
`equals`	Search for calls whose response time is equal to a particular value. In the example below, the results will show only calls whose response time is **`3`** seconds. Response time — equals — 3
`is not equal to`	Exclude calls whose response time is equal to a particular value. In the example below, the results will exclude calls whose response time is **`10`** seconds. Response time — is not equal — 10

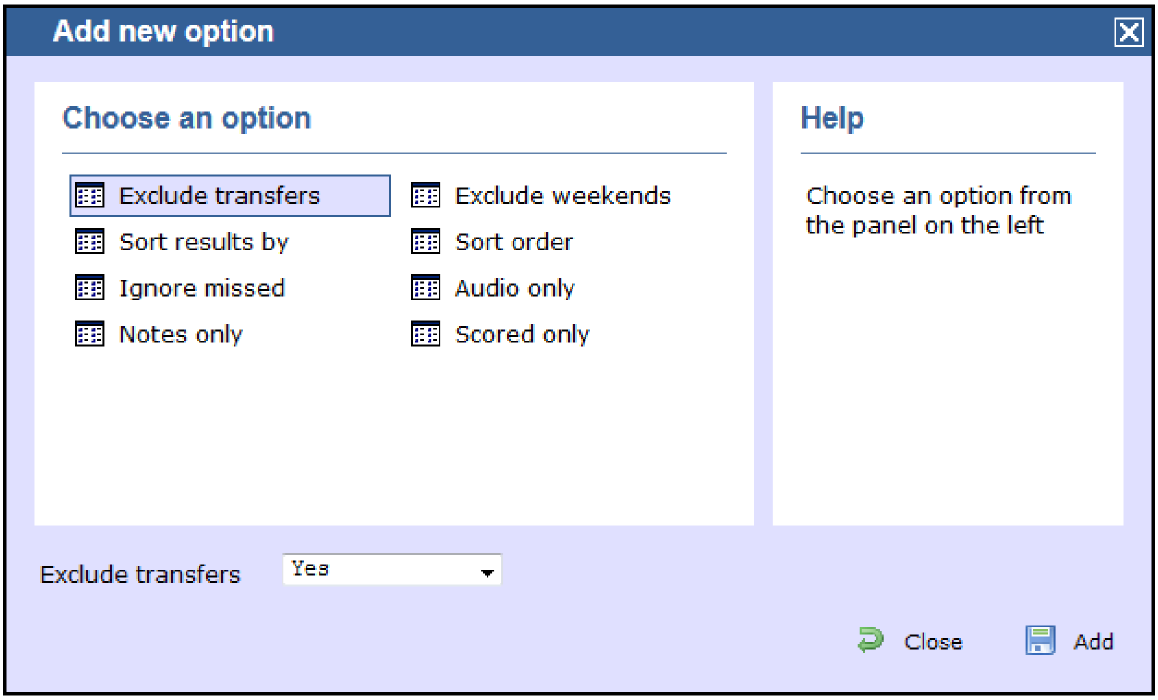
Trunk access code

If your telephone system uses trunk access codes to connect calls using specific channels, you can limit your report's results to include only calls made using those codes. Specify the trunk access code in the text box provided and select the criteria by which you want this to be matched in the results. The options contained in the drop-down list are described in the table below:

Criteria	Description
`equals`	Search for calls whose trunk access code matches a particular value. In the example below, the results will show only calls whose trunk access code is `12`. Trunk access code — equals — 12
`is not equal to`	Exclude calls whose trunk access code matches a particular value. In the example below, the results will exclude calls whose trunk access code is `12`. Trunk access code — is not equal to — 12
`begins with`	Search for calls whose trunk access code begins with a particular combination of digits. In the example below, the results will show only calls whose trunk access code begins with `1`. Trunk access code — begins with — 1
`does not begin with`	Exclude calls whose trunk access code begins with a particular combination of digits. In the example below, the results will exclude calls whose trunk access code begins with `1`. Trunk access code — does not begin with — 1
`ends with`	Search for calls whose trunk access code ends with a particular combination of digits. In the example below, the results will show only calls whose trunk access code ends with `3`. Trunk access code — ends with — 2600
`does not end with`	Exclude calls whose trunk access code ends with a particular combination of digits. In the example below, the results will exclude calls whose trunk access code ends with `3`. Trunk access code — does not end with — 2600
`contains`	Search for calls whose trunk access code contains a particular combination of digits. In the example below, the results will show only calls whose trunk access code contains `2`. Trunk access code — contains — 2
`does not contain`	Exclude calls whose trunk access code contains a particular combination of digits. In the example below, the results will exclude calls whose trunk access code contains `2`. Trunk access code — does not contain — 2

Options

The `Options` parameter allows you to further narrow down your report results, by excluding certain types of call or sorting the results in a particular manner.



These options are specific to the type of report you are running and differ between report types.

Click option for details

Audio only
Callback interval
Call frequency
Exclude weekends
Exclude transfers
Group results by
Hide unused
Hide contacts
Hide charges
Ignore missed
Include internal
Notes only
Rank data by
Sort order
Sort results by
Scored only
Summary only
Show legs
Show account codes
Show 'Do not log'
Show unconnected calls
Thresholds

Audio only

This option allows you to include in your results only calls that have an associated voice recording.

Audio only	Yes

Callback interval

This option allows you to define, in hours, the time window in which a call must be responded to, in order to be considered handled. The default callback interval is 24 (hours), but you may enter your own value, as shown below:

Callback interval	24

Call frequency

This option determines how frequently a call must have been dialled in order to feature in the results of the report. For example, to include only phone numbers that have been dialled twenty times or more, enter **20** as the minimum frequency, as shown below:

Call frequency	20

Exclude weekends

To exclude weekend calls from your report's results, select the **Yes** option from the drop-down list, as shown below:

Exclude weekends	No

Exclude transfers

To exclude transferred calls from your report's results, select the **Yes** option from the drop-down list, as shown below:

Exclude transfers	Yes

Group results by

Choose from the drop-down list whether to group your results by CLI or dialled number.

Group results	Dialled number

Hide unused

This option allows you to exclude unused extensions from your report's results.

Hide unused	Yes

Hide contacts

This option allows you to hide the names associated with dialled numbers, CLIs and account codes, as defined in your web user's contacts list. To show only the phone number, select the **Yes** option from the drop-down list, as shown below:

Hide contacts	Yes

Hide charges

This option allows you to hide any charges applied to your report. To hide charges, select the **Yes** option from the drop-down list, as shown below:

Hide charges	Yes

Ignore missed

Missed calls below a certain duration can sometimes pollute the meaning of a report's results. To exclude such short calls from your report, enter a duration threshold in the text box provided, e.g. to ignore calls below 3 seconds, enter **3** .

Ignore missed calls shorter than	3

Include internal

To include internal calls in your report's results, select the **Yes** option from the drop-down list, as shown below:

Include internal	Yes

Notes only

If you want your search results to include only calls that have notes associated with them, select the **Yes** option from the drop-down list, as shown below:

Notes only	Yes

Rank data by

Select from the drop-down list the criteria by which you want to order the report's results.

Criteria	Description
`Number of calls`	Order results based on the number of calls Rank data by — Number of calls
`Cost`	Order results based on the cost of calls Rank data by — Cost
`Dialled number`	Order results based on dialled number Rank data by — Dialled number
`Location`	Order the results based on location Rank data by — Location

Sort order

Select from the drop-down list if you want your report's results to appear in ascending or descending order.

Sort order	Ascending

Sort results by

Select from the drop-down list the column by which you want to sort your report's results.

Sort results by	Total duration

Scored only

This option allows you to include only calls that have a score associated with them, e.g. calls that have already been listened to and scored.

Scored only	Yes

Summary only

To show only a summary of calls, instead of an itemised list, select the **Yes** option from the drop-down list, as shown below:

Summary only	Yes

Show legs

To show the legs of transferred calls, select the **Yes** option from the drop-down list. A icon will be displayed next to any call with associated call legs.

Show legs	Yes

Show account codes

Select this option to display any associated account codes as an additional column in this report.

Show account code	Yes

Show 'Do not log'

This option allows you to include in your results devices whose status is set to not log calls.

Show "Do not log" devices	Yes

Show unconnected calls

To show unconnected calls in the report's results, select the **Yes** option from the drop-down list, as shown below:

Show unconnected calls	Yes

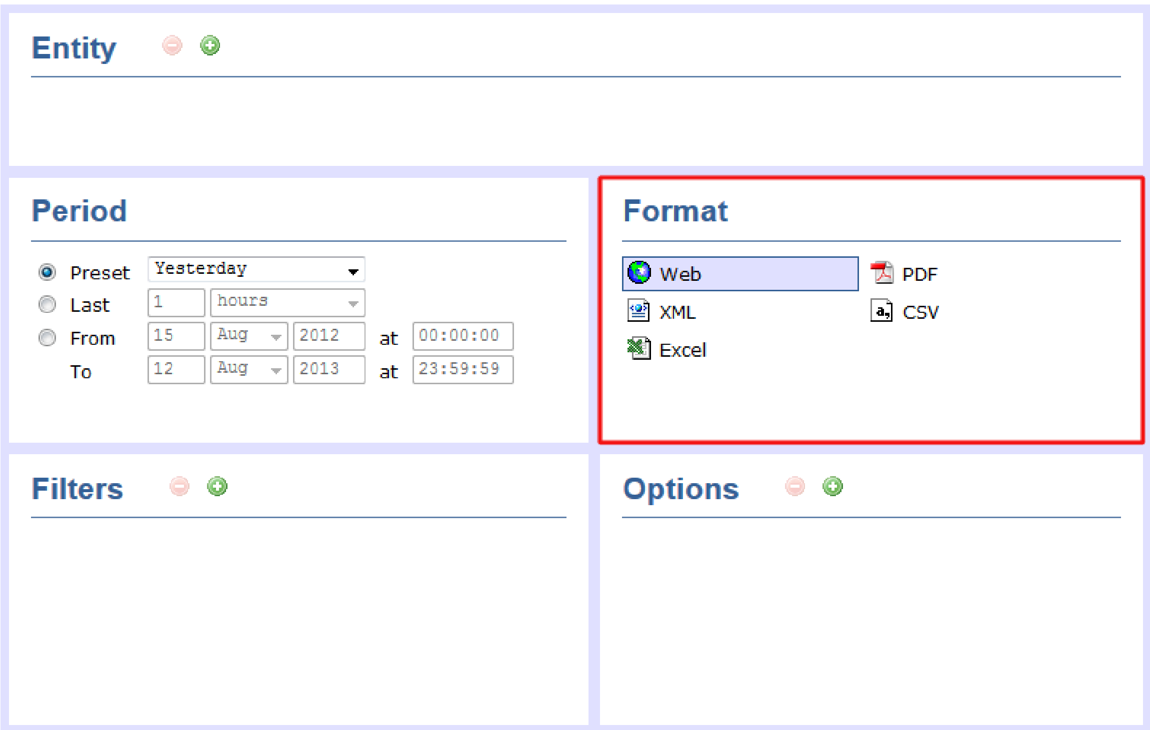
Thresholds

This option allows you to define your response target threshold(s) by entering comma-separated values in the text box provided. The example below shows response time targets for calls answered within 5, 10 and 20 seconds, respectively.

Thresholds	5,10,15

Format

This section allows you to choose the media format of your completed report.



The following formats are available:

Format	Description
Web	▪ The web format is the default interface for all report types. The results are displayed in a new browser window which contains a combination of HTML, CSS and JavaScript content. ▪ To navigate through a report consisting of multiple pages, click on the , , or icons at the top-right corner of the screen. ▪ Universally-accessible, the web format provides a mixture of graphical charts and tabular data, whose column headers are click-able to allow dynamic sorting of results.
PDF	▪ The PDF format guarantees an identical look across all operating systems, making it an ideal report format for printing out on paper, or for e-mailing to colleagues inside and outside of your organisation. ▪ Due to the static nature of the PDF format, dynamic sorting of column headers is not available, although results can be pre-sorted using the filters and options available during report creation.
XLS	The Excel format is useful for onward manipulation of the data contained in your reports, or for including results in popular spreadsheet packages.
CSV	The CSV format allows report results to be arranged in comma-separated lists of data. CSV files are often used for transferring data between different applications, such as databases, spreadsheets, and other third-party programs.
XML	The XML format can be useful when transferring the structured data from your report results to third-party applications, such as billing, accounting and time management applications.

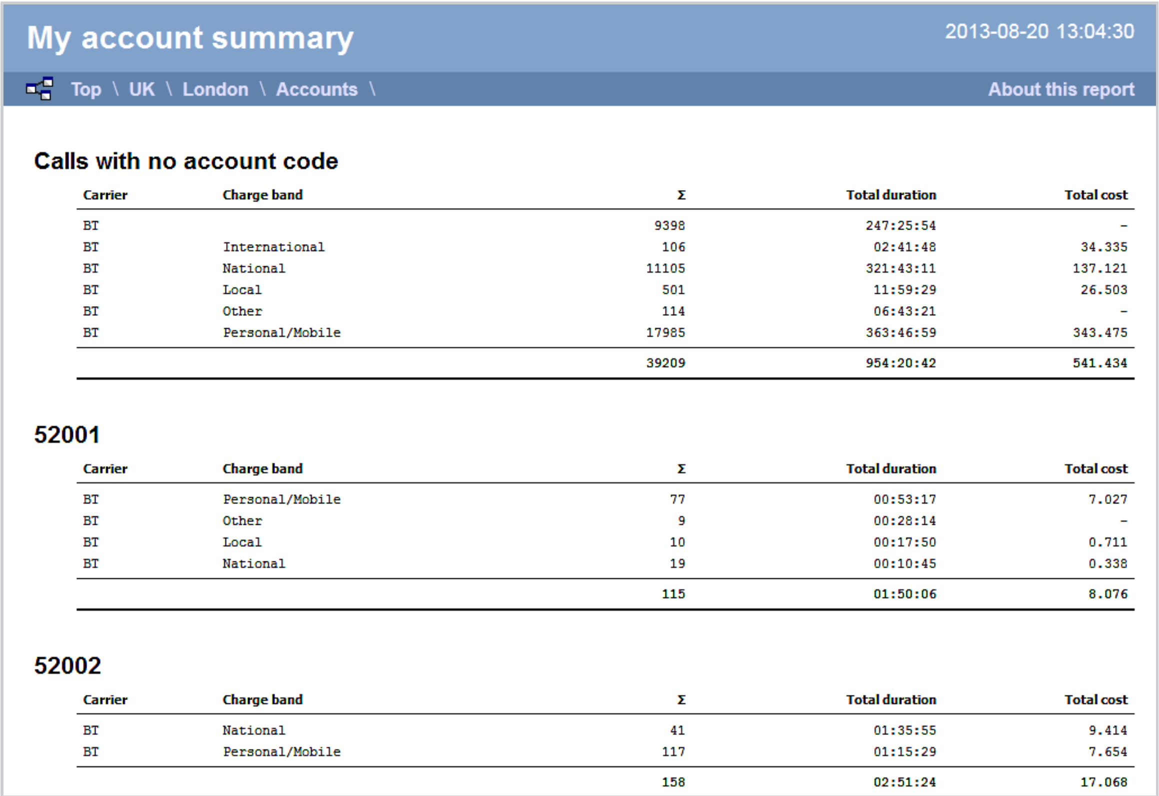
Report types

Account Summary

Overview

The Account Summary report produces a type of phone bill for tracking how much billable time you've spent with each client, grouping its results by account code.

> In order to use this report, your telephone system needs to be capable of providing account code information as part of its call logging data.



My account summary

2013-08-20 13:04:30

Top \ UK \ London \ Accounts \ — About this report

Calls with no account code

Carrier	Charge band	Σ	Total duration	Total cost
BT		9398	247:25:54	-
BT	International	106	02:41:48	34.335
BT	National	11105	321:43:11	137.121
BT	Local	501	11:59:29	26.503
BT	Other	114	06:43:21	-
BT	Personal/Mobile	17985	363:46:59	343.475
		39209	954:20:42	541.434

52001

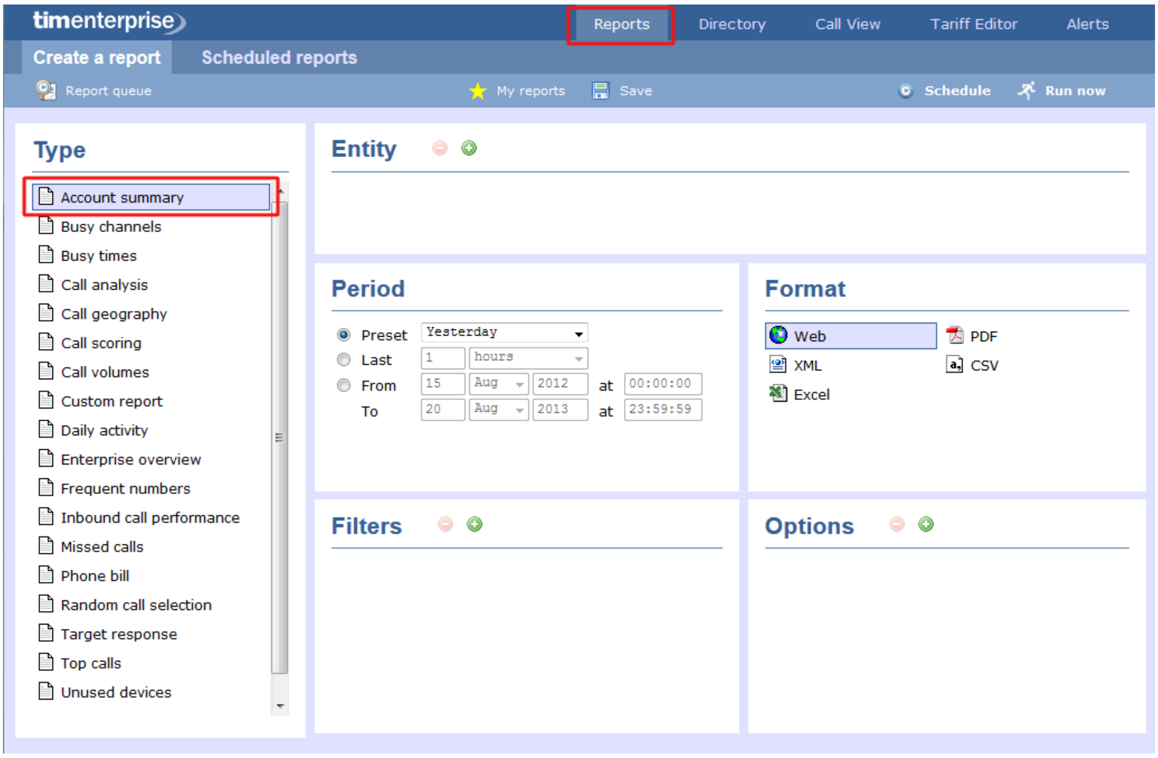
Carrier	Charge band	Σ	Total duration	Total cost
BT	Personal/Mobile	77	00:53:17	7.027
BT	Other	9	00:28:14	-
BT	Local	10	00:17:50	0.711
BT	National	19	00:10:45	0.338
		115	01:50:06	8.076

52002

Carrier	Charge band	Σ	Total duration	Total cost
BT	National	41	01:35:55	9.414
BT	Personal/Mobile	117	01:15:29	7.654
		158	02:51:24	17.068

Running the report

Click on the **Reports** tab and select **Account summary** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.



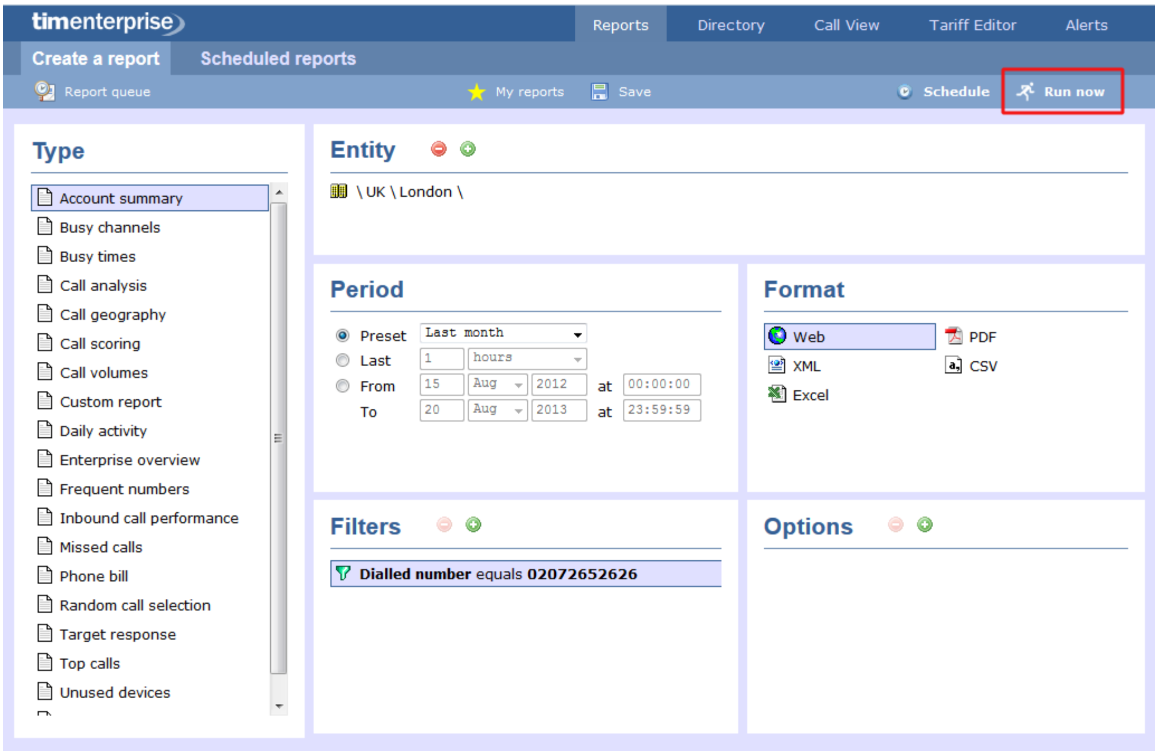
For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period

- Filters
- Options
- Format

Creating the report

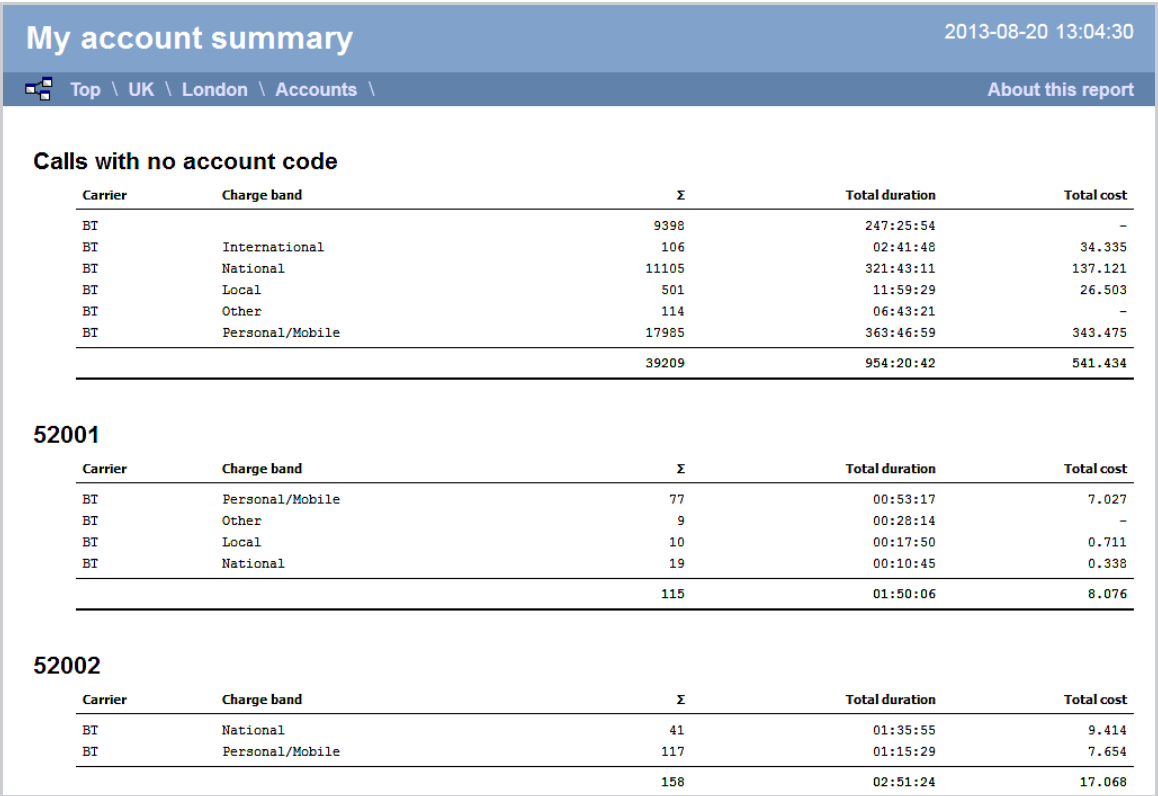
When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

The results of this report are presented as a tabular breakdown of calls - grouped by account code - according to the parameters you've selected.

Below is an example of this report's output in `Web` format, showing a summary of account code usage:



My account summary 2013-08-20 13:04:30

Top \ UK \ London \ Accounts \ About this report

Calls with no account code

Carrier	Charge band	Σ	Total duration	Total cost
BT		9398	247:25:54	-
BT	International	106	02:41:48	34.335
BT	National	11105	321:43:11	137.121
BT	Local	501	11:59:29	26.503
BT	Other	114	06:43:21	-
BT	Personal/Mobile	17985	363:46:59	343.475
		39209	954:20:42	541.434

52001

Carrier	Charge band	Σ	Total duration	Total cost
BT	Personal/Mobile	77	00:53:17	7.027
BT	Other	9	00:28:14	-
BT	Local	10	00:17:50	0.711
BT	National	19	00:10:45	0.338
		115	01:50:06	8.076

52002

Carrier	Charge band	Σ	Total duration	Total cost
BT	National	41	01:35:55	9.414
BT	Personal/Mobile	117	01:15:29	7.654
		158	02:51:24	17.068

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The headers of this report are as follows:

Header	Description
Carrier	The carrier used to route the call
Charge band	The charge band used to cost the call
Σ	The total volume of calls to each charge band
Total duration	The total time spent on calls to each charge band
Total cost	The total cost of calls to each charge band

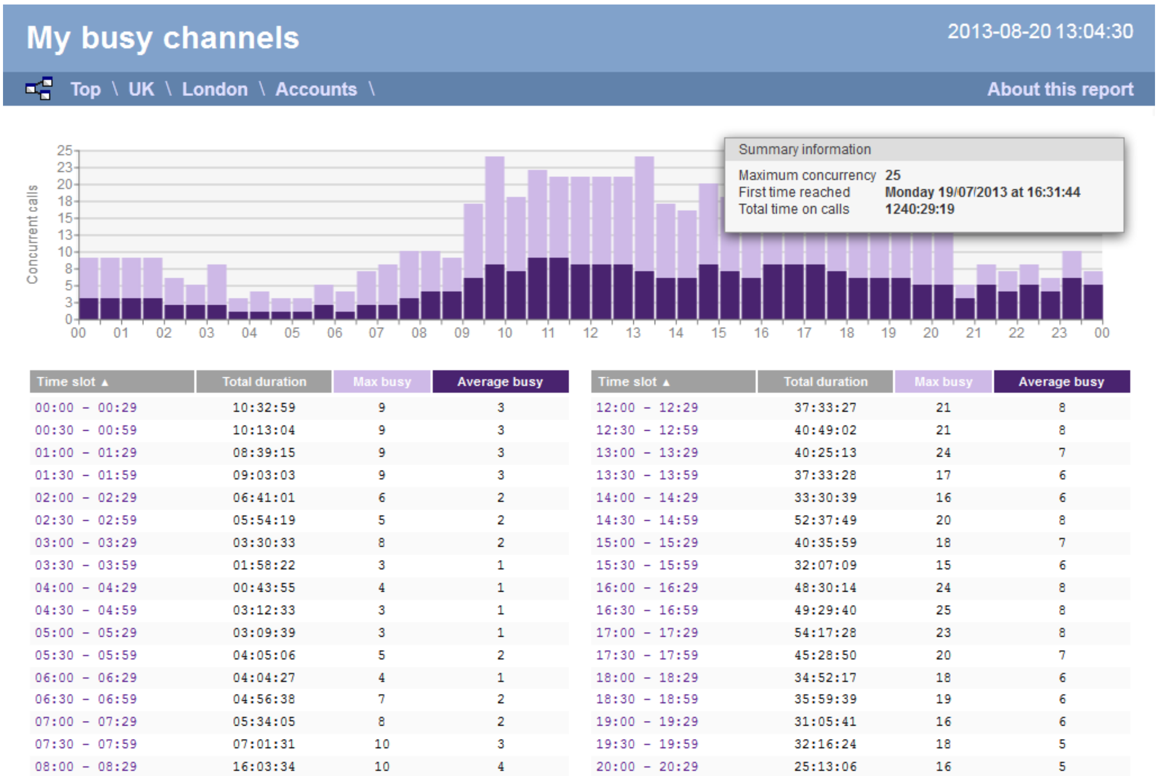
By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Busy Channels

Overview

The Busy Channels report allows you to break down each business day into half-hour periods, showing the maximum and average number of telephone lines in use for each half-hour period. This report is useful for determining whether or not you have enough lines or if you have too many.

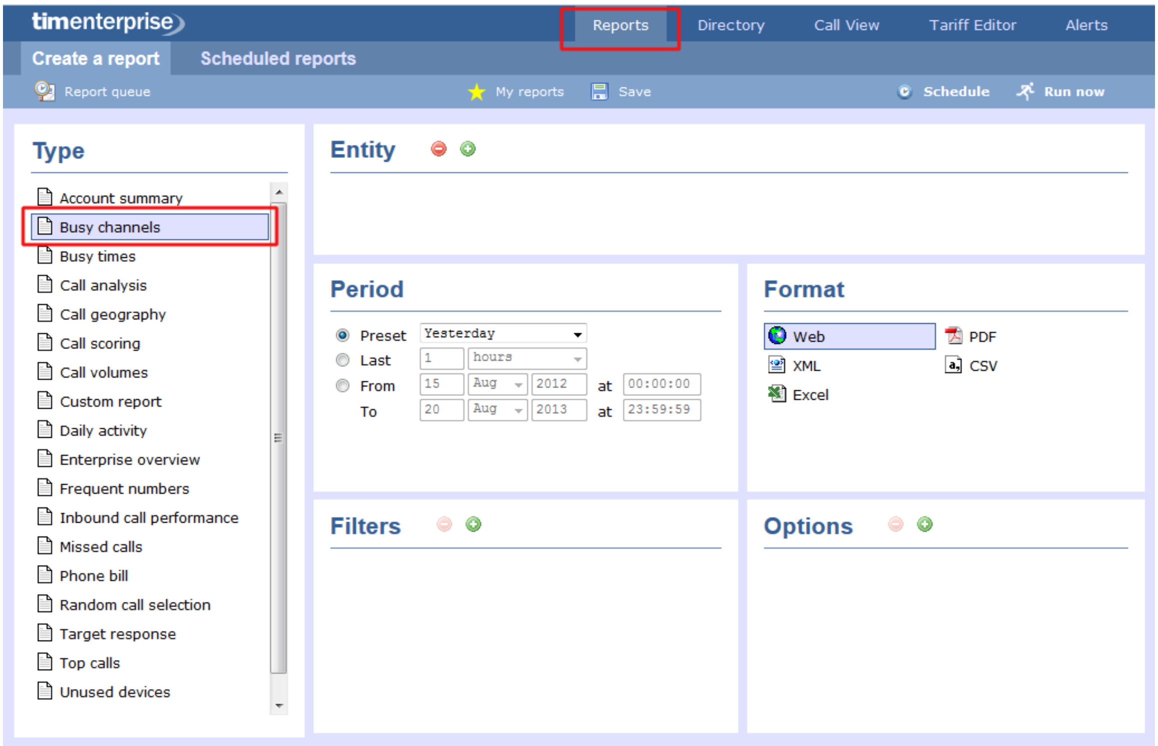


Time slot	Total duration	Max busy	Average busy
00:00 - 00:29	10:32:59	9	3
00:30 - 00:59	10:13:04	9	3
01:00 - 01:29	08:39:15	9	3
01:30 - 01:59	09:03:03	9	3
02:00 - 02:29	06:41:01	6	2
02:30 - 02:59	05:54:19	5	2
03:00 - 03:29	03:30:33	8	2
03:30 - 03:59	01:58:22	3	1
04:00 - 04:29	00:43:55	4	1
04:30 - 04:59	03:12:33	3	1
05:00 - 05:29	03:09:39	3	1
05:30 - 05:59	04:05:06	5	2
06:00 - 06:29	04:04:27	4	1
06:30 - 06:59	04:56:38	7	2
07:00 - 07:29	05:34:05	8	2
07:30 - 07:59	07:01:31	10	3
08:00 - 08:29	16:03:34	10	4

Time slot	Total duration	Max busy	Average busy
12:00 - 12:29	37:33:27	21	8
12:30 - 12:59	40:49:02	21	8
13:00 - 13:29	40:25:13	24	7
13:30 - 13:59	37:33:28	17	6
14:00 - 14:29	33:30:39	16	6
14:30 - 14:59	52:37:49	20	8
15:00 - 15:29	40:35:59	18	7
15:30 - 15:59	32:07:09	15	6
16:00 - 16:29	48:30:14	24	8
16:30 - 16:59	49:29:40	25	8
17:00 - 17:29	54:17:28	23	8
17:30 - 17:59	45:28:50	20	7
18:00 - 18:29	34:52:17	18	6
18:30 - 18:59	35:59:39	19	6
19:00 - 19:29	31:05:41	16	6
19:30 - 19:59	32:16:24	18	5
20:00 - 20:29	25:13:06	16	5

Running the report

Click on the `Reports` tab and select `Busy channels` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

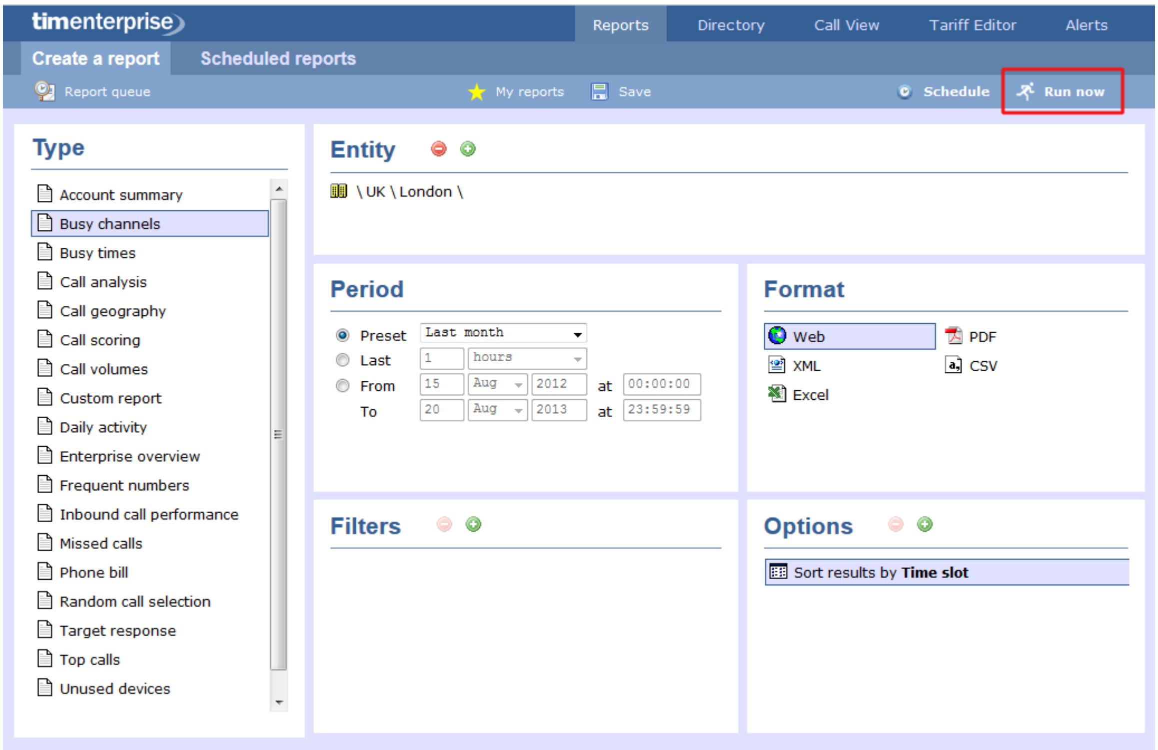


For details about how to configure these parameters, refer to the relevant page in the list below:

- Entity
- Period
- Filters
- Options
- Format

Creating the report

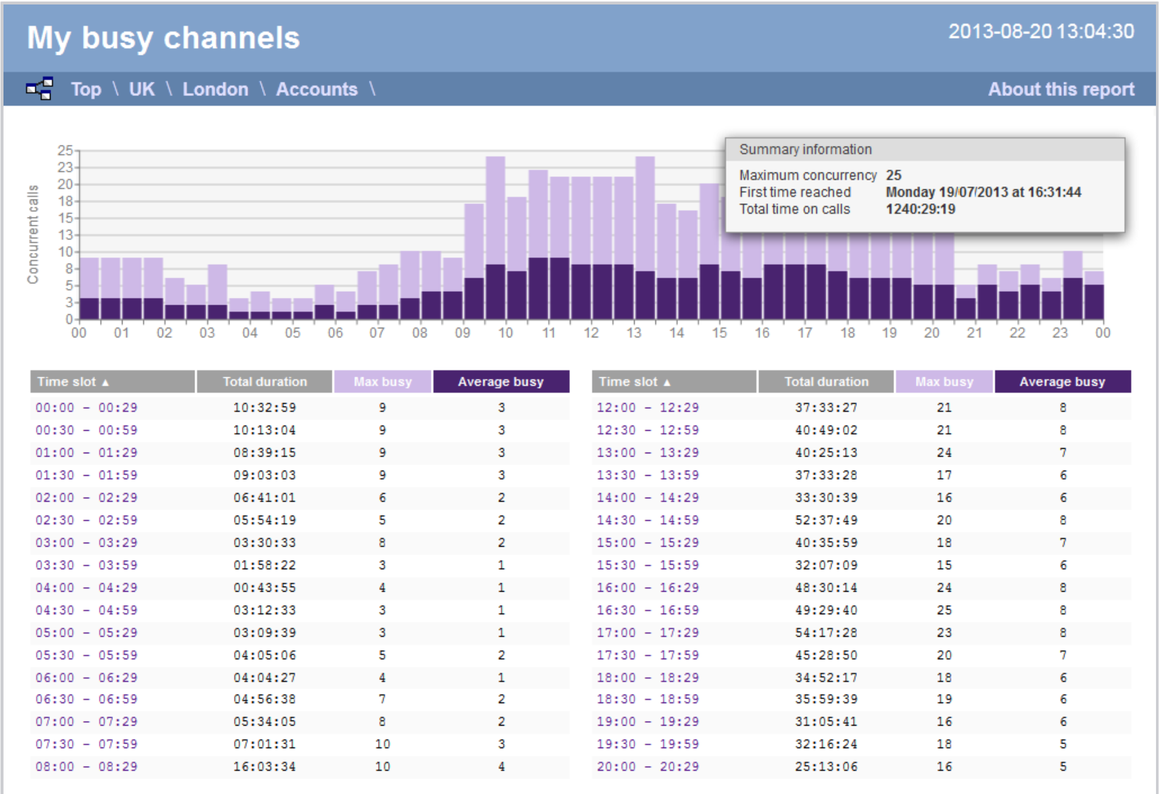
When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Web format

Below is an example of this report's output in `Web` format, displaying the activity of your telephone lines grouped in half-hour time slots:



Time slot ▲	Total duration	Max busy	Average busy
00:00 - 00:29	10:32:59	9	3
00:30 - 00:59	10:13:04	9	3
01:00 - 01:29	08:39:15	9	3
01:30 - 01:59	09:03:03	9	3
02:00 - 02:29	06:41:01	6	2
02:30 - 02:59	05:54:19	5	2
03:00 - 03:29	03:30:33	8	2
03:30 - 03:59	01:58:22	3	1
04:00 - 04:29	00:43:55	4	1
04:30 - 04:59	03:12:33	3	1
05:00 - 05:29	03:09:39	3	1
05:30 - 05:59	04:05:06	5	2
06:00 - 06:29	04:04:27	4	1
06:30 - 06:59	04:56:38	7	2
07:00 - 07:29	05:34:05	8	2
07:30 - 07:59	07:01:31	10	3
08:00 - 08:29	16:03:34	10	4

Time slot ▲	Total duration	Max busy	Average busy
12:00 - 12:29	37:33:27	21	8
12:30 - 12:59	40:49:02	21	8
13:00 - 13:29	40:25:13	24	7
13:30 - 13:59	37:33:28	17	6
14:00 - 14:29	33:30:39	16	6
14:30 - 14:59	52:37:49	20	8
15:00 - 15:29	40:35:59	18	7
15:30 - 15:59	32:07:09	15	6
16:00 - 16:29	48:30:14	24	8
16:30 - 16:59	49:29:40	25	8
17:00 - 17:29	54:17:28	23	8
17:30 - 17:59	45:28:50	20	7
18:00 - 18:29	34:52:17	18	6
18:30 - 18:59	35:59:39	19	6
19:00 - 19:29	31:05:41	16	6
19:30 - 19:59	32:16:24	18	5
20:00 - 20:29	25:13:06	16	5

The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the **About this report** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The body of the report consists of a graph and a table:

- The graph is a quick and easy indication of your line usage, broken down into half-hour time slots. The percentage on the y-axis shows the number of lines utilised, and the x-axis shows each half-hour of the day. The bars on the graph coloured light-purple show the *maximum* number of busy trunks in each particular half-hour, and the overlaid dark-purple ones show the *average* number of busy trunks within the same time period.
- The table displays the actual data organised in columns for maximum and average busy lines and the total duration for each half-hour time slot. Each column is described below:

Header	Description
Time slot	The time of day in half-hour periods
Total duration	The total duration of all calls made or received within the time slot shown
Max busy	The maximum number of trunks in use during the time slot shown
Average busy	The average number of trunks in use during the time slot shown

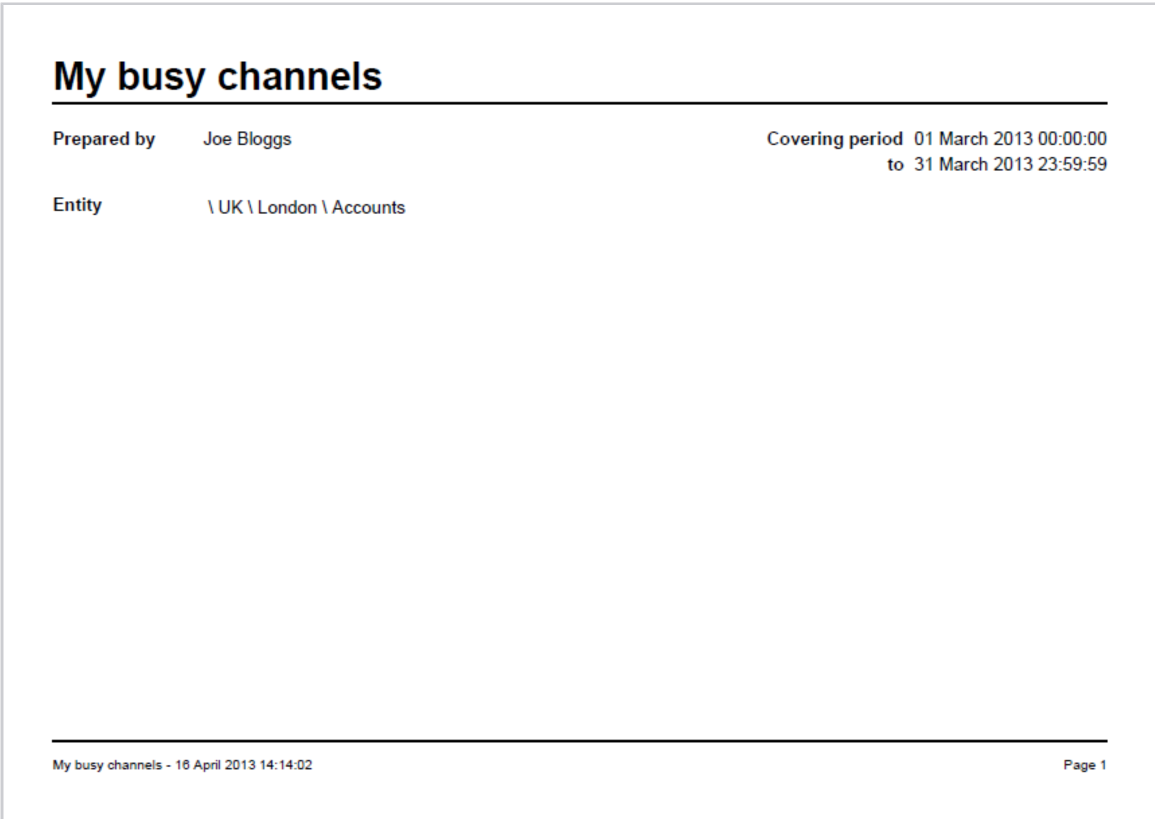
All column headers are clickable, allowing you to dynamically reorder the results.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

PDF format

If you chose to run the report in **PDF** format, the report will consist of three pages.

The first page shows the login name of the person who has prepared/scheduled the report, the entity you are reporting on, the period covered and any filters used in the report.



My busy channels

Prepared by Joe Bloggs

Covering period 01 March 2013 00:00:00 **to** 31 March 2013 23:59:59

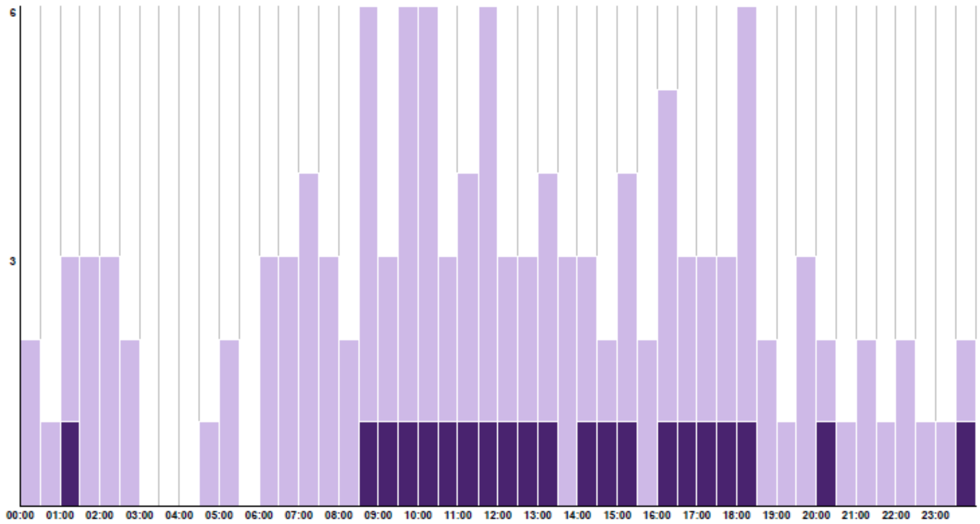
Entity \ UK \ London \ Accounts

My busy channels - 16 April 2013 14:14:02

Page 1

The second page has a graph depicting the average and maximum number of channels used, as shown below:

Report



My busy channels - 16 April 2013 14:14:02 Page 2

The third page contains a table of time slots, showing the maximum and average number of channels that were busy, along with the total duration of time spent on calls during each time slot.

Data

Time slot	Total duration	Max busy	Average busy
00:00 - 00:29	00:09:06	2	-
00:30 - 00:59	00:01:24	1	-
01:00 - 01:29	00:52:45	3	1
01:30 - 01:59	00:13:54	3	-
02:00 - 02:29	00:52:27	3	-
02:30 - 02:59	00:22:47	2	-
03:00 - 03:29	-	-	-
03:30 - 03:59	-	-	-
04:00 - 04:29	-	-	-
04:30 - 04:59	00:15:08	1	-
05:00 - 05:29	00:01:19	2	-
05:30 - 05:59	-	-	-
06:00 - 06:29	00:09:22	3	-
06:30 - 06:59	00:39:00	3	-
07:00 - 07:29	00:34:10	4	-
07:30 - 07:59	00:47:09	3	-
08:00 - 08:29	00:51:53	2	-
08:30 - 08:59	01:49:55	6	1
09:00 - 09:29	03:59:58	3	1
09:30 - 09:59	04:19:29	6	1
10:00 - 10:29	02:33:48	6	1
10:30 - 10:59	01:22:35	3	1
11:00 - 11:29	02:07:29	4	1
11:30 - 11:59	01:44:31	6	1

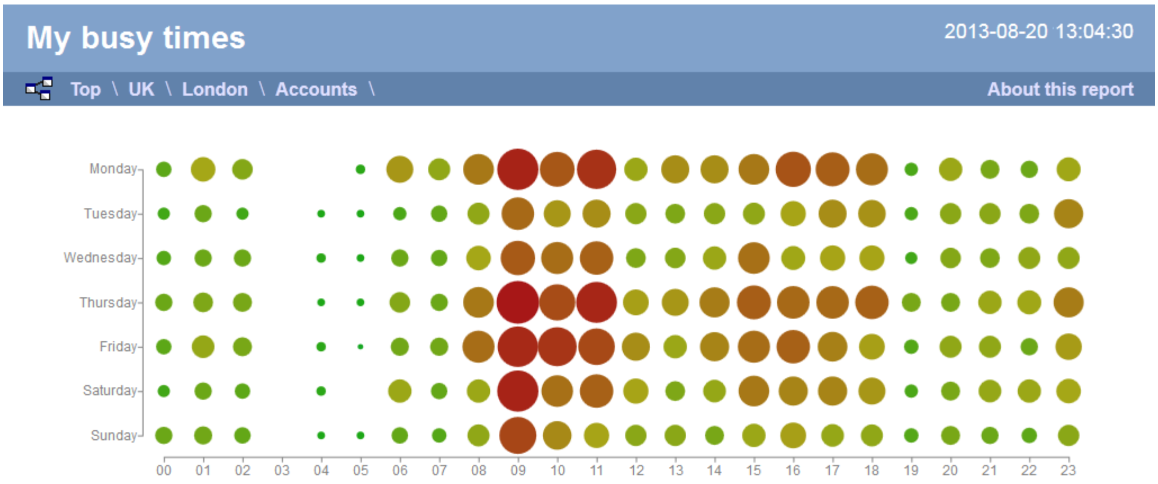
Time slot	Total duration	Max busy	Average busy
12:00 - 12:29	01:11:34	3	1
12:30 - 12:59	00:36:41	3	1
13:00 - 13:29	00:58:11	4	1
13:30 - 13:59	00:07:38	3	-
14:00 - 14:29	00:53:04	3	1
14:30 - 14:59	01:34:11	2	1
15:00 - 15:29	01:36:15	4	1
15:30 - 15:59	00:21:46	2	-
16:00 - 16:29	00:27:52	5	1
16:30 - 16:59	01:44:37	3	1
17:00 - 17:29	00:45:47	3	1
17:30 - 17:59	02:18:00	3	1
18:00 - 18:29	02:40:29	6	1
18:30 - 18:59	01:28:19	2	-
19:00 - 19:29	00:31:57	1	-
19:30 - 19:59	00:01:43	3	-
20:00 - 20:29	00:56:20	2	1
20:30 - 20:59	00:13:47	1	-
21:00 - 21:29	00:46:09	2	-
21:30 - 21:59	00:14:49	1	-
22:00 - 22:29	01:46:40	2	-
22:30 - 22:59	00:13:29	1	-
23:00 - 23:29	01:11:37	1	-
23:30 - 23:59	00:01:28	2	1

My busy channels - 16 April 2013 14:14:02 Page 3

Busy Times

Overview

The Busy Times report provides an hour-by-hour graphical representation of your call volumes for each day, giving a detailed breakdown of calls by type, for each time slot. This report is useful for identifying call traffic trends and can readily highlight your busiest periods, allowing you to more effectively plan your staffing requirements.

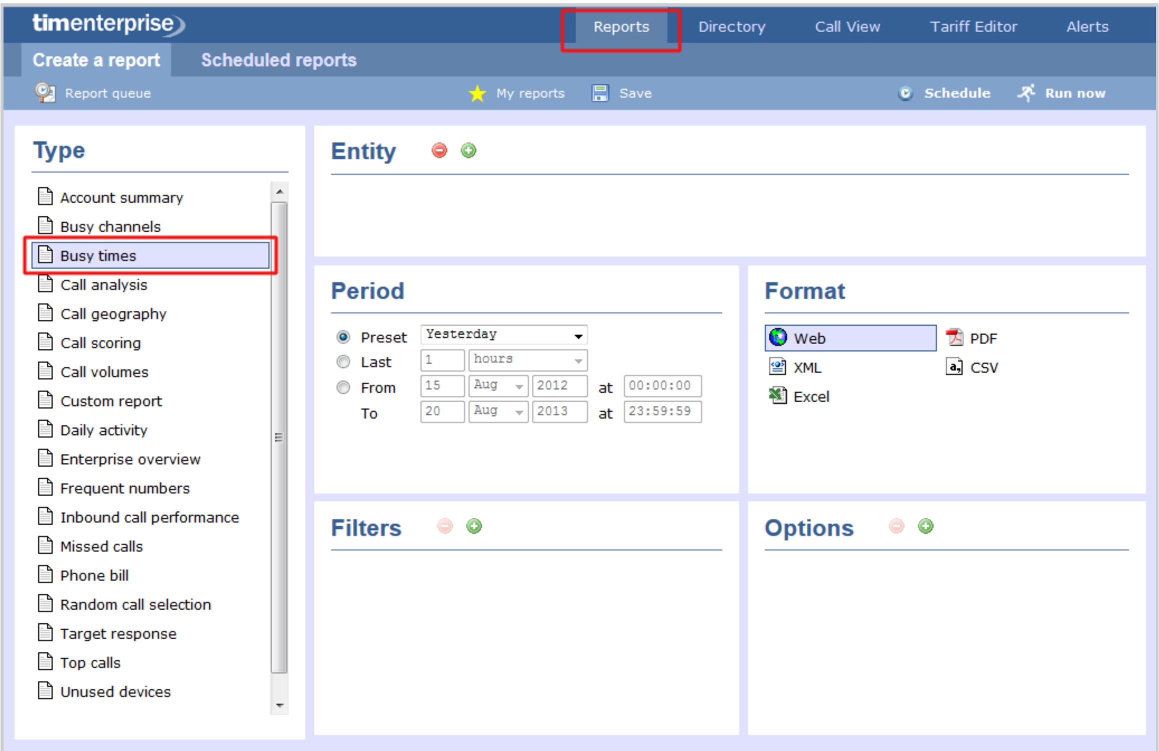


Call volumes by hour

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Monday	8	20	14	-	-	3	24	16	31	56	40	51	18	26	26	31	41	38	34	6	18	12	10	19
Tuesday	5	10	5	-	2	2	6	9	16	35	24	26	15	13	15	16	21	26	25	6	15	15	13	28
Wednesday	7	10	10	-	3	2	10	9	20	39	34	37	13	14	18	33	19	21	21	5	14	13	16	16
Thursday	10	13	12	-	2	2	14	10	31	60	43	55	22	24	30	38	35	35	37	12	12	18	19	30
Friday	8	17	12	-	3	1	11	11	34	54	50	44	26	18	28	34	37	29	22	7	16	16	10	23
Saturday	5	10	8	-	3	-	18	9	18	56	33	37	21	13	17	31	28	28	24	6	12	17	18	20
Sunday	10	11	9	-	2	2	9	7	16	45	27	21	15	15	12	18	22	17	16	7	12	10	8	15
Total	53	91	70	-	15	12	92	71	166	345	251	271	130	123	146	201	203	194	179	49	99	101	94	151

Running the report

Click on the **Reports** tab and select **Busy times** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

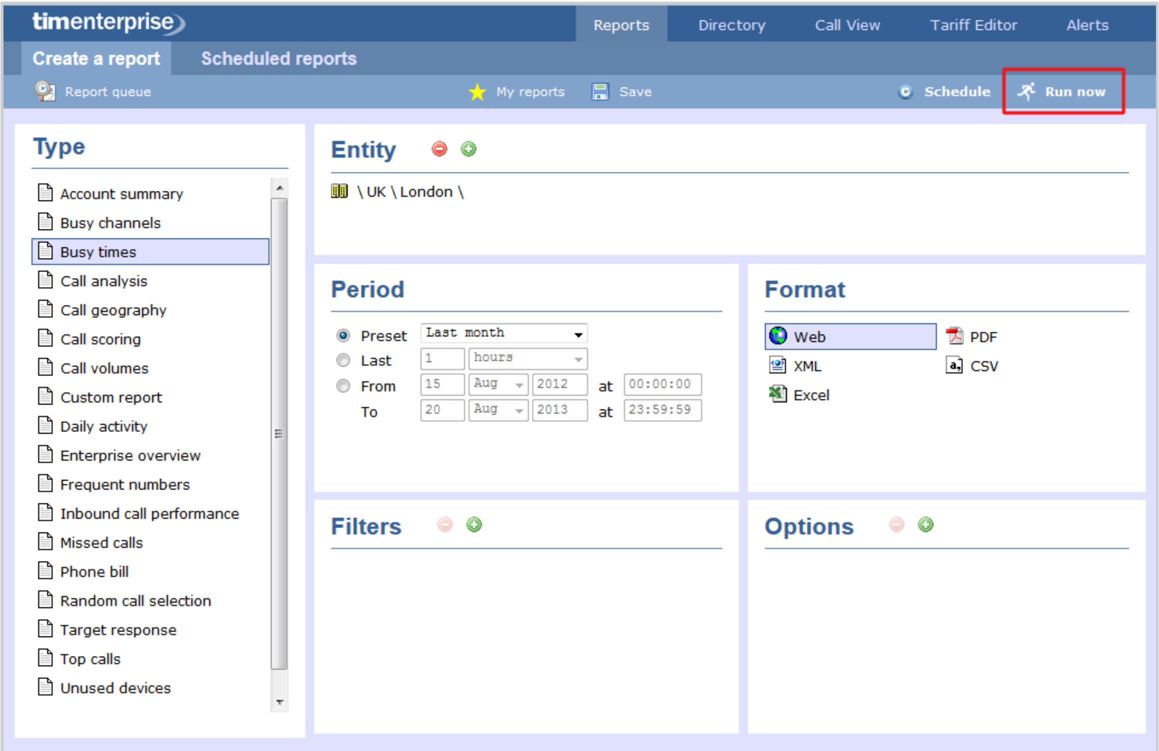


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



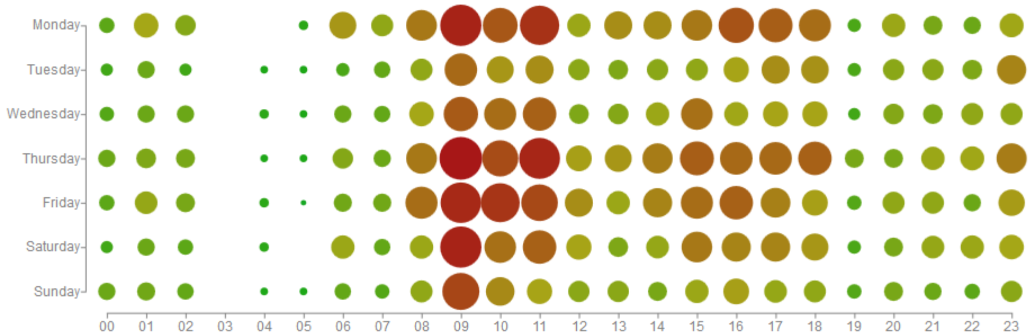
The report's results

Below is an example of this report's output in **Web** format, showing a graphical representation of calls grouped into time slots of one hour.

My busy times

2013-08-20 13:04:30

Top \ UK \ London \ Accounts \ About this report



Call volumes by hour

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Monday	8	20	14	-	-	3	24	16	31	56	40	51	18	26	26	31	41	38	34	6	18	12	10	19
Tuesday	5	10	5	-	2	2	6	9	16	35	24	26	15	13	15	16	21	26	25	6	15	15	13	28
Wednesday	7	10	10	-	3	2	10	9	20	39	34	37	13	14	18	33	19	21	21	5	14	13	16	16
Thursday	10	13	12	-	2	2	14	10	31	60	43	55	22	24	30	38	35	35	37	12	12	18	19	30
Friday	8	17	12	-	3	1	11	11	34	54	50	44	26	18	28	34	37	29	22	7	16	16	10	23
Saturday	5	10	8	-	3	-	18	9	18	56	33	37	21	13	17	31	28	28	24	6	12	17	18	20
Sunday	10	11	9	-	2	2	9	7	16	45	27	21	15	15	12	18	22	17	16	7	12	10	8	15
Total	53	91	70	-	15	12	92	71	166	345	251	271	130	123	146	201	203	194	179	49	99	101	94	151

The large, dark red dots represent your busiest periods, whereas the small, green dots represent quieter periods; by hovering your cursor over a particular dot a tooltip will be displayed, showing the volume of calls for that dot's time period.

The time slot data is also displayed in tabular form, each value being a hyperlink which, if clicked, will drill down into a detailed list of calls for that time slot.

My busy times

2013-04-15 15:43:34

Top \ UK \ London \ About this report

All | Answered | Missed | Internal

Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
2013-07-05 07:07:28	Vodafone	07787575871	-	Cheri Pitts	-	00:00:31	-
2013-07-05 07:09:16	Vodafone	07919445550	-	Cheri Pitts	-	00:00:20	-
2013-07-05 07:42:56	T-Mobile	07932768466	-	Bea Minor	-	00:00:10	-
2013-07-05 07:59:01	Orange	07854181950	-	Rob Banks	4	00:01:02	-
2013-07-12 07:07:28	Vodafone	07787849051	-	Cheri Pitts	-	00:02:52	-
2013-07-12 07:09:16	Vodafone	07919445550	-	Cheri Pitts	-	00:01:26	-
2013-07-12 07:28:01	Orange	07854181059	-	Bea Minor	1	00:00:04	-
2013-07-12 07:42:56	T-Mobile	07932857786	-	Bea Minor	2	00:00:12	-
2013-07-12 07:48:28	Orange	07977404409	-	Cheri Pitts	-	00:00:52	-
2013-07-12 07:52:08	Vodafone	07887722242	-	Cheri Pitts	-	00:00:22	-
2013-07-12 07:59:01	Orange	07854181950	-	Rob Banks	4	00:02:30	-
2013-07-19 07:07:28	Vodafone	07787575871	-	Cheri Pitts	-	00:01:38	-
2013-07-19 07:42:56	T-Mobile	07932768466	-	Bea Minor	1	00:00:11	-
2013-07-19 07:52:08	Vodafone	07887824142	-	Cheri Pitts	-	00:01:10	-
2013-07-19 07:57:56	Orange	07971710819	-	Cheri Pitts	-	00:01:21	-
2013-07-26 07:28:01	Orange	07854181059	-	Bea Minor	9	00:00:05	-
2013-07-26 07:42:56	T-Mobile	07932768466	-	Bea Minor	3	00:00:03	-
2013-07-26 07:48:28	Orange	07977404409	-	Cheri Pitts	-	00:02:57	-
2013-07-26 07:52:08	Vodafone	07887722242	-	Cheri Pitts	-	00:00:03	-
2013-07-26 07:57:56	Orange	07971710819	-	Cheri Pitts	-	00:00:33	-
20 calls						00:18:22	-

As with all reports produced by TIM Enterprise each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

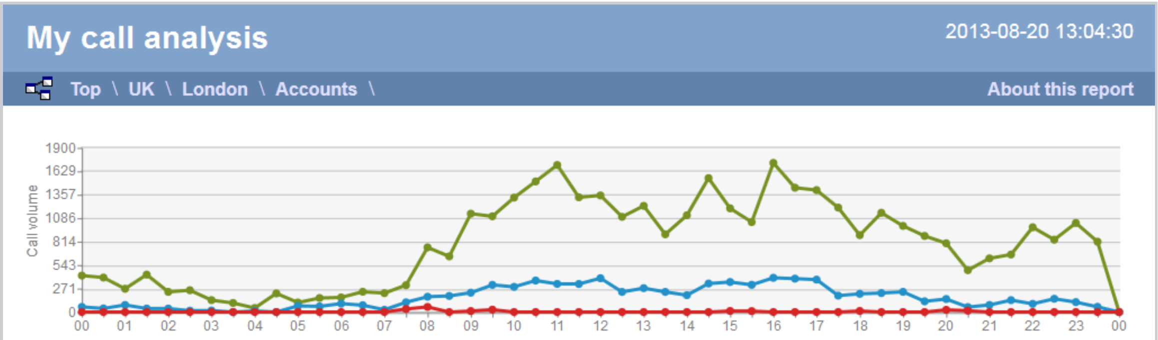
The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the **About this report** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Call Analysis

Overview

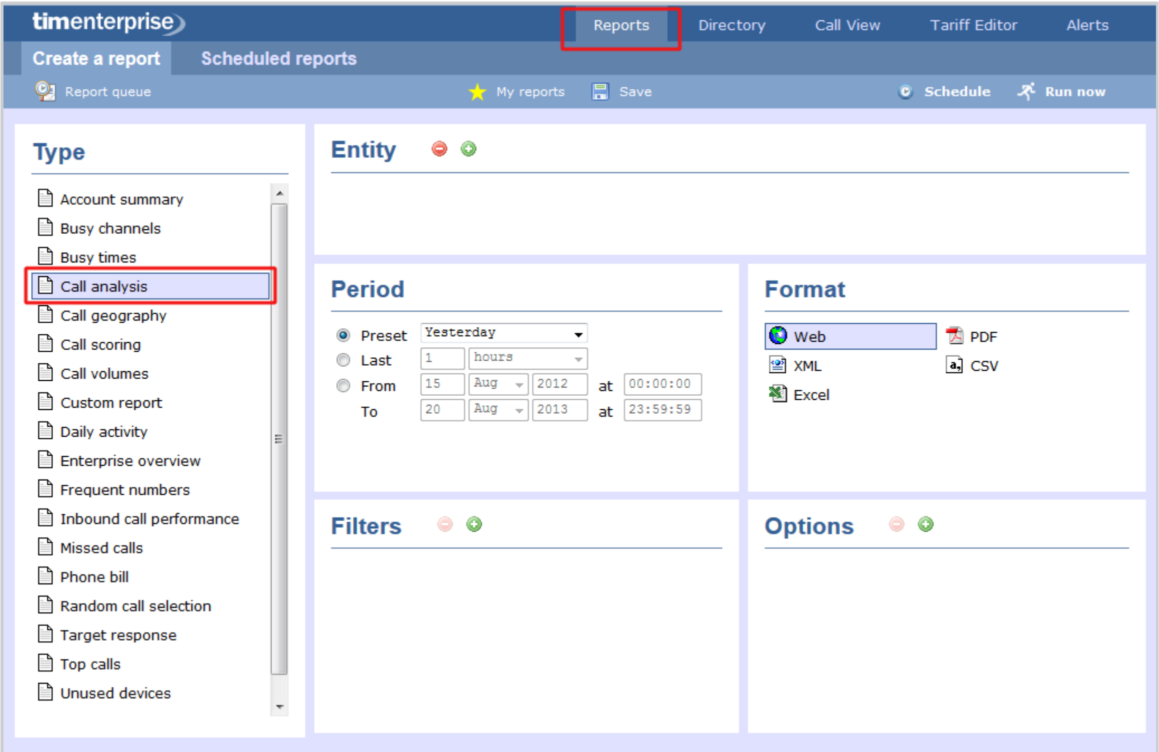
The Call Analysis report breaks down your working day into half-hour segments, providing a clear graphical representation of your outbound, answered and abandoned calls. Call volumes are shown as *maximums* and *averages* which can help with staff planning.



	Missed			Answered					Outbound					
		Duration (s)			Ring time (s)		Duration			Duration			Cost	
Time slot ▲	Σ	Max	Avg	Σ	Max	Avg	Max	Avg	Σ	Max	Avg	Total	Avg	Total
00:00 - 00:29	-	-	-	426	11	-	00:07:34	00:01:28	60	00:00:32	00:00:11	00:11:45	0.036	2.171
00:30 - 00:59	-	-	-	403	-	-	00:09:26	00:01:35	42	00:00:53	00:00:23	00:16:47	0.057	2.406
01:00 - 01:29	-	-	-	272	-	-	00:07:57	00:01:34	83	00:02:31	00:00:29	00:41:18	0.073	6.051
01:30 - 01:59	-	-	-	437	-	-	00:05:19	00:01:23	41	00:00:35	00:00:13	00:09:29	0.039	1.615
02:00 - 02:29	-	-	-	236	10	-	00:08:02	00:01:30	41	00:00:34	00:00:14	00:10:02	0.039	1.592
02:30 - 02:59	-	-	-	255	4	-	00:03:30	00:01:05	16	00:02:06	00:01:10	00:18:54	0.155	2.476
03:00 - 03:29	-	-	-	139	-	-	00:04:43	00:01:29	18	00:00:11	00:00:06	00:01:50	0.030	0.540
03:30 - 03:59	-	-	-	106	-	-	00:09:51	00:01:16	-	-	-	-	-	-
04:00 - 04:29	-	-	-	47	8	1	00:01:35	00:00:43	13	00:00:34	00:00:13	00:03:01	0.038	0.490
04:30 - 04:59	-	-	-	218	19	2	00:06:12	00:00:51	-	-	-	-	-	-
05:00 - 05:29	-	-	-	111	25	2	00:06:33	00:01:20	72	00:02:25	00:00:29	00:35:17	0.073	5.276
05:30 - 05:59	-	-	-	164	8	1	00:11:33	00:01:33	66	00:00:49	00:00:14	00:15:26	0.040	2.628
06:00 - 06:29	-	-	-	171	25	2	00:05:11	00:01:10	99	00:00:35	00:00:09	00:16:21	0.033	3.290
06:30 - 06:59	-	-	-	237	13	-	00:05:14	00:01:10	80	00:00:34	00:00:10	00:13:58	0.034	2.696
07:00 - 07:29	-	-	-	221	25	1	00:06:54	00:01:29	27	00:00:29	00:00:13	00:06:07	0.038	1.029
07:30 - 07:59	36	51	16	314	39	2	00:03:31	00:00:52	114	00:26:48	00:02:24	04:33:49	0.149	16.997

Running the report

Click on the **Reports** tab and select **Call Analysis** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

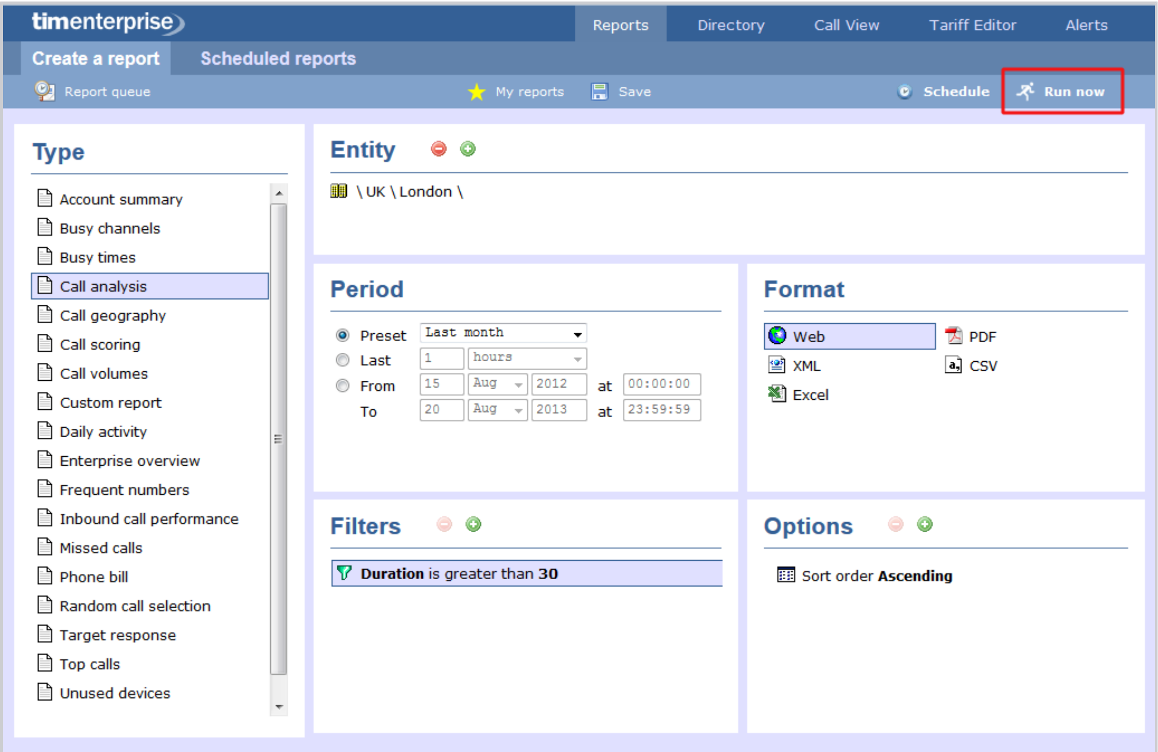


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

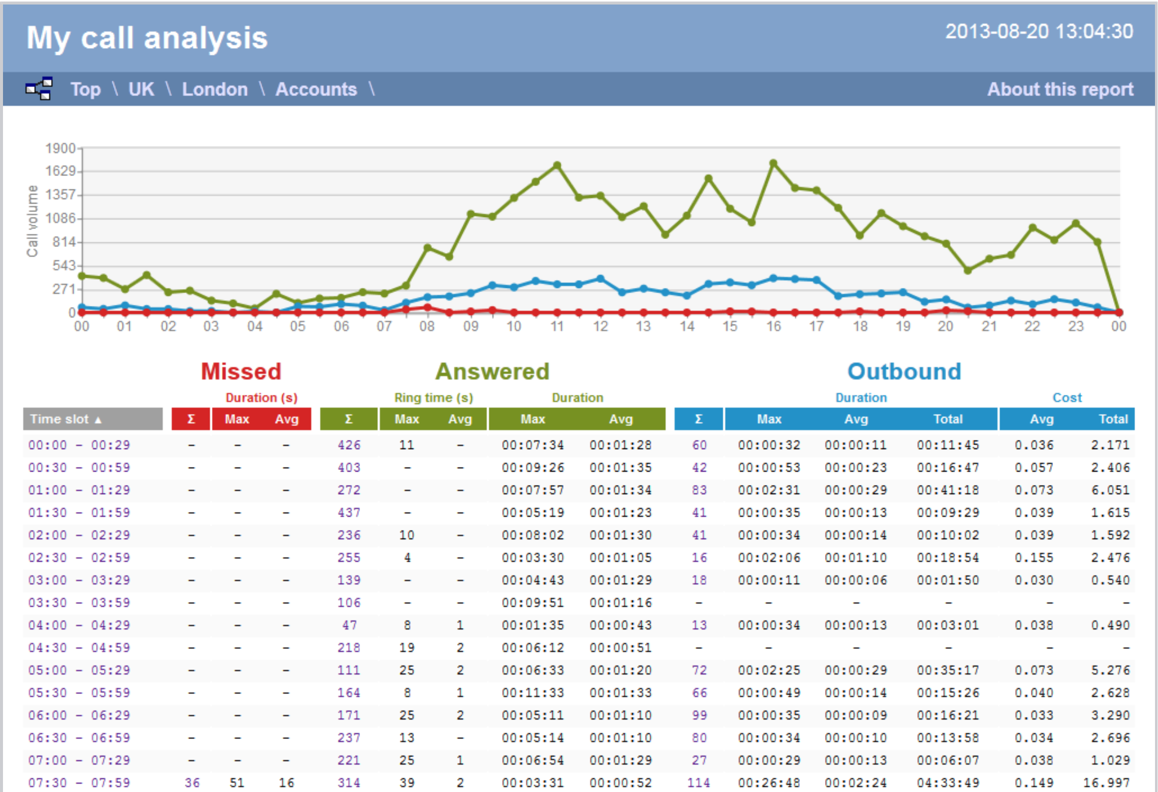
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can sav e the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format, displaying a breakdown of calls organised in half-hour time slots:



	Missed			Answered					Outbound					
		Duration (s)			Ring time (s)		Duration			Duration			Cost	
Time slot ▲	Σ	Max	Avg	Σ	Max	Avg	Max	Avg	Σ	Max	Avg	Total	Avg	Total
00:00 – 00:29	–	–	–	426	11	–	00:07:34	00:01:28	60	00:00:32	00:00:11	00:11:45	0.036	2.171
00:30 – 00:59	–	–	–	403	–	–	00:09:26	00:01:35	42	00:00:53	00:00:23	00:16:47	0.057	2.406
01:00 – 01:29	–	–	–	272	–	–	00:07:57	00:01:34	83	00:02:31	00:00:29	00:41:18	0.073	6.051
01:30 – 01:59	–	–	–	437	–	–	00:05:19	00:01:23	41	00:00:35	00:00:13	00:09:29	0.039	1.615
02:00 – 02:29	–	–	–	236	10	–	00:08:02	00:01:30	41	00:00:34	00:00:14	00:10:02	0.039	1.592
02:30 – 02:59	–	–	–	255	4	–	00:03:30	00:01:05	16	00:02:06	00:01:10	00:18:54	0.155	2.476
03:00 – 03:29	–	–	–	139	–	–	00:04:43	00:01:29	18	00:00:11	00:00:06	00:01:50	0.030	0.540
03:30 – 03:59	–	–	–	106	–	–	00:09:51	00:01:16	–	–	–	–	–	–
04:00 – 04:29	–	–	–	47	8	1	00:01:35	00:00:43	13	00:00:34	00:00:13	00:03:01	0.038	0.490
04:30 – 04:59	–	–	–	218	19	2	00:06:12	00:00:51	–	–	–	–	–	–
05:00 – 05:29	–	–	–	111	25	2	00:06:33	00:01:20	72	00:02:25	00:00:29	00:35:17	0.073	5.276
05:30 – 05:59	–	–	–	164	8	1	00:11:33	00:01:33	66	00:00:49	00:00:14	00:15:26	0.040	2.628
06:00 – 06:29	–	–	–	171	25	2	00:05:11	00:01:10	99	00:00:35	00:00:09	00:16:21	0.033	3.290
06:30 – 06:59	–	–	–	237	13	–	00:05:14	00:01:10	80	00:00:34	00:00:10	00:13:58	0.034	2.696
07:00 – 07:29	–	–	–	221	25	1	00:06:54	00:01:29	27	00:00:29	00:00:13	00:06:07	0.038	1.029
07:30 – 07:59	36	51	16	314	39	2	00:03:31	00:00:52	114	00:26:48	00:02:24	04:33:49	0.149	16.997

By clicking on the **`About this report`** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. The headers of this report are as follows:

Header	Description
Time slot	The time period to which the other headers' results relate
Missed	▪ **Σ:** The total number of missed calls ▪ **Max:** The maximum length of time a caller waited before abandoning the call (in seconds) ▪ **Avg:** The average length of time a caller waited before abandoning the call (in seconds)
Answered	▪ **Σ:** The total number of answered calls ▪ **Ring time Max:** The maximum length of time a caller waited before a call was answered (in seconds) ▪ **Ring time Avg:** The average length of time a caller waited before the call was answered (in seconds) ▪ **Duration Max:** The duration of the longest answered call (in hours, mins, secs) ▪ **Duration Avg:** The average length of all answered calls (in hours, mins, secs)
Outbound	▪ **Σ:** The total number of outbound calls ▪ **Duration Max:** The duration of the longest outbound call (in hours, mins, secs) ▪ **Duration Avg:** The average length of all outbound calls (in hours, mins, secs) ▪ **Duration Total:** The total duration of time spent on outbound calls ▪ **Cost Avg:** The average cost of all outbound calls ▪ **Cost Total:** The total cost of all outbound calls

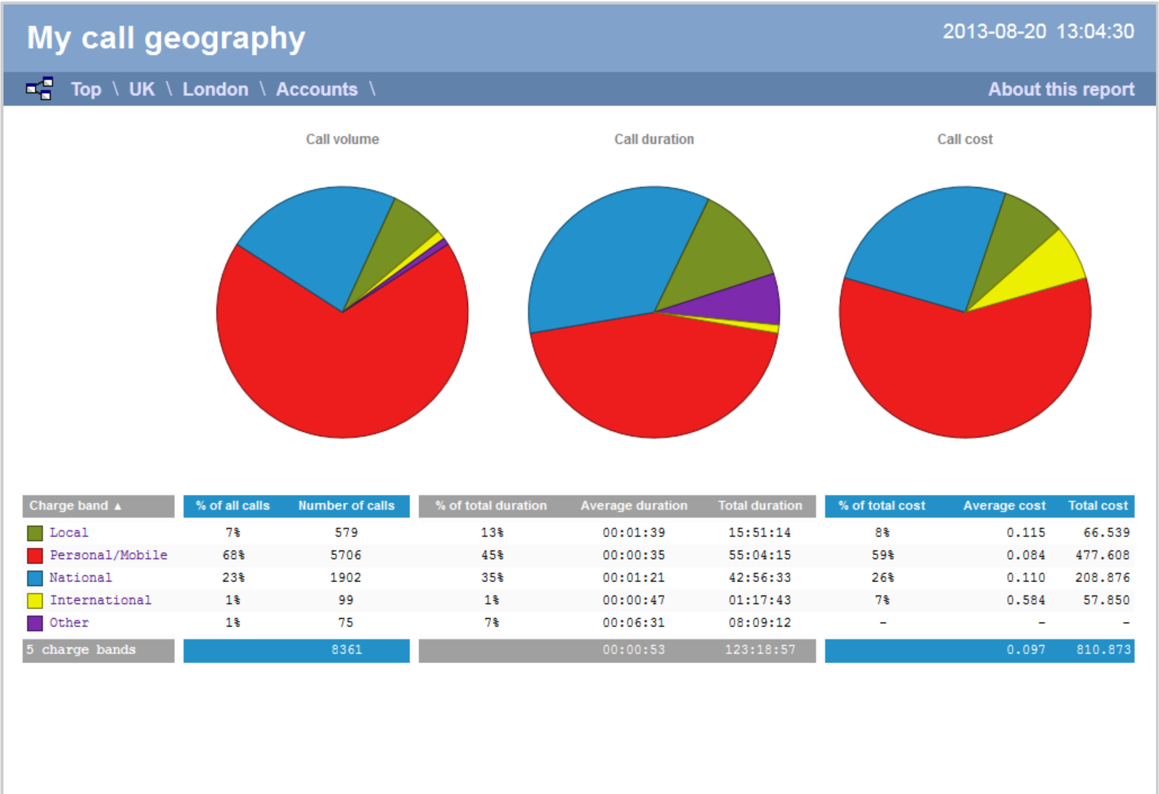
To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Call Geography

Overview

The Call Geography report consists of three pie charts, each showing call information grouped by volume, duration and cost. An accompanying table is also shown, containing details of where - geographically - your calls are made, classified by their tariff band, such as local, national, mobile or international.

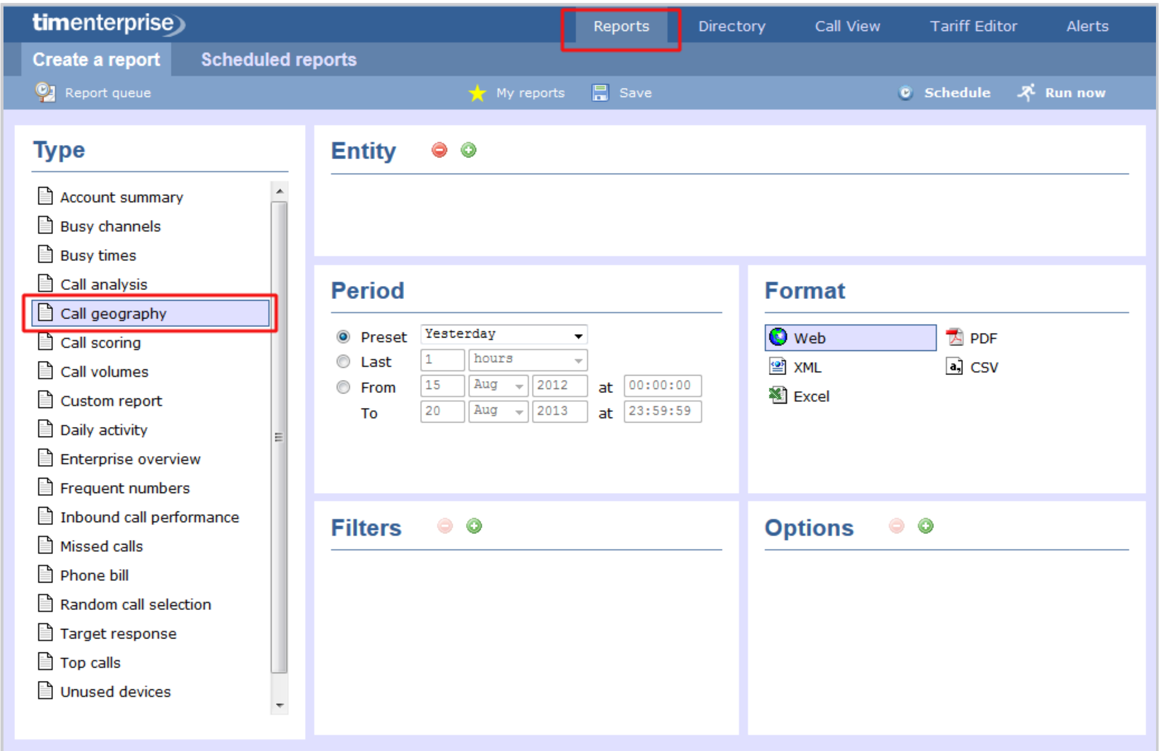
The proportion of calls to each geographical destination is shown in terms of volume, duration and cost, highlighting the calls that are costing you the most and taking up most of your time.



Charge band ▲	% of all calls	Number of calls	% of total duration	Average duration	Total duration	% of total cost	Average cost	Total cost
Local	7%	579	13%	00:01:39	15:51:14	8%	0.115	66.539
Personal/Mobile	68%	5706	45%	00:00:35	55:04:15	59%	0.084	477.608
National	23%	1902	35%	00:01:21	42:56:33	26%	0.110	208.876
International	1%	99	1%	00:00:47	01:17:43	7%	0.584	57.850
Other	1%	75	7%	00:06:31	08:09:12	-	-	-
5 charge bands		8361		00:00:53	123:18:57		0.097	810.873

Running the report

Click on the **Reports** tab and select **Call geography** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.



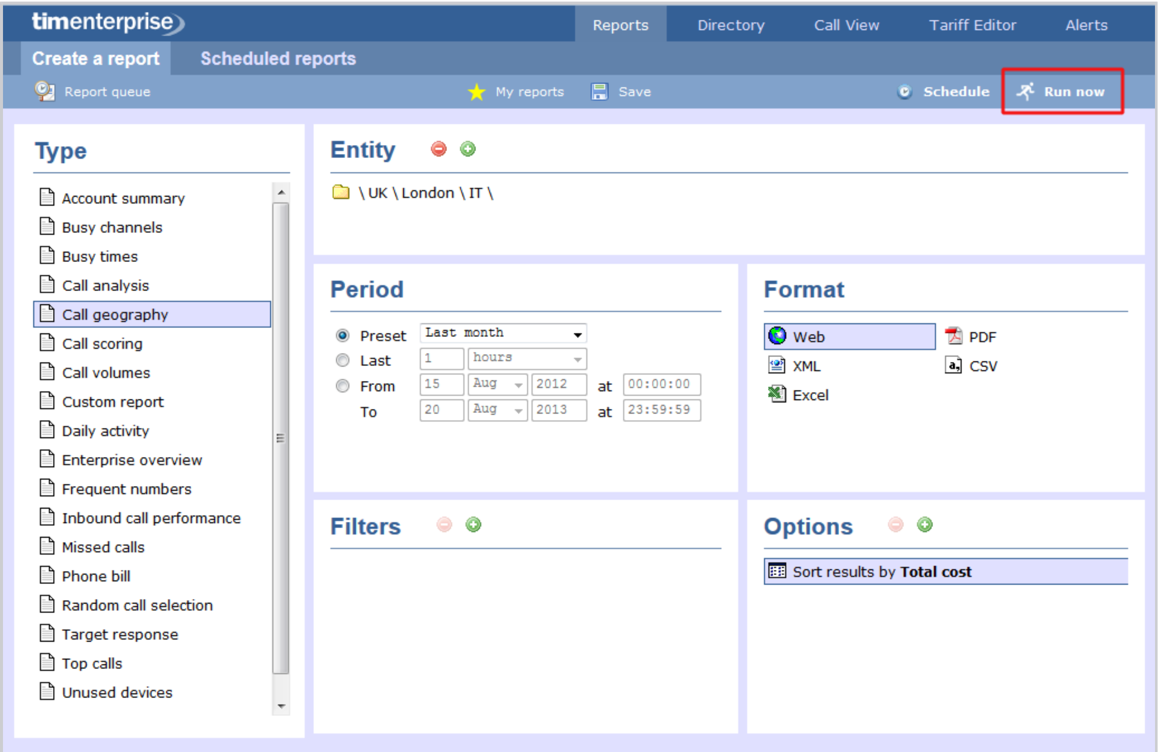
For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity

- Period
- Filters
- Options
- Format

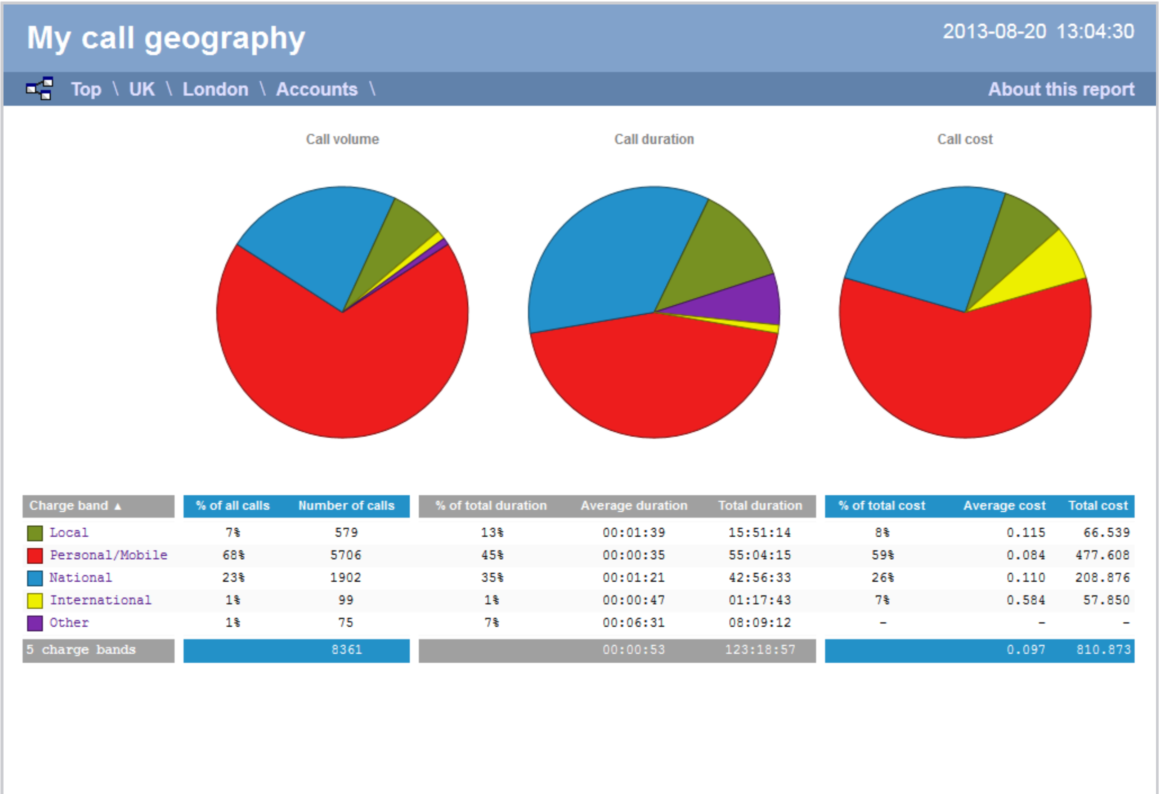
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format:



Charge band ▲	% of all calls	Number of calls	% of total duration	Average duration	Total duration	% of total cost	Average cost	Total cost
Local	7%	579	13%	00:01:39	15:51:14	8%	0.115	66.539
Personal/Mobile	68%	5706	45%	00:00:35	55:04:15	59%	0.084	477.608
National	23%	1902	35%	00:01:21	42:56:33	26%	0.110	208.876
International	1%	99	1%	00:00:47	01:17:43	7%	0.584	57.850
Other	1%	75	7%	00:06:31	08:09:12	-	-	-
5 charge bands		8361		00:00:53	123:18:57		0.097	810.873

The final report consists of three pie charts and a table.

Pie charts

- The left-hand pie chart shows the amount of calls to each location
- The centre chart shows the time spent on calls to each location
- The right-hand chart shows the cost of calls to each location

Table

The table shows the following information about the calls made to each charge band location:

Header	Description
Charge band	The charge band, e.g. Local, National, International, Mobile, etc. Each listed charge band is click-able, allowing you to drill-down to see which site, department or user made calls to that charge band location.
% of calls	The number of calls per charge band location as a percentage of the total calls made. To reorder, click on the header to alternate between descending and ascending.
Number of calls	The total volume of calls made to each charge band location.
% of total duration	The total duration of calls made to each charge band location, expressed as a percentage of all charge bands.
Average duration	The average duration spent on calls to the corresponding charge band.
Total duration	The total amount of time spent on calls to the corresponding charge band.
% of total cost	The total cost of all calls made to each charge band location, expressed as a percentage of the total cost of all calls.

Average cost	The average cost of calls made to each charge band location.
Total cost	The total cost of calls made to each charge band location.

The summary line at the foot of the table shows the total number of calls included in the report, the total duration of calls, average and total costs.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Call Scoring

Overview

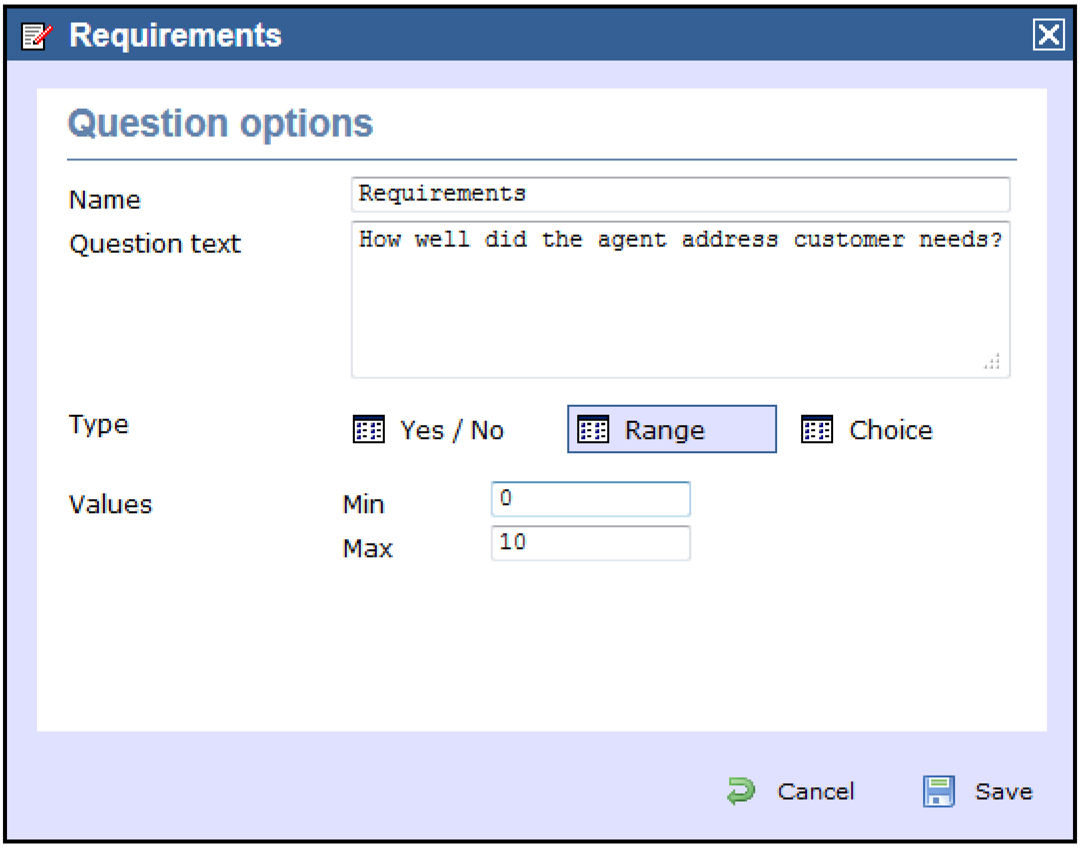
The Call Scoring report provides a comprehensive analysis of previously-scored calls, enabling you to more efficiently assess the performance of your staff. TIM Enterprise gives you the option to create your own score cards, so you can specifically rate any call according to a set of custom evaluation criteria.

The scores can be based on any combination of questions whose answers are of the following type:

- **Yes/No**
- **A value range**
- **Multiple choice**

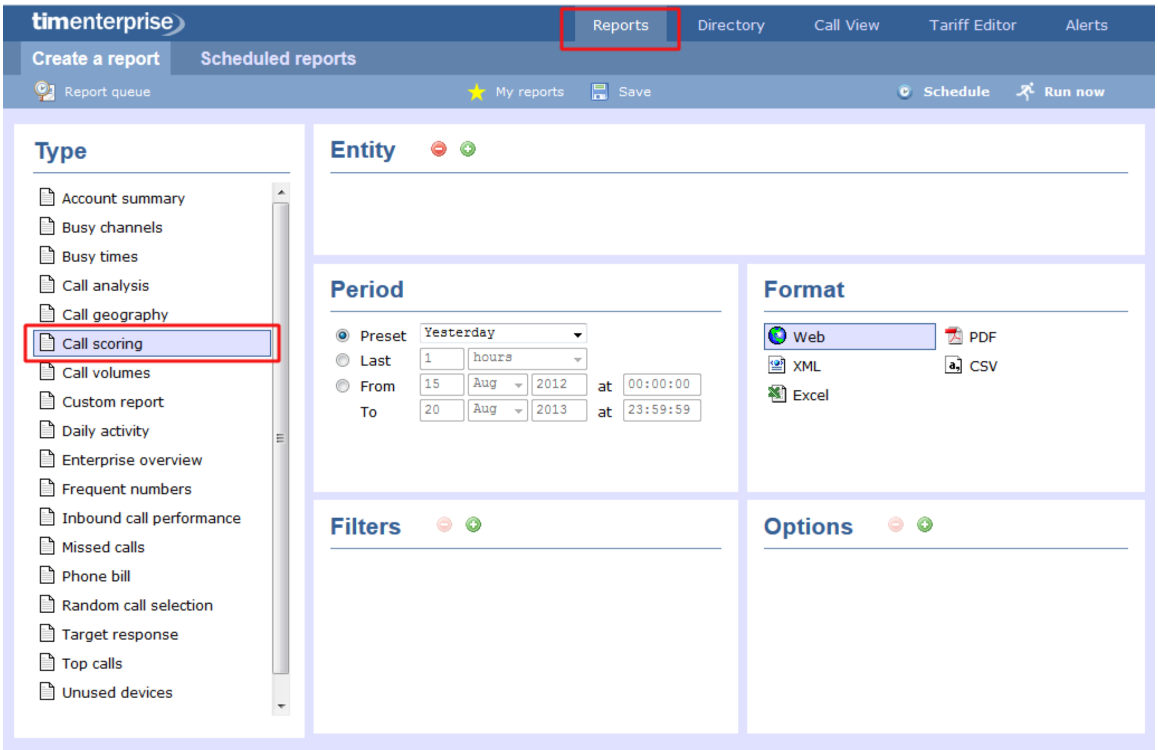
All questions are summarised in a clear, easy-to-understand format and are displayed separately, grouped into their respective categories.

An example of a scoring card can be seen below:



Running the report

Click on the `Reports` tab and select `Call scoring` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

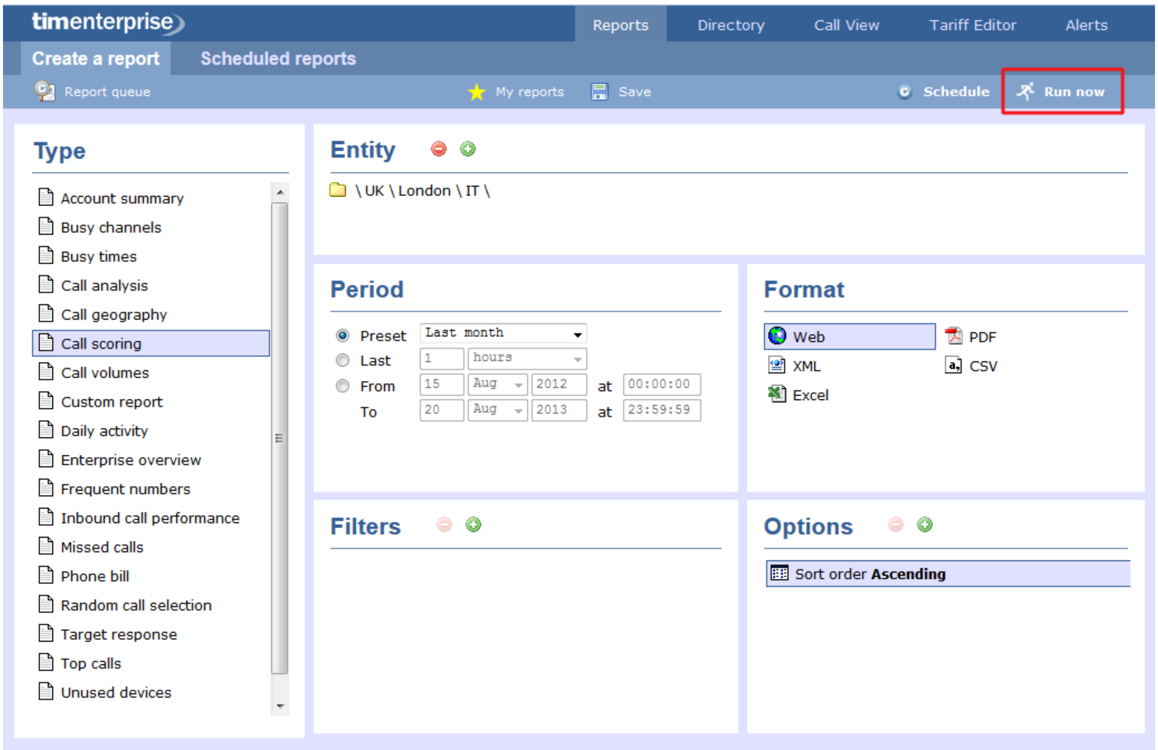


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

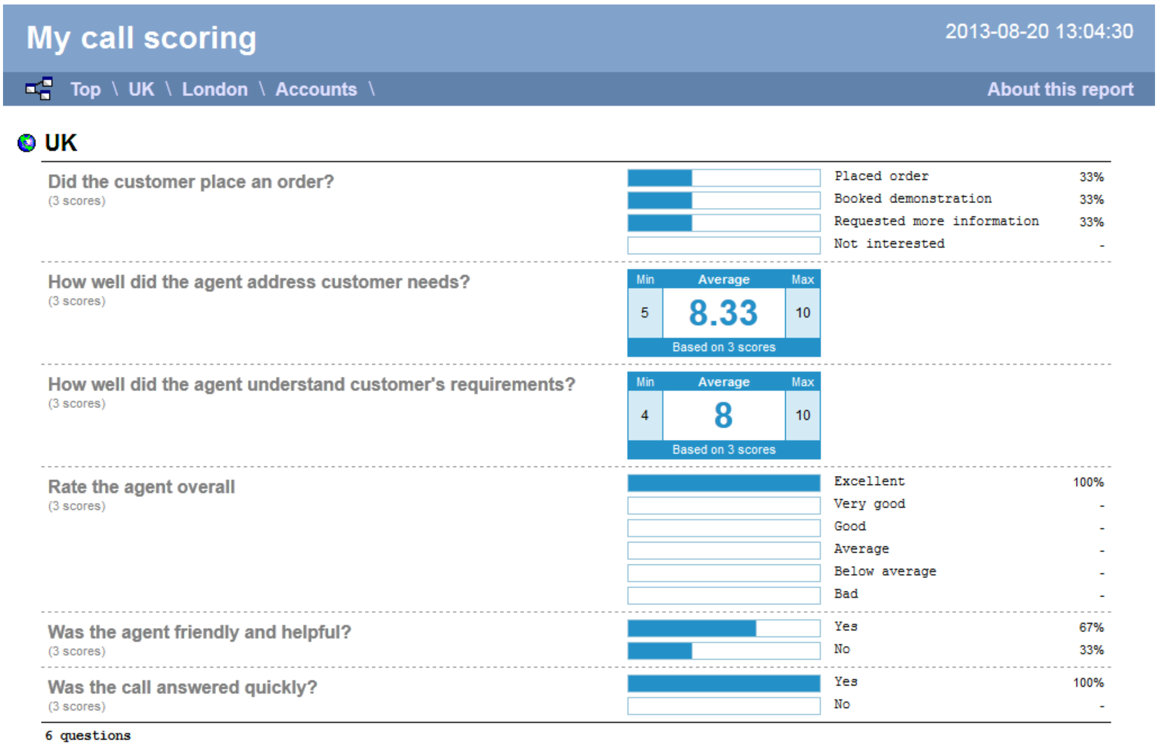
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in **Web** format:



The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the **About this report** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

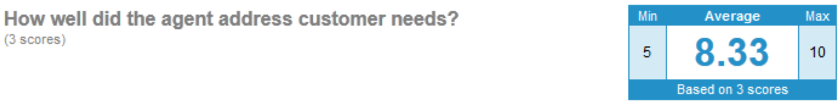
- the report's title
- the date and time that the report was generated

- the name of the report, if applicable

The results of the call scoring report will vary depending on the type of questions used to create your score cards:

Yes/No questions show their answers as two bars, each indicating the proportion of total answers.

Range questions show the minimum and maximum scores, as well as the average score.



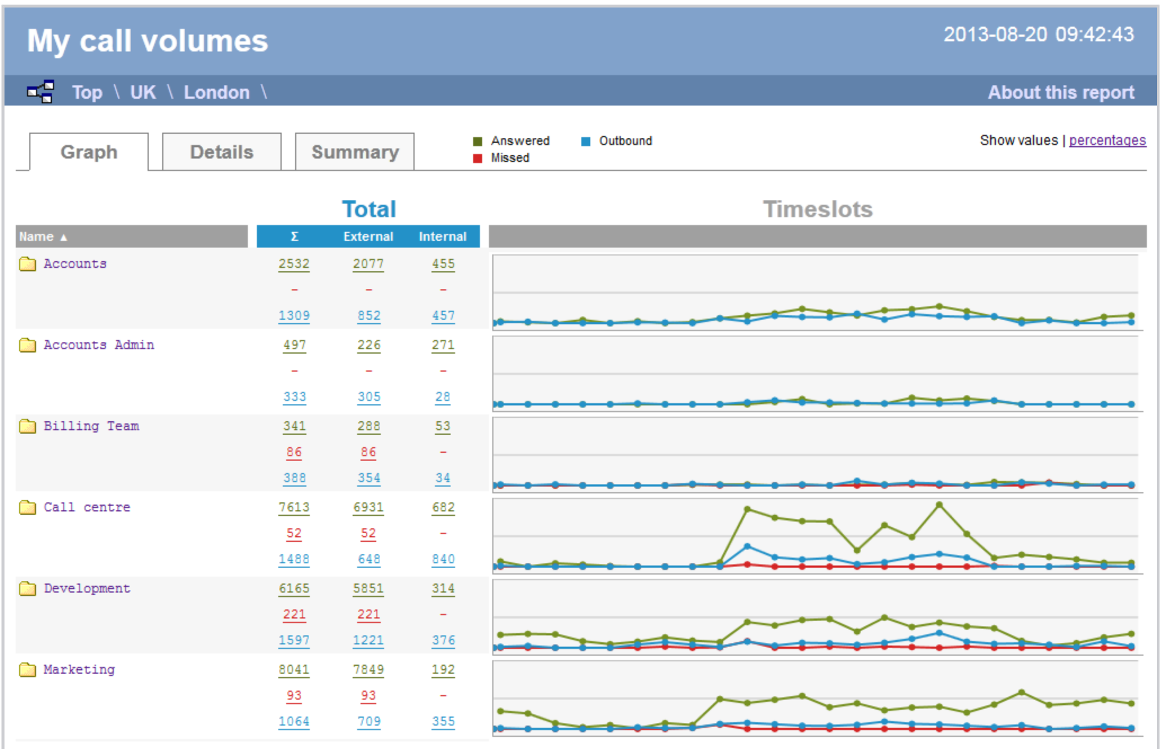
Multiple choice questions show each possible answer as a percentage of the total number of answers.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Call Volumes

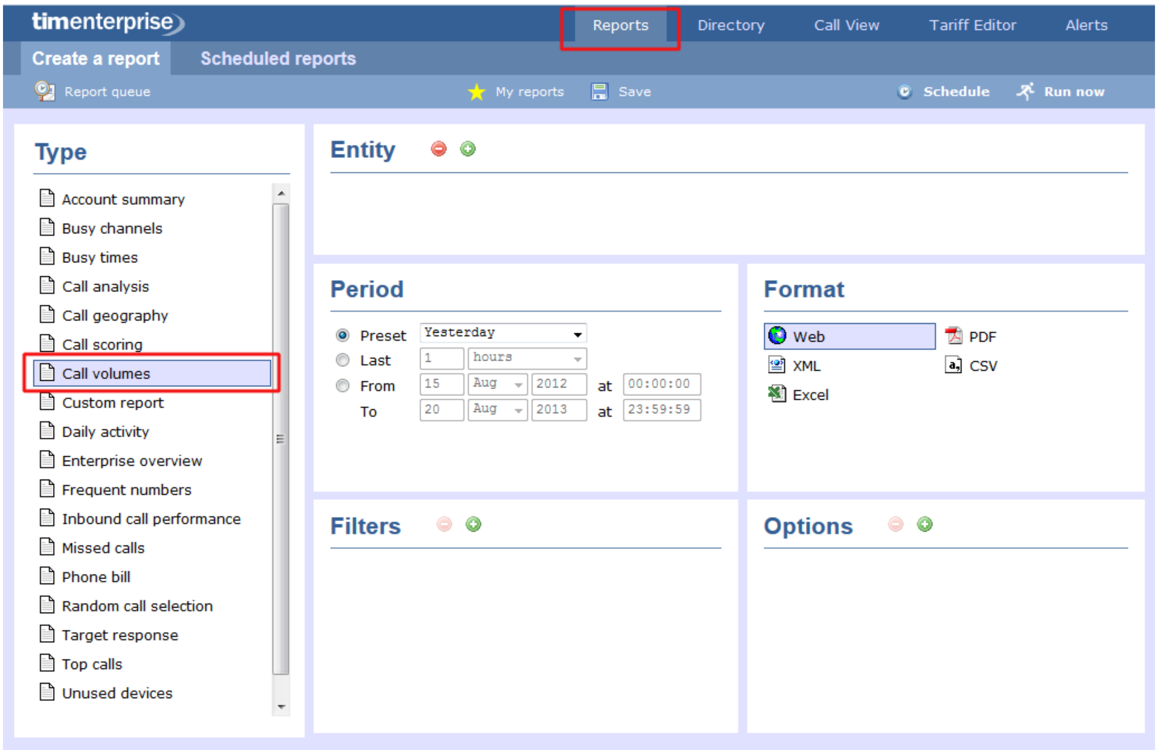
Overview

The Call Volumes report gives you a complete picture of your call volumes organised by site, group or user. It provides a clear, graphical and tabular representation of your outbound, answered and abandoned calls, broken down into hourly time slots. Internal and external calls are itemised separately and every value can be toggled between a percentage or a number. Additionally, all of the displayed values are shown as hyperlinks, allowing you to drill down further into the results.



Running the report

Click on the **Reports** tab and select **Call volumes** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

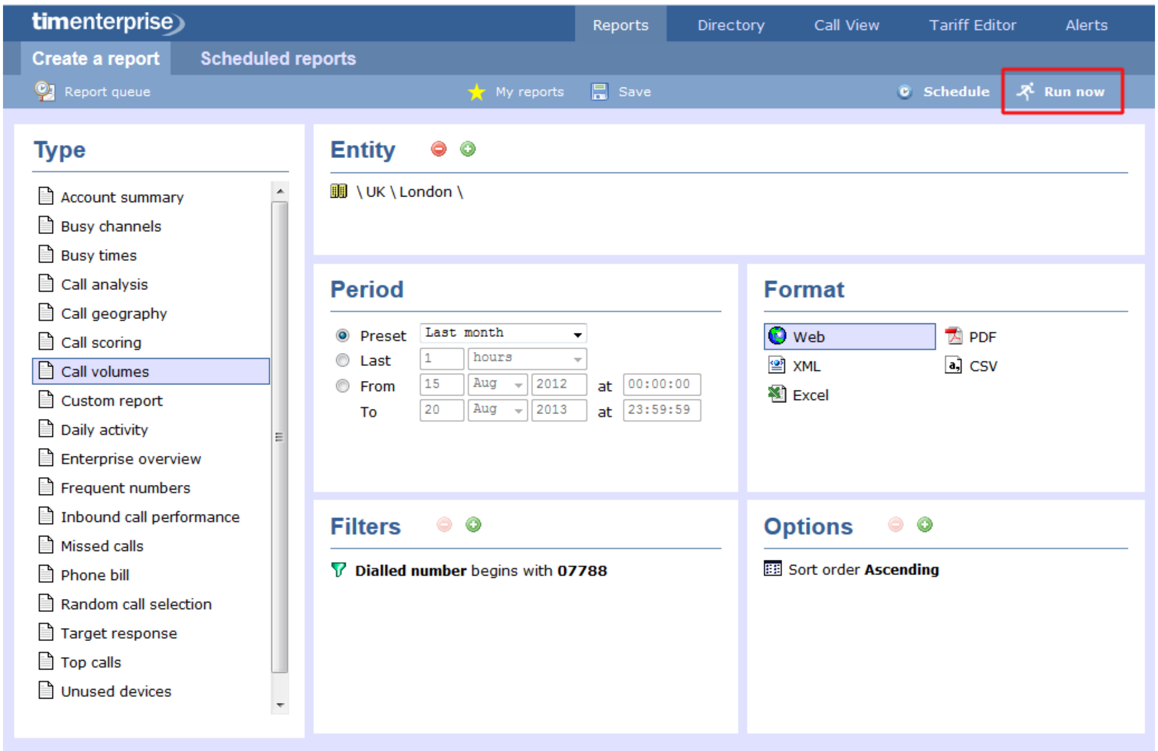


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

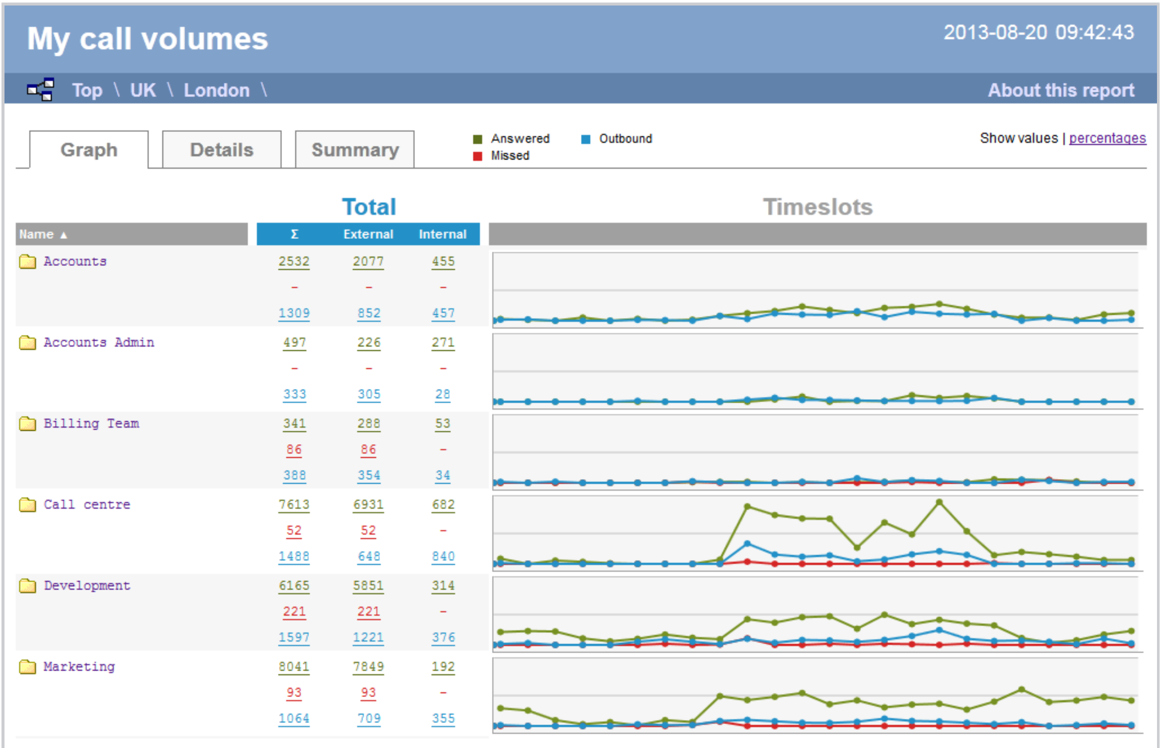
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format:



As with all reports produced by TIM Enterprise, each page of the report includes the following information:

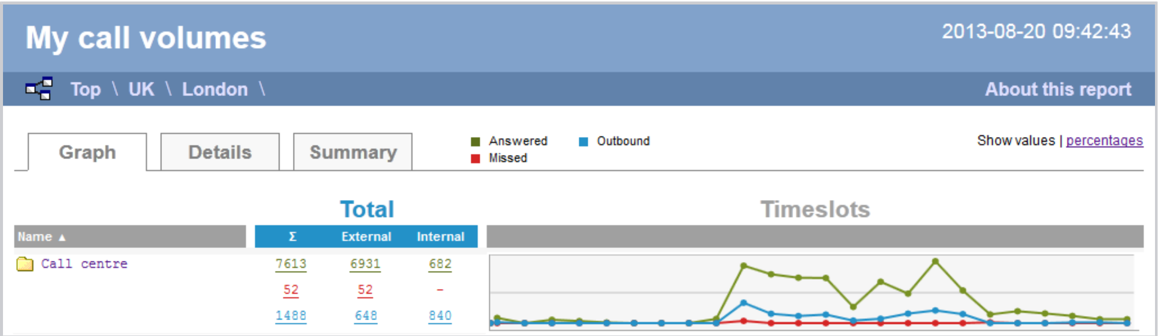
- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. To view details of any filters or parameters used in creating this report, click on **`About this report`** at the top-right corner of the page.

The report is divided into three sections: **`Graph`**, **`Details`** and **`Summary`**.

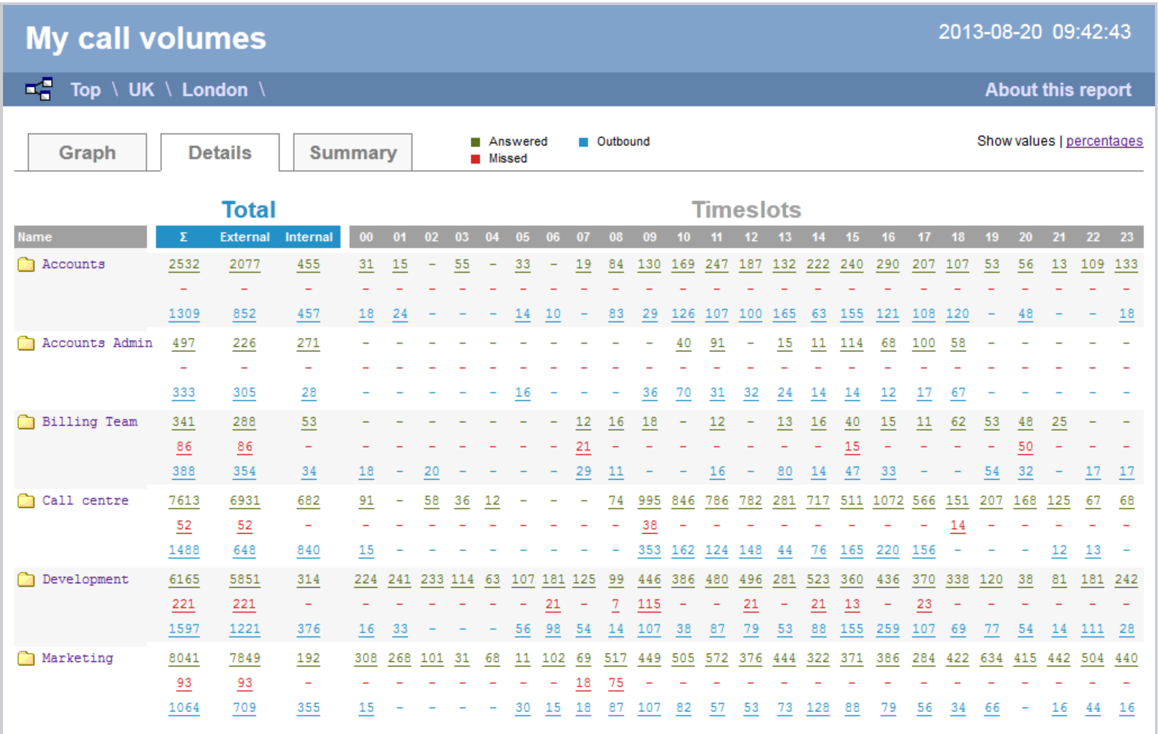
Graph

The Graph tab provides a visual representation of all inbound, outbound and missed calls for both external and internal call activity. A simple toggle button at the top right of the screen enables you to flip between call volumes and percentages.



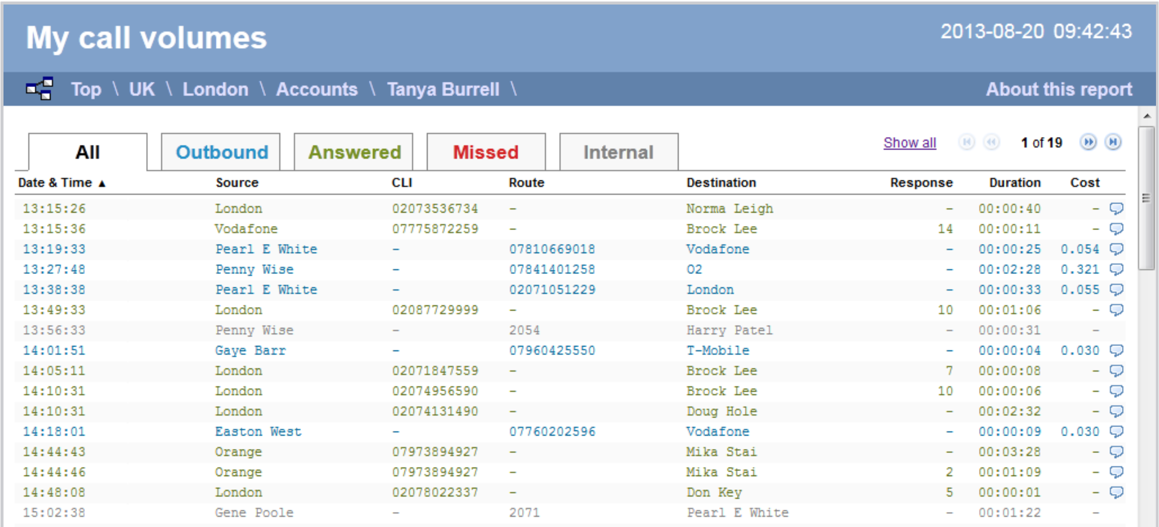
Details

The Details tab shows the actual volumes (or percentages) of calls for each time slot throughout the day.



Name	Σ	External	Internal	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Accounts	2532	2077	455	31	15	-	55	-	33	-	19	84	130	169	247	187	132	222	240	290	207	107	53	56	13	109	133
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1309	852	457	18	24	-	-	-	14	10	-	83	29	126	107	100	165	63	155	121	108	120	-	48	-	-	18
Accounts Admin	497	226	271	-	-	-	-	-	-	-	-	-	-	40	91	-	15	11	114	68	100	58	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	333	305	28	-	-	-	-	-	16	-	-	-	36	70	31	32	24	14	14	12	17	67	-	-	-	-	-
Billing Team	341	288	53	-	-	-	-	-	-	-	12	16	18	-	12	-	13	16	40	15	11	62	53	48	25	-	-
	86	86	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	15	-	-	-	-	50	-	-	-
	388	354	34	18	-	20	-	-	-	-	29	11	-	-	16	-	80	14	47	33	-	-	54	32	-	17	17
Call centre	7613	6931	682	91	-	58	36	12	-	-	-	74	995	846	786	782	281	717	511	1072	566	151	207	168	125	67	68
	52	52	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	-	14	-	-	-	-	-
	1488	648	840	15	-	-	-	-	-	-	-	-	353	162	124	148	44	76	165	220	156	-	-	-	12	13	-
Development	6165	5851	314	224	241	233	114	63	107	181	125	99	446	386	480	496	281	523	360	436	370	338	120	38	81	181	242
	221	221	-	-	-	-	-	-	-	21	-	7	115	-	-	21	-	21	13	-	23	-	-	-	-	-	-
	1597	1221	376	16	33	-	-	-	56	98	54	14	107	38	87	79	53	88	155	259	107	69	77	54	14	111	28
Marketing	8041	7849	192	308	268	101	31	68	11	102	69	517	449	505	572	376	444	322	371	386	284	422	634	415	442	504	440
	93	93	-	-	-	-	-	-	-	-	18	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1064	709	355	15	-	-	-	-	30	15	18	87	107	82	57	53	73	128	88	79	56	34	66	-	16	44	16

All numeric figures are shown as hyperlinks, allowing you to drill down into an itemised list of the calls that they represent.



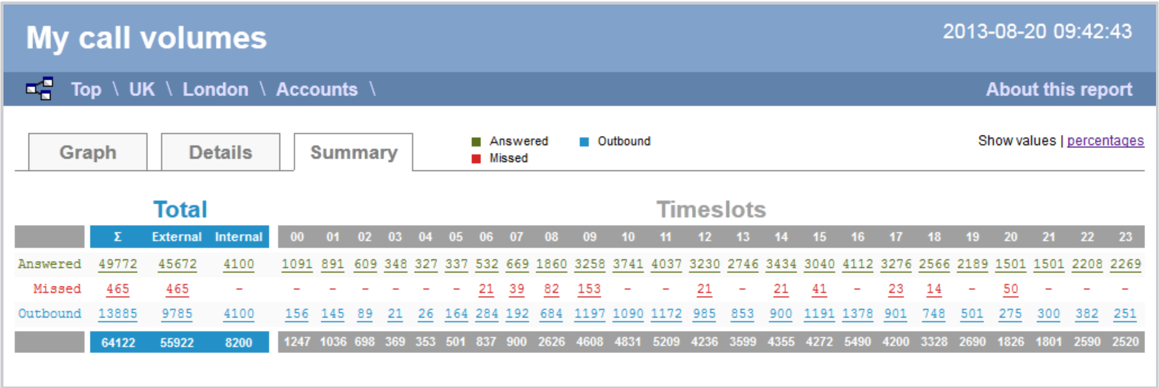
Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
13:15:26	London	02073536734	-	Norma Leigh	-	00:00:40	-
13:15:36	Vodafone	07775872259	-	Brock Lee	14	00:00:11	-
13:19:33	Pearl E White	-	07810669018	Vodafone	-	00:00:25	0.054
13:27:48	Penny Wise	-	07841401258	O2	-	00:02:28	0.321
13:38:38	Pearl E White	-	02071051229	London	-	00:00:33	0.055
13:49:33	London	02087729999	-	Brock Lee	10	00:01:06	-
13:56:33	Penny Wise	-	2054	Harry Patel	-	00:00:31	-
14:01:51	Gaye Barr	-	07960425550	T-Mobile	-	00:00:04	0.030
14:05:11	London	02071847559	-	Brock Lee	7	00:00:08	-
14:10:31	London	02074956590	-	Brock Lee	10	00:00:06	-
14:10:31	London	02074131490	-	Doug Hole	-	00:02:32	-
14:18:01	Easton West	-	07760202596	Vodafone	-	00:00:09	0.030
14:44:43	Orange	07973894927	-	Mika Stai	-	00:03:28	-
14:44:46	Orange	07973894927	-	Mika Stai	2	00:01:09	-
14:48:08	London	02078022337	-	Don Key	5	00:00:01	-
15:02:38	Gene Poole	-	2071	Pearl E White	-	00:01:22	-

Below is a description of each table header:

Header	Description
Date & Time	The date and time the call started
Source	The place from where the call originated
CLI	The telephone number of the remote caller for inbound calls
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The length of time it took for the call to be answered (i.e. the response time)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call

Summary

The Summary tab shows a summary of all call activity for the reporting period you selected.



My call volumes

2013-08-20 09:42:43

Top \ UK \ London \ Accounts \ About this report

Graph | Details | Summary

Answered Outbound Missed

Show values | percentages

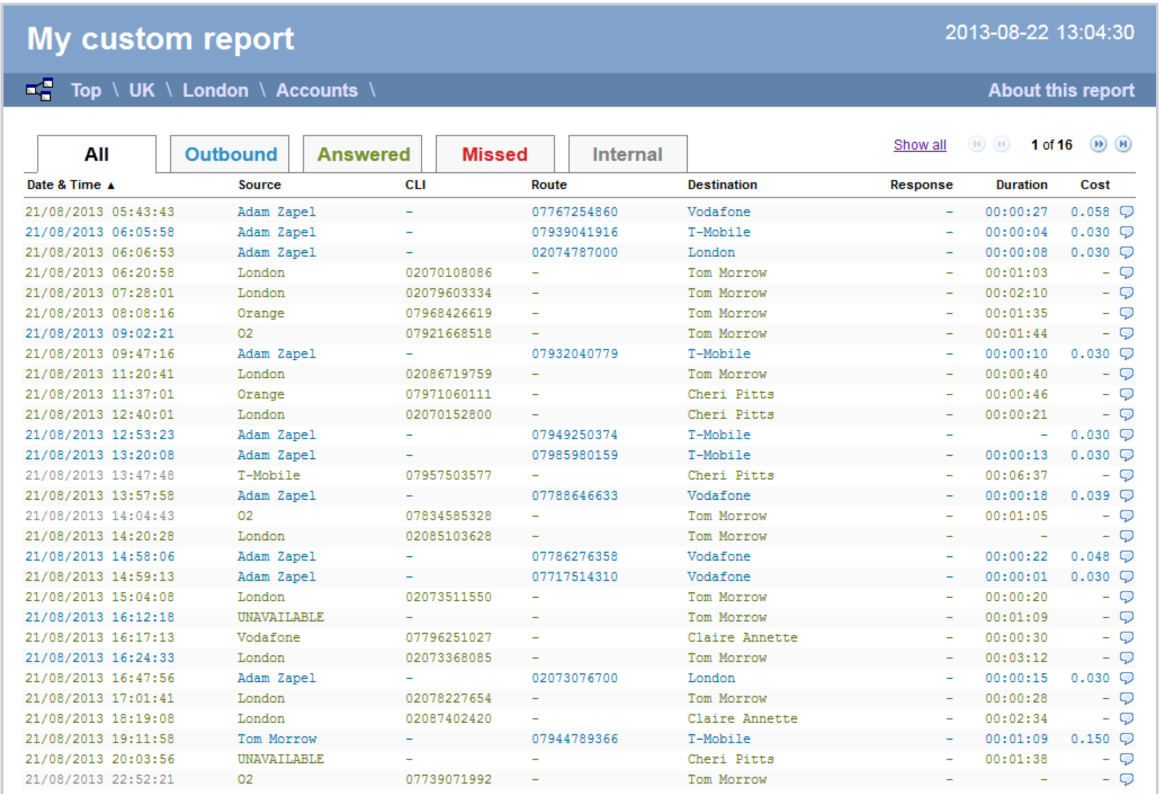
	Total			Timeslots																							
	Σ	External	Internal	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Answered	49772	45672	4100	1091	891	609	348	327	337	532	669	1860	3258	3741	4037	3230	2746	3434	3040	4112	3276	2566	2189	1501	1501	2208	2269
Missed	465	465	-	-	-	-	-	-	-	21	39	82	153	-	-	21	-	21	41	-	23	14	-	50	-	-	-
Outbound	13885	9785	4100	156	145	89	21	26	164	284	192	684	1197	1090	1172	985	853	900	1191	1378	901	748	501	275	300	382	251
	64122	55922	8200	1247	1036	698	369	353	501	837	900	2626	4608	4831	5209	4236	3599	4355	4272	5490	4200	3328	2690	1826	1801	2590	2520

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Custom

Overview

The Custom report allows a wide range of options and filtering criteria to be selected, enabling you to search for very specific phone calls. The results are displayed as an itemised list, grouped by call type: `All`, `Outbound`, `Answered`, `Missed`, `Internal` and `Tandem`.



My custom report

2013-08-22 13:04:30

Top \ UK \ London \ Accounts \ About this report

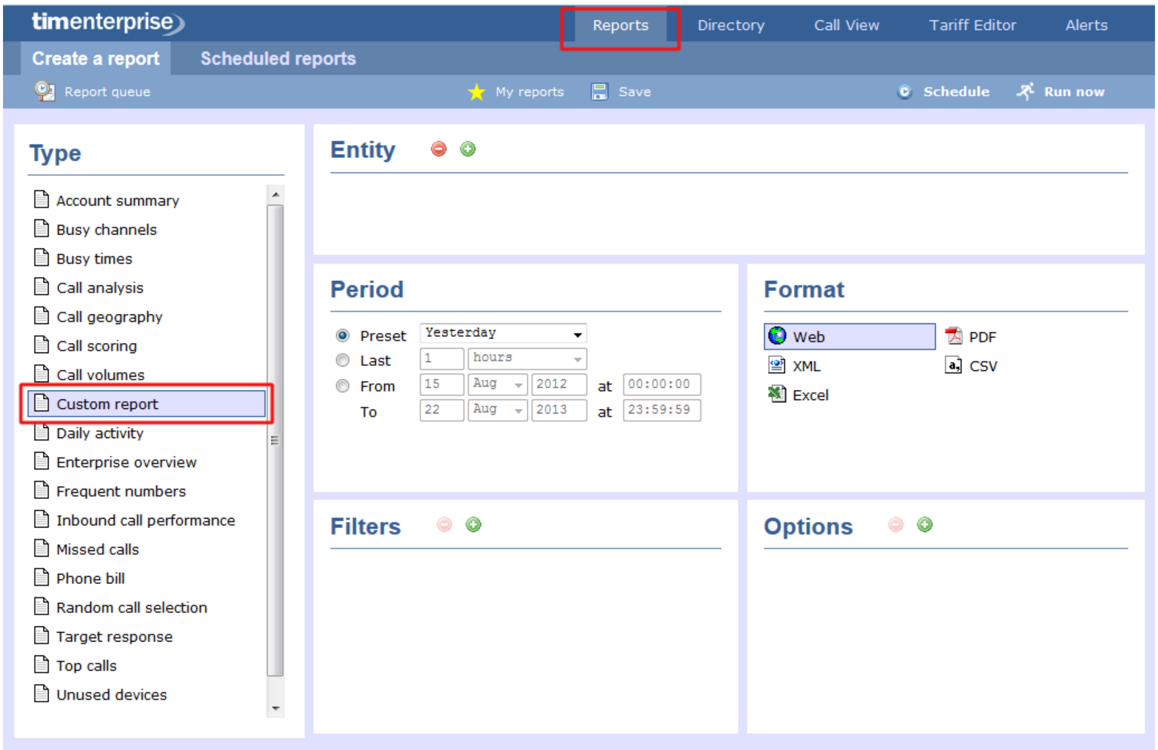
All | Outbound | Answered | Missed | Internal

Show all 1 of 16

Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
21/08/2013 05:43:43	Adam Zapel	-	07767254860	Vodafone	-	00:00:27	0.058
21/08/2013 06:05:58	Adam Zapel	-	07939041916	T-Mobile	-	00:00:04	0.030
21/08/2013 06:06:53	Adam Zapel	-	02074787000	London	-	00:00:08	0.030
21/08/2013 06:20:58	London	02070108086	-	Tom Morrow	-	00:01:03	-
21/08/2013 07:28:01	London	02079603334	-	Tom Morrow	-	00:02:10	-
21/08/2013 08:08:16	Orange	07968426619	-	Tom Morrow	-	00:01:35	-
21/08/2013 09:02:21	O2	07921668518	-	Tom Morrow	-	00:01:44	-
21/08/2013 09:47:16	Adam Zapel	-	07932040779	T-Mobile	-	00:00:10	0.030
21/08/2013 11:20:41	London	02086719759	-	Tom Morrow	-	00:00:40	-
21/08/2013 11:37:01	Orange	07971060111	-	Cheri Pitts	-	00:00:46	-
21/08/2013 12:40:01	London	02070152800	-	Cheri Pitts	-	00:00:21	-
21/08/2013 12:53:23	Adam Zapel	-	07949250374	T-Mobile	-	-	0.030
21/08/2013 13:20:08	Adam Zapel	-	07985980159	T-Mobile	-	00:00:13	0.030
21/08/2013 13:47:48	T-Mobile	07957503577	-	Cheri Pitts	-	00:06:37	-
21/08/2013 13:57:58	Adam Zapel	-	07788646633	Vodafone	-	00:00:18	0.039
21/08/2013 14:04:43	O2	07834585328	-	Tom Morrow	-	00:01:05	-
21/08/2013 14:20:28	London	02085103628	-	Tom Morrow	-	-	-
21/08/2013 14:58:06	Adam Zapel	-	07786276358	Vodafone	-	00:00:22	0.048
21/08/2013 14:59:13	Adam Zapel	-	07717514310	Vodafone	-	00:00:01	0.030
21/08/2013 15:04:08	London	02073511550	-	Tom Morrow	-	00:00:20	-
21/08/2013 16:12:18	UNAVAILABLE	-	-	Tom Morrow	-	00:01:09	-
21/08/2013 16:17:13	Vodafone	07796251027	-	Claire Annette	-	00:00:30	-
21/08/2013 16:24:33	London	02073368085	-	Tom Morrow	-	00:03:12	-
21/08/2013 16:47:56	Adam Zapel	-	02073076700	London	-	00:00:15	0.030
21/08/2013 17:01:41	London	02078227654	-	Tom Morrow	-	00:00:28	-
21/08/2013 18:19:08	London	02087402420	-	Claire Annette	-	00:02:34	-
21/08/2013 19:11:58	Tom Morrow	-	07944789366	T-Mobile	-	00:01:09	0.150
21/08/2013 20:03:56	UNAVAILABLE	-	-	Cheri Pitts	-	00:01:38	-
21/08/2013 22:52:21	O2	07739071992	-	Tom Morrow	-	-	-

Running the report

Click on the `Reports` tab and select `Custom report` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

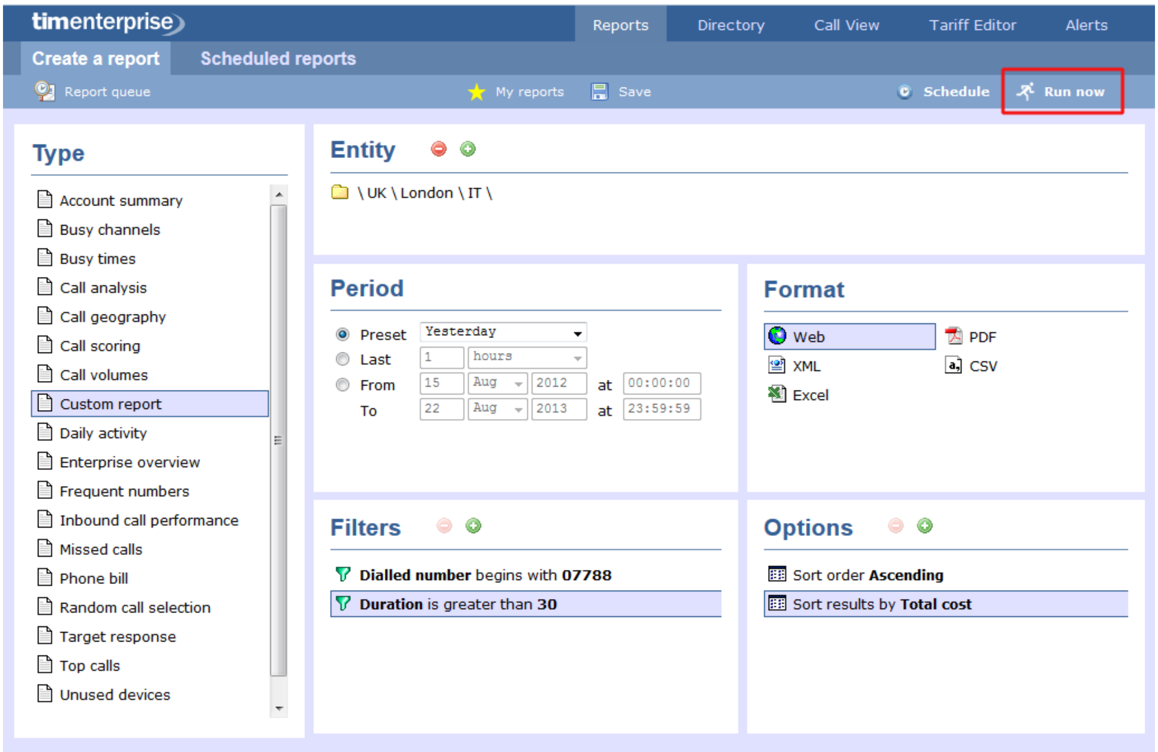


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

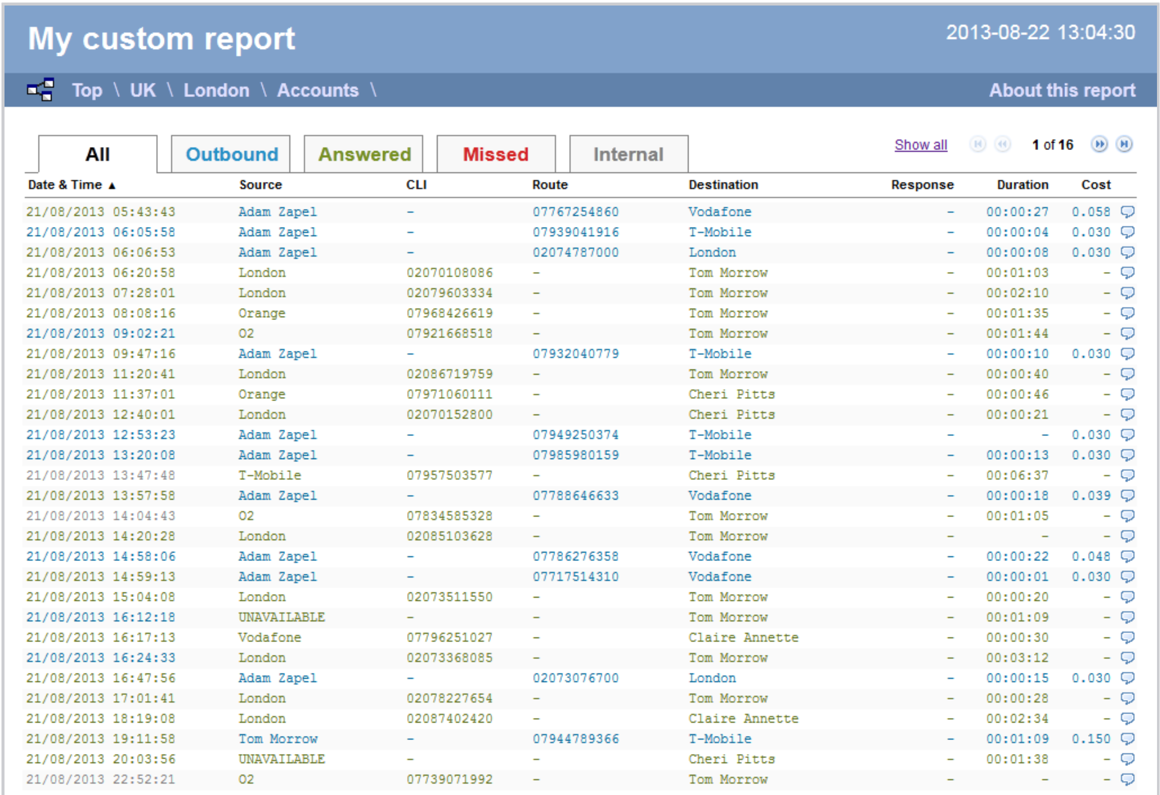
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in **Web** format:



Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
21/08/2013 05:43:43	Adam Zapel	-	07767254860	Vodafone	-	00:00:27	0.058
21/08/2013 06:05:58	Adam Zapel	-	07939041916	T-Mobile	-	00:00:04	0.030
21/08/2013 06:06:53	Adam Zapel	-	02074787000	London	-	00:00:08	0.030
21/08/2013 06:20:58	London	02070108086	-	Tom Morrow	-	00:01:03	-
21/08/2013 07:28:01	London	02079603334	-	Tom Morrow	-	00:02:10	-
21/08/2013 08:08:16	Orange	07968426619	-	Tom Morrow	-	00:01:35	-
21/08/2013 09:02:21	O2	07921668518	-	Tom Morrow	-	00:01:44	-
21/08/2013 09:47:16	Adam Zapel	-	07932040779	T-Mobile	-	00:00:10	0.030
21/08/2013 11:20:41	London	02086719759	-	Tom Morrow	-	00:00:40	-
21/08/2013 11:37:01	Orange	07971060111	-	Cheri Pitts	-	00:00:46	-
21/08/2013 12:40:01	London	02070152800	-	Cheri Pitts	-	00:00:21	-
21/08/2013 12:53:23	Adam Zapel	-	07949250374	T-Mobile	-	-	0.030
21/08/2013 13:20:08	Adam Zapel	-	07985980159	T-Mobile	-	00:00:13	0.030
21/08/2013 13:47:48	T-Mobile	07957503577	-	Cheri Pitts	-	00:06:37	-
21/08/2013 13:57:58	Adam Zapel	-	07788646633	Vodafone	-	00:00:18	0.039
21/08/2013 14:04:43	O2	07834585328	-	Tom Morrow	-	00:01:05	-
21/08/2013 14:20:28	London	02085103628	-	Tom Morrow	-	-	-
21/08/2013 14:58:06	Adam Zapel	-	07786276358	Vodafone	-	00:00:22	0.048
21/08/2013 14:59:13	Adam Zapel	-	07717514310	Vodafone	-	00:00:01	0.030
21/08/2013 15:04:08	London	02073511550	-	Tom Morrow	-	00:00:20	-
21/08/2013 16:12:18	UNAVAILABLE	-	-	Tom Morrow	-	00:01:09	-
21/08/2013 16:17:13	Vodafone	07796251027	-	Claire Annette	-	00:00:30	-
21/08/2013 16:24:33	London	02073368085	-	Tom Morrow	-	00:03:12	-
21/08/2013 16:47:56	Adam Zapel	-	02073076700	London	-	00:00:15	0.030
21/08/2013 17:01:41	London	02078227654	-	Tom Morrow	-	00:00:28	-
21/08/2013 18:19:08	London	02087402420	-	Claire Annette	-	00:02:34	-
21/08/2013 19:11:58	Tom Morrow	-	07944789366	T-Mobile	-	00:01:09	0.150
21/08/2013 20:03:56	UNAVAILABLE	-	-	Cheri Pitts	-	00:01:38	-
21/08/2013 22:52:21	O2	07739071992	-	Tom Morrow	-	-	-

The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the **About this report** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title

- the date and time that the report was generated
- the name of the report, if applicable

The report consists of a table containing an itemised list of the calls that matched your selection criteria. Each column header of the table is described below:

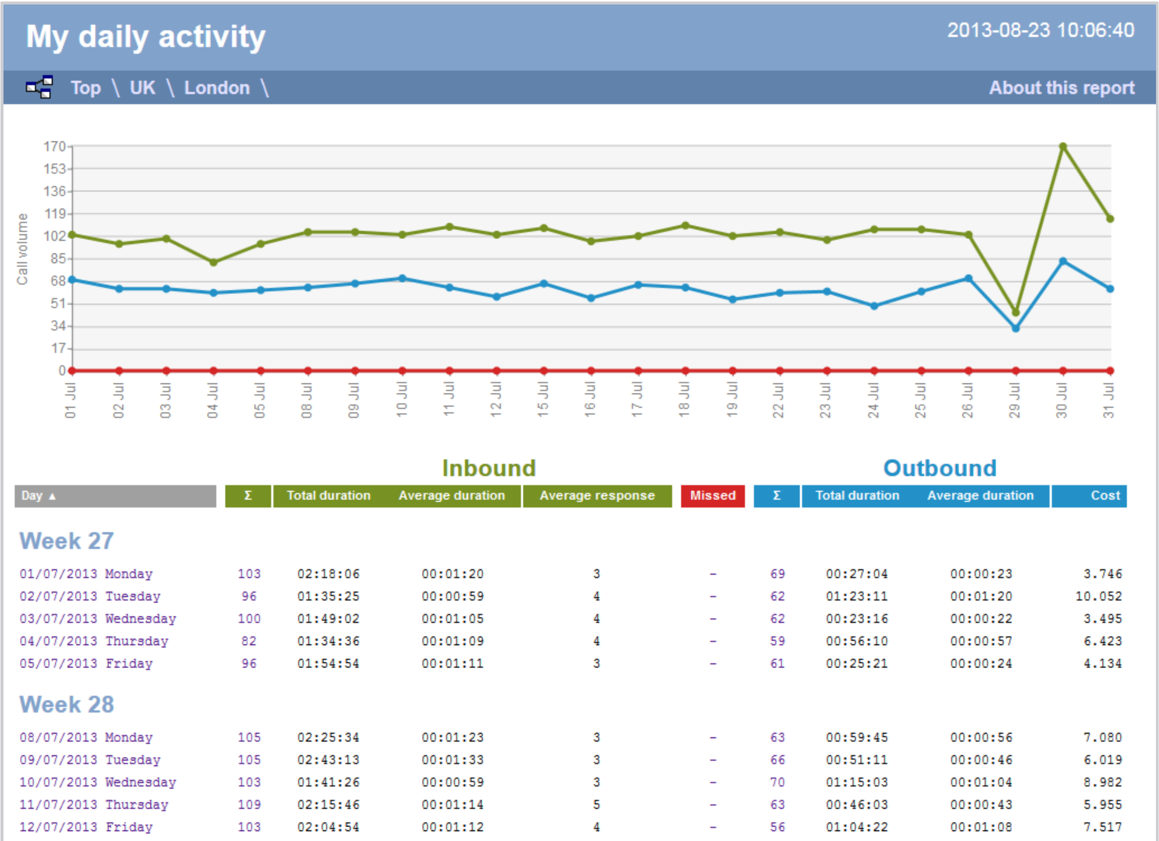
Header	Description
Date & Time	The date and time the call started
Source	The place from where the call originated
CLI	The telephone number of the remote caller for inbound calls
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The length of time it took for the call to be answered (e.g. the response time)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Daily Activity

Overview

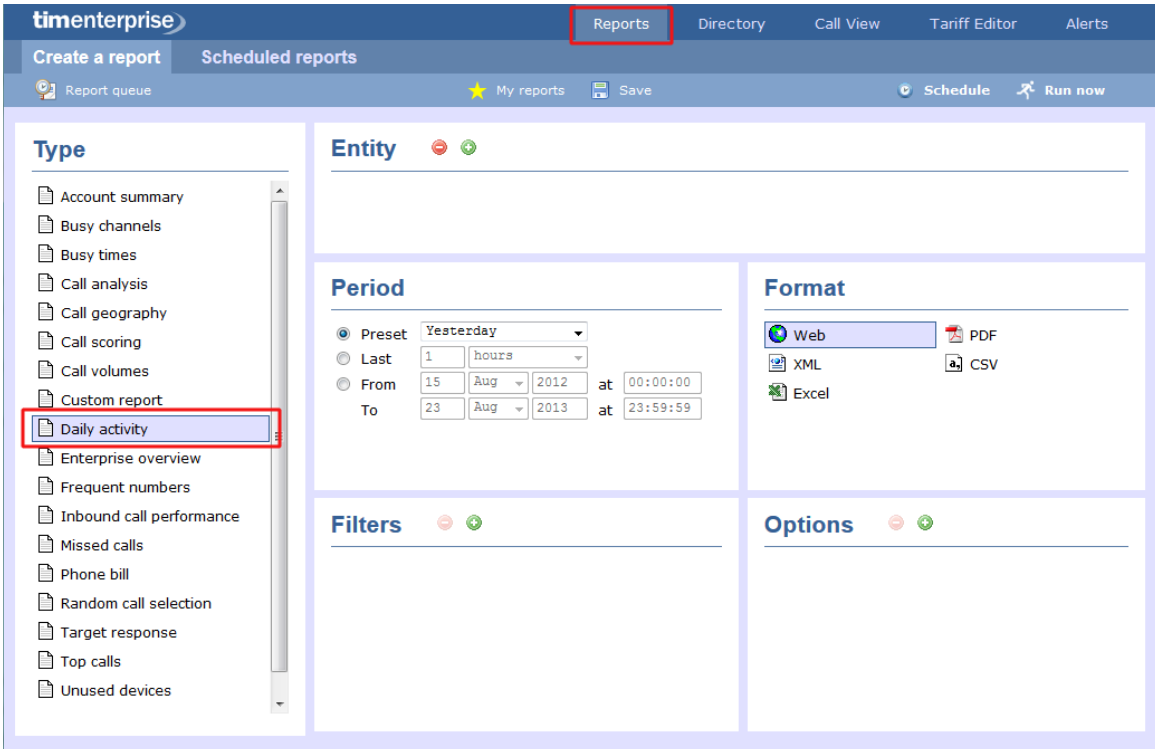
The Daily Activity report provides a summary showing the volume of all inbound, outbound and missed calls for each day. It is useful for organisations whose call traffic fluctuates throughout the year because, by identifying your busiest periods, it allows you to more effectively plan your staffing requirements.



Day ▲	Σ	Total duration	Average duration	Average response	Missed	Σ	Total duration	Average duration	Cost
Week 27									
01/07/2013 Monday	103	02:18:06	00:01:20	3	-	69	00:27:04	00:00:23	3.746
02/07/2013 Tuesday	96	01:35:25	00:00:59	4	-	62	01:23:11	00:01:20	10.052
03/07/2013 Wednesday	100	01:49:02	00:01:05	4	-	62	00:23:16	00:00:22	3.495
04/07/2013 Thursday	82	01:34:36	00:01:09	4	-	59	00:56:10	00:00:57	6.423
05/07/2013 Friday	96	01:54:54	00:01:11	3	-	61	00:25:21	00:00:24	4.134
Week 28									
08/07/2013 Monday	105	02:25:34	00:01:23	3	-	63	00:59:45	00:00:56	7.080
09/07/2013 Tuesday	105	02:43:13	00:01:33	3	-	66	00:51:11	00:00:46	6.019
10/07/2013 Wednesday	103	01:41:26	00:00:59	3	-	70	01:15:03	00:01:04	8.982
11/07/2013 Thursday	109	02:15:46	00:01:14	5	-	63	00:46:03	00:00:43	5.955
12/07/2013 Friday	103	02:04:54	00:01:12	4	-	56	01:04:22	00:01:08	7.517

Running the report

Click on the **Reports** tab and select **Daily Activity** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.



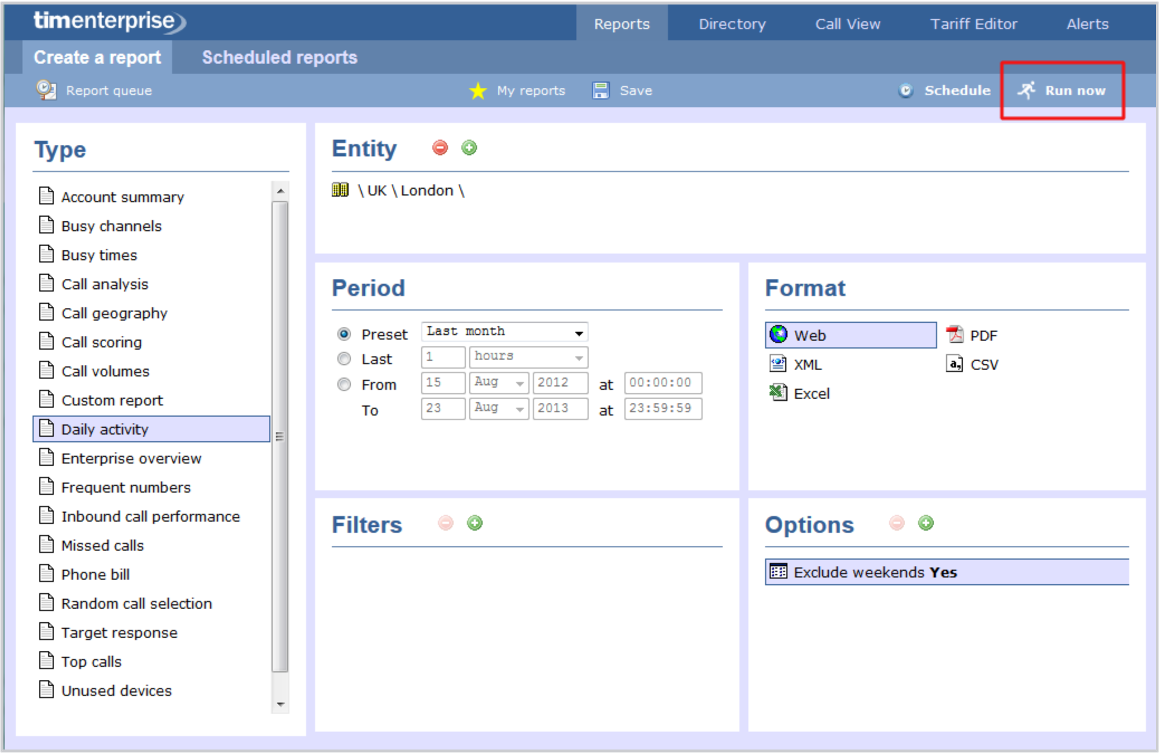
For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity

- Period
- Filters
- Options
- Format

Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



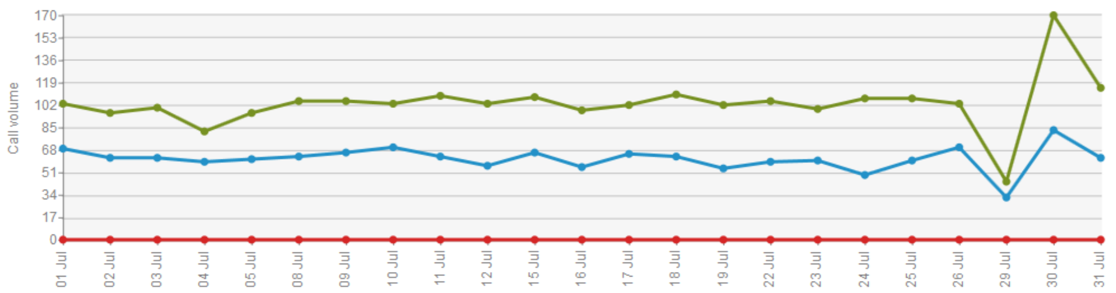
The report's results

Below is an example of this report's output in **Web** format, showing the total volume of all inbound, outbound and missed calls for each day.

My daily activity

2013-08-23 10:06:40

Top \ UK \ London \ — About this report



	Inbound					Outbound			
Day ▲	Σ	Total duration	Average duration	Average response	Missed	Σ	Total duration	Average duration	Cost
Week 27									
01/07/2013 Monday	103	02:18:06	00:01:20	3	-	69	00:27:04	00:00:23	3.746
02/07/2013 Tuesday	96	01:35:25	00:00:59	4	-	62	01:23:11	00:01:20	10.052
03/07/2013 Wednesday	100	01:49:02	00:01:05	4	-	62	00:23:16	00:00:22	3.495
04/07/2013 Thursday	82	01:34:36	00:01:09	4	-	59	00:56:10	00:00:57	6.423
05/07/2013 Friday	96	01:54:54	00:01:11	3	-	61	00:25:21	00:00:24	4.134
Week 28									
08/07/2013 Monday	105	02:25:34	00:01:23	3	-	63	00:59:45	00:00:56	7.080
09/07/2013 Tuesday	105	02:43:13	00:01:33	3	-	66	00:51:11	00:00:46	6.019
10/07/2013 Wednesday	103	01:41:26	00:00:59	3	-	70	01:15:03	00:01:04	8.982
11/07/2013 Thursday	109	02:15:46	00:01:14	5	-	63	00:46:03	00:00:43	5.955
12/07/2013 Friday	103	02:04:54	00:01:12	4	-	56	01:04:22	00:01:08	7.517

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the **About this report** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

The body of the report consists of a table showing a summary of your incoming and outgoing calls for each day during the period you selected. Each row shows the following information:

Header	Description
Day	The day of the week that the data covers
Inbound	• **Σ:** The total volume of calls received • **Total duration:** The total length of time spent on incoming calls • **Average duration:** The average call duration of inbound calls • **Average response:** The average length of time taken to answer a call • **Duration Avg:** The average length of time a caller waited before abandoning the call (in hours, minutes, seconds)
Missed	The missed calls column is always displayed as red. It allows you to re-order your details based on the total number of missed calls for the date shown

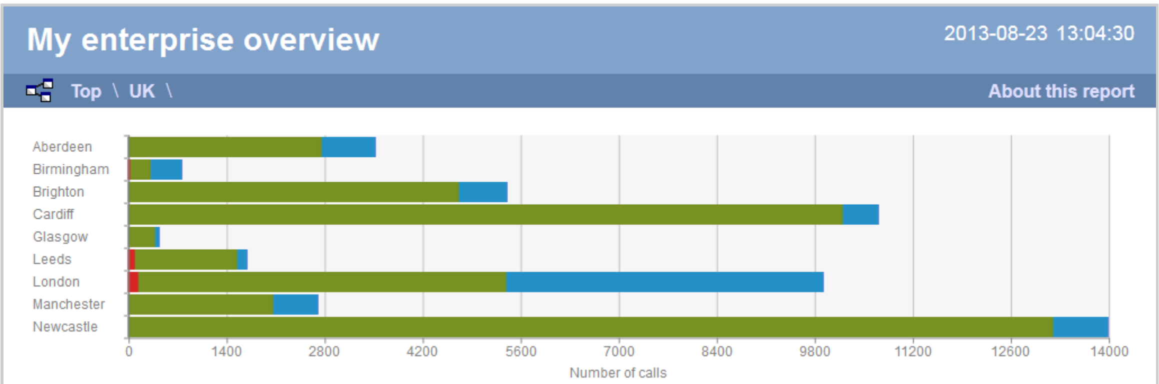
Outbound	■ Σ**:** The total volume of outbound calls ■ **Total duration:** The total length of time spent on outbound calls ■ **Average duration:** The average duration of outbound calls ■ **Cost**: The total cost of all calls made, irrespective of each call's local currency

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Enterprise Overview

Overview

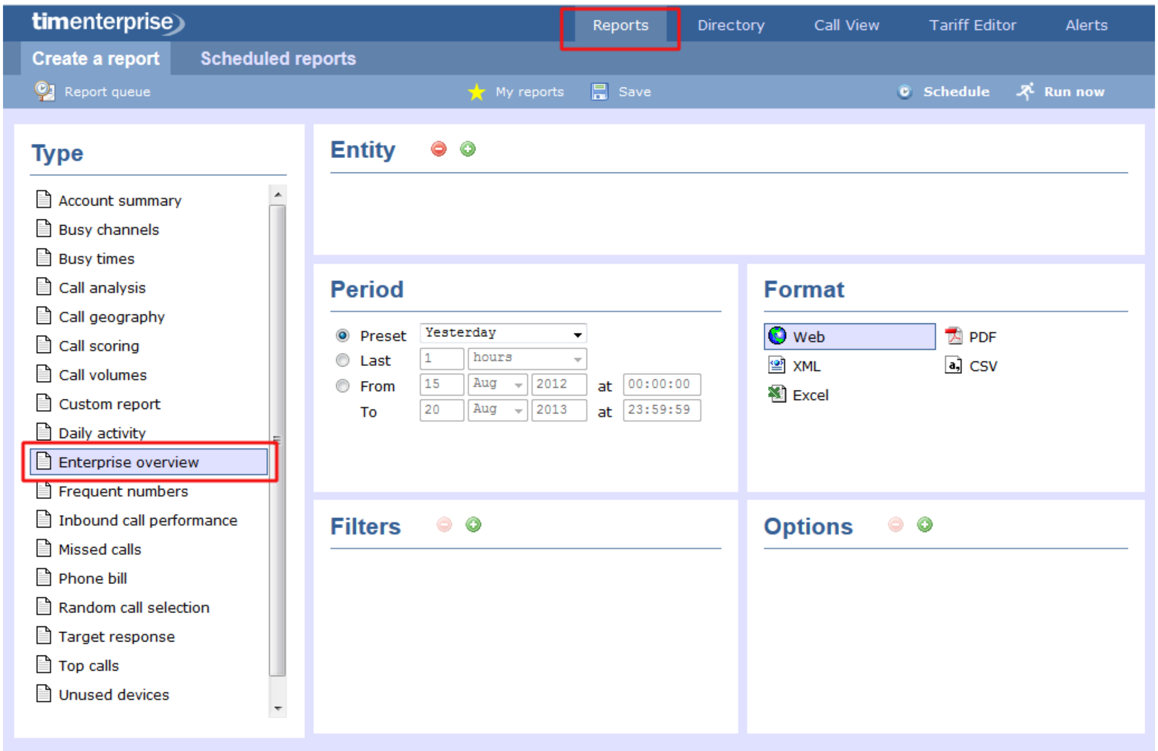
The Enterprise Overview report is an interactive, click-able report, showing call summaries for each type of call - inbound, outbound and missed. The report is useful for comparing call statistics between different parts of your organisation and allows you to drill-down into each value to see the same call information for subsequent groups or users. Totals, maximums and averages are displayed at the foot of each column.



	Missed		Answered				Outbound			
Name ▲	Σ	Avg duration	Σ	Total duration	Avg duration	Avg response	Σ	Total duration	Avg duration	Total cost
Aberdeen	-	-	2662	75:16:34	00:01:42	3	755	16:38:29	00:01:19	96.247
Birmingham	12	1	286	15:05:56	00:03:10	10	437	02:48:13	00:00:23	24.367
Brighton	-	-	4560	137:16:57	00:01:48	-	668	08:03:09	00:00:43	63.157
Cardiff	-	-	9867	284:22:04	00:01:44	-	509	10:36:04	00:01:15	64.648
Glasgow	-	-	359	03:12:12	00:00:32	3	56	01:57:51	00:02:06	19.392
Leeds	85	31	1413	21:45:22	00:00:55	2	144	01:22:37	00:00:34	9.035
London	118	40	5090	95:59:36	00:01:08	5	4402	56:31:38	00:00:46	385.087
Manchester	-	-	1990	35:27:59	00:01:04	2	623	14:58:11	00:01:27	45.388
Newcastle	-	-	12776	399:34:51	00:01:53	-	767	10:22:45	00:00:49	103.552
9 items	215	35	39003	1068:01:31	00:01:39	1	8361	123:18:57	00:00:53	810.873

Running the report

Click on the **Reports** tab and select **Enterprise overview** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

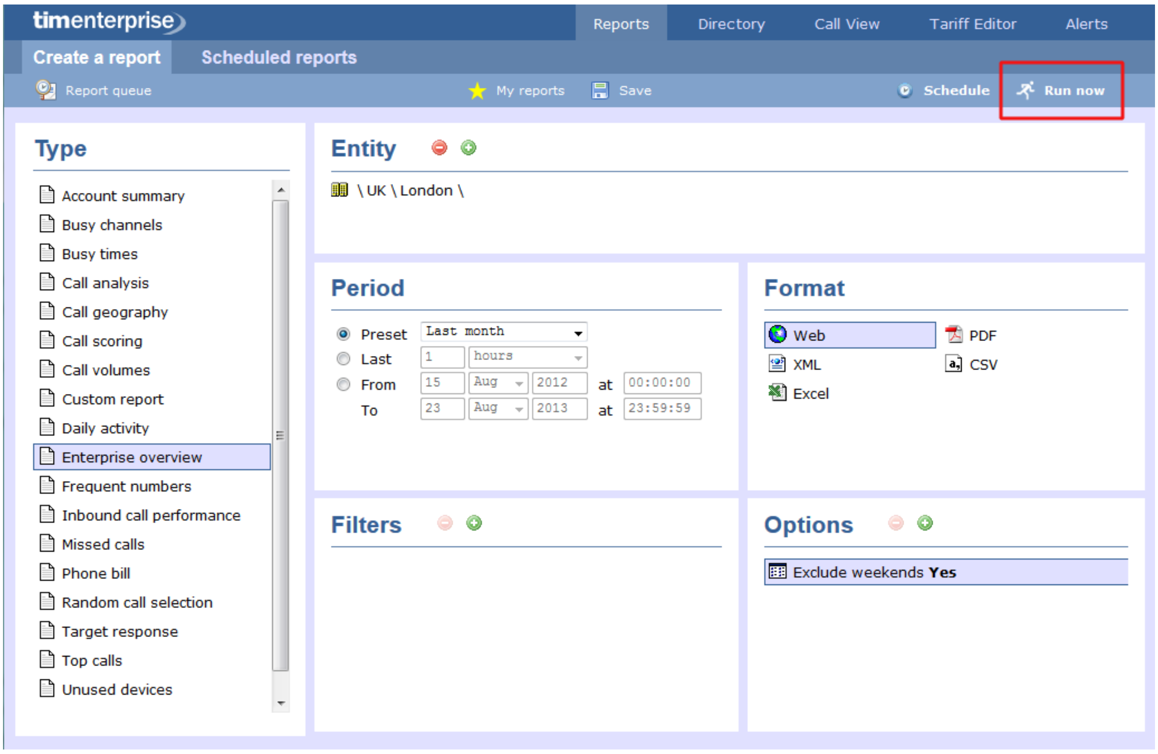


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

The results of the report show a summary of call volumes - organised by call type - for the report entity you selected. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

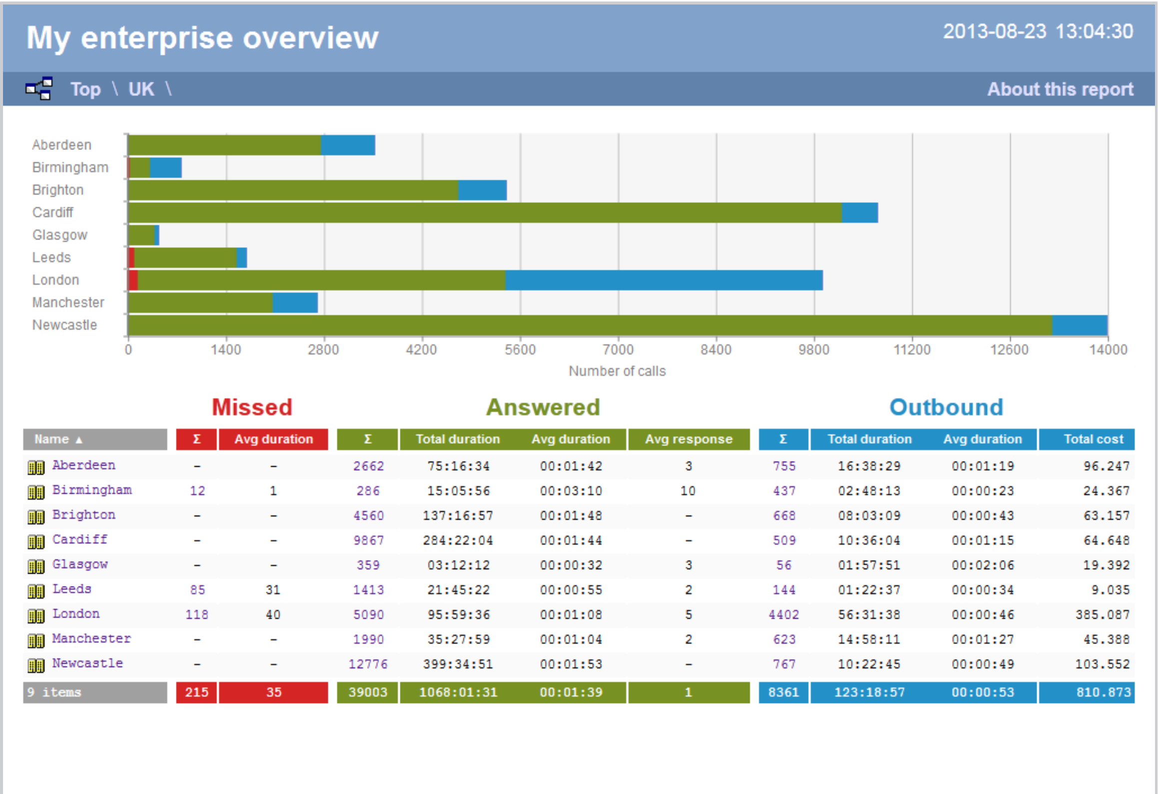
- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The `Web` format allows you to see the results of the report at different organisational levels: site level, group level, user level and as an itemised list.

Site level

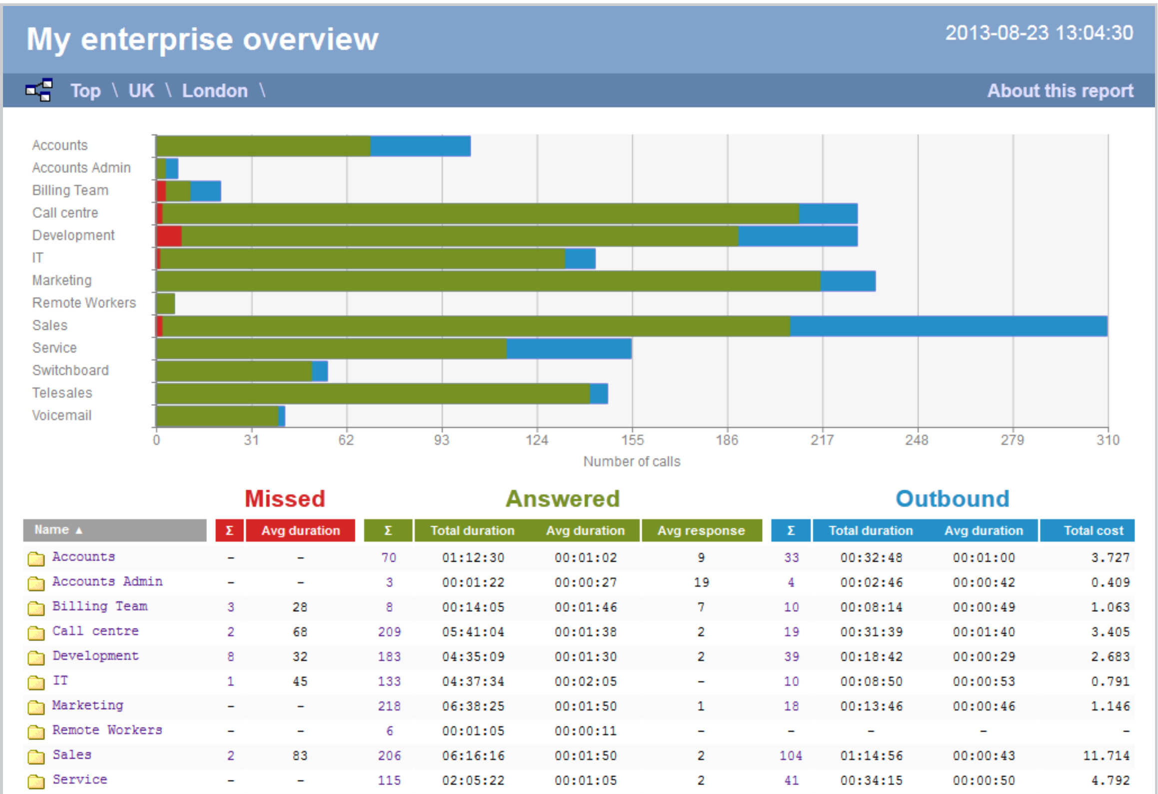
At site level, the report will show call summary information for each site, as shown below:



Name ▲	Missed Σ	Missed Avg duration	Answered Σ	Answered Total duration	Answered Avg duration	Avg response	Outbound Σ	Outbound Total duration	Outbound Avg duration	Total cost
Aberdeen	-	-	2662	75:16:34	00:01:42	3	755	16:38:29	00:01:19	96.247
Birmingham	12	1	286	15:05:56	00:03:10	10	437	02:48:13	00:00:23	24.367
Brighton	-	-	4560	137:16:57	00:01:48	-	668	08:03:09	00:00:43	63.157
Cardiff	-	-	9867	284:22:04	00:01:44	-	509	10:36:04	00:01:15	64.648
Glasgow	-	-	359	03:12:12	00:00:32	3	56	01:57:51	00:02:06	19.392
Leeds	85	31	1413	21:45:22	00:00:55	2	144	01:22:37	00:00:34	9.035
London	118	40	5090	95:59:36	00:01:08	5	4402	56:31:38	00:00:46	385.087
Manchester	-	-	1990	35:27:59	00:01:04	2	623	14:58:11	00:01:27	45.388
Newcastle	-	-	12776	399:34:51	00:01:53	-	767	10:22:45	00:00:49	103.552
9 items	215	35	39003	1068:01:31	00:01:39	1	8361	123:18:57	00:00:53	810.873

Group level

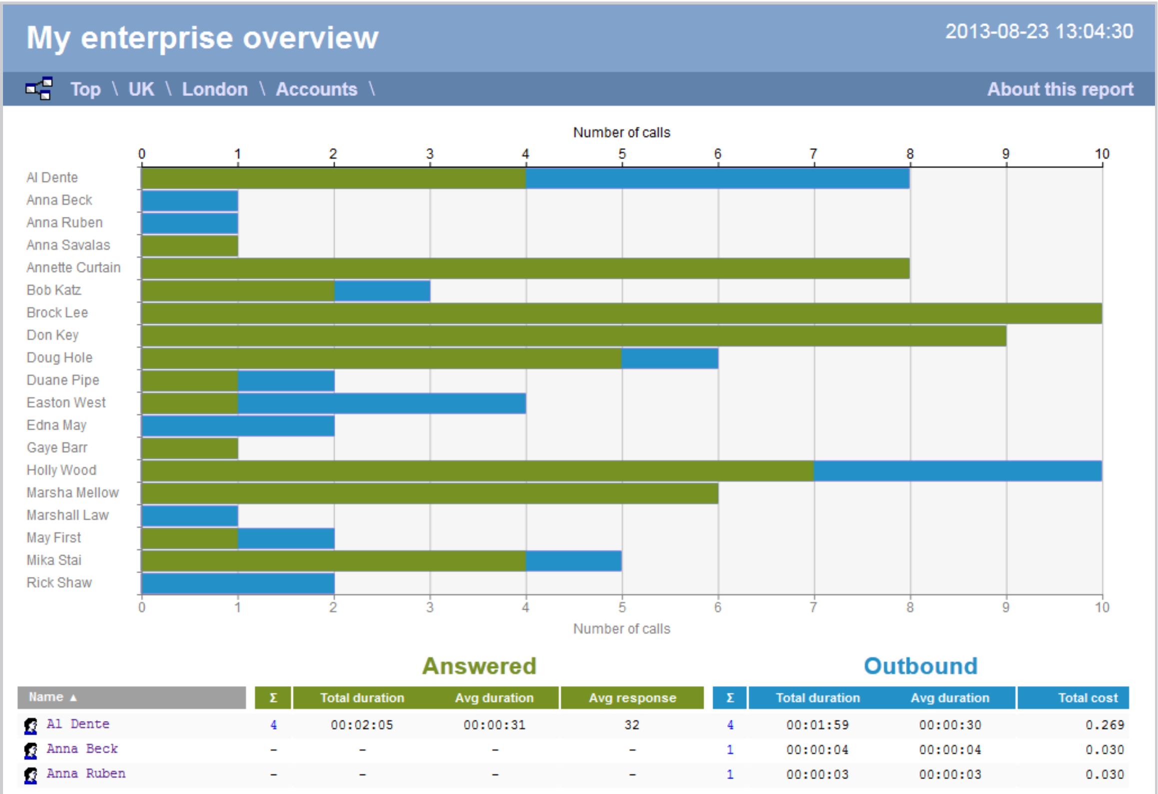
By clicking on a site, you can drill down into group-level information, as shown below:



Name ▲	Missed Σ	Missed Avg duration	Answered Σ	Answered Total duration	Answered Avg duration	Avg response	Outbound Σ	Outbound Total duration	Outbound Avg duration	Total cost
Accounts	-	-	70	01:12:30	00:01:02	9	33	00:32:48	00:01:00	3.727
Accounts Admin	-	-	3	00:01:22	00:00:27	19	4	00:02:46	00:00:42	0.409
Billing Team	3	28	8	00:14:05	00:01:46	7	10	00:08:14	00:00:49	1.063
Call centre	2	68	209	05:41:04	00:01:38	2	19	00:31:39	00:01:40	3.405
Development	8	32	183	04:35:09	00:01:30	2	39	00:18:42	00:00:29	2.683
IT	1	45	133	04:37:34	00:02:05	-	10	00:08:50	00:00:53	0.791
Marketing	-	-	218	06:38:25	00:01:50	1	18	00:13:46	00:00:46	1.146
Remote Workers	-	-	6	00:01:05	00:00:11	-	-	-	-	-
Sales	2	83	206	06:16:16	00:01:50	2	104	01:14:56	00:00:43	11.714
Service	-	-	115	02:05:22	00:01:05	2	41	00:34:15	00:00:50	4.792

User level

When drilling down into a group, a new report is produced, showing the same summary information for each individual user within that group, as shown below:



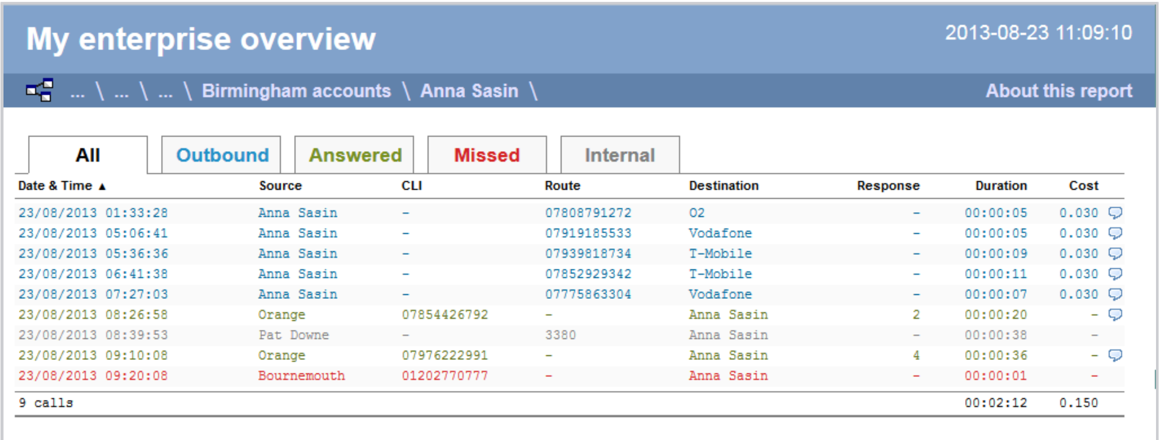
At all organisational levels, the body of the report consists of a table containing call summary information about each entity. The column headers of this table are described below:

Header	Description
Name	The name of the entity for each line of data
Missed	▪ **Σ:** The total number of missed calls ▪ **Avg duration:** The average duration of all missed calls (in seconds)
Answered	▪ **Σ:** The number of incoming calls answered by extensions within the selected entity, including transferred calls ▪ **Total duration:** The total duration of all incoming calls (in hours, minutes and seconds) ▪ **Avg duration:** The average duration of all incoming calls (in hours, minutes and seconds) ▪ **Avg response:** The average time taken to respond to all incoming calls (in seconds)
Outbound	▪ **Σ:** The number of outbound calls ▪ **Total duration:** The total duration of all outgoing calls (in hours, minutes and seconds) ▪ **Avg duration:** The average duration of all outgoing calls (in hours, minutes and seconds) ▪ **Total cost:** The total aggregate cost of all outbound calls

In addition to summary information, totals and averages for each call type are shown in the footer of each column.

Itemised list

By clicking on the hyperlink of a particular user, a new report is produced that shows - in chronological order - an itemised list of calls made or received by that user, as shown below:



Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
23/08/2013 01:33:28	Anna Sasin	-	07808791272	O2	-	00:00:05	0.030
23/08/2013 05:06:41	Anna Sasin	-	07919185533	Vodafone	-	00:00:05	0.030
23/08/2013 05:36:36	Anna Sasin	-	07939818734	T-Mobile	-	00:00:09	0.030
23/08/2013 06:41:38	Anna Sasin	-	07852929342	T-Mobile	-	00:00:11	0.030
23/08/2013 07:27:03	Anna Sasin	-	07775863304	Vodafone	-	00:00:07	0.030
23/08/2013 08:26:58	Orange	07854426792	-	Anna Sasin	2	00:00:20	-
23/08/2013 08:39:53	Pat Downe	-	3380	Anna Sasin	-	00:00:38	-
23/08/2013 09:10:08	Orange	07976222991	-	Anna Sasin	4	00:00:36	-
23/08/2013 09:20:08	Bournemouth	01202770777	-	Anna Sasin	-	00:00:01	-
9 calls						00:02:12	0.150

The headers of the itemised call table are described below:

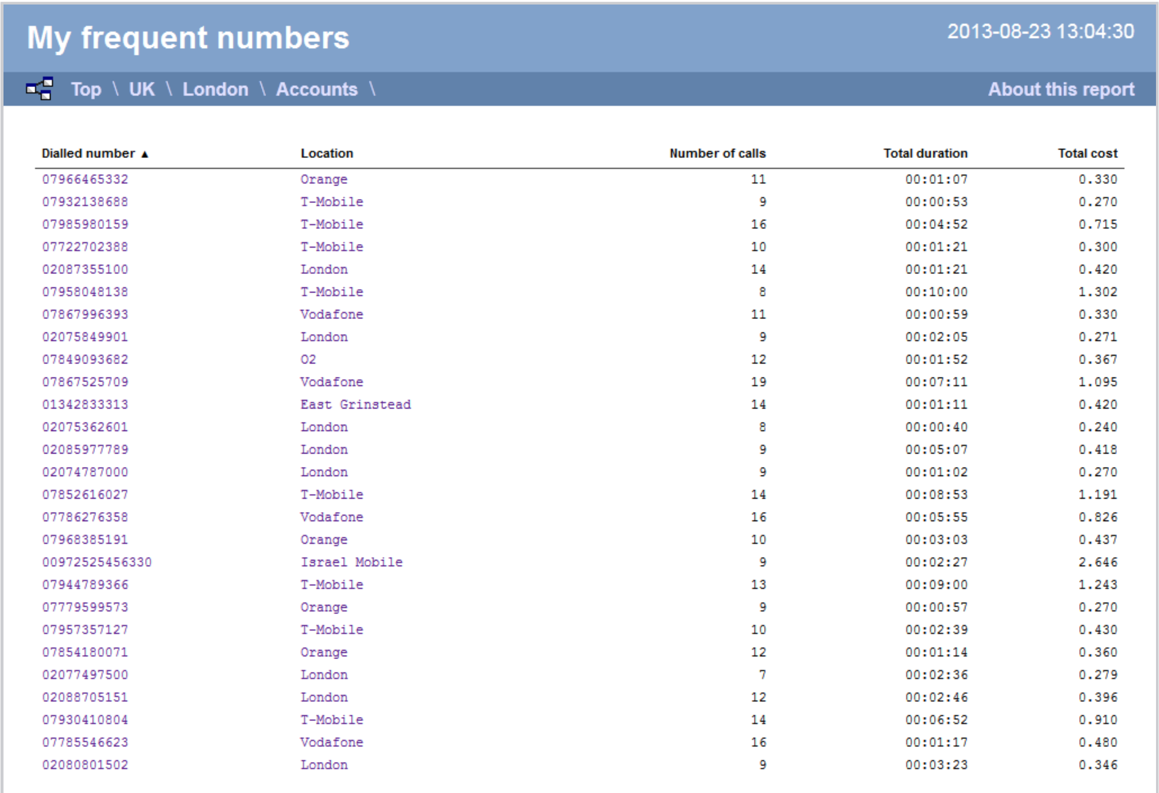
Header	Description
Date & Time	The date and time the call started
Source	The place from where the call originated
CLI	The telephone number of the remote caller for inbound calls
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The length of time it took for the call to be answered (i.e. the response time)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Frequent Numbers

Overview

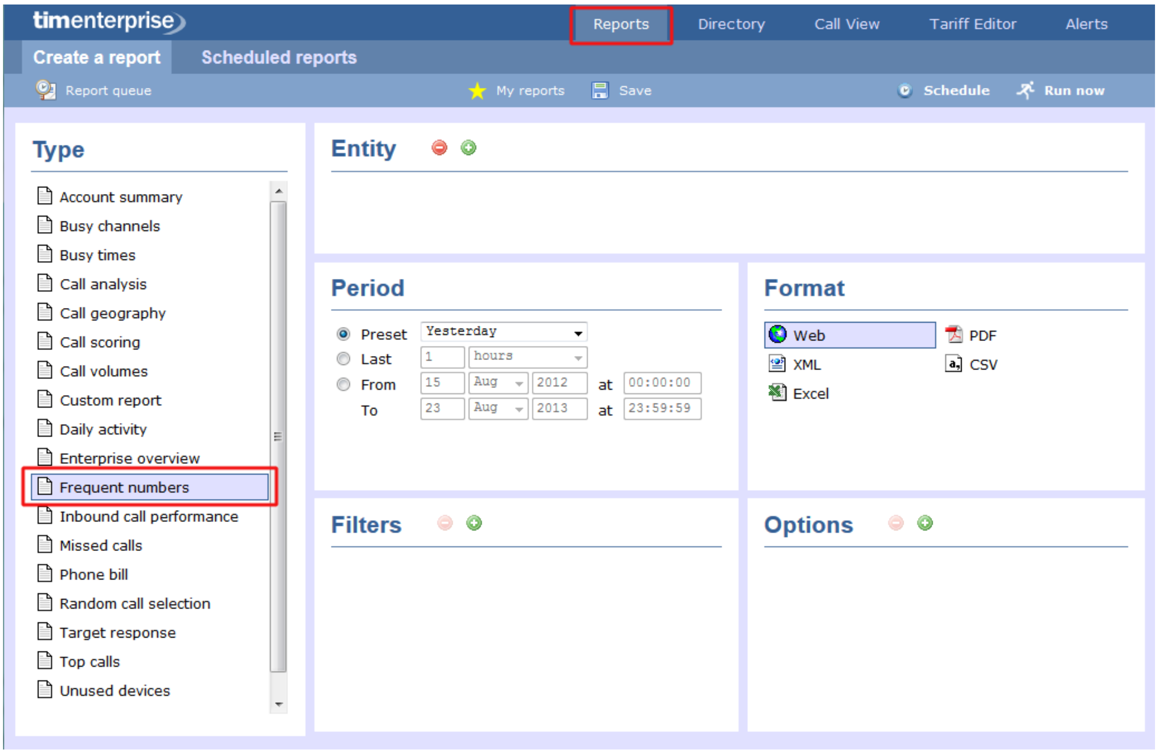
The Frequent Numbers report shows a top-ranking list of the numbers that you call, or are called by, most frequently. By highlighting your most frequently-called destinations, the report can help you to determine if private circuits to your commonly-called destinations would be beneficial; it can also help you negotiate call rates with your network provider.



Dialled number ▲	Location	Number of calls	Total duration	Total cost
07966465332	Orange	11	00:01:07	0.330
07932138688	T-Mobile	9	00:00:53	0.270
07985980159	T-Mobile	16	00:04:52	0.715
07722702388	T-Mobile	10	00:01:21	0.300
02087355100	London	14	00:01:21	0.420
07958048138	T-Mobile	8	00:10:00	1.302
07867996393	Vodafone	11	00:00:59	0.330
02075849901	London	9	00:02:05	0.271
07849093682	O2	12	00:01:52	0.367
07867525709	Vodafone	19	00:07:11	1.095
01342833313	East Grinstead	14	00:01:11	0.420
02075362601	London	8	00:00:40	0.240
02085977789	London	9	00:05:07	0.418
02074787000	London	9	00:01:02	0.270
07852616027	T-Mobile	14	00:08:53	1.191
07786276358	Vodafone	16	00:05:55	0.826
07968385191	Orange	10	00:03:03	0.437
00972525456330	Israel Mobile	9	00:02:27	2.646
07944789366	T-Mobile	13	00:09:00	1.243
07779599573	Orange	9	00:00:57	0.270
07957357127	T-Mobile	10	00:02:39	0.430
07854180071	Orange	12	00:01:14	0.360
02077497500	London	7	00:02:36	0.279
02088705151	London	12	00:02:46	0.396
07930410804	T-Mobile	14	00:06:52	0.910
07785546623	Vodafone	16	00:01:17	0.480
02080801502	London	9	00:03:23	0.346

Running the report

Click on the `Reports` tab and select `Frequent numbers` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

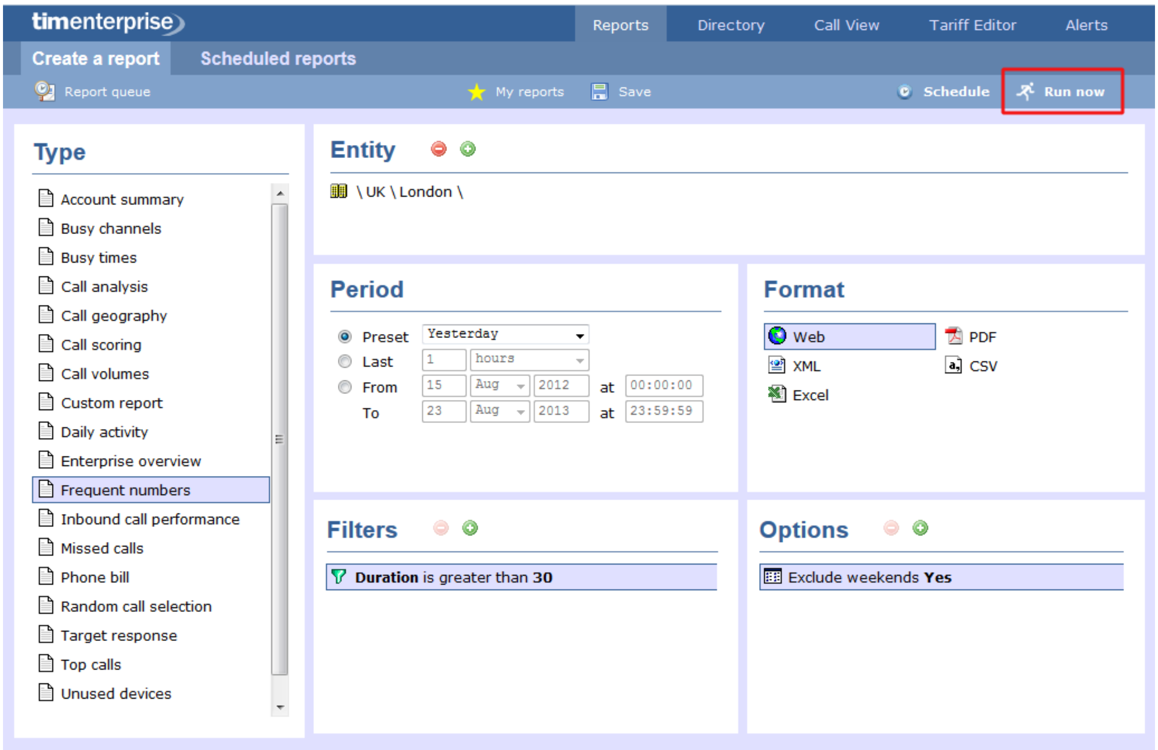


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

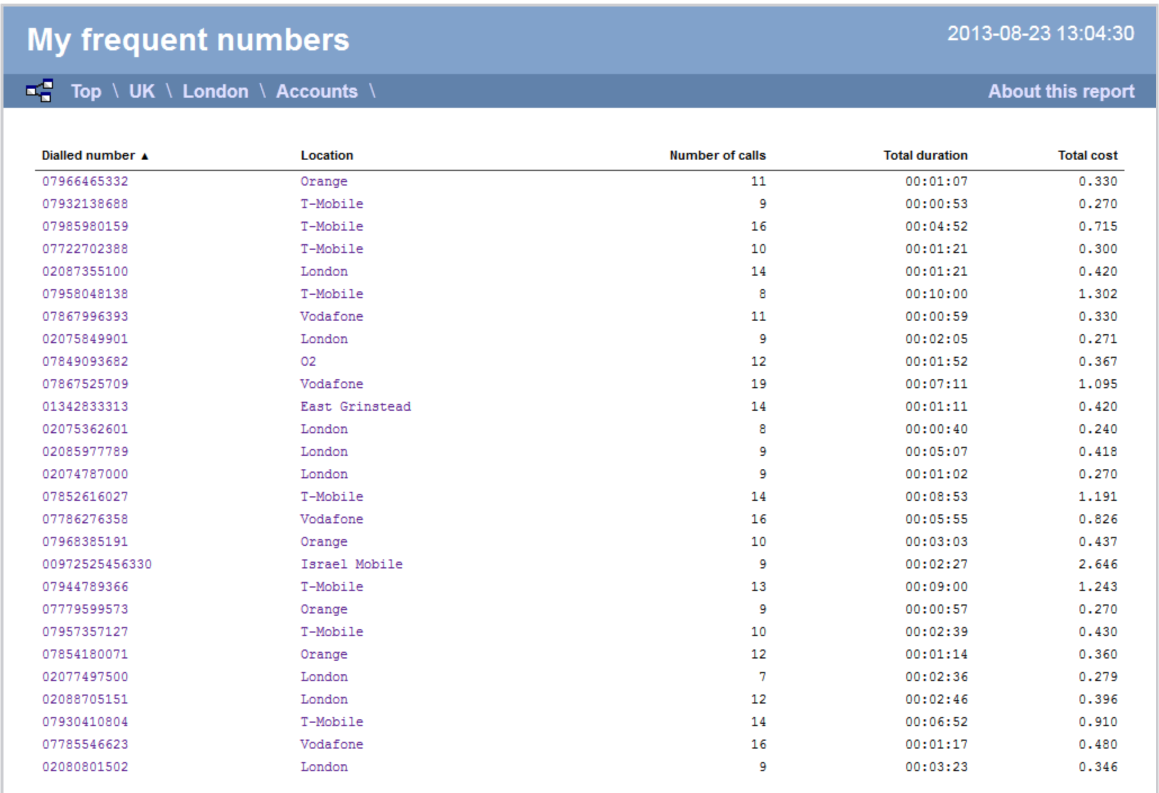
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.



My frequent numbers

2013-08-23 13:04:30

Top \ UK \ London \ Accounts \

About this report

Dialled number ▲	Location	Number of calls	Total duration	Total cost
07966465332	Orange	11	00:01:07	0.330
07932138688	T-Mobile	9	00:00:53	0.270
07985980159	T-Mobile	16	00:04:52	0.715
07722702388	T-Mobile	10	00:01:21	0.300
02087355100	London	14	00:01:21	0.420
07958048138	T-Mobile	8	00:10:00	1.302
07867996393	Vodafone	11	00:00:59	0.330
02075849901	London	9	00:02:05	0.271
07849093682	O2	12	00:01:52	0.367
07867525709	Vodafone	19	00:07:11	1.095
01342833313	East Grinstead	14	00:01:11	0.420
02075362601	London	8	00:00:40	0.240
02085977789	London	9	00:05:07	0.418
02074787000	London	9	00:01:02	0.270
07852616027	T-Mobile	14	00:08:53	1.191
07786276358	Vodafone	16	00:05:55	0.826
07968385191	Orange	10	00:03:03	0.437
00972525456330	Israel Mobile	9	00:02:27	2.646
07944789366	T-Mobile	13	00:09:00	1.243
07779599573	Orange	9	00:00:57	0.270
07957357127	T-Mobile	10	00:02:39	0.430
07854180071	Orange	12	00:01:14	0.360
02077497500	London	7	00:02:36	0.279
02088705151	London	12	00:02:46	0.396
07930410804	T-Mobile	14	00:06:52	0.910
07785546623	Vodafone	16	00:01:17	0.480
02080801502	London	9	00:03:23	0.346

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated

- the name of the report, if applicable

The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The body of the report contains a table showing a summary of each frequently dialled number or CLI along with their associated destinations. The column headers of the table are described below:

Header	Description
Dialled number	The telephone number that was dialled
Location	The location name associated with the dialled number or CLI
Number of calls	The total number of calls made to each unique dialled number or from each unique CLI
Total duration	The total time spent on calls to each dialled number or from each CLI, displayed in **hh:mm:ss** format
Total cost	The total cost of calls for each unique dialled number

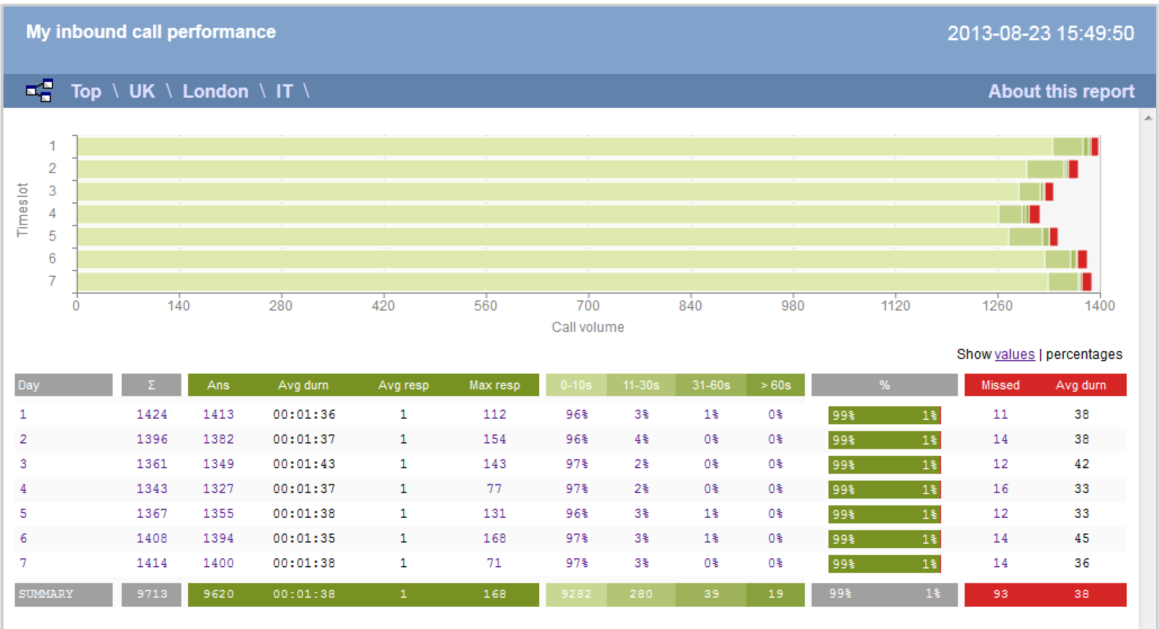
All dialled numbers, CLIs and locations in the table are shown as hyperlinks; clicking on any of them displays an itemised list of calls to/from each one.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Inbound Call Performance

Overview

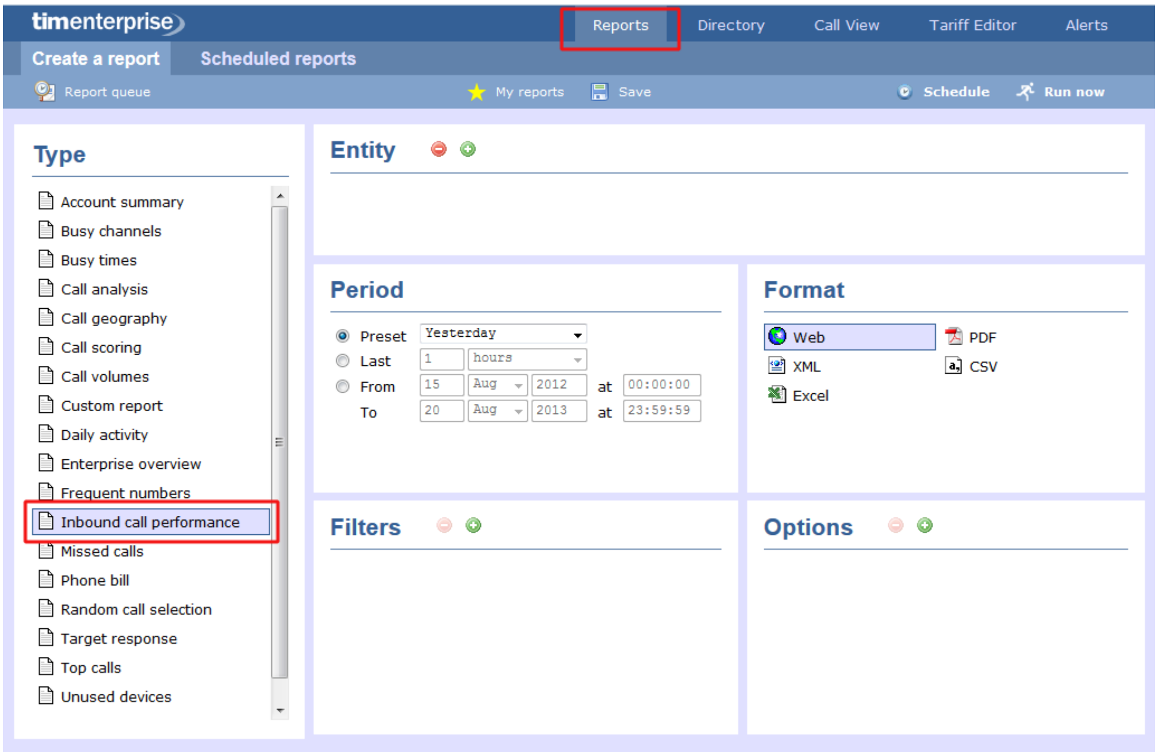
The Inbound Call Performance report displays how quickly your inbound calls are being answered, compared to your target thresholds, grouped by year, month, day or hour. A visual representation of how well each target is met is shown alongside a table containing the actual response time values.



Day	Σ	Ans	Avg durn	Avg resp	Max resp	0-10s	11-30s	31-60s	> 60s	%		Missed	Avg durn
1	1424	1413	00:01:36	1	112	96%	3%	1%	0%	99%	1%	11	38
2	1396	1382	00:01:37	1	154	96%	4%	0%	0%	99%	1%	14	38
3	1361	1349	00:01:43	1	143	97%	2%	0%	0%	99%	1%	12	42
4	1343	1327	00:01:37	1	77	97%	2%	0%	0%	99%	1%	16	33
5	1367	1355	00:01:38	1	131	96%	3%	1%	0%	99%	1%	12	33
6	1408	1394	00:01:35	1	168	97%	3%	1%	0%	99%	1%	14	45
7	1414	1400	00:01:38	1	71	97%	3%	0%	0%	99%	1%	14	36
SUMMARY	9713	9620	00:01:38	1	168	9282	280	39	19	99%	1%	93	38

Running the report

Click on the **Reports** tab and select **Inbound call performance** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

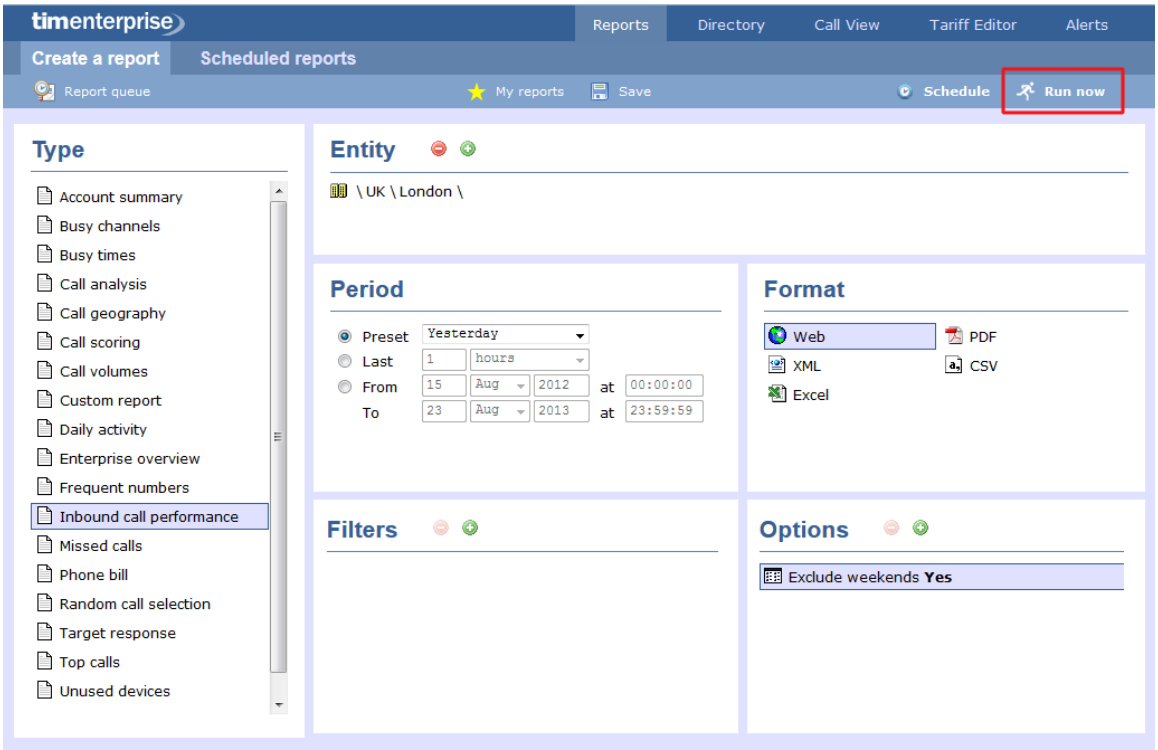


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

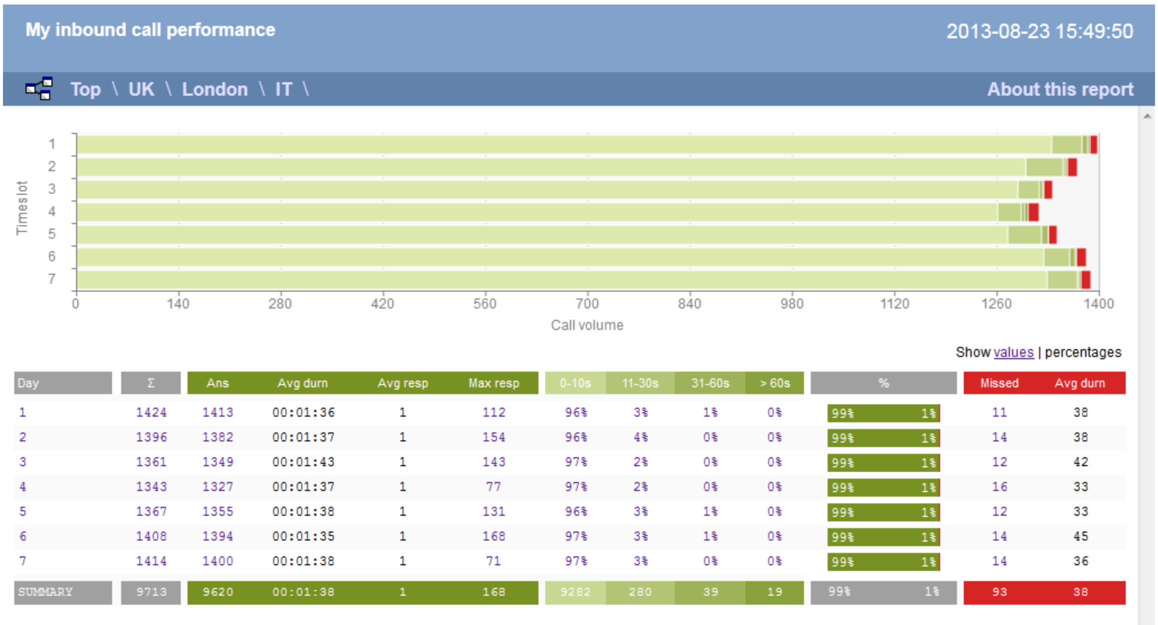
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.



Day	Σ	Ans	Avg durn	Avg resp	Max resp	0-10s	11-30s	31-60s	> 60s	%		Missed	Avg durn
1	1424	1413	00:01:36	1	112	96%	3%	1%	0%	99%	1%	11	38
2	1396	1382	00:01:37	1	154	96%	4%	0%	0%	99%	1%	14	38
3	1361	1349	00:01:43	1	143	97%	2%	0%	0%	99%	1%	12	42
4	1343	1327	00:01:37	1	77	97%	2%	0%	0%	99%	1%	16	33
5	1367	1355	00:01:38	1	131	96%	3%	1%	0%	99%	1%	12	33
6	1408	1394	00:01:35	1	168	97%	3%	1%	0%	99%	1%	14	45
7	1414	1400	00:01:38	1	71	97%	3%	0%	0%	99%	1%	14	36
SUMMARY	9713	9620	00:01:38	1	168	9282	280	39	19	99%	1%	93	38

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The achievement of each response time target is displayed as either percentages or actual values, and can be toggled using the link at the top-right of the graph.

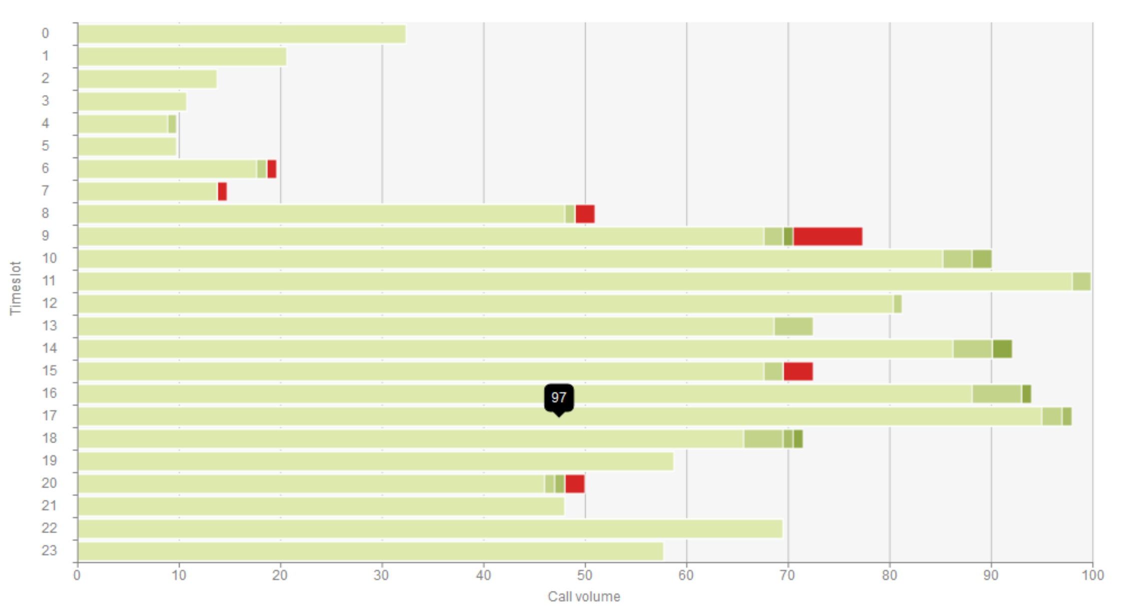
The body of the report consists of a table showing a summary of your incoming calls, grouped by the period you selected. A description of the column headers are shown below:

Header	Description
Hour / Day / Month / Year	The time period.
Σ	The total number of calls in each period.
Answered	▪ **Ans:** The total number of answered calls in each period. ▪ **Avg durn:** The average length of time of all answered calls in each period. ▪ **Avg resp:** The average response time of all answered calls in each period. ▪ **Max resp:** The maximum time it took to answer a call in each period. ▪ **x-xx s:** The percentage of calls that were answered within each predefined target, e.g. if **50%** is displayed under the **0-5s** heading, means that half of all calls were answered within 5 seconds.
%	The number of answered versus missed calls within each period, expressed as a percentage.
Missed	▪ **Σ:** The total number of missed calls in each period. ▪ **Avg durn:** The average length of time that missed calls rang before they were abandoned.

Each period is shown as a hyperlink which, if clicked on, re-runs the report using a more granular period.

My inbound call performance 2013-08-23 12:27:20

Top \ UK \ About this report



Show values | percentages

Hour	Σ	Ans	Avg durn	Avg resp	Max resp	0-10s	11-30s	31-60s	> 60s	%	Missed	Avg durn
00:00	33	33	00:01:19	–	–	100%	–	–	–	100%	–	–
01:00	21	21	00:01:48	–	–	100%	–	–	–	100%	–	–
02:00	14	14	00:01:37	–	6	100%	–	–	–	100%	–	–
03:00	11	11	00:01:08	–	–	100%	–	–	–	100%	–	–
04:00	10	10	00:00:24	4	20	90%	10%	–	–	100%	–	–
05:00	10	10	00:01:12	1	6	100%	–	–	–	100%	–	–
06:00	20	19	00:01:08	2	22	95%	5%	–	–	95% 5%	1	35
07:00	15	14	00:00:51	–	–	100%	–	–	–	93% 7%	1	1
08:00	52	50	00:01:30	1	21	98%	2%	–	–	96% 4%	2	22
09:00	79	72	00:01:37	2	67	96%	3%	–	1%	91% 9%	7	48
10:00	92	92	00:01:47	2	38	95%	3%	2%	–	100%	–	–
11:00	102	102	00:01:30	1	14	98%	2%	–	–	100%	–	–
12:00	83	83	00:01:33	–	11	99%	1%	–	–	100%	–	–
13:00	74	74	00:02:23	1	27	95%	5%	–	–	100%	–	–
14:00	94	94	00:01:23	3	70	94%	4%	–	2%	100%	–	–
15:00	74	71	00:01:34	1	15	97%	3%	–	–	96% 4%	3	29
16:00	96	96	00:01:38	2	64	94%	5%	–	1%	100%	–	–
17:00	100	100	00:01:50	1	34	97%	2%	1%	–	100%	–	–
18:00	73	73	00:02:11	3	77	92%	5%	1%	1%	100%	–	–
19:00	60	60	00:01:46	–	5	100%	–	–	–	100%	–	–
20:00	51	49	00:01:36	1	31	96%	2%	2%	–	96% 4%	2	13
21:00	49	49	00:01:30	–	6	100%	–	–	–	100%	–	–
22:00	71	71	00:01:16	–	–	100%	–	–	–	100%	–	–
23:00	59	59	00:01:20	–	9	100%	–	–	–	100%	–	–
SUMMARY	1343	1327	00:01:37	1	77	1284	33	5	5	99% 1%	16	33

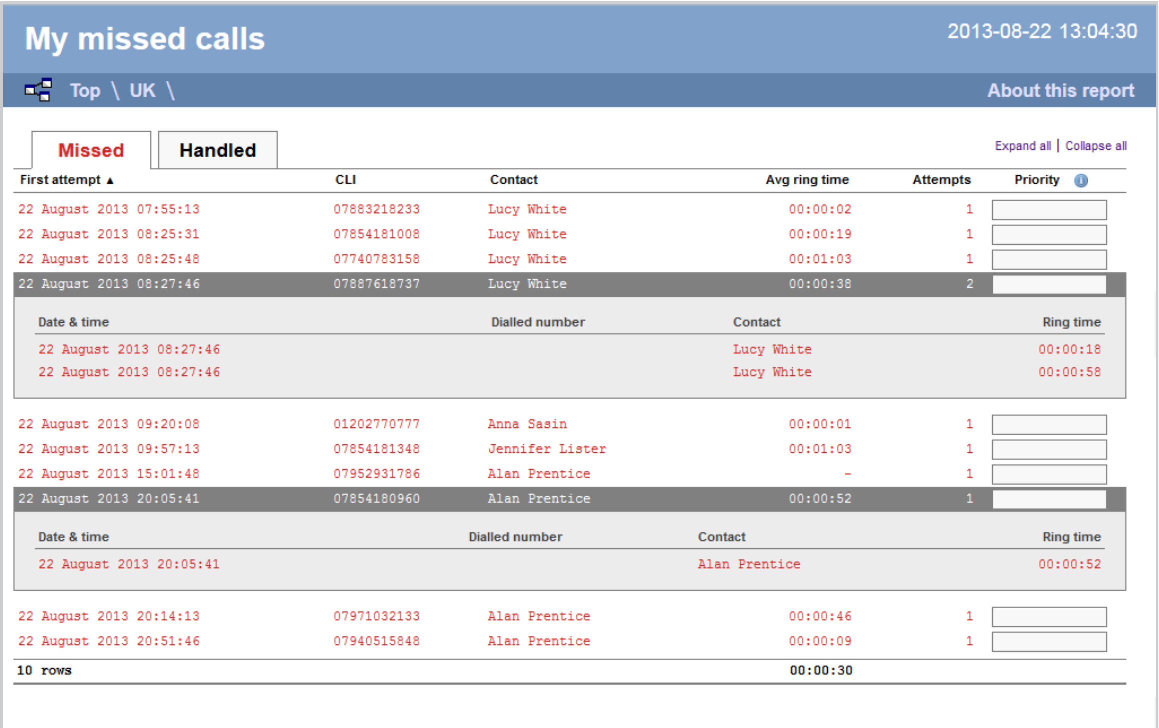
To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Top \ UK \ London \ Accounts \ About this report

Missed Calls

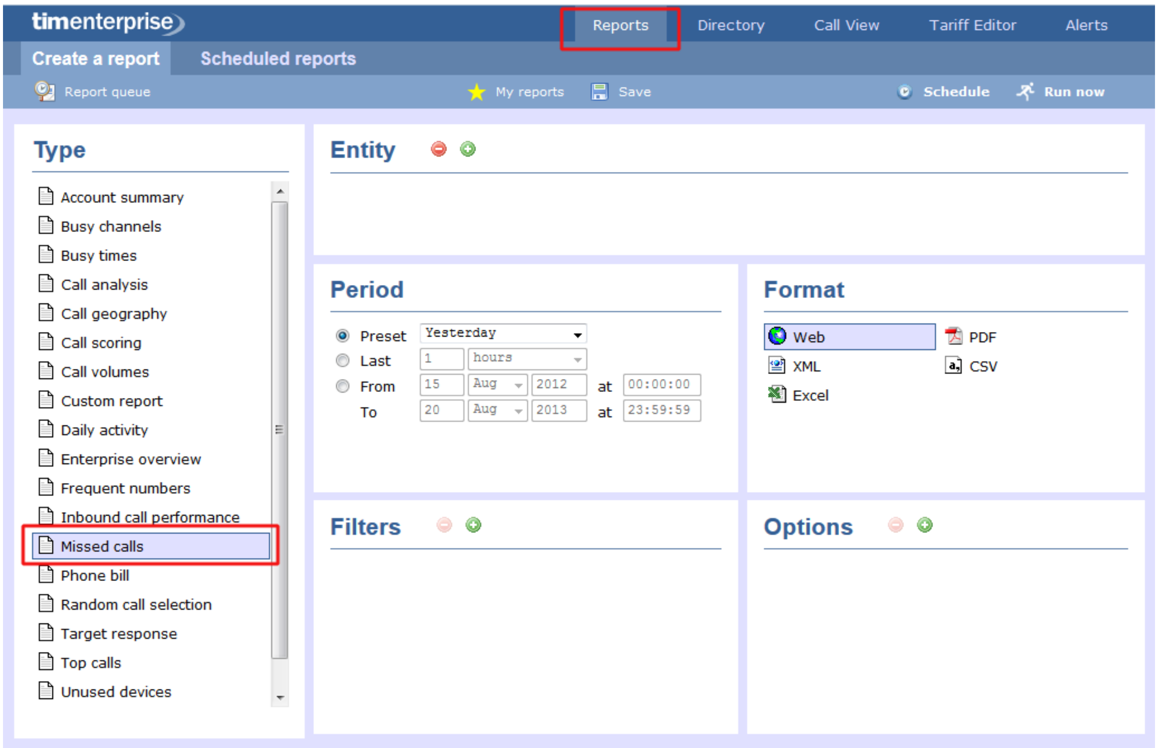
Overview

The Missed Calls report analyses your missed calls in order to highlight which callers have and haven't been responded to. Each missed call is given a priority rating depending on how many times and how often the caller attempted to make contact. The time window in which a call must be responded to, if it is to be considered handled, is user-definable.



Running the report

Click on the `Reports` tab and select `Missed calls` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.



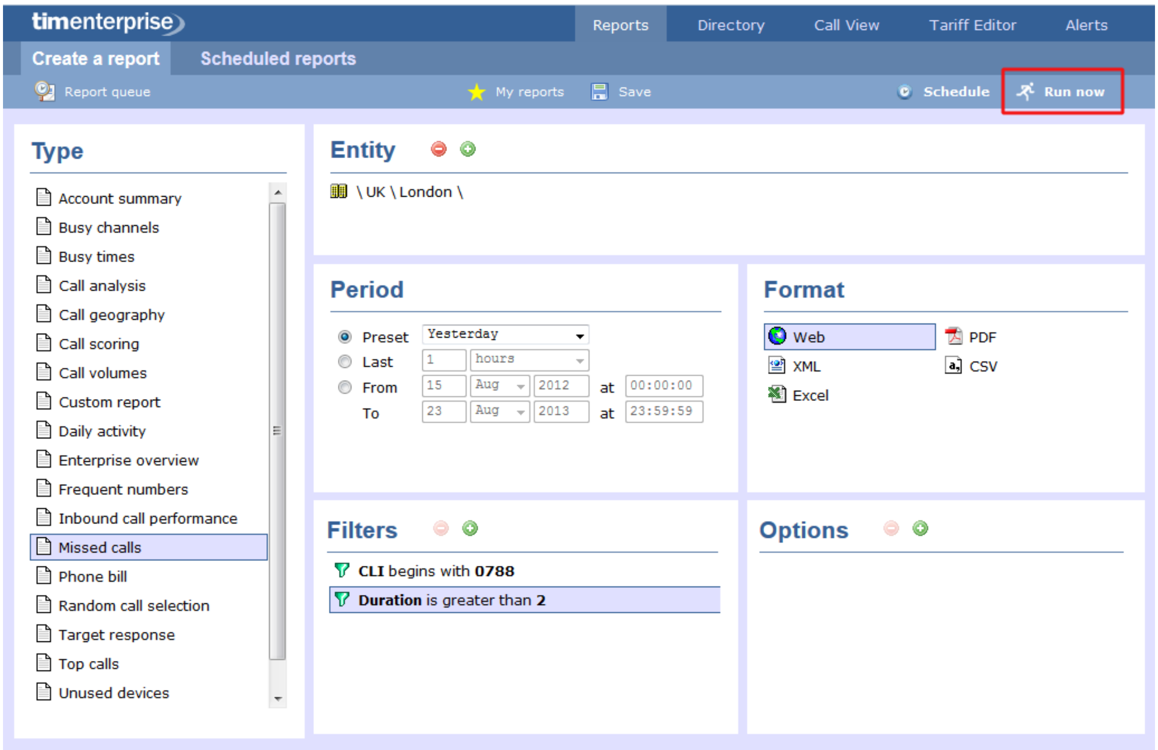
For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options

- Format

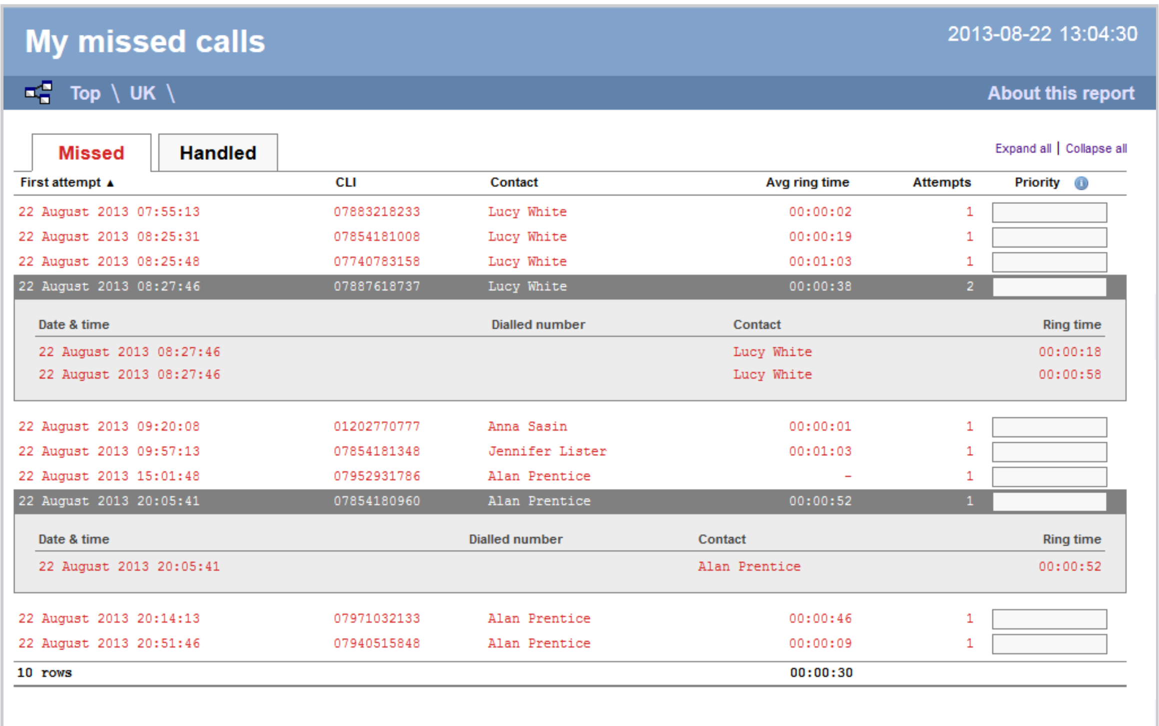
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.



As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The report consists of two sections: `Missed` calls and `Handled` calls.

Missed calls

The Missed calls tab displays a table containing the calls that were missed and not responded to. Each column header of the table is described below:

Header	Description
First attempt	The date and time of the first missed call
CLI	The telephone number of the remote caller
Contact	The person who missed the call. If several people were called, the field will display the caption `Various`
Avg ring time	The average length of time a missed call rang before being abandoned
Attempts	The number of times the caller attempted to reach the specified contact without success
Priority	The priority is calculated by dividing the difference in time between the first and last call attempt by the total number of call attempts

Handled calls

The Handled calls tab displays a table containing the calls that were initially missed but eventually responded to. Each column header of the table is described below:

Header	Description
Handled	The date and time the call was handled
CLI	The telephone number of the remote caller
Contact	The person who eventually handled the call
Duration	The duration of the handled call
Attempts	The number of call attempts made before the call was eventually handled
Priority	The priority is calculated by dividing the difference in time between the first and last call attempt by the total number of call attempts

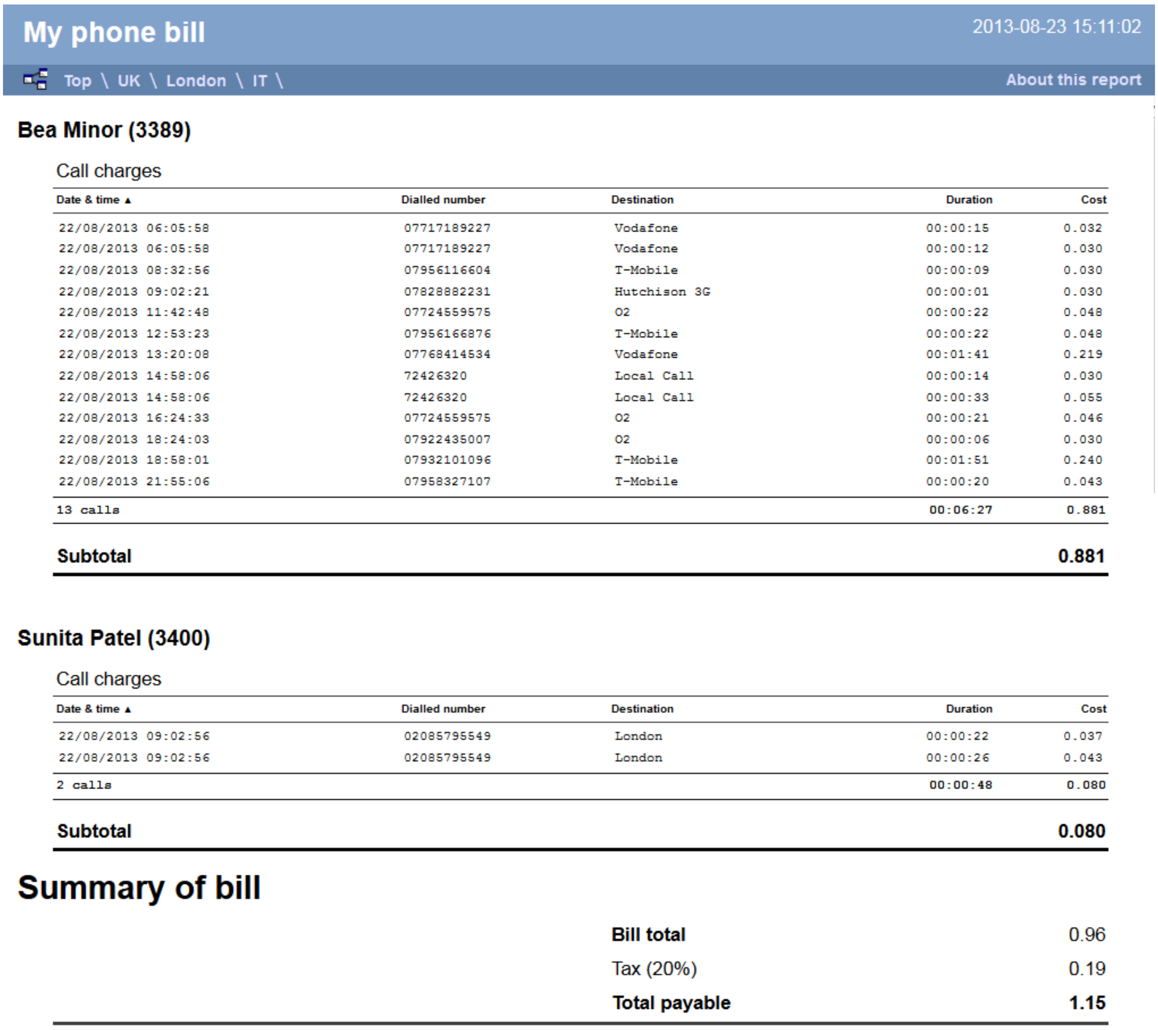
Clicking on an individual call will show an itemised list of all call attempts made by that same caller; clicking on the `Expand all` link at the top-right corner of the screen will show this itemised list for all missed calls on the page.

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Phone Bill

Overview

The Phone Bill report produces a fully itemised telephone bill for billing back telephone usage to your clients, with the option of adding a percentage markup to each phone call. These bills can also include fixed charges for items other than phone calls, such as room rental, internet services and additional sundry items. You can fully customise the style of the report's output to reflect your own brand, including a company logo, for example.



My phone bill

2013-08-23 15:11:02

Top \ UK \ London \ IT \

About this report

Bea Minor (3389)

Call charges

Date & time ▲	Dialled number	Destination	Duration	Cost
22/08/2013 06:05:58	07717189227	Vodafone	00:00:15	0.032
22/08/2013 06:05:58	07717189227	Vodafone	00:00:12	0.030
22/08/2013 08:32:56	07956116604	T-Mobile	00:00:09	0.030
22/08/2013 09:02:21	07828882231	Hutchison 3G	00:00:01	0.030
22/08/2013 11:42:48	07724559575	O2	00:00:22	0.048
22/08/2013 12:53:23	07956166876	T-Mobile	00:00:22	0.048
22/08/2013 13:20:08	07768414534	Vodafone	00:01:41	0.219
22/08/2013 14:58:06	72426320	Local Call	00:00:14	0.030
22/08/2013 14:58:06	72426320	Local Call	00:00:33	0.055
22/08/2013 16:24:33	07724559575	O2	00:00:21	0.046
22/08/2013 18:24:03	07922435007	O2	00:00:06	0.030
22/08/2013 18:58:01	07932101096	T-Mobile	00:01:51	0.240
22/08/2013 21:55:06	07958327107	T-Mobile	00:00:20	0.043
13 calls			00:06:27	0.881

Subtotal **0.881**

Sunita Patel (3400)

Call charges

Date & time ▲	Dialled number	Destination	Duration	Cost
22/08/2013 09:02:56	02085795549	London	00:00:22	0.037
22/08/2013 09:02:56	02085795549	London	00:00:26	0.043
2 calls			00:00:48	0.080

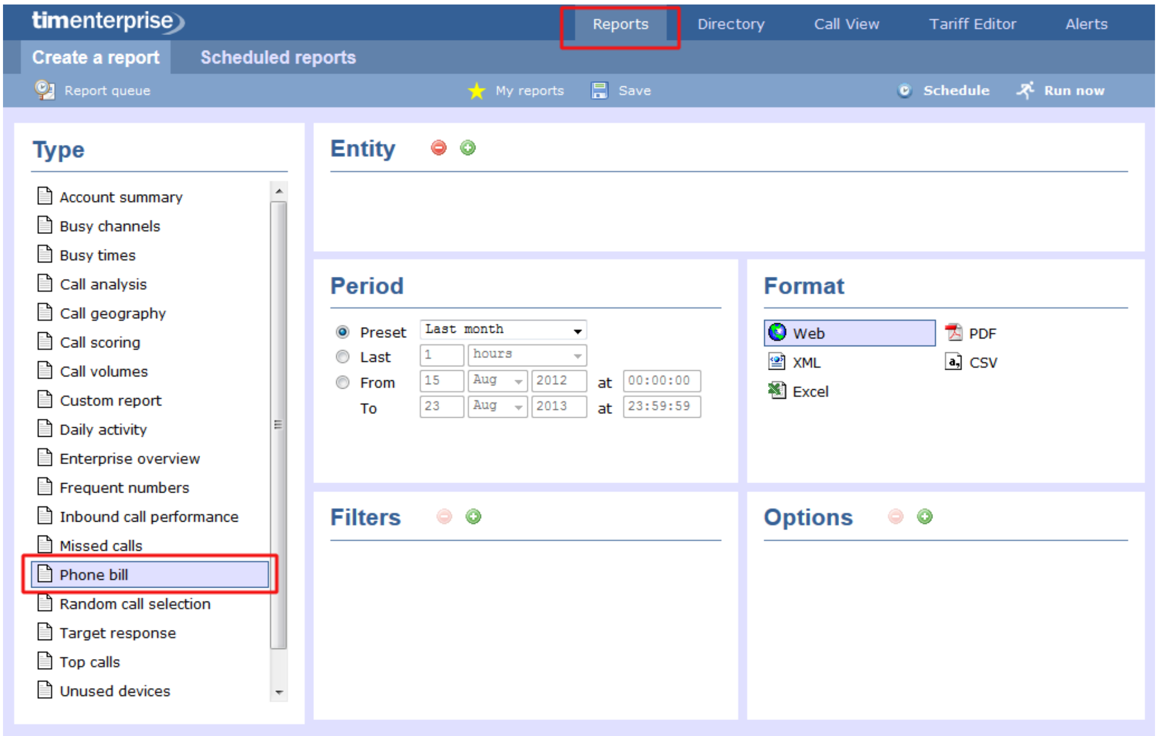
Subtotal **0.080**

Summary of bill

Bill total	0.96
Tax (20%)	0.19
Total payable	**1.15**

Running the report

Click on the `Reports` tab and select `Phone bill` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

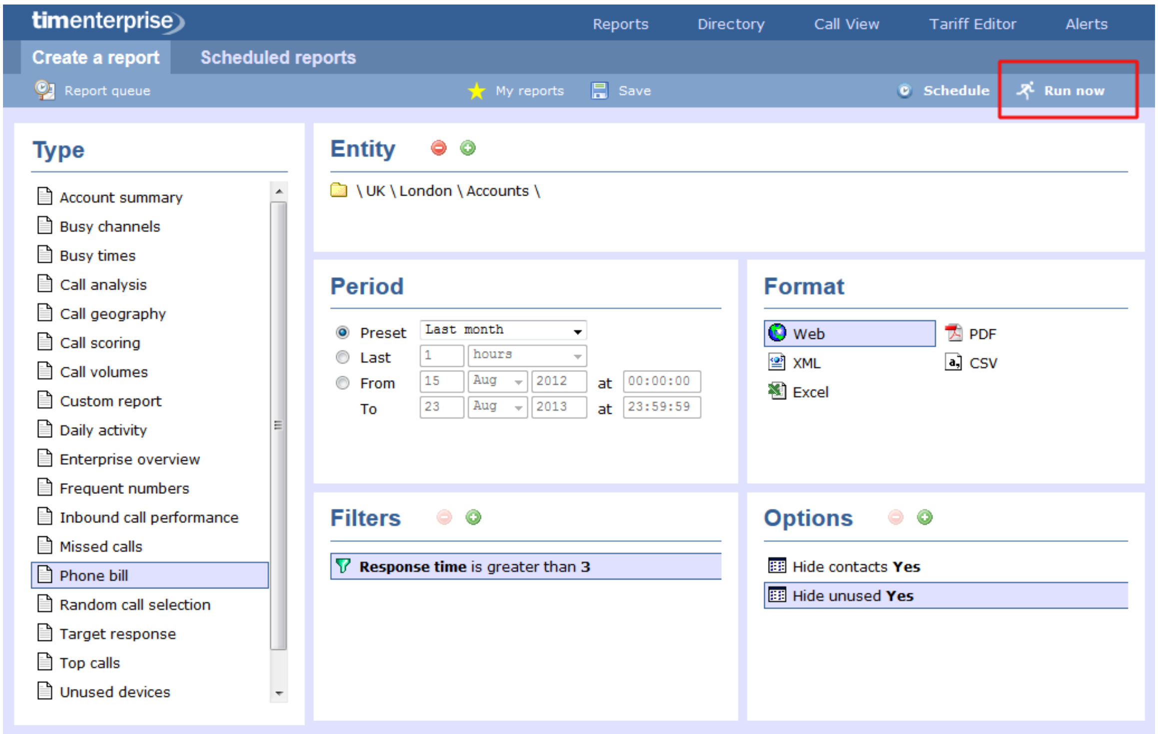


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

My phone bill 2013-08-23 15:11:02

Top \ UK \ London \ IT \ About this report

Bea Minor (3389)

Call charges

Date & time ▲	Dialled number	Destination	Duration	Cost
22/08/2013 06:05:58	07717189227	Vodafone	00:00:15	0.032
22/08/2013 06:05:58	07717189227	Vodafone	00:00:12	0.030
22/08/2013 08:32:56	07956116604	T-Mobile	00:00:09	0.030
22/08/2013 09:02:21	07828882231	Hutchison 3G	00:00:01	0.030
22/08/2013 11:42:48	07724559575	O2	00:00:22	0.048
22/08/2013 12:53:23	07956166876	T-Mobile	00:00:22	0.048
22/08/2013 13:20:08	07768414534	Vodafone	00:01:41	0.219
22/08/2013 14:58:06	72426320	Local Call	00:00:14	0.030
22/08/2013 14:58:06	72426320	Local Call	00:00:33	0.055
22/08/2013 16:24:33	07724559575	O2	00:00:21	0.046
22/08/2013 18:24:03	07922435007	O2	00:00:06	0.030
22/08/2013 18:58:01	07932101096	T-Mobile	00:01:51	0.240
22/08/2013 21:55:06	07958327107	T-Mobile	00:00:20	0.043
13 calls			00:06:27	0.881

Subtotal **0.881**

Sunita Patel (3400)

Call charges

Date & time ▲	Dialled number	Destination	Duration	Cost
22/08/2013 09:02:56	02085795549	London	00:00:22	0.037
22/08/2013 09:02:56	02085795549	London	00:00:26	0.043
2 calls			00:00:48	0.080

Subtotal **0.080**

Summary of bill

Bill total	0.96
Tax (20%)	0.19
Total payable	**1.15**

s with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The body of the report consists of an itemised call list for each billed user. Each itemised list has the following column headers:

Header	Description
Date & Time	The date and time the call started
Dialled number	The telephone number that was dialled
Destination	The location name associated with the dialled number
Duration	The total time spent on the call, in `hh:mm:ss` format
Cost	The cost of the call(s)

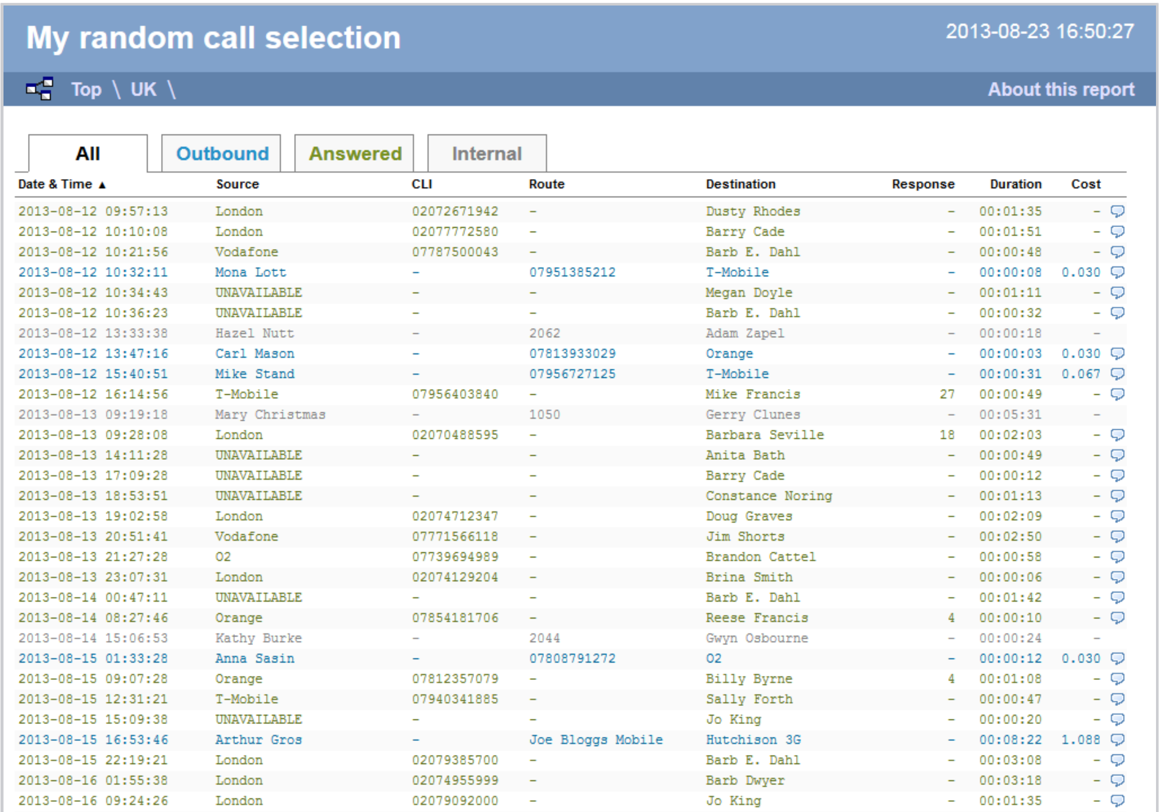
Subtotal	The total cost of all outgoing calls for each user
Bill total	The total cost of all outgoing calls for all users
Tax	The sales tax to apply to the bill (if applicable)
Total payable	The total amount payable, including taxes

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Random Call Selection

Overview

The Random Call Selection report is useful for obtaining a sample of phone calls from across your organisation for the purposes of call auditing and quality control, especially when coupled with the integrated call recording features of TIM. You can annotate, score, or listen to any of the calls that appear in the report's results.



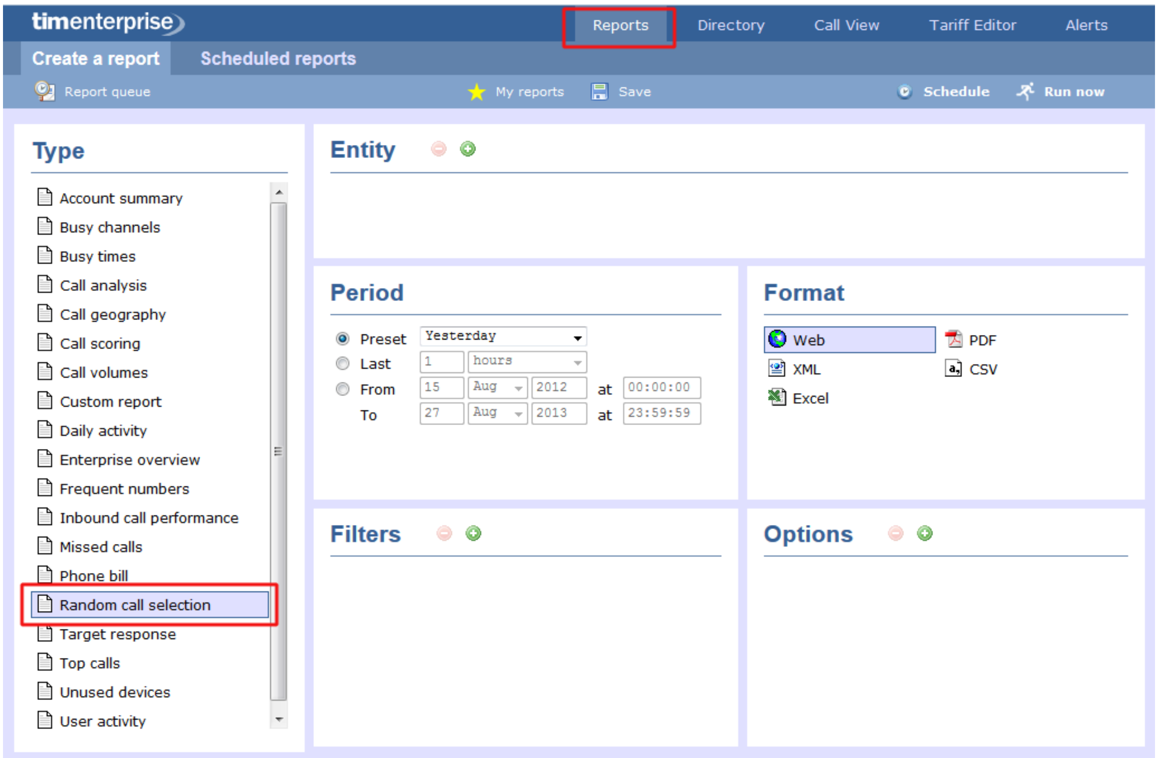
My random call selection
2013-08-23 16:50:27
Top \ UK \
About this report

All | Outbound | Answered | Internal

Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
2013-08-12 09:57:13	London	02072671942	-	Dusty Rhodes	-	00:01:35	-
2013-08-12 10:10:08	London	02077772580	-	Barry Cade	-	00:01:51	-
2013-08-12 10:21:56	Vodafone	07787500043	-	Barb E. Dahl	-	00:00:48	-
2013-08-12 10:32:11	Mona Lott	-	07951385212	T-Mobile	-	00:00:08	0.030
2013-08-12 10:34:43	UNAVAILABLE	-	-	Megan Doyle	-	00:01:11	-
2013-08-12 10:36:23	UNAVAILABLE	-	-	Barb E. Dahl	-	00:00:32	-
2013-08-12 13:33:38	Hazel Nutt	-	2062	Adam Zapel	-	00:00:18	-
2013-08-12 13:47:16	Carl Mason	-	07813933029	Orange	-	00:00:03	0.030
2013-08-12 15:40:51	Mike Stand	-	07956727125	T-Mobile	-	00:00:31	0.067
2013-08-12 16:14:56	T-Mobile	07956403840	-	Mike Francis	27	00:00:49	-
2013-08-13 09:19:18	Mary Christmas	-	1050	Gerry Clunes	-	00:05:31	-
2013-08-13 09:28:08	London	02070488595	-	Barbara Seville	18	00:02:03	-
2013-08-13 14:11:28	UNAVAILABLE	-	-	Anita Bath	-	00:00:49	-
2013-08-13 17:09:28	UNAVAILABLE	-	-	Barry Cade	-	00:00:12	-
2013-08-13 18:53:51	UNAVAILABLE	-	-	Constance Noring	-	00:01:13	-
2013-08-13 19:02:58	London	02074712347	-	Doug Graves	-	00:02:09	-
2013-08-13 20:51:41	Vodafone	07771566118	-	Jim Shorts	-	00:02:50	-
2013-08-13 21:27:28	O2	07739694989	-	Brandon Cattel	-	00:00:58	-
2013-08-13 23:07:31	London	02074129204	-	Brina Smith	-	00:00:06	-
2013-08-14 00:47:11	UNAVAILABLE	-	-	Barb E. Dahl	-	00:01:42	-
2013-08-14 08:27:46	Orange	07854181706	-	Reese Francis	4	00:00:10	-
2013-08-14 15:06:53	Kathy Burke	-	2044	Gwyn Osbourne	-	00:00:24	-
2013-08-15 01:33:28	Anna Sasin	-	07808791272	O2	-	00:00:12	0.030
2013-08-15 09:07:28	Orange	07812357079	-	Billy Byrne	4	00:01:08	-
2013-08-15 12:31:21	T-Mobile	07940341885	-	Sally Forth	-	00:00:47	-
2013-08-15 15:09:38	UNAVAILABLE	-	-	Jo King	-	00:00:20	-
2013-08-15 16:53:46	Arthur Gros	-	Joe Bloggs Mobile	Hutchison 3G	-	00:08:22	1.088
2013-08-15 22:19:21	London	02079385700	-	Barb E. Dahl	-	00:03:08	-
2013-08-16 01:55:38	London	02074955999	-	Barb Dwyer	-	00:03:18	-
2013-08-16 09:24:26	London	02079092000	-	Jo King	-	00:01:35	-

Running the report

Click on the `Reports` tab and select `Random Call Selection` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

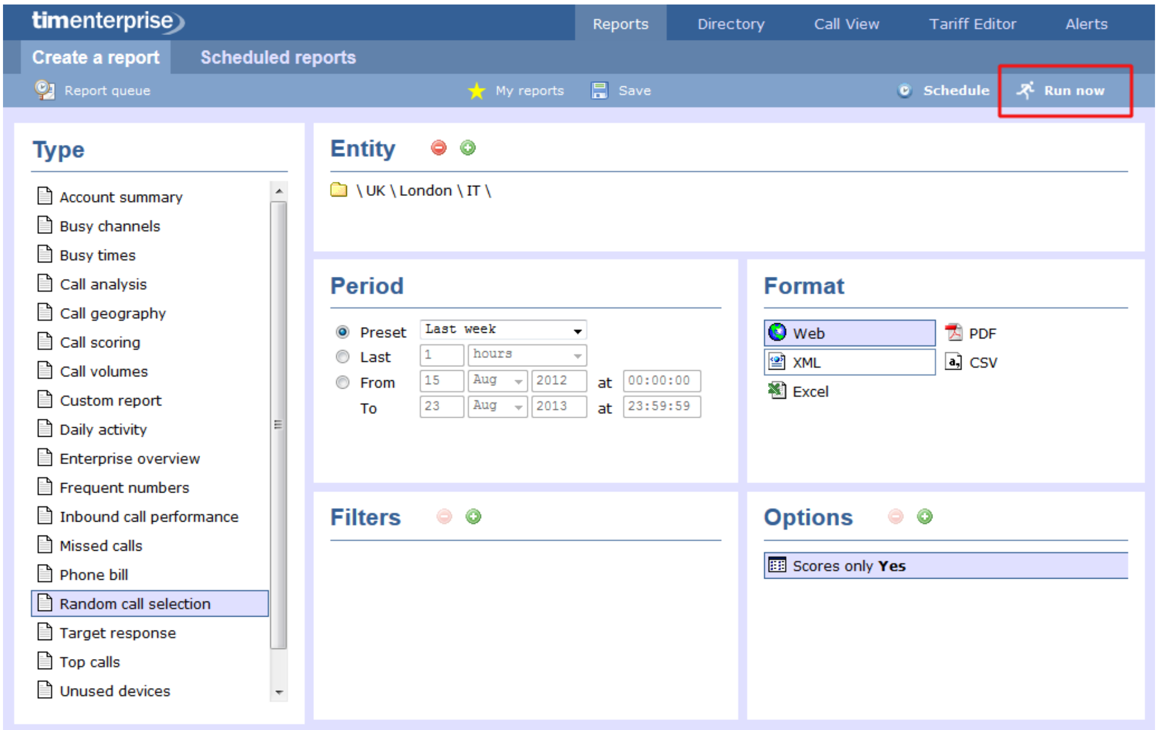


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

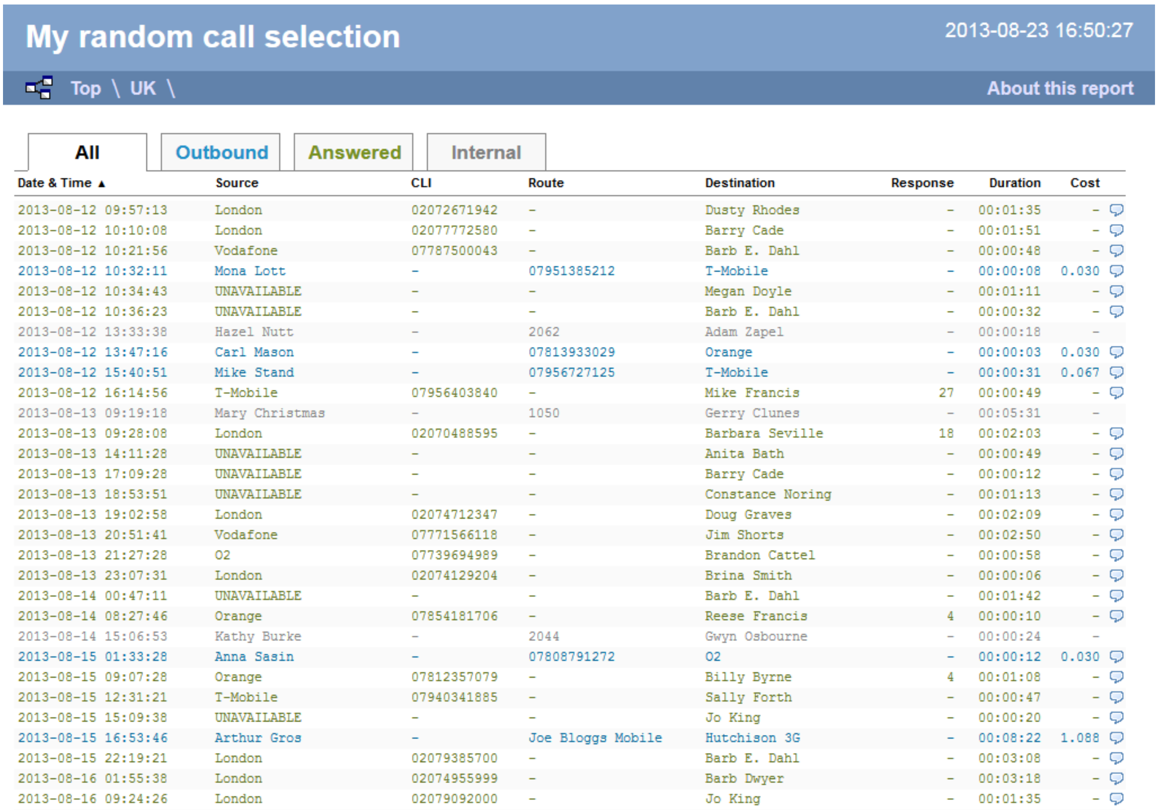
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.



My random call selection

2013-08-23 16:50:27

Top \ UK \

About this report

All | Outbound | Answered | Internal

Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
2013-08-12 09:57:13	London	02072671942	-	Dusty Rhodes	-	00:01:35	-
2013-08-12 10:10:08	London	02077772580	-	Barry Cade	-	00:01:51	-
2013-08-12 10:21:56	Vodafone	07787500043	-	Barb E. Dahl	-	00:00:48	-
2013-08-12 10:32:11	Mona Lott	-	07951385212	T-Mobile	-	00:00:08	0.030
2013-08-12 10:34:43	UNAVAILABLE	-	-	Megan Doyle	-	00:01:11	-
2013-08-12 10:36:23	UNAVAILABLE	-	-	Barb E. Dahl	-	00:00:32	-
2013-08-12 13:33:38	Hazel Nutt	-	2062	Adam Zapel	-	00:00:18	-
2013-08-12 13:47:16	Carl Mason	-	07813933029	Orange	-	00:00:03	0.030
2013-08-12 15:40:51	Mike Stand	-	07956727125	T-Mobile	-	00:00:31	0.067
2013-08-12 16:14:56	T-Mobile	07956403840	-	Mike Francis	27	00:00:49	-
2013-08-13 09:19:18	Mary Christmas	-	1050	Gerry Clunes	-	00:05:31	-
2013-08-13 09:28:08	London	02070488595	-	Barbara Seville	18	00:02:03	-
2013-08-13 14:11:28	UNAVAILABLE	-	-	Anita Bath	-	00:00:49	-
2013-08-13 17:09:28	UNAVAILABLE	-	-	Barry Cade	-	00:00:12	-
2013-08-13 18:53:51	UNAVAILABLE	-	-	Constance Noring	-	00:01:13	-
2013-08-13 19:02:58	London	02074712347	-	Doug Graves	-	00:02:09	-
2013-08-13 20:51:41	Vodafone	07771566118	-	Jim Shorts	-	00:02:50	-
2013-08-13 21:27:28	O2	07739694989	-	Brandon Cattel	-	00:00:58	-
2013-08-13 23:07:31	London	02074129204	-	Brina Smith	-	00:00:06	-
2013-08-14 00:47:11	UNAVAILABLE	-	-	Barb E. Dahl	-	00:01:42	-
2013-08-14 08:27:46	Orange	07854181706	-	Reese Francis	4	00:00:10	-
2013-08-14 15:06:53	Kathy Burke	-	2044	Gwyn Osbourne	-	00:00:24	-
2013-08-15 01:33:28	Anna Sasin	-	07808791272	O2	-	00:00:12	0.030
2013-08-15 09:07:28	Orange	07812357079	-	Billy Byrne	4	00:01:08	-
2013-08-15 12:31:21	T-Mobile	07940341885	-	Sally Forth	-	00:00:47	-
2013-08-15 15:09:38	UNAVAILABLE	-	-	Jo King	-	00:00:20	-
2013-08-15 16:53:46	Arthur Gros	-	Joe Bloggs Mobile	Hutchison 3G	-	00:08:22	1.088
2013-08-15 22:19:21	London	02079385700	-	Barb E. Dahl	-	00:03:08	-
2013-08-16 01:55:38	London	02074955999	-	Barb Dwyer	-	00:03:18	-
2013-08-16 09:24:26	London	02079092000	-	Jo King	-	00:01:35	-

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

The body of the report consists of a table showing a randomly-chosen summary of calls for the period you selected. Each column header of the table is described below:

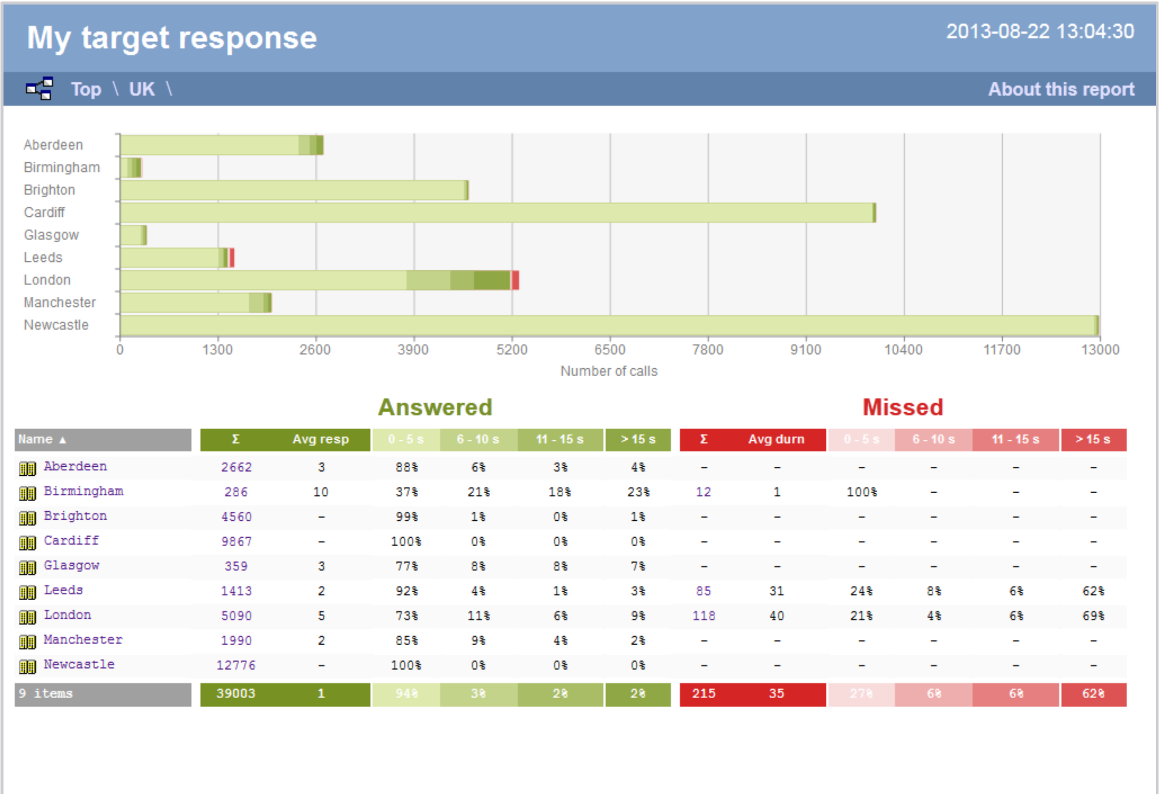
Header	Description
Date & Time	The date and time the call started
Source	The place from where the call originated
CLI	The telephone number of the remote caller, for inbound calls
Route	The information displayed in this field is determined by the type of call: ■ for incoming calls, this shows the CLI of the caller ■ for incoming internal calls, this shows either the caller's username or extension number ■ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ■ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ■ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ■ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The length of time it took for the call to be answered (i.e. the response time)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Target Response

Overview

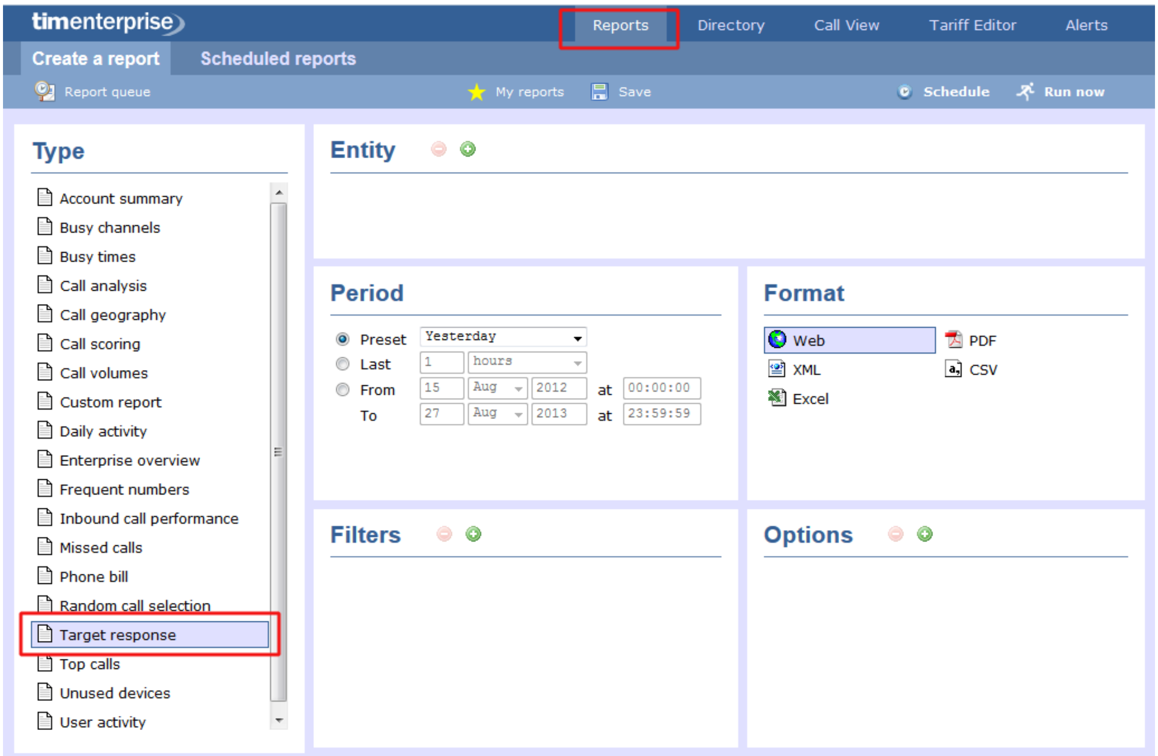
The Target Response report enables you to assess how well calls to your company are answered, compared to user-defined targets. The report provides a visual representation as well as a line-by-line summary of the proportion of calls answered inside and outside your set targets.



Name ▲	Σ	Avg resp	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s	Σ	Avg durn	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s
Aberdeen	2662	3	88%	6%	3%	4%	-	-	-	-	-	-
Birmingham	286	10	37%	21%	18%	23%	12	1	100%	-	-	-
Brighton	4560	-	99%	1%	0%	1%	-	-	-	-	-	-
Cardiff	9867	-	100%	0%	0%	0%	-	-	-	-	-	-
Glasgow	359	3	77%	8%	8%	7%	-	-	-	-	-	-
Leeds	1413	2	92%	4%	1%	3%	85	31	24%	8%	6%	62%
London	5090	5	73%	11%	6%	9%	118	40	21%	4%	6%	69%
Manchester	1990	2	85%	9%	4%	2%	-	-	-	-	-	-
Newcastle	12776	-	100%	0%	0%	0%	-	-	-	-	-	-
9 items	39003	1	94%	3%	2%	2%	215	35	27%	6%	6%	62%

Running the report

Click on the **Reports** tab and select **Target response** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.



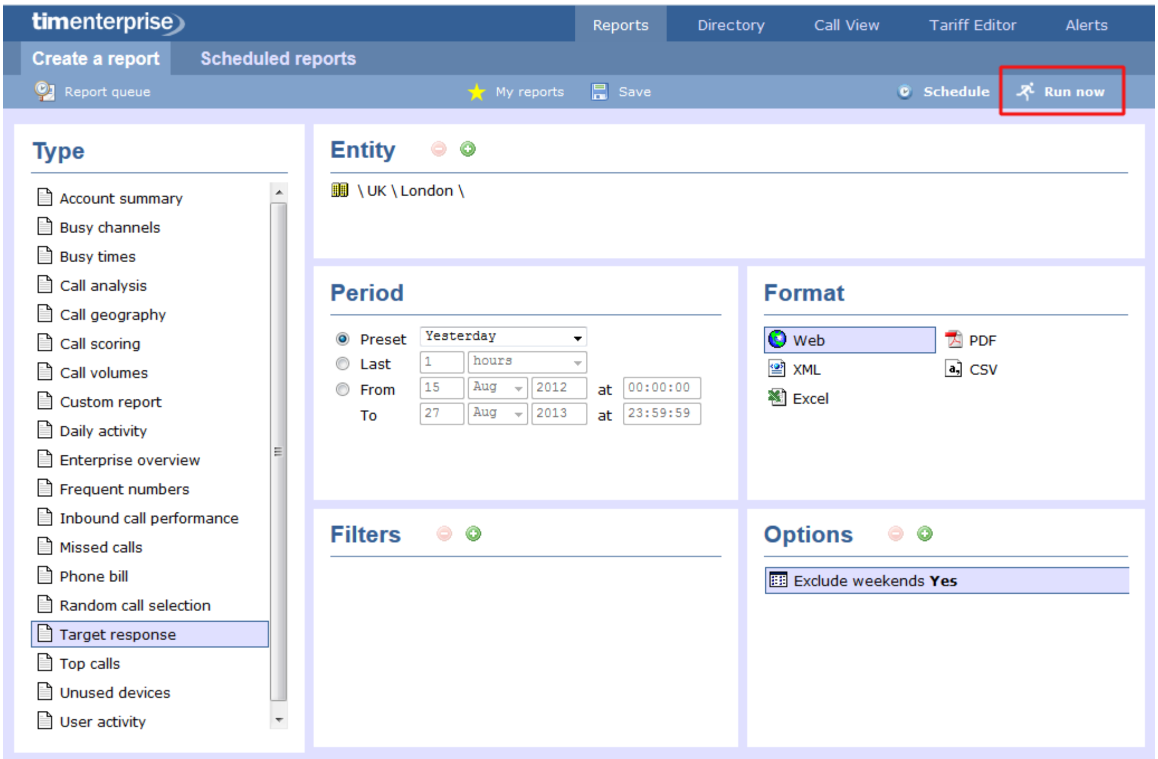
For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period

- Filters
- Options
- Format

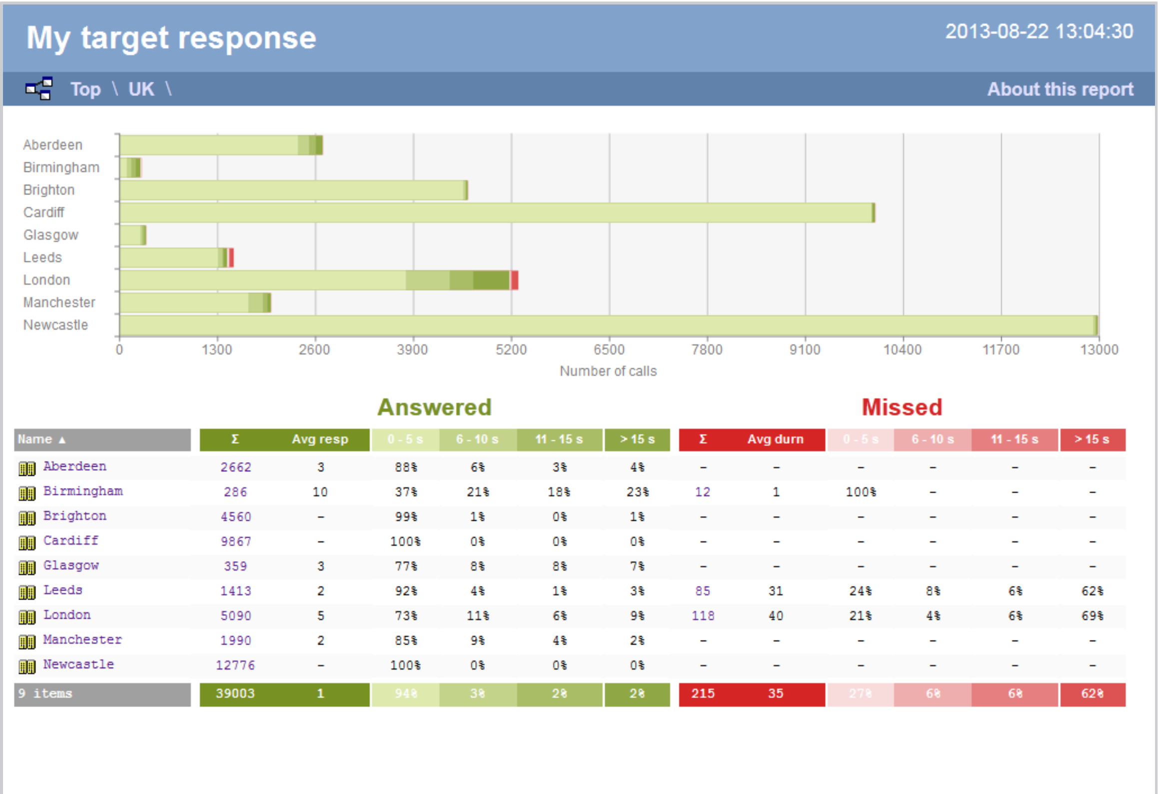
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.



Name ▲	Σ	Avg resp	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s	Σ	Avg durn	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s
Aberdeen	2662	3	88%	6%	3%	4%	-	-	-	-	-	-
Birmingham	286	10	37%	21%	18%	23%	12	1	100%	-	-	-
Brighton	4560	-	99%	1%	0%	1%	-	-	-	-	-	-
Cardiff	9867	-	100%	0%	0%	0%	-	-	-	-	-	-
Glasgow	359	3	77%	8%	8%	7%	-	-	-	-	-	-
Leeds	1413	2	92%	4%	1%	3%	85	31	24%	8%	6%	62%
London	5090	5	73%	11%	6%	9%	118	40	21%	4%	6%	69%
Manchester	1990	2	85%	9%	4%	2%	-	-	-	-	-	-
Newcastle	12776	-	100%	0%	0%	0%	-	-	-	-	-	-
9 items	39003	1	94%	3%	2%	2%	215	35	27%	6%	6%	62%

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

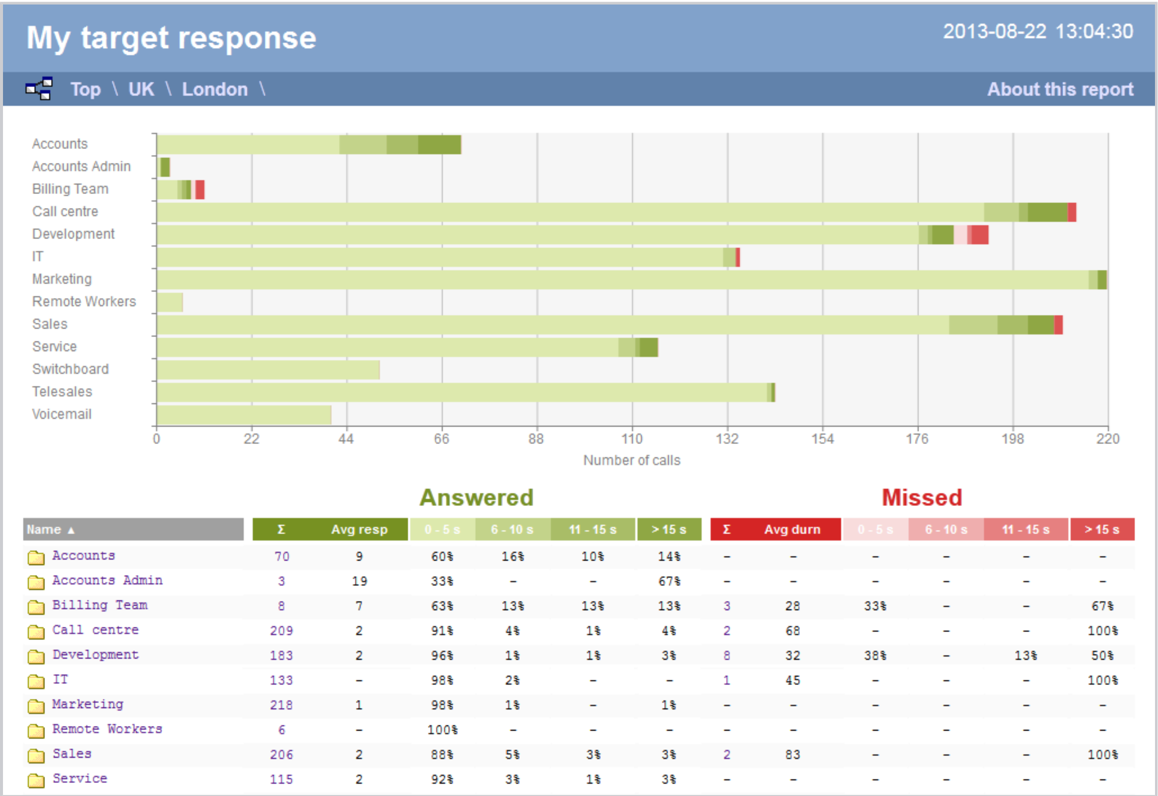
- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

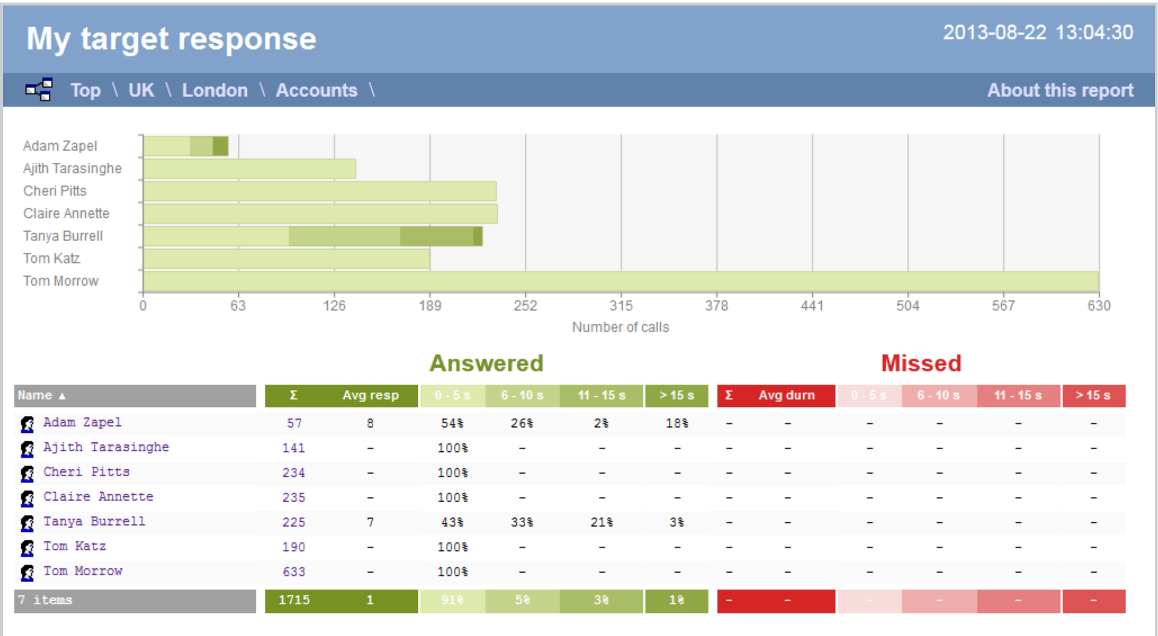
The body of the report consists of a table showing a summary of call information for the period you selected, grouped by entity. Each column header of the table is described below:

Header	Description
Name	The name of the entity for each line of data
Answered	• **Σ:** The total volume of calls received for each entity • **Avg resp:** The average response time of all answered calls in each period • **x-xx s:** The percentage of calls that were answered within each predefined target, e.g. if **`50%`** is displayed under the **`0-5s`** heading, half of all calls were answered sooner than 5 seconds
Missed	• **Σ:** The total number of missed calls for each entity • **Avg durn:** The average length of time a missed call rang before being abandoned • **x-xx s:** The percentage of calls that were abandoned within each predefined target, e.g. if **`50%`** is displayed under the **`0-5s`** heading, half of all calls were abandoned sooner than 5 seconds

Each entity is shown as a hyperlink which, if clicked on, re-runs the report to include only call information pertaining to that entity, allowing you to inspect the performance of specific teams and individual users.



Name ▲	Σ	Avg resp	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s	Σ	Avg durn	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s
Accounts	70	9	60%	16%	10%	14%	-	-	-	-	-	-
Accounts Admin	3	19	33%	-	-	67%	-	-	-	-	-	-
Billing Team	8	7	63%	13%	13%	13%	3	28	33%	-	-	67%
Call centre	209	2	91%	4%	1%	4%	2	68	-	-	-	100%
Development	183	2	96%	1%	1%	3%	8	32	38%	-	13%	50%
IT	133	-	98%	2%	-	-	1	45	-	-	-	100%
Marketing	218	1	98%	1%	-	1%	-	-	-	-	-	-
Remote Workers	6	-	100%	-	-	-	-	-	-	-	-	-
Sales	206	2	88%	5%	3%	3%	2	83	-	-	-	100%
Service	115	2	92%	3%	1%	3%	-	-	-	-	-	-



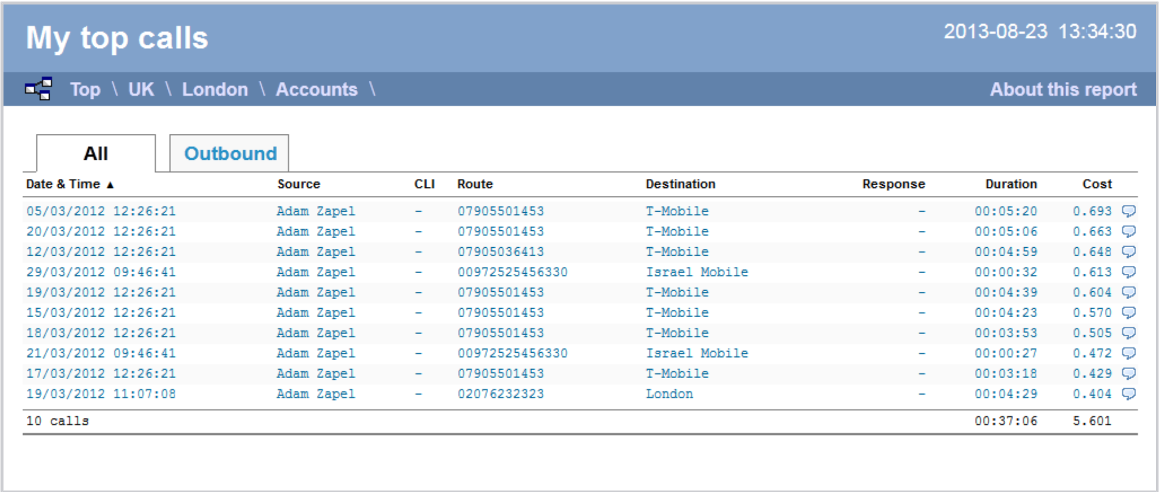
Name ▲	Σ	Avg resp	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s	Σ	Avg durn	0 - 5 s	6 - 10 s	11 - 15 s	> 15 s
Adam Zapel	57	8	54%	26%	2%	18%	-	-	-	-	-	-
Ajith Tarasinghe	141	-	100%	-	-	-	-	-	-	-	-	-
Cheri Pitts	234	-	100%	-	-	-	-	-	-	-	-	-
Claire Annette	235	-	100%	-	-	-	-	-	-	-	-	-
Tanya Burrell	225	7	43%	33%	21%	3%	-	-	-	-	-	-
Tom Katz	190	-	100%	-	-	-	-	-	-	-	-	-
Tom Morrow	633	-	100%	-	-	-	-	-	-	-	-	-
7 items	1715	1	91%	5%	3%	1%	-	-	-	-	-	-

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Top Calls

Overview

The Top Calls report is useful for discovering unusual calling patterns and identifying potential abuse, by highlighting the longest and most costly calls made by people in your organisation.



My top calls 2013-08-23 13:34:30

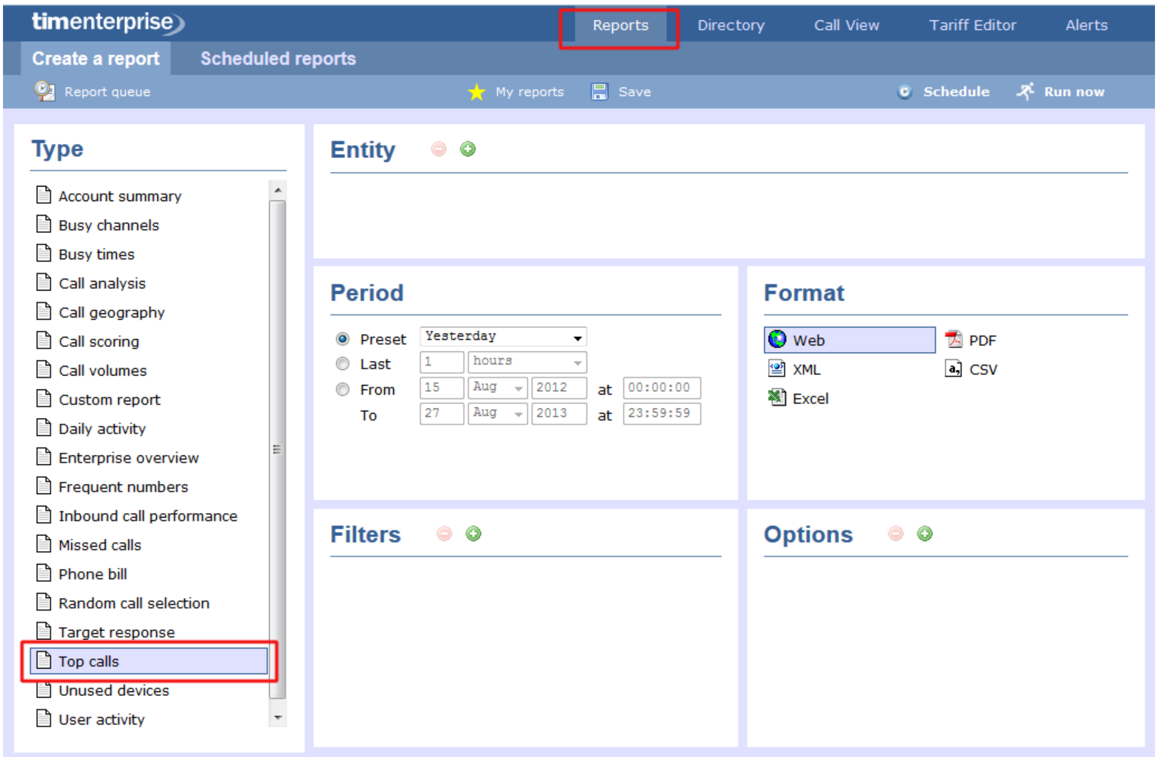
Top \ UK \ London \ Accounts \ About this report

All | Outbound

Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
05/03/2012 12:26:21	Adam Zapel	-	07905501453	T-Mobile	-	00:05:20	0.693
20/03/2012 12:26:21	Adam Zapel	-	07905501453	T-Mobile	-	00:05:06	0.663
12/03/2012 12:26:21	Adam Zapel	-	07905036413	T-Mobile	-	00:04:59	0.648
29/03/2012 09:46:41	Adam Zapel	-	00972525456330	Israel Mobile	-	00:00:32	0.613
19/03/2012 12:26:21	Adam Zapel	-	07905501453	T-Mobile	-	00:04:39	0.604
15/03/2012 12:26:21	Adam Zapel	-	07905501453	T-Mobile	-	00:04:23	0.570
18/03/2012 12:26:21	Adam Zapel	-	07905501453	T-Mobile	-	00:03:53	0.505
21/03/2012 09:46:41	Adam Zapel	-	00972525456330	Israel Mobile	-	00:00:27	0.472
17/03/2012 12:26:21	Adam Zapel	-	07905501453	T-Mobile	-	00:03:18	0.429
19/03/2012 11:07:08	Adam Zapel	-	02076232323	London	-	00:04:29	0.404
10 calls						00:37:06	5.601

Running the report

Click on the `Reports` tab and select `Top calls` from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

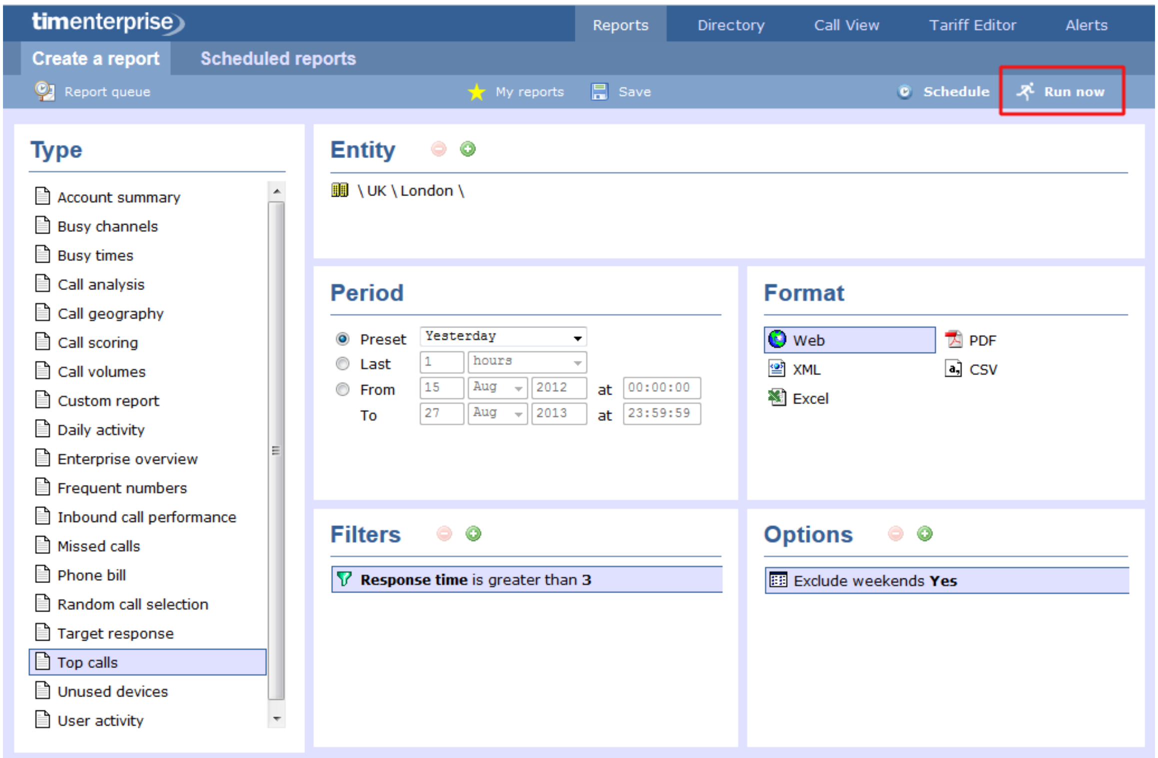


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

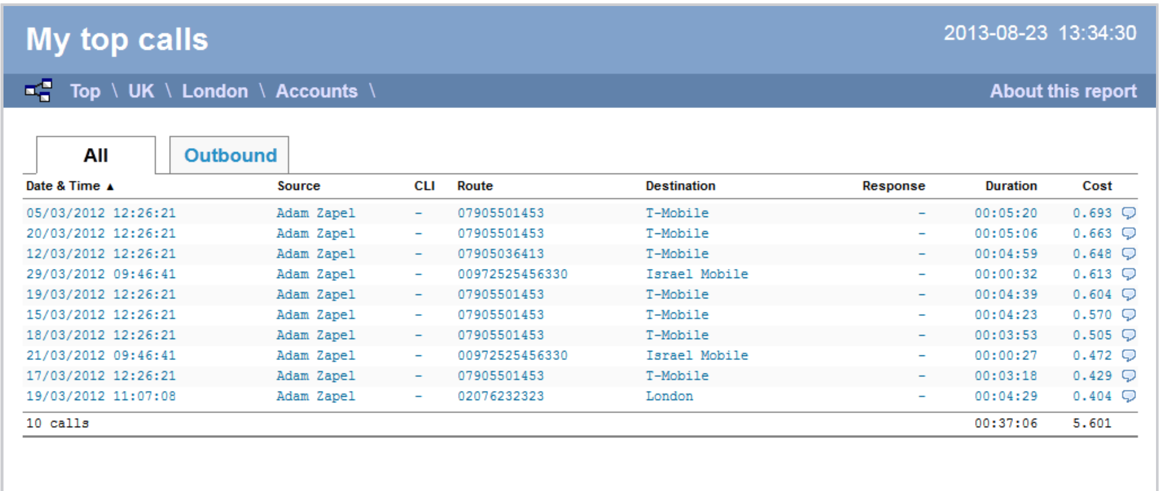
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can sav e the report's definition or schedule the report for future delivery.



The report's results

Below is an example of this report's output in `Web` format:



The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The report consists of a table containing a list of your top calls, as defined by your selection criteria. Each column header of the table is described below:

Header	Description

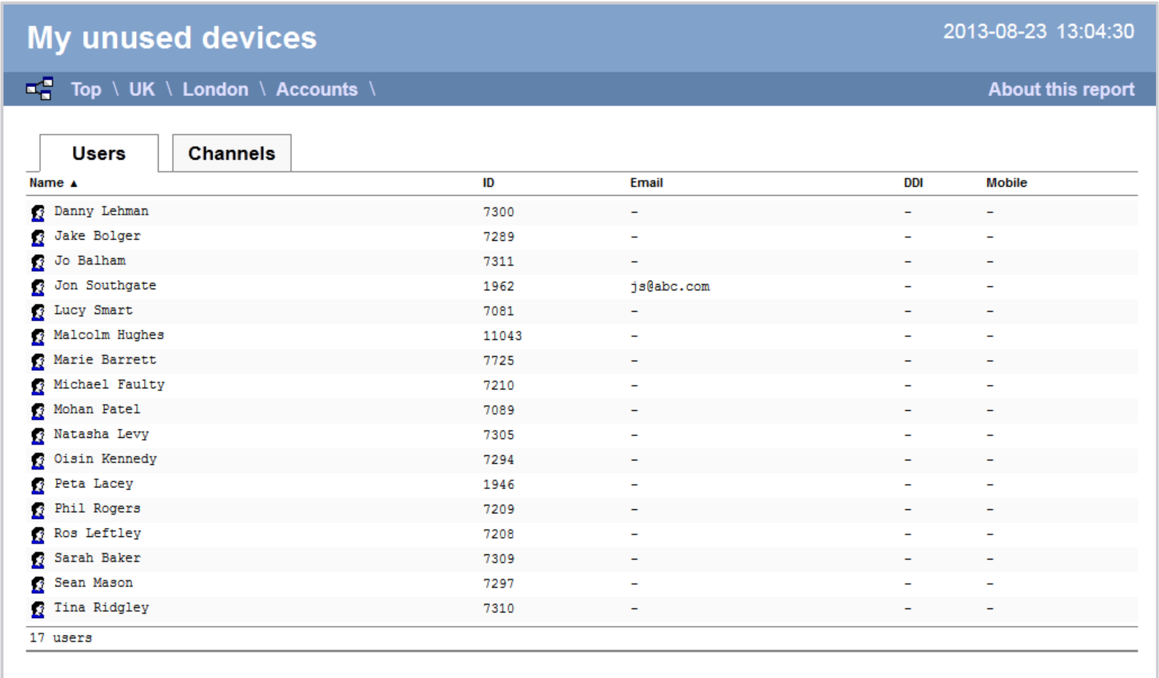
Date & Time	The date and time the call started
Source	The place from where the call originated
CLI	The telephone number of the remote caller for inbound calls
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The length of time it took for the call to be answered (i.e. the response time)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Unused Devices

Overview

The Unused Devices report identifies any users and channels that haven't been utilised in a given period of time. It is useful for identifying telephone handsets that can be safely reallocated to other users or which channels are no longer used.



My unused devices 2013-08-23 13:04:30

Top \ UK \ London \ Accounts \ About this report

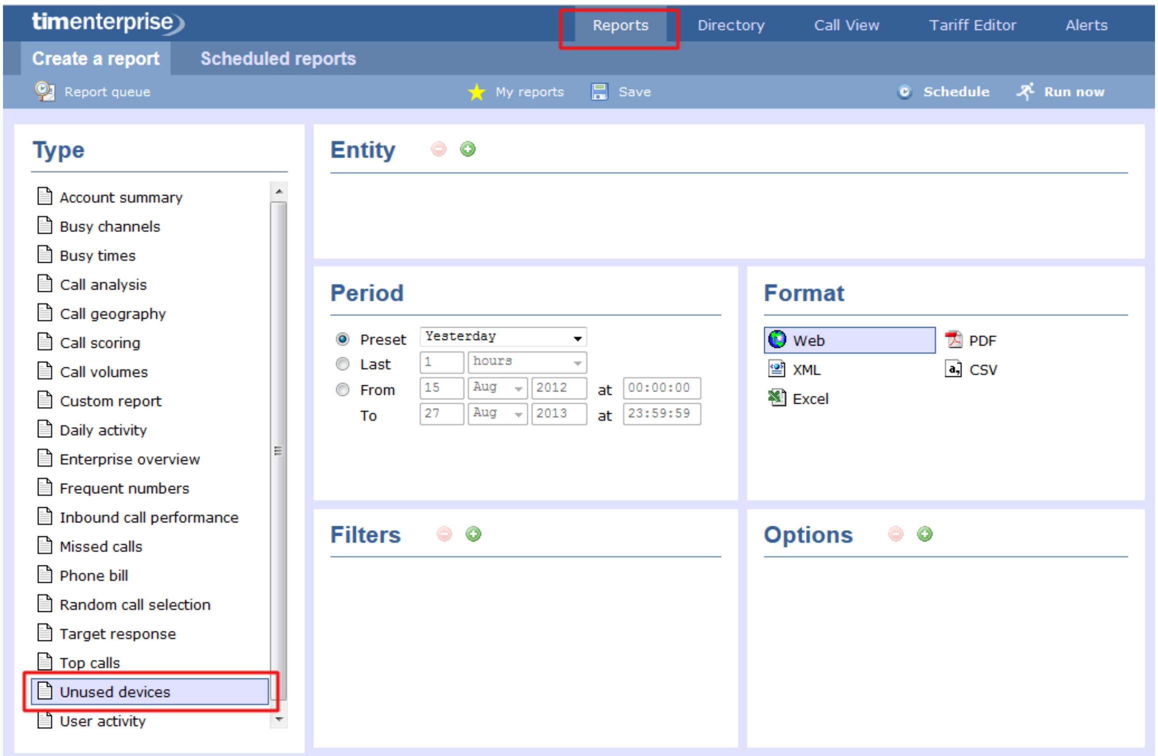
Users | Channels

Name ▲	ID	Email	DDI	Mobile
Danny Lehman	7300	-	-	-
Jake Bolger	7289	-	-	-
Jo Balham	7311	-	-	-
Jon Southgate	1962	js@abc.com	-	-
Lucy Smart	7081	-	-	-
Malcolm Hughes	11043	-	-	-
Marie Barrett	7725	-	-	-
Michael Faulty	7210	-	-	-
Mohan Patel	7089	-	-	-
Natasha Levy	7305	-	-	-
Oisin Kennedy	7294	-	-	-
Peta Lacey	1946	-	-	-
Phil Rogers	7209	-	-	-
Ros Leftley	7208	-	-	-
Sarah Baker	7309	-	-	-
Sean Mason	7297	-	-	-
Tina Ridgley	7310	-	-	-

17 users

Running the report

Click on the **Reports** tab and select **Unused devices** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.

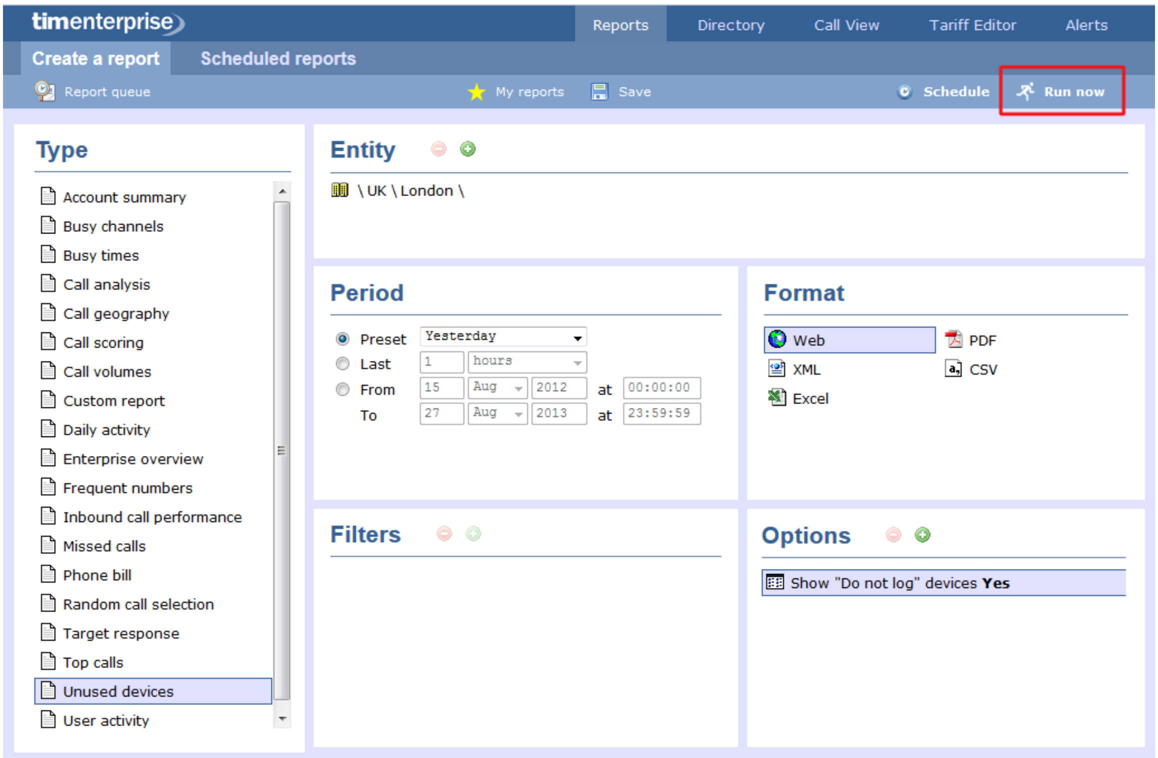


For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period
- Filters
- Options
- Format

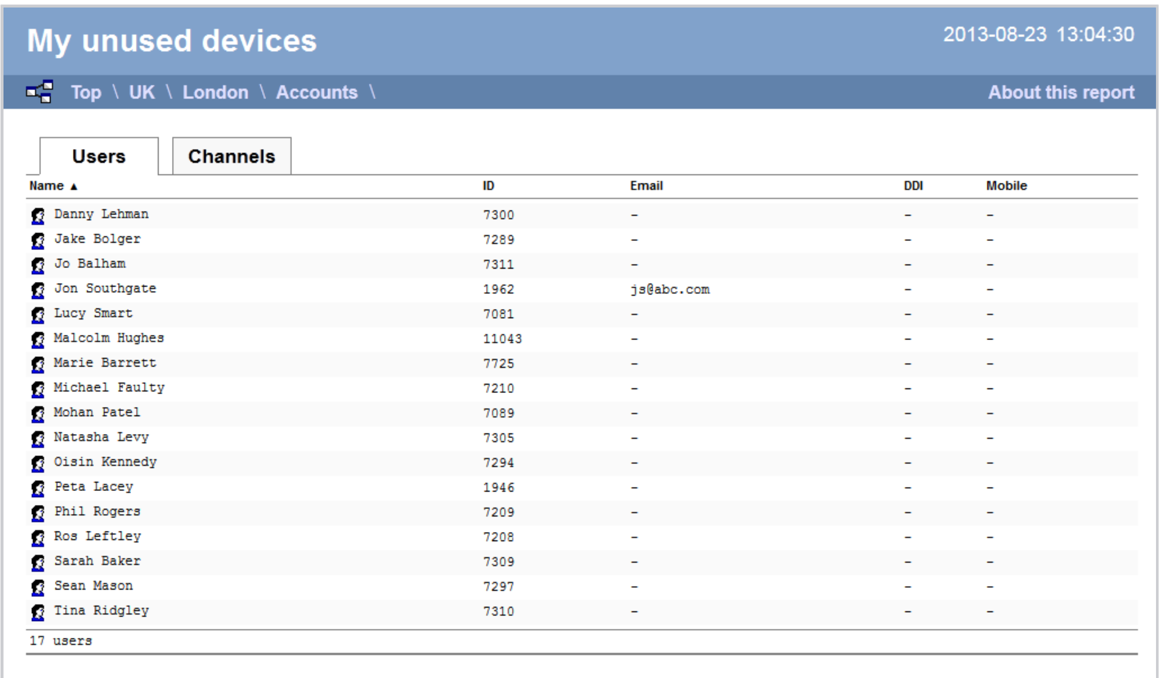
Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



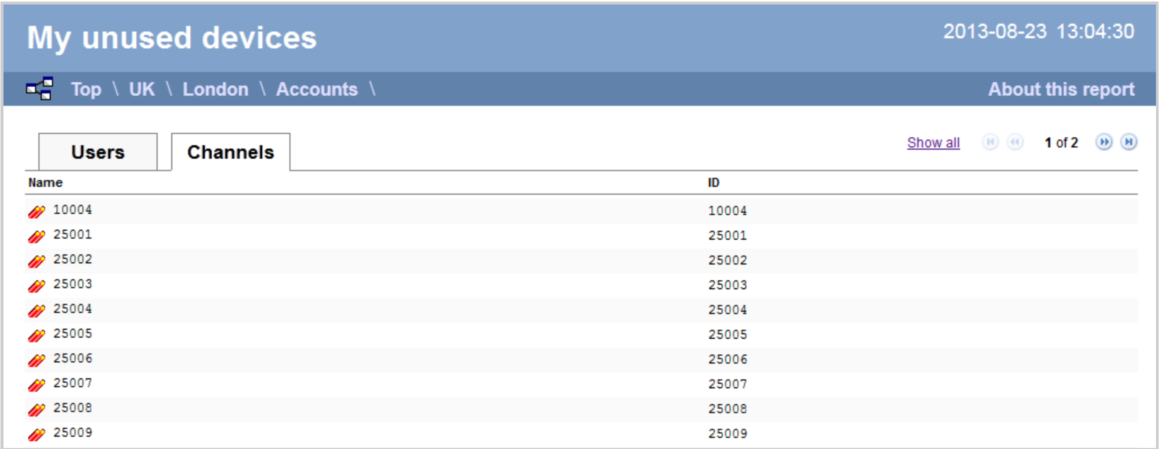
The report's results

Below is an example of this report's output in **Web** format, showing both unused users and unused channels:



Name ▲	ID	Email	DDI	Mobile
Danny Lehman	7300	-	-	-
Jake Bolger	7289	-	-	-
Jo Balham	7311	-	-	-
Jon Southgate	1962	js@abc.com	-	-
Lucy Smart	7081	-	-	-
Malcolm Hughes	11043	-	-	-
Marie Barrett	7725	-	-	-
Michael Faulty	7210	-	-	-
Mohan Patel	7089	-	-	-
Natasha Levy	7305	-	-	-
Oisin Kennedy	7294	-	-	-
Peta Lacey	1946	-	-	-
Phil Rogers	7209	-	-	-
Ros Leftley	7208	-	-	-
Sarah Baker	7309	-	-	-
Sean Mason	7297	-	-	-
Tina Ridgley	7310	-	-	-

17 users



The **Web** format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results. By clicking on the **About this report** link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

The results will display as a paginated list of unused devices with each type of device being grouped in its own tab:

The Users tab shows the following information:

Header	Description
Name	The name of the user
ID	The extension number associated with the user
Email	The e-mail address associated with the user
DDI	The DDI associated with the user, if available
Mobile	The mobile number associated with the user, if available

The Channels tab shows the following information:

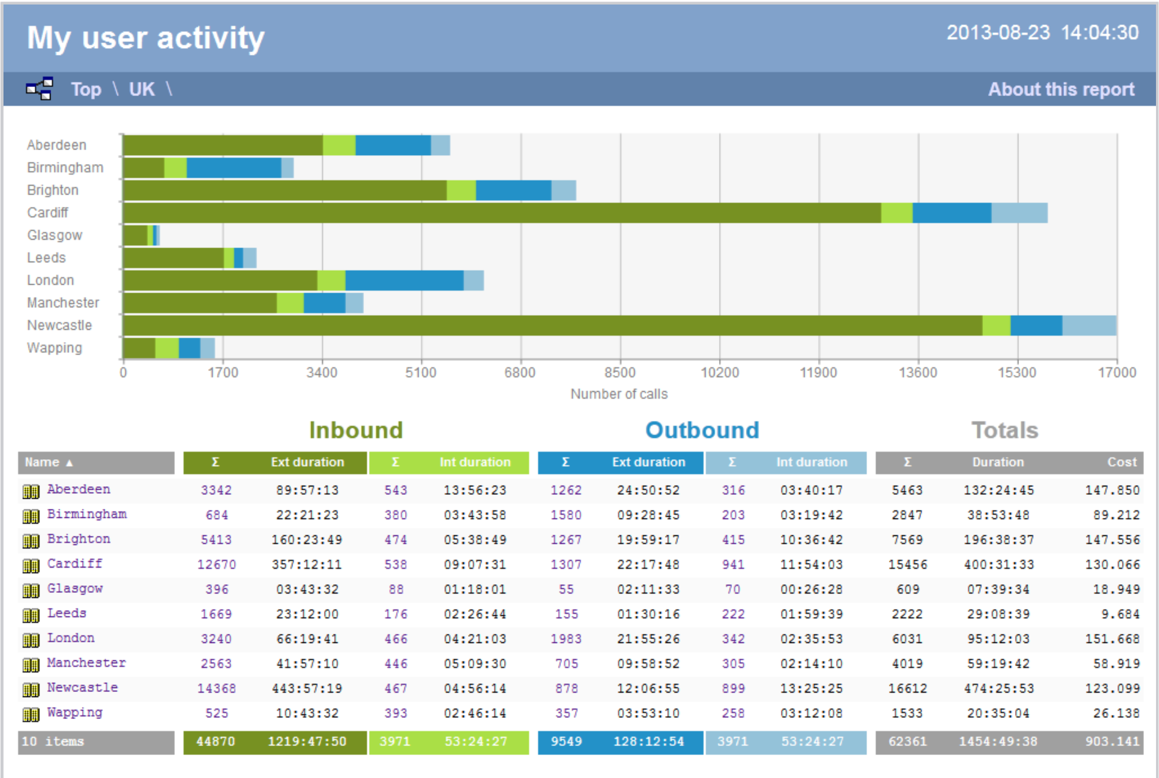
Header	Description
Name	The name of the channel
ID	The ID associated with the channel

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

User Activity

Overview

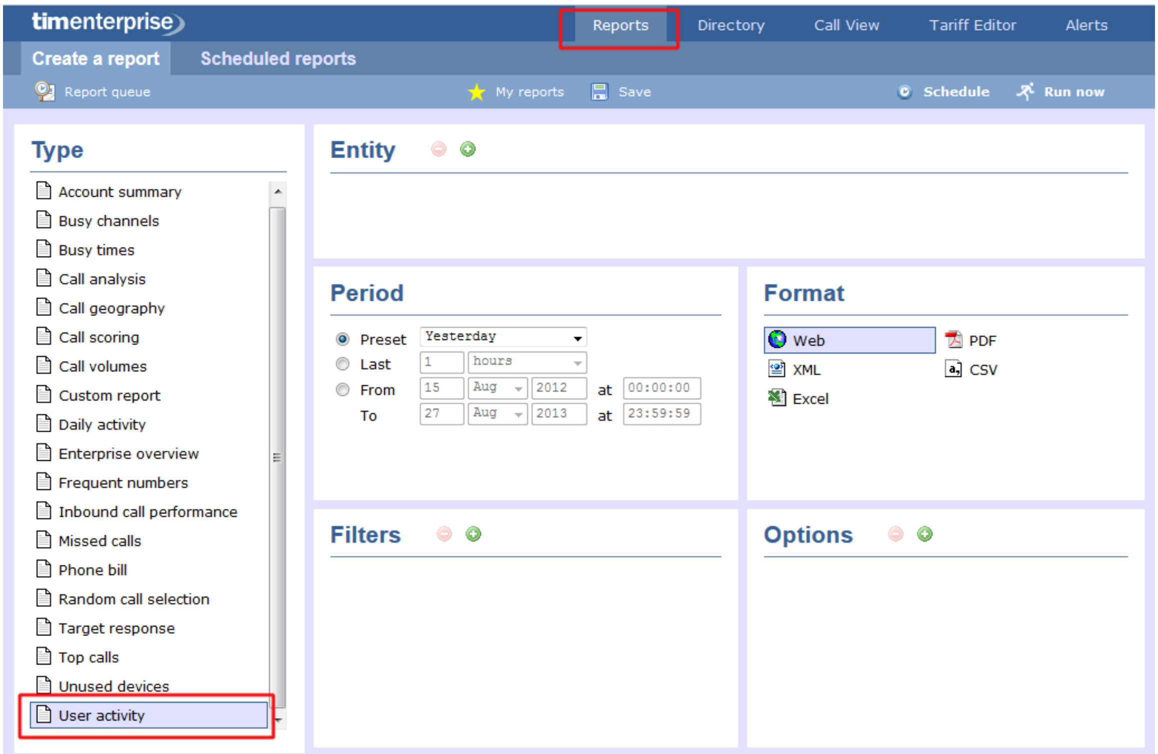
The User Activity report provides a comprehensive summary of internal and external call activity - both inbound and outbound - for each site, group or user. It is also possible to drill down into each entity to obtain the same call information at a more detailed level.



Name ▲	Σ	Ext duration	Σ	Int duration	Σ	Ext duration	Σ	Int duration	Σ	Duration	Cost
Aberdeen	3342	89:57:13	543	13:56:23	1262	24:50:52	316	03:40:17	5463	132:24:45	147.850
Birmingham	684	22:21:23	380	03:43:58	1580	09:28:45	203	03:19:42	2847	38:53:48	89.212
Brighton	5413	160:23:49	474	05:38:49	1267	19:59:17	415	10:36:42	7569	196:38:37	147.556
Cardiff	12670	357:12:11	538	09:07:31	1307	22:17:48	941	11:54:03	15456	400:31:33	130.066
Glasgow	396	03:43:32	88	01:18:01	55	02:11:33	70	00:26:28	609	07:39:34	18.949
Leeds	1669	23:12:00	176	02:26:44	155	01:30:16	222	01:59:39	2222	29:08:39	9.684
London	3240	66:19:41	466	04:21:03	1983	21:55:26	342	02:35:53	6031	95:12:03	151.668
Manchester	2563	41:57:10	446	05:09:30	705	09:58:52	305	02:14:10	4019	59:19:42	58.919
Newcastle	14368	443:57:19	467	04:56:14	878	12:06:55	899	13:25:25	16612	474:25:53	123.099
Wapping	525	10:43:32	393	02:46:14	357	03:53:10	258	03:12:08	1533	20:35:04	26.138
10 items	44870	1219:47:50	3971	53:24:27	9549	128:12:54	3971	53:24:27	62361	1454:49:38	903.141

Running the report

Click on the **Reports** tab and select **User activity** from the left-hand pane. The screen displaying the parameters of the report will appear, where you can configure the entity, period, filters, options and format of the report.



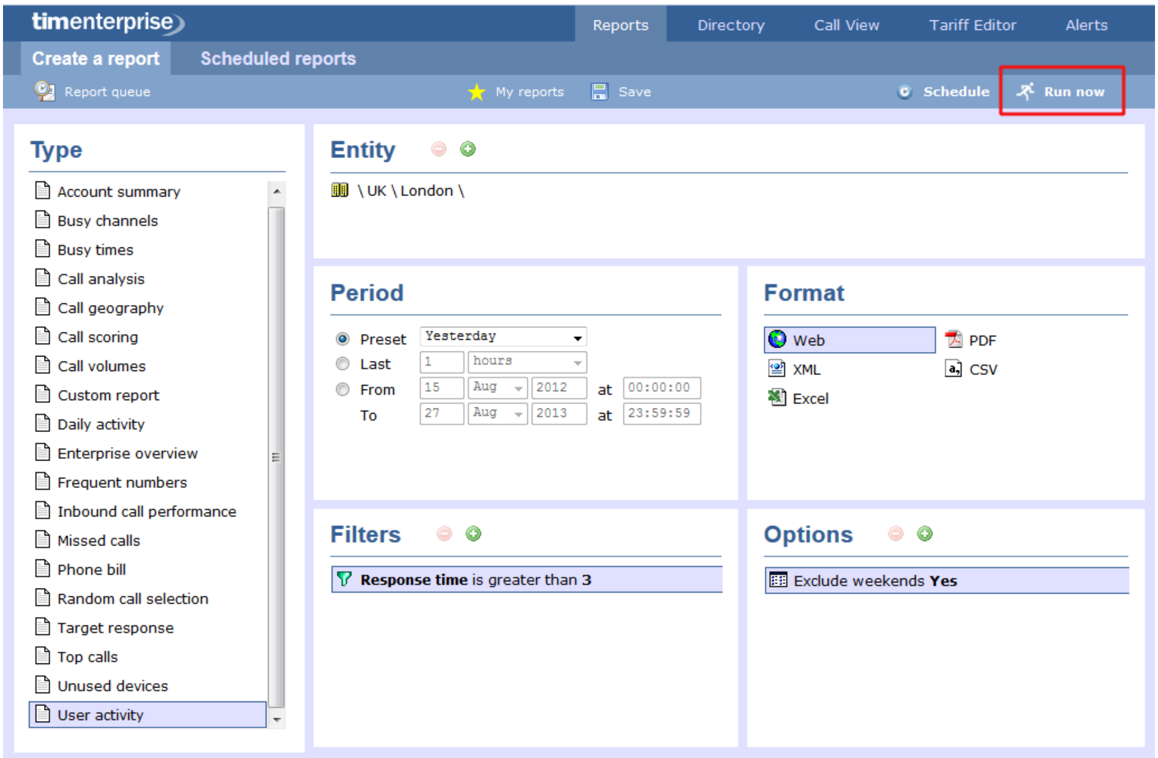
For details about how to configure these parameters, refer to the relevant page(s) in the list below:

- Entity
- Period

- Filters
- Options
- Format

Creating the report

When you have configured the report's parameters, click on the Run now button to run the report immediately; alternatively, you can save the report's definition or schedule the report for future delivery.



The report's results

The results of the report show comprehensive call summary information - organised by call type - for the report entity you selected. By clicking on the `About this report` link at the top-right corner of the page, you can review any filters and options that have been applied to the report.

As with all reports produced by TIM Enterprise, each page of the report includes the following information:

- the report's title
- the date and time that the report was generated
- the name of the report, if applicable

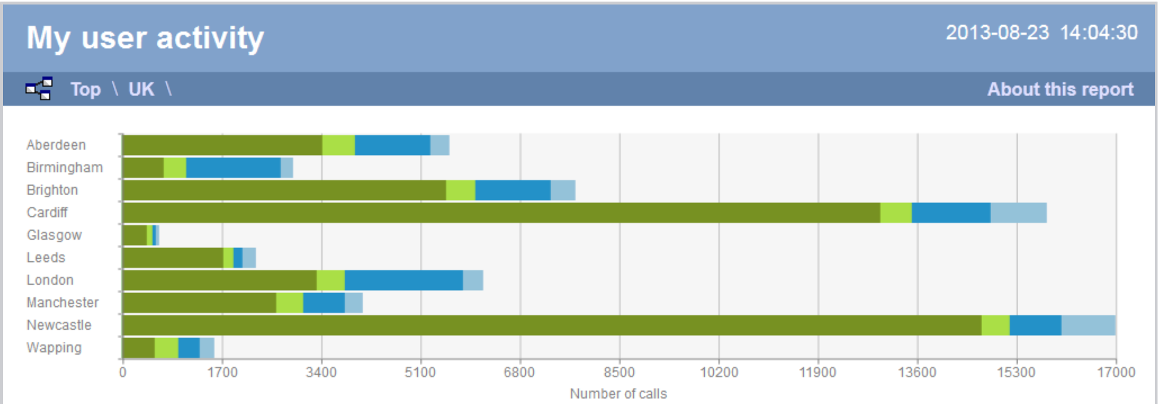
The `Web` format is the most interactive of all formats: all column headers are click-sortable and most graphical and tabular elements can be drilled down into, allowing deeper analysis of your results.

Results are shown for each organisational level: site, group and individual user, where a table is shown with the following headers:

Header	Description
Name	The name of the entity for each line of data
Inbound	■ **Σ:** The number of inbound answered calls, including transferred calls ■ **Ext duration:** The total duration of all inbound external calls (in hours, minutes and seconds) ■ **Int duration:** The total duration of all inbound internal calls (in hours, minutes and seconds)

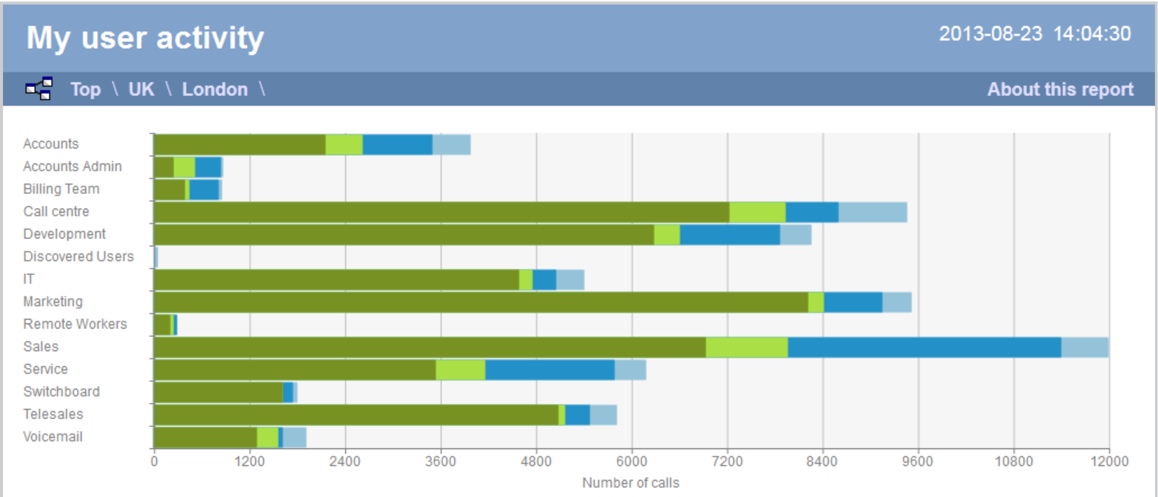
Outbound	▪ **Σ:** The number of outbound calls made ▪ **Ext duration:** The total duration of all outbound external calls (in hours, minutes and seconds) ▪ **Int duration:** The total duration of all outbound internal calls (in hours, minutes and seconds)
Totals	▪ **Σ:** The total number of calls including all inbound and outbound, both internal and external ▪ **Duration:** The total duration of time spent on all inbound and outbound calls ▪ **Cost:** The total cost of all calls

Site level



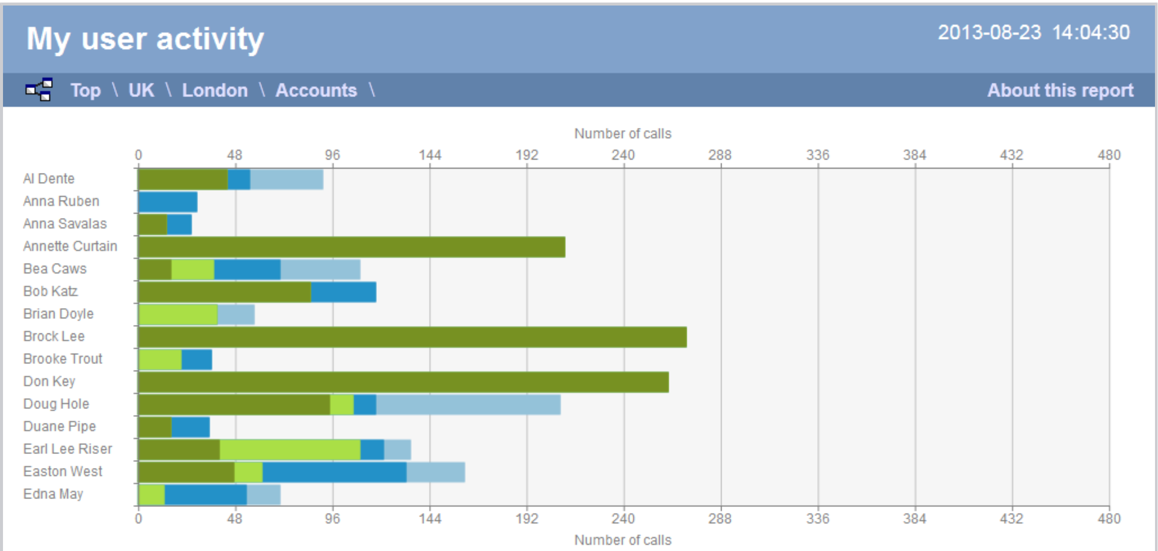
	Inbound				Outbound				Totals		
Name ▲	Σ	Ext duration	Σ	Int duration	Σ	Ext duration	Σ	Int duration	Σ	Duration	Cost
Aberdeen	3342	89:57:13	543	13:56:23	1262	24:50:52	316	03:40:17	5463	132:24:45	147.850
Birmingham	684	22:21:23	380	03:43:58	1580	09:28:45	203	03:19:42	2847	38:53:48	89.212
Brighton	5413	160:23:49	474	05:38:49	1267	19:59:17	415	10:36:42	7569	196:38:37	147.556
Cardiff	12670	357:12:11	538	09:07:31	1307	22:17:48	941	11:54:03	15456	400:31:33	130.066
Glasgow	396	03:43:32	88	01:18:01	55	02:11:33	70	00:26:28	609	07:39:34	18.949
Leeds	1669	23:12:00	176	02:26:44	155	01:30:16	222	01:59:39	2222	29:08:39	9.684
London	3240	66:19:41	466	04:21:03	1983	21:55:26	342	02:35:53	6031	95:12:03	151.668
Manchester	2563	41:57:10	446	05:09:30	705	09:58:52	305	02:14:10	4019	59:19:42	58.919
Newcastle	14368	443:57:19	467	04:56:14	878	12:06:55	899	13:25:25	16612	474:25:53	123.099
Wapping	525	10:43:32	393	02:46:14	357	03:53:10	258	03:12:08	1533	20:35:04	26.138
10 items	44870	1219:47:50	3971	53:24:27	9549	128:12:54	3971	53:24:27	62361	1454:49:38	903.141

Group level



Name ▲	Inbound Σ	Ext duration	Σ	Int duration	Outbound Σ	Ext duration	Σ	Int duration	Totals Σ	Duration	Cost
Accounts	2077	39:14:02	455	04:43:24	852	20:42:23	457	04:34:54	3841	69:14:43	114.224
Accounts Admin	226	05:29:02	271	05:51:20	305	05:21:51	28	00:14:04	830	16:56:17	34.801
Billing Team	374	05:32:41	53	00:48:13	354	03:04:10	34	00:21:31	815	09:46:35	23.187
Call centre	6983	185:34:44	682	09:27:18	648	10:26:12	840	16:20:27	9153	221:48:41	58.739
Development	6072	153:01:03	314	03:03:38	1221	09:32:01	376	04:52:50	7983	170:29:32	76.876
Discovered Users	-	-	-	-	-	-	46	00:46:03	46	00:46:03	-
IT	4431	154:24:48	161	01:02:56	290	07:46:17	336	04:54:17	5218	168:08:18	44.065
Marketing	7942	245:38:46	192	02:00:30	709	11:19:41	355	03:54:53	9198	262:53:50	61.085
Remote Workers	194	00:59:28	45	00:14:29	29	00:12:20	-	-	268	01:26:17	1.128

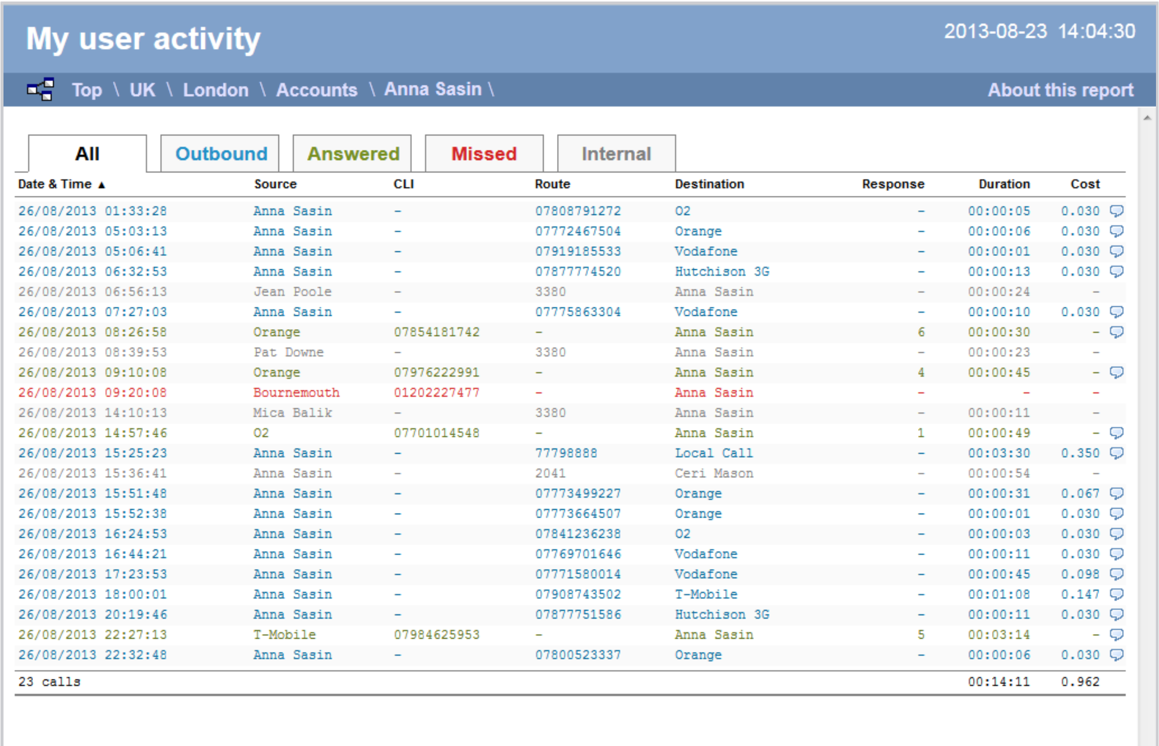
Individual user level



Name ▲	Inbound Σ	Ext duration	Σ	Int duration	Outbound Σ	Ext duration	Σ	Int duration	Totals Σ	Duration	Cost
Al Dente	44	01:14:58	-	-	11	00:00:50	36	00:09:29	91	01:25:17	0.330
Anna Ruben	-	-	-	-	29	00:06:16	-	-	29	00:06:16	1.084
Anna Sasin	5	00:05:18	3	00:00:58	14	00:07:01	1	00:00:54	23	00:14:11	0.962
Annette Curtain	210	07:31:55	-	-	-	-	-	-	210	07:31:55	-
Bea Caws	16	00:10:25	21	00:02:16	33	01:17:00	39	00:11:02	109	01:40:43	5.228
Bob Katz	85	01:24:58	-	-	32	00:12:51	-	-	117	01:37:49	1.620
Brian Doyle	-	-	39	00:05:11	-	-	18	00:12:11	57	00:17:22	-

Itemised call list

When drilling down into an individual user, the report style changes to an itemised call list rather than a call summary table:



My user activity 2013-08-23 14:04:30

Top \ UK \ London \ Accounts \ Anna Sasin \ About this report

All | Outbound | Answered | Missed | Internal

Date & Time ▲	Source	CLI	Route	Destination	Response	Duration	Cost
26/08/2013 01:33:28	Anna Sasin	-	07808791272	O2	-	00:00:05	0.030
26/08/2013 05:03:13	Anna Sasin	-	07772467504	Orange	-	00:00:06	0.030
26/08/2013 05:06:41	Anna Sasin	-	07919185533	Vodafone	-	00:00:01	0.030
26/08/2013 06:32:53	Anna Sasin	-	07877774520	Hutchison 3G	-	00:00:13	0.030
26/08/2013 06:56:13	Jean Poole	-	3380	Anna Sasin	-	00:00:24	-
26/08/2013 07:27:03	Anna Sasin	-	07775863304	Vodafone	-	00:00:10	0.030
26/08/2013 08:26:58	Orange	07854181742	-	Anna Sasin	6	00:00:30	-
26/08/2013 08:39:53	Pat Downe	-	3380	Anna Sasin	-	00:00:23	-
26/08/2013 09:10:08	Orange	07976222991	-	Anna Sasin	4	00:00:45	-
26/08/2013 09:20:08	Bournemouth	01202227477	-	Anna Sasin	-	-	-
26/08/2013 14:10:13	Mica Balik	-	3380	Anna Sasin	-	00:00:11	-
26/08/2013 14:57:46	O2	07701014548	-	Anna Sasin	1	00:00:49	-
26/08/2013 15:25:23	Anna Sasin	-	77798888	Local Call	-	00:03:30	0.350
26/08/2013 15:36:41	Anna Sasin	-	2041	Ceri Mason	-	00:00:54	-
26/08/2013 15:51:48	Anna Sasin	-	07773499227	Orange	-	00:00:31	0.067
26/08/2013 15:52:38	Anna Sasin	-	07773664507	Orange	-	00:00:01	0.030
26/08/2013 16:24:53	Anna Sasin	-	07841236238	O2	-	00:00:03	0.030
26/08/2013 16:44:21	Anna Sasin	-	07769701646	Vodafone	-	00:00:11	0.030
26/08/2013 17:23:53	Anna Sasin	-	07771580014	Vodafone	-	00:00:45	0.098
26/08/2013 18:00:01	Anna Sasin	-	07908743502	T-Mobile	-	00:01:08	0.147
26/08/2013 20:19:46	Anna Sasin	-	07877751586	Hutchison 3G	-	00:00:11	0.030
26/08/2013 22:27:13	T-Mobile	07984625953	-	Anna Sasin	5	00:03:14	-
26/08/2013 22:32:48	Anna Sasin	-	07800523337	Orange	-	00:00:06	0.030
23 calls						00:14:11	0.962

The column headers of the itemised call list are as follows:

Header	Description
Date & Time	The date and time the call started
Source	The place from where the call originated
CLI	The telephone number of the remote caller for inbound calls
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The length of time it took for the call to be answered (i.e. the response time)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call

To modify your report to cover a larger organisational scope, click on an element of the breadcrumb as shown below:

Directory

Directory overview video

Understanding the Directory

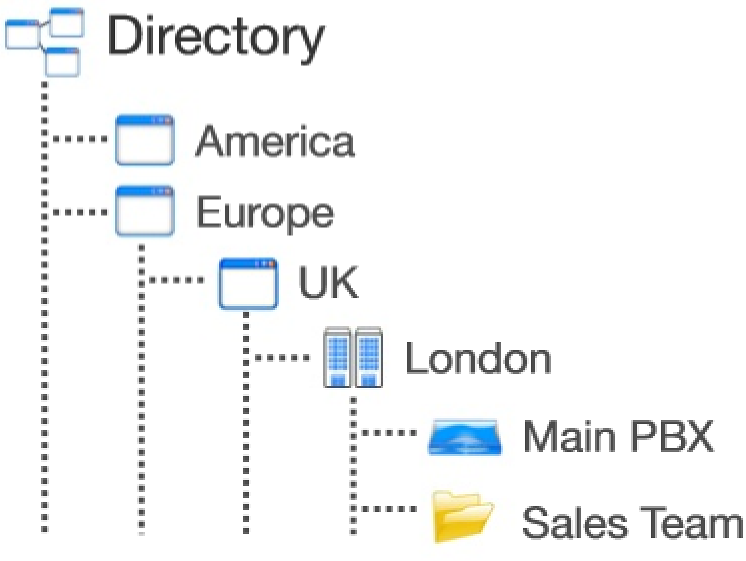
Understanding the Directory

- Directory overview
- Accessing the Directory
- Adding objects to the Directory
- Moving objects within the Directory
- Directory overview video

Directory overview

TIM Enterprise is designed upon an object-based directory that places no limits on its hierarchical width or depth. This approach permits the integration of multiple sites within one centralised system, where every user can be grouped into folders, sites, cost centres and divisions, allowing you to create an exact replica of your company's internal structure.

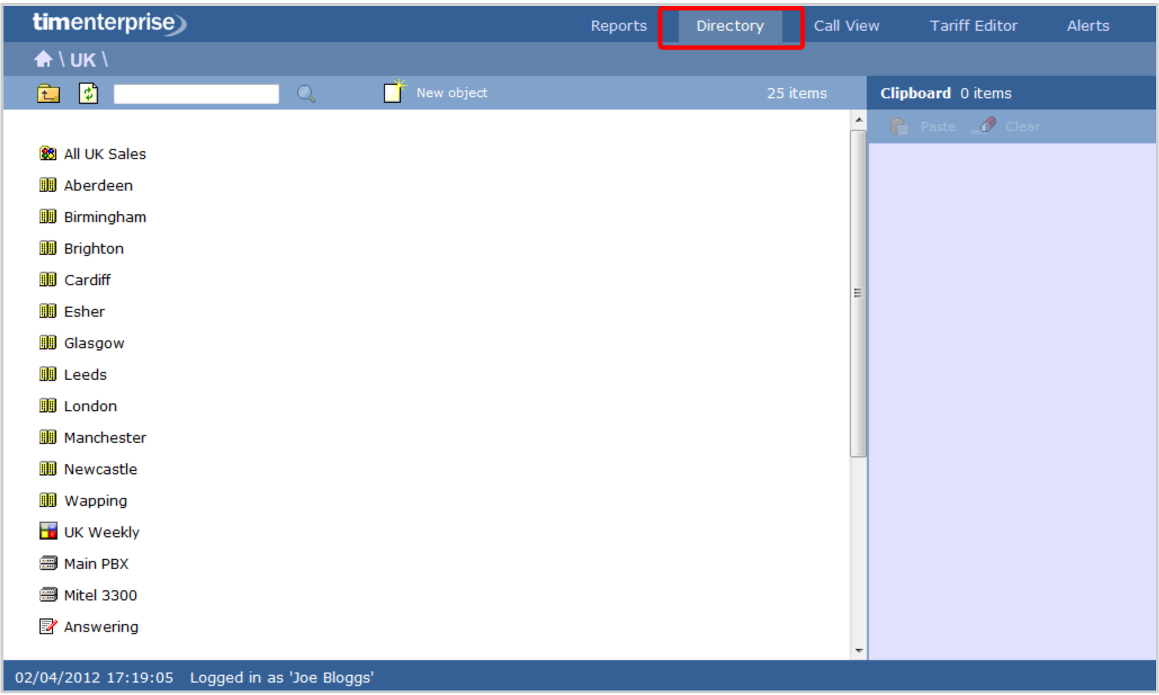
Every system object of the Directory has an explicit, defined relationship with its peers and an entire tree of related objects can be defined, with no width or depth limits of the branches.



To facilitate the configuration and management of large systems, TIM Enterprise supports directory synchronisation with third-party applications such as Active Directory and Cisco AXL.

Accessing the Directory

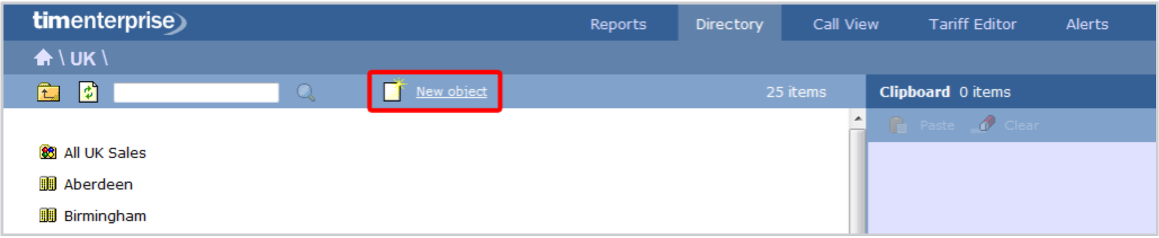
To access the Directory, click on the Directory tab from the main menu tab, as shown below:



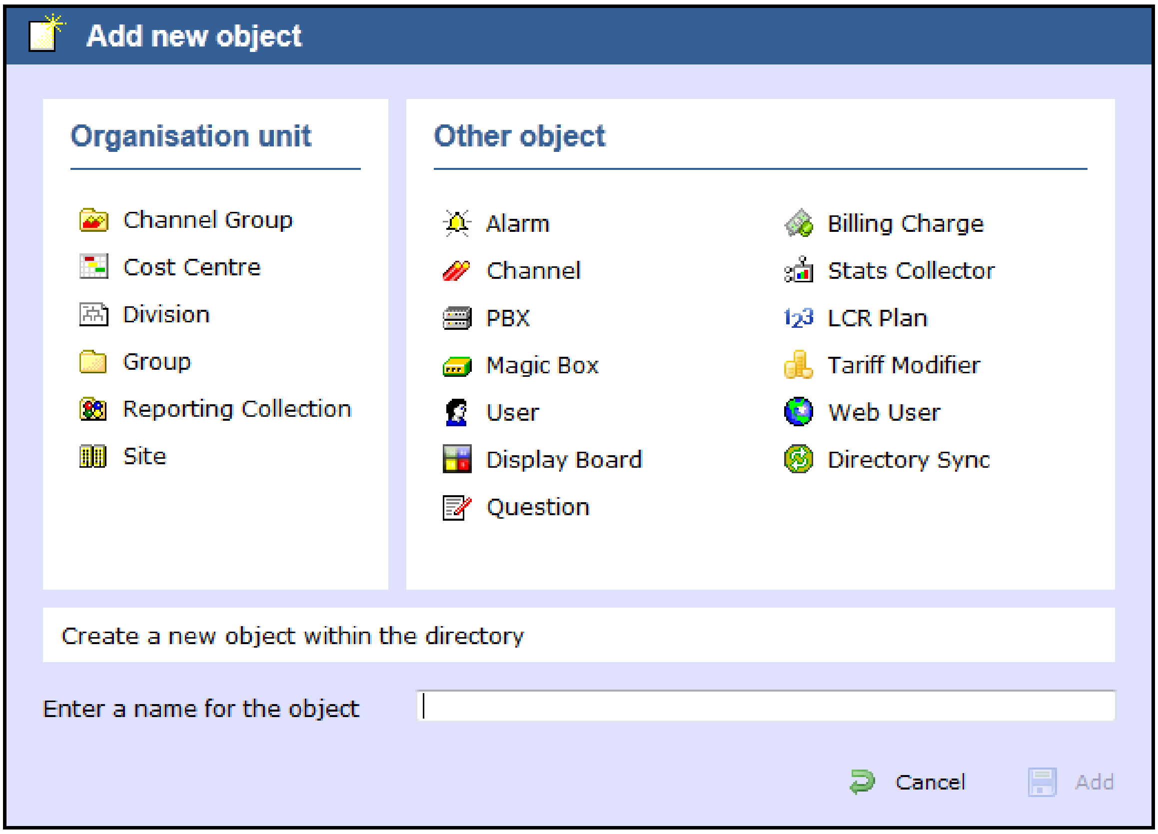
If you are logged in as a standard web user whose access is restricted to a specific site or group, only the information related to that site or group will be displayed in the Directory. For administrative privileges, contact your system maintainer.

Adding objects to the Directory

To add objects to the Directory, click on the New object tab, as shown below:



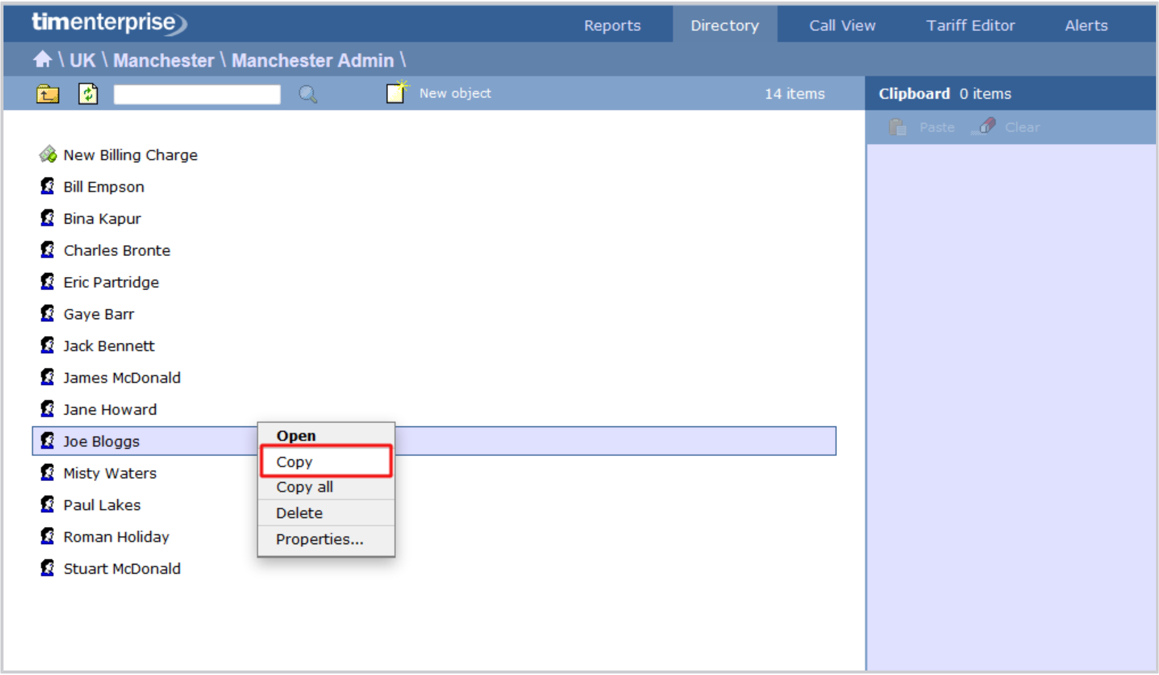
A new window will open, displaying two categories of objects: Organisation units and Other objects. For a detailed description of each object type, refer to the relevant section.



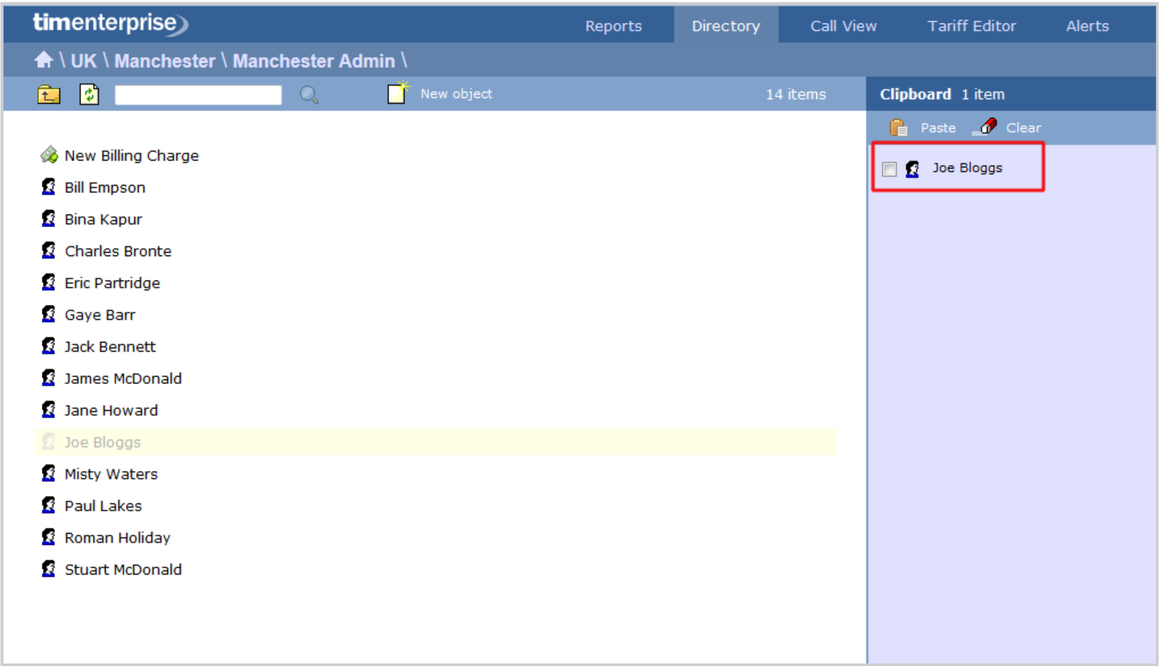
Moving objects within the Directory

To move objects within the Directory, follow the steps below:

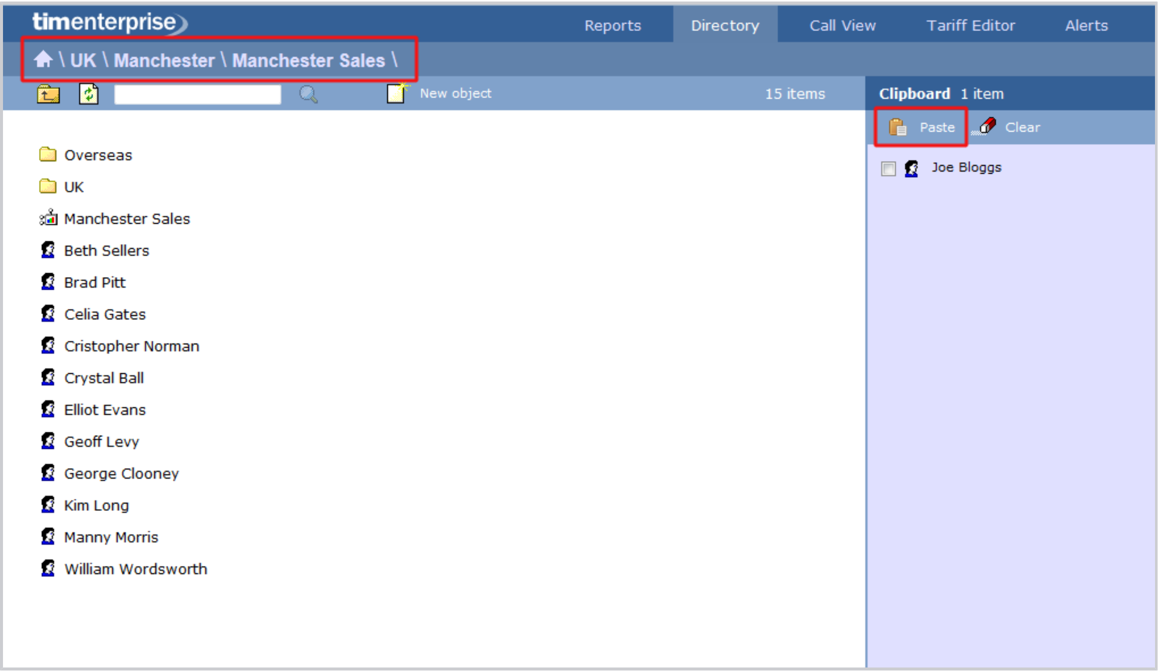
1. Locate in the Directory the object you want to move, click on it and select `Copy` from the drop-down list. In the example below, the user `Joe Bloggs` is being moved from `Manchester Admin` group to `Manchester Sales` .



2. The object will be copied on the `Clipboard` panel on the right-hand side of the screen, as shown below:



3. To move the selected object, go to the point in the Directory where you want the object to be moved into, and click on the Paste button at the top-right of the `Clipboard` screen.



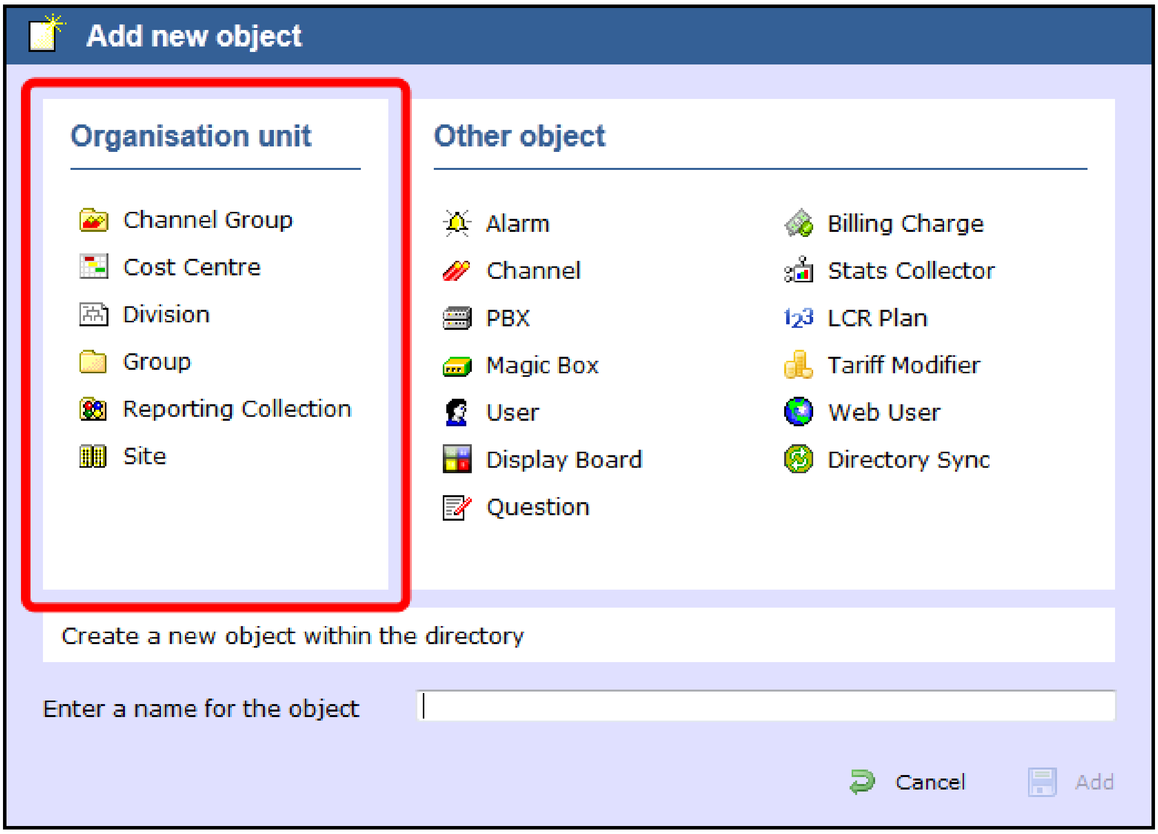
Directory overview video

Organisation units

What is an Organisation unit?

The `Organisation unit` section contains a list of objects designed to emulate the structural components of your organisation and it allows you to build the hierarchical levels of your Directory. The choice of objects belonging to this category are: sites, groups, divisions and cost centres. A special type of group is also available, known as `Reporting Collection`, which acts as a virtual container that collates disparate users from anywhere in your organisation, for reporting purposes.

Divisions, Cost centres, Groups and Sites can be placed at any point in your Directory and can be used interchangeably to better reflect the internal structure of your company.



Organisation unit	Description
Channel Group	Any group of channels or lines coming into your organisation
Cost Centre	A part of your organisation to which specific rates apply; it can contain other organisation units, such as sites or groups, or, it can be part of a larger group or division
Division	A part of your organisation that encompasses a series of smaller units, such as sites, cost centres or groups
Group	A part of your organisation characterised by the type of activity they perform, e.g. designated departments (IT, Sales, Accounts)
Reporting collection	A special type of group that acts as a virtual container, collating disparate users from anywhere in your organisation, for reporting purposes
Site	A part of your organisation that can function independently, usually a designated office branch

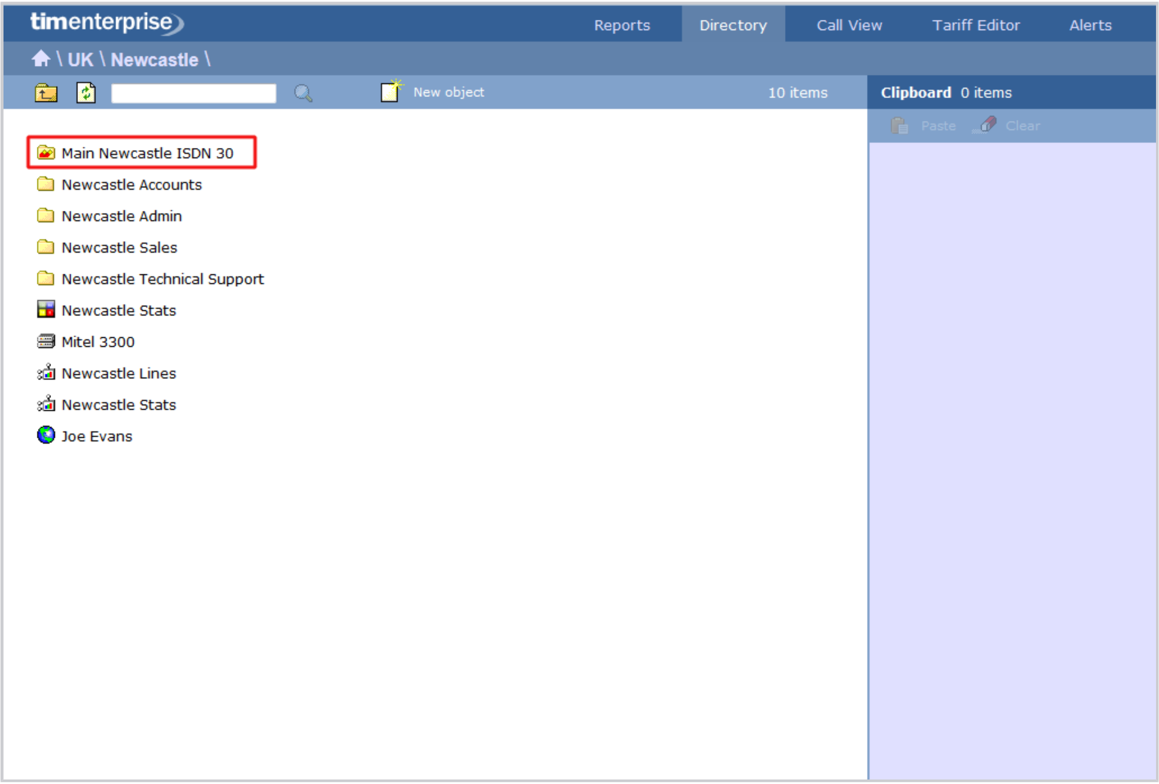
Channel Group

Channel Group

- What is a channel group?
- Adding a channel group
- Configuring a channel group

What is a channel group?

A **`Channel Group`** object is a container of individual telephone lines coming into your organisation.

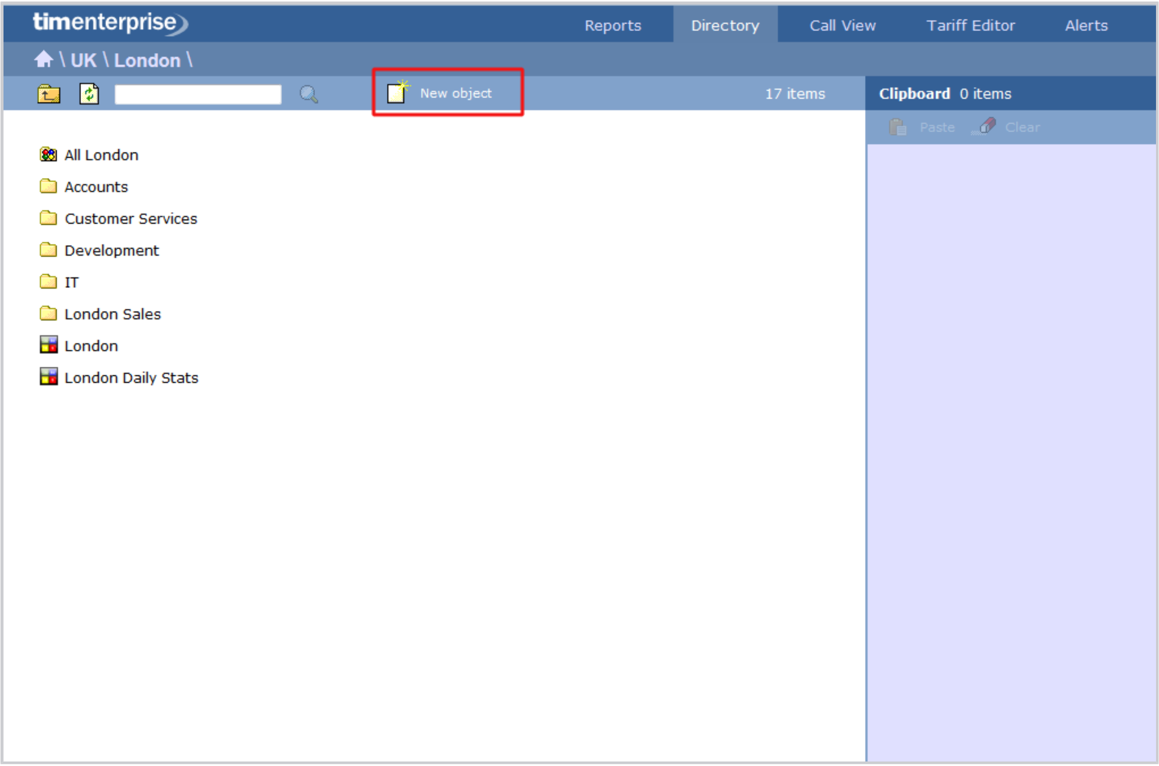


The Discovered Channels folder

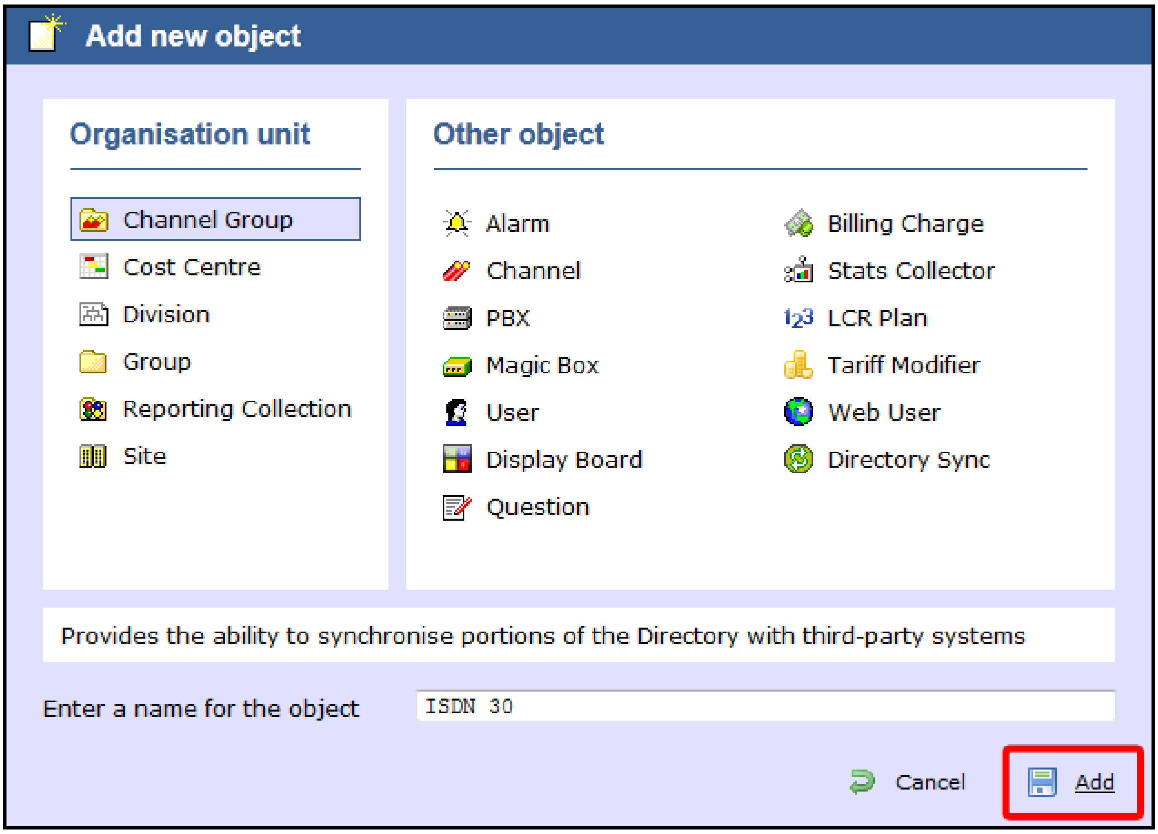
A special channel group, **`Discovered Channels`**, is automatically created in the Directory, in order to harvest hitherto-unknown channel information from the call data received from your telephone system. Over time, when all possible channels have been collected by the Discovered Channels folder, you can create your own channel groups based on the structure of your organisation, and move channels into the new groups.

Adding a channel group

To add a channel group to the system, drill-down to the Directory level where you want to add the group and click on the **`New object`** tab, as shown below:



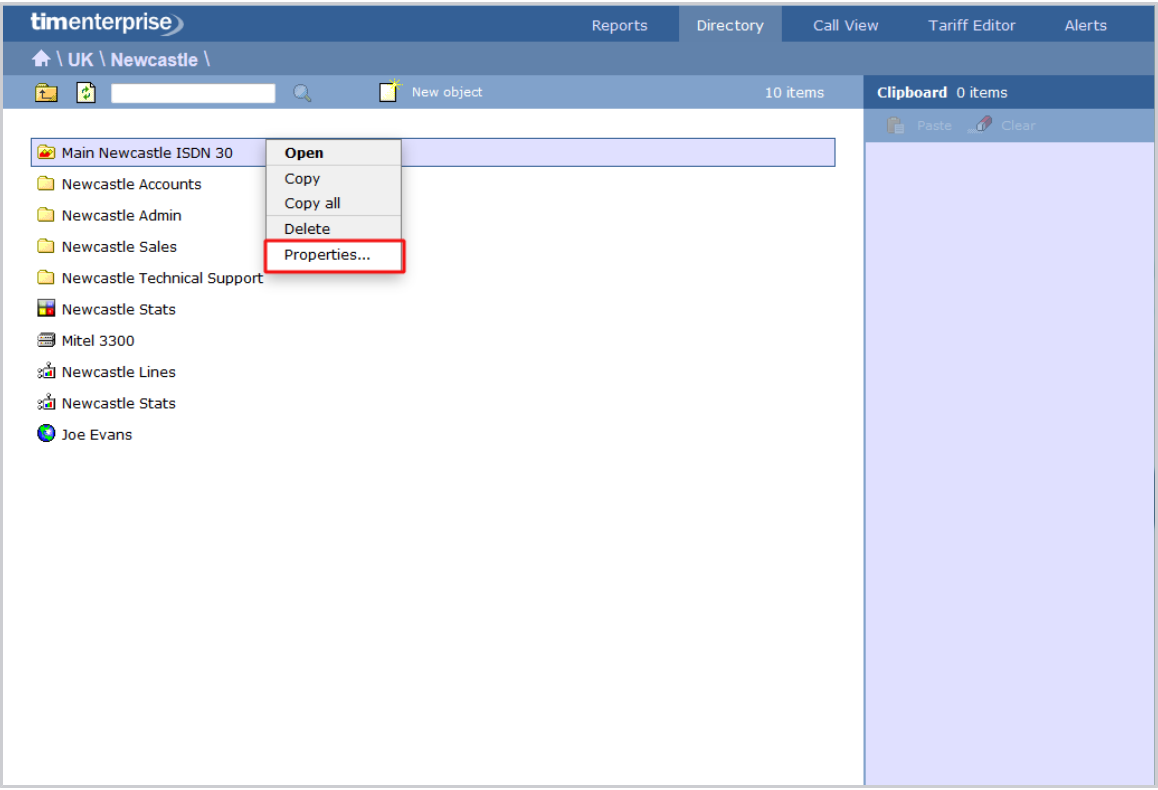
In the new window that opens, select the `Channel group` object from the `Organisation unit` list, enter a relevant name and click on the Add button, as shown below:



> There is no limit to the amount of channel groups you can add to the Directory, which allows you to set up all your ISDN, analogue, fax lines and private circuits exactly as they are on your switch.

Configuring a channel group

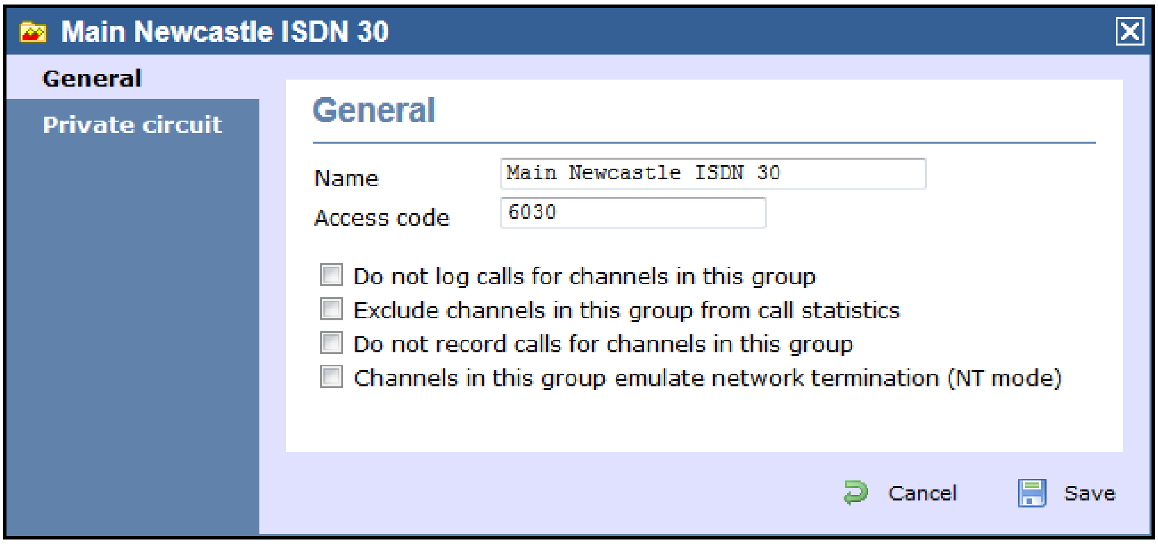
To configure a channel group, locate the group in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, where you can configure the properties of your channel group. Each tab in this window is described below:

General

The General tab allows you to edit the name of the channel group and its associated access code - if applicable - and exclude the group from being logged or recorded.

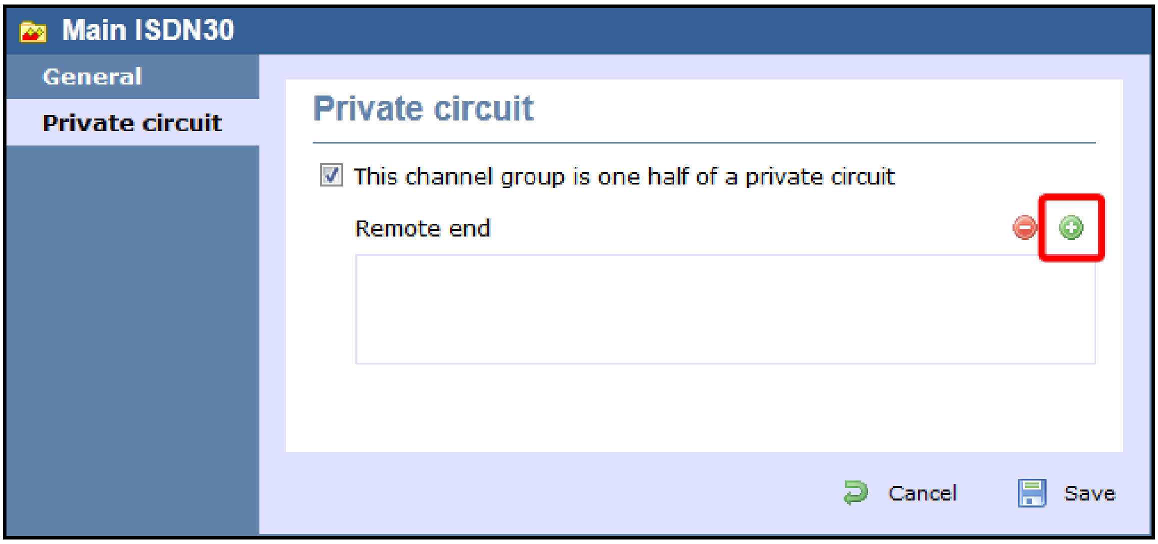


Screenshot | URL = /download/attachments...

Option	Description
Do not log	Calls for this channel group will not be logged by TIM Enterprise. In addition, if integrated call recording is in use, no audio recordings will be available.
Exclude channels in this group from call statistics	Collection of statistics will not be performed for this channel group.
Do not record calls	Calls for this channel group will not be recorded, if integrated call recording is in use.
Channels in this group emulate network termination	This option only applies if you have enabled integrated call recording on your system. Its purpose is to indicate that the far end of the channel's physical connection is emulating PSTN network termination (NT), such as in a private circuit scenario.

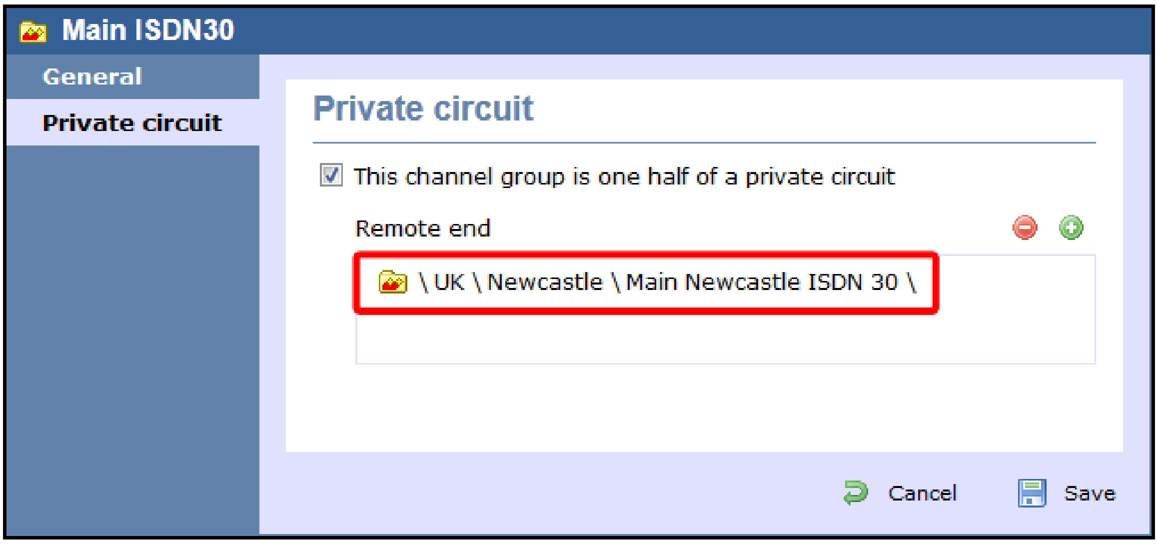
Private circuit

This option allows you to link the currently-selected channel to its counterpart on another site, in order to provide 'on-net' calls. To link the channels, click on the icon and drill-down through the Directory in order to locate the channel group you would like to add as your `Remote end`, as shown below:



When you have located the `Remoted end` channel in the Directory, click on the icon to select it:

The new channel group will then be added to the `Remote end` field and calls between sites will be treated as 'on-net' calls, thereby eliminating the call duplication often associated with inter-site links.



Cost Centre

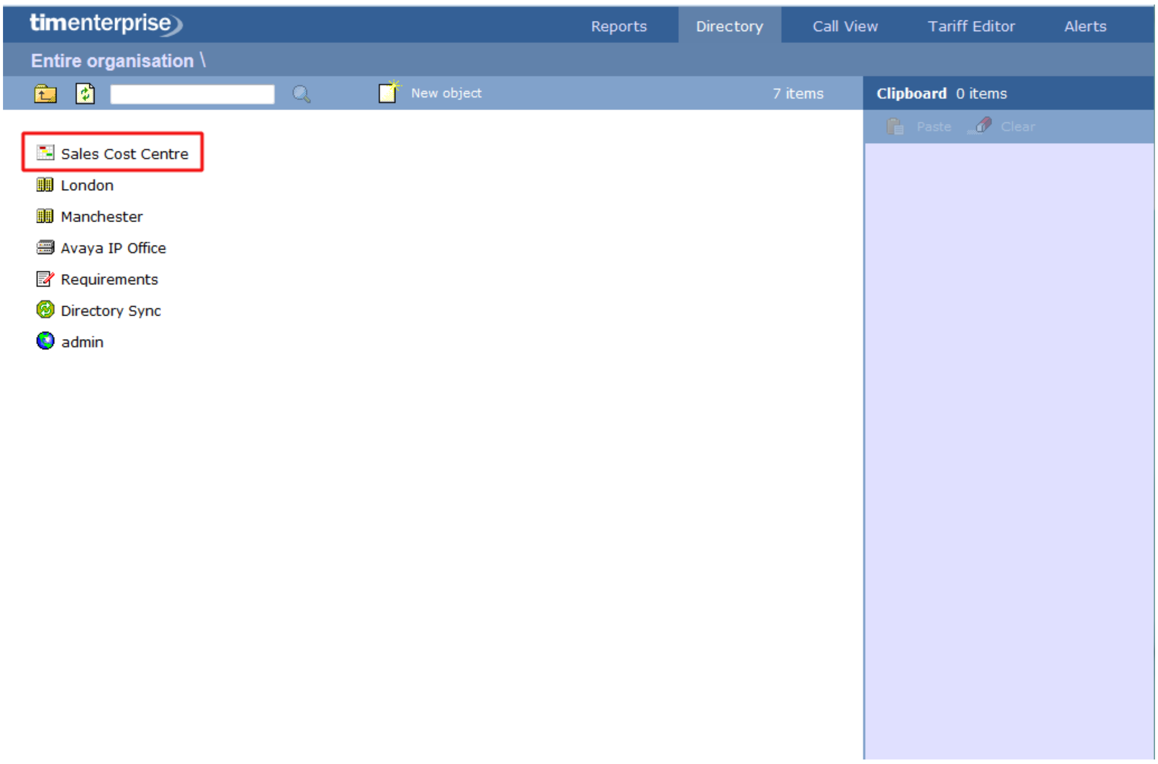
Cost Centre

- What is a cost centre?
- Adding a cost centre
- Configuring a cost centre

What is a cost centre?

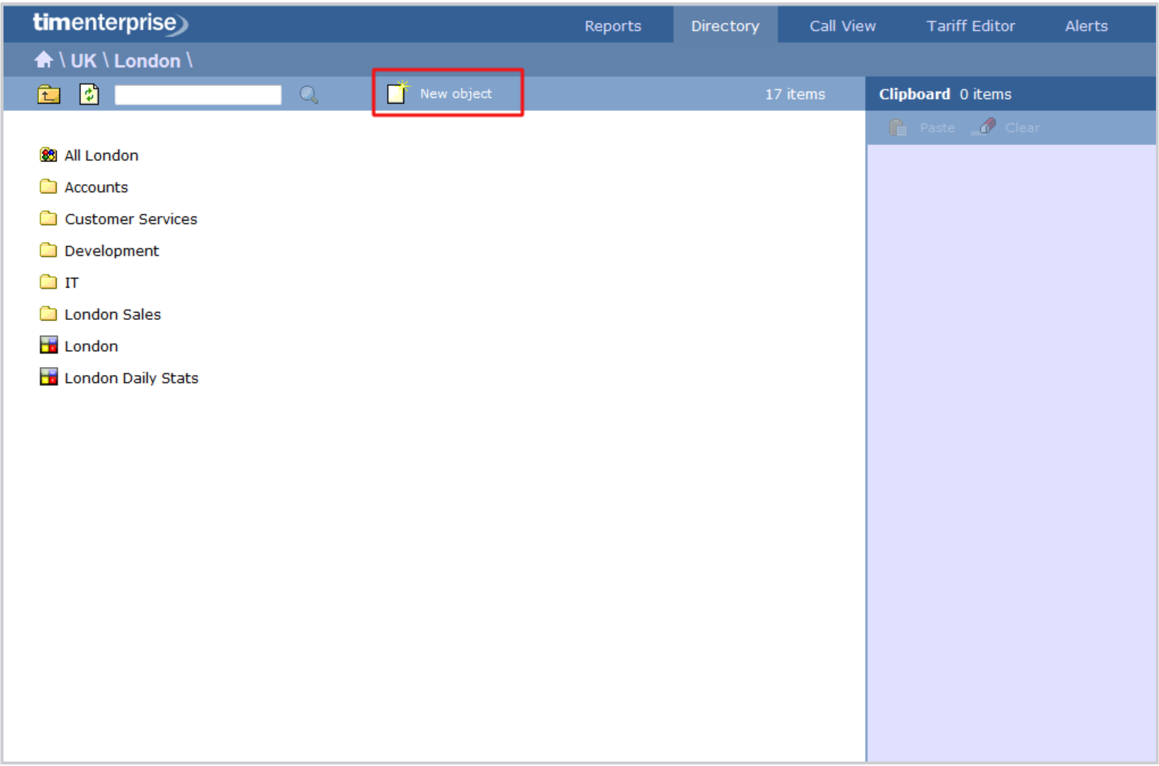
The `Cost Centre` object is normally used to represent parts of your organisation to which specific rates apply. The cost centre can contain other organisation units, such as sites or groups, or it can be part of a larger group or division.

Divisions, Cost Centres, Group and Sites are very similar and can be used interchangeably to better reflect the internal structure of your company.

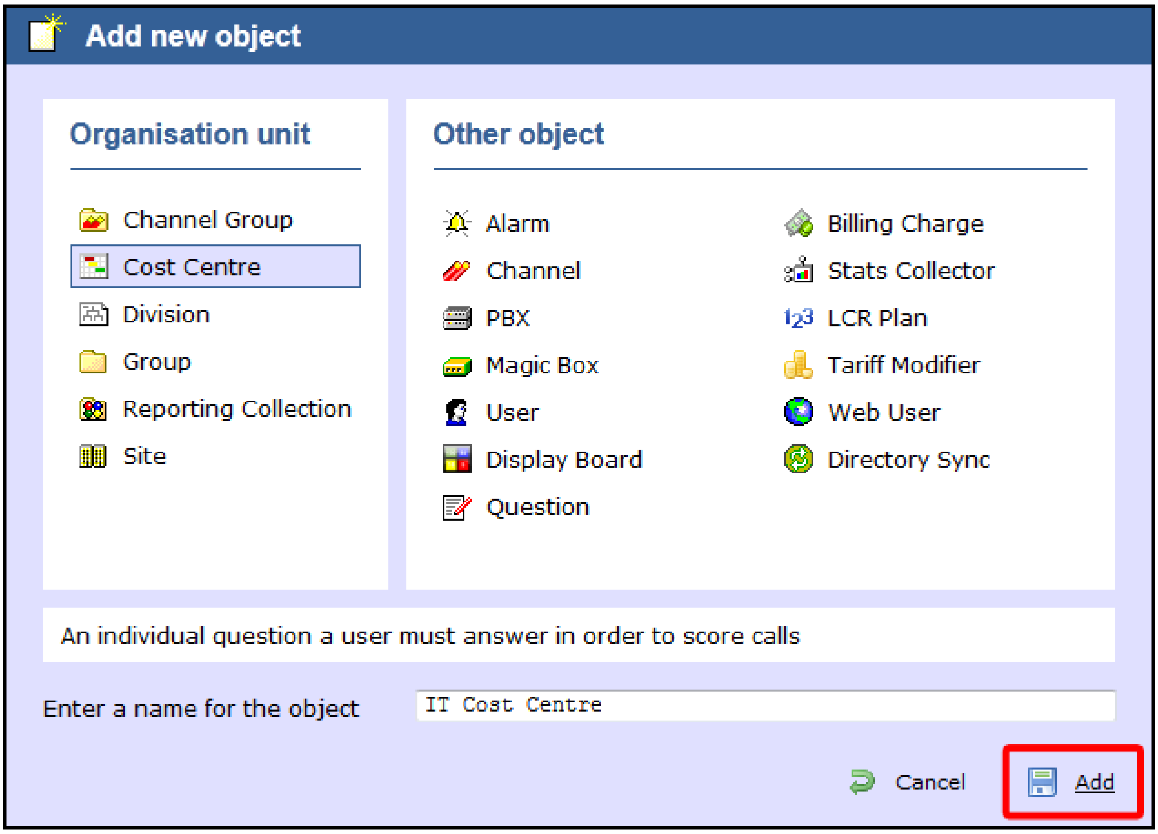


Adding a cost centre

To add a cost centre to the system, drill-down to the Directory level where you want to add the group and click on the `New object` tab, as shown below:



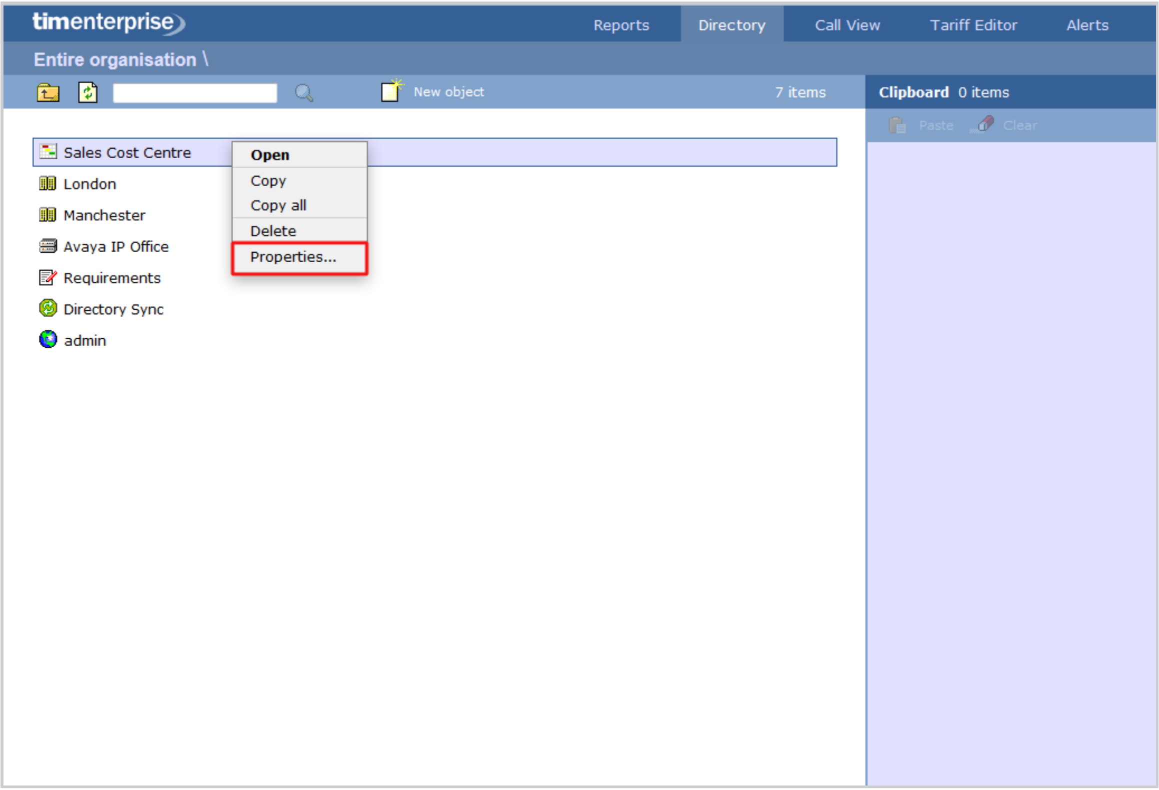
In the new window that opens, select the `Cost Centre` object from the `Organisation unit` list, enter a relevant name and click on the Add button, as shown below:



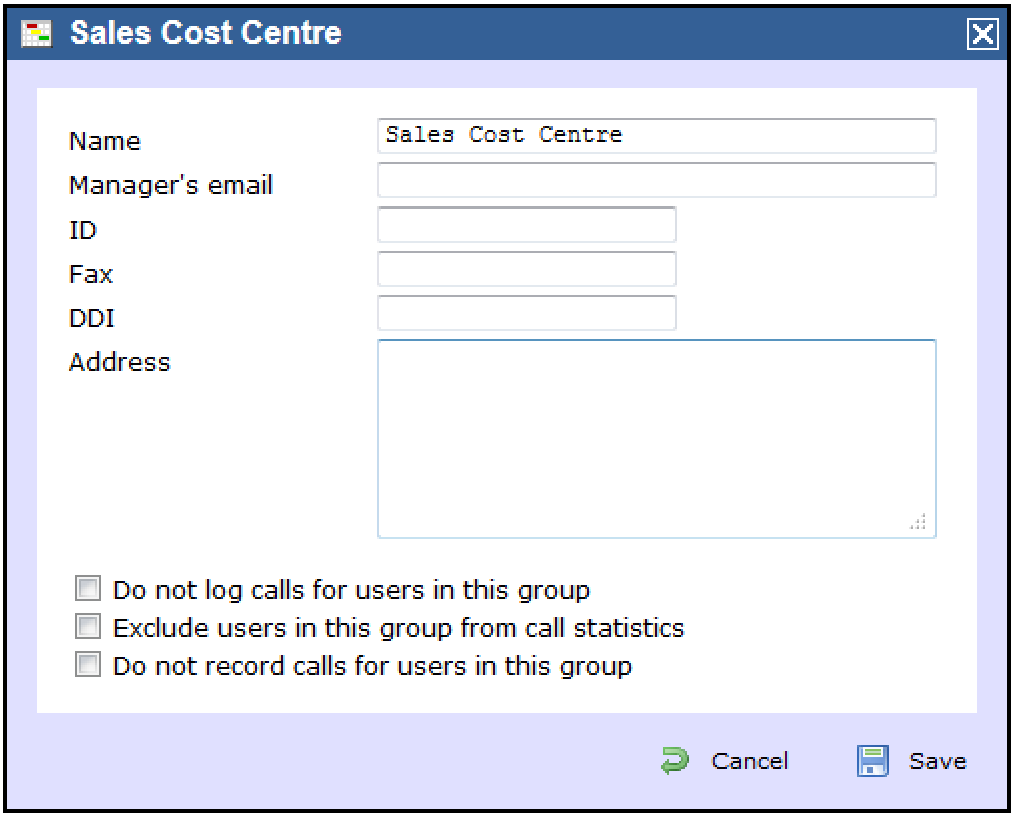
There is no limit to the number of cost centres you can add to the Directory.

Configuring a cost centre

To configure a cost centre, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, where you can configure the general properties of the cost centre group, such as name, email address, ID etc, as shown below:



Additional options are available, allowing you to exclude users within this group from call statistics or from being logged or recorded.

Option	Description
Do not log	Calls for this group will not be logged by TIM Enterprise. In addition, if integrated call recording is in use, no audio recordings will be available.

Exclude users in this group from call statistics	Collection of statistics will not be performed for this group.
Do not record calls	Calls for this group will not be recorded, if integrated call recording is in use.

Division

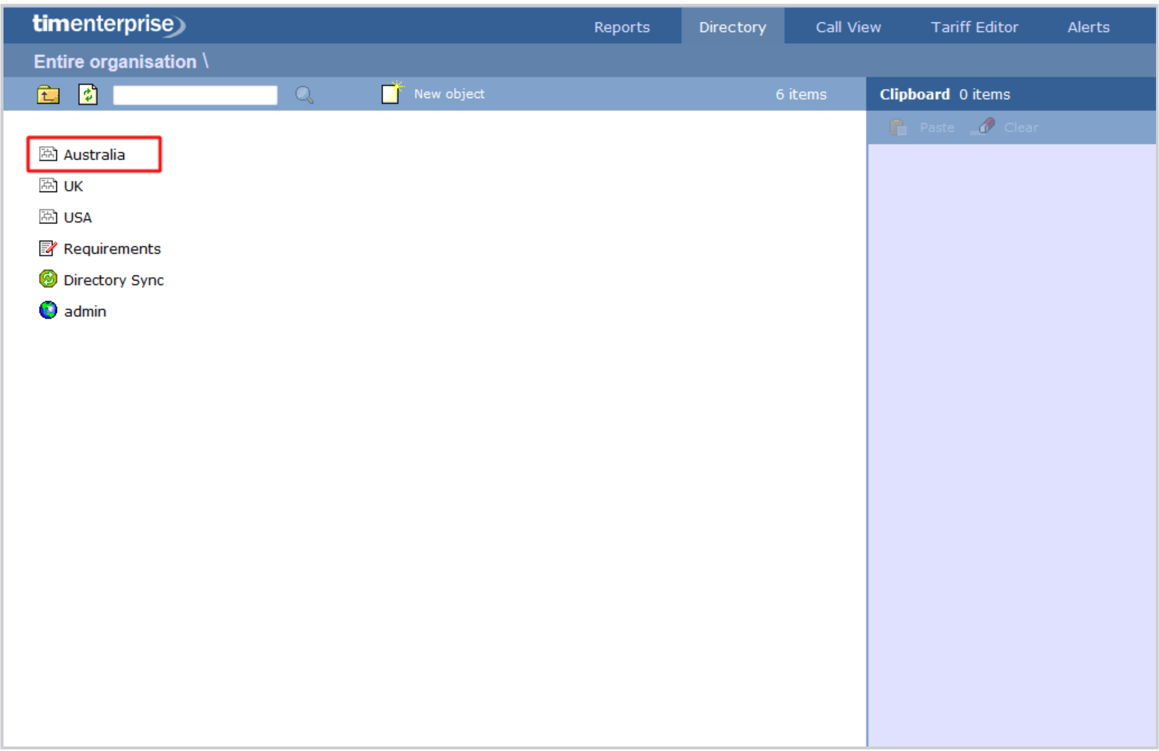
Division

- What is a division?
- Adding a division
- Configuring a division

What is a division?

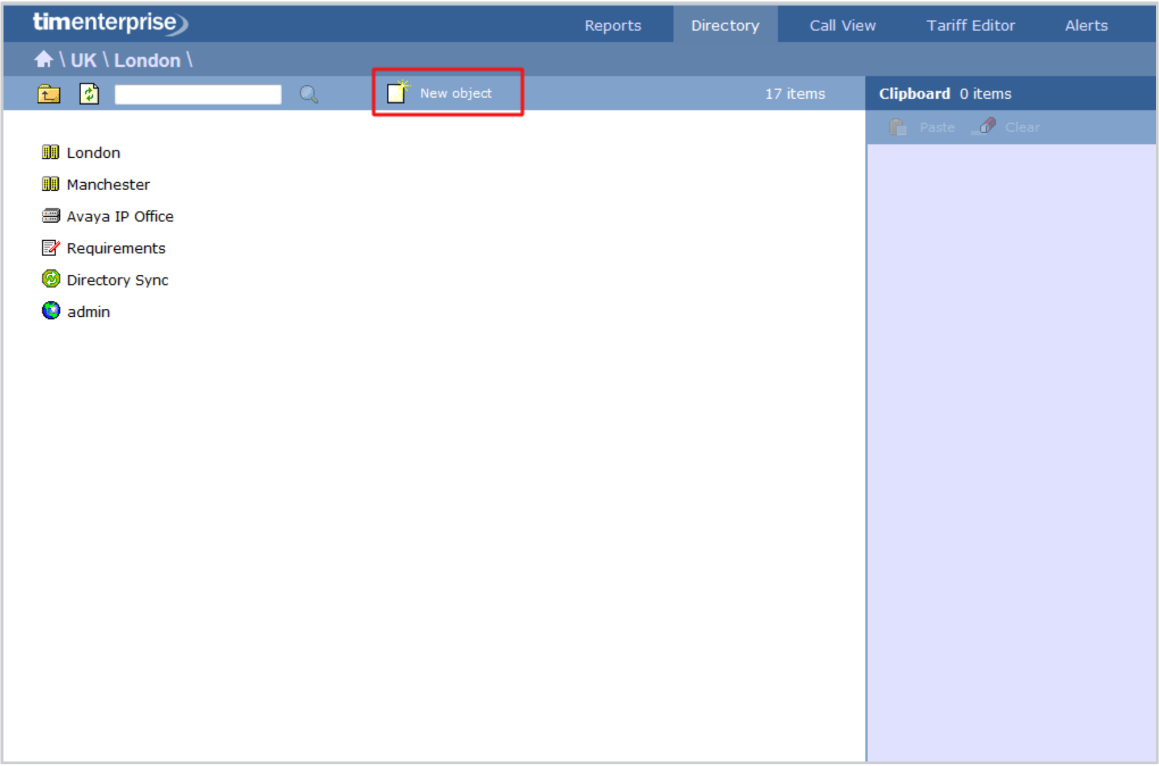
A **`Division`** object is normally used to represent parts of your organisation that encompass a series of smaller units, such as sites, cost centres or groups.

Divisions, Cost Centres, Group and Sites are very similar and can be used interchangeably to better reflect the internal structure of your company.

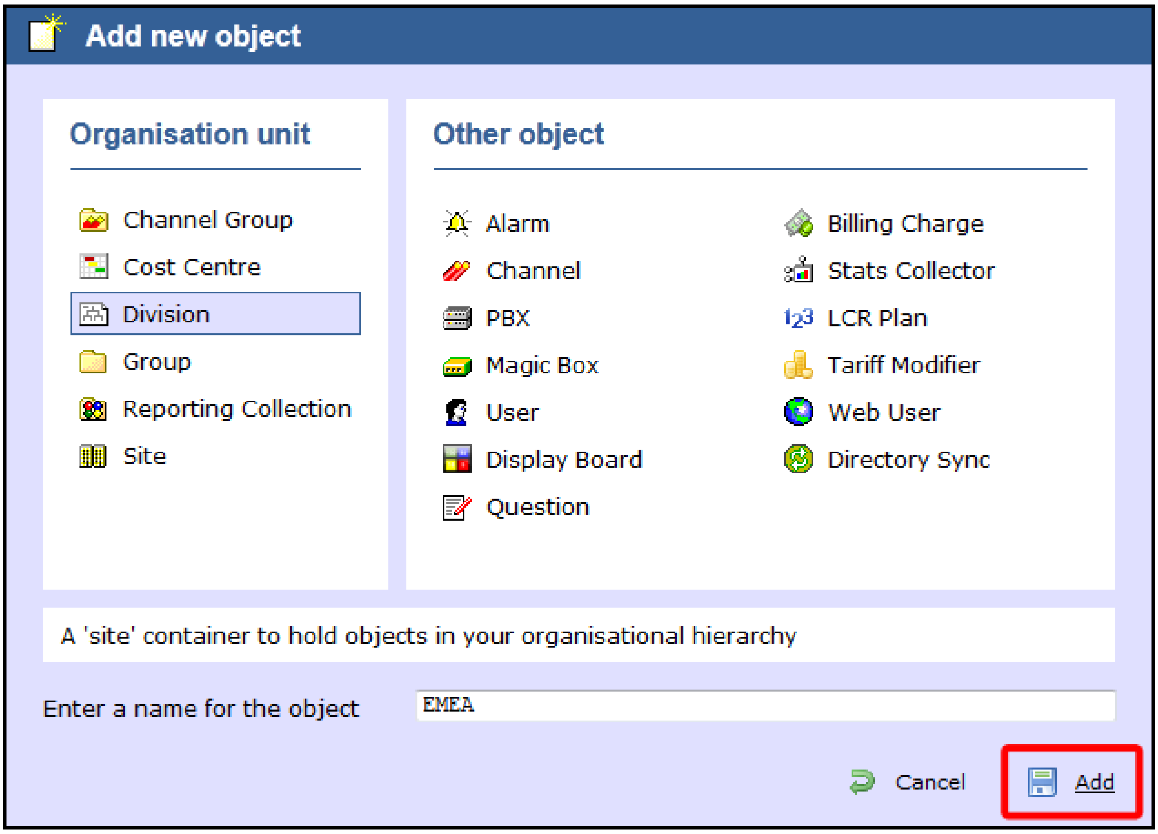


Adding a division

Drill-down to the Directory level where you want to add the division and click on the **`New object`** tab, as shown below:



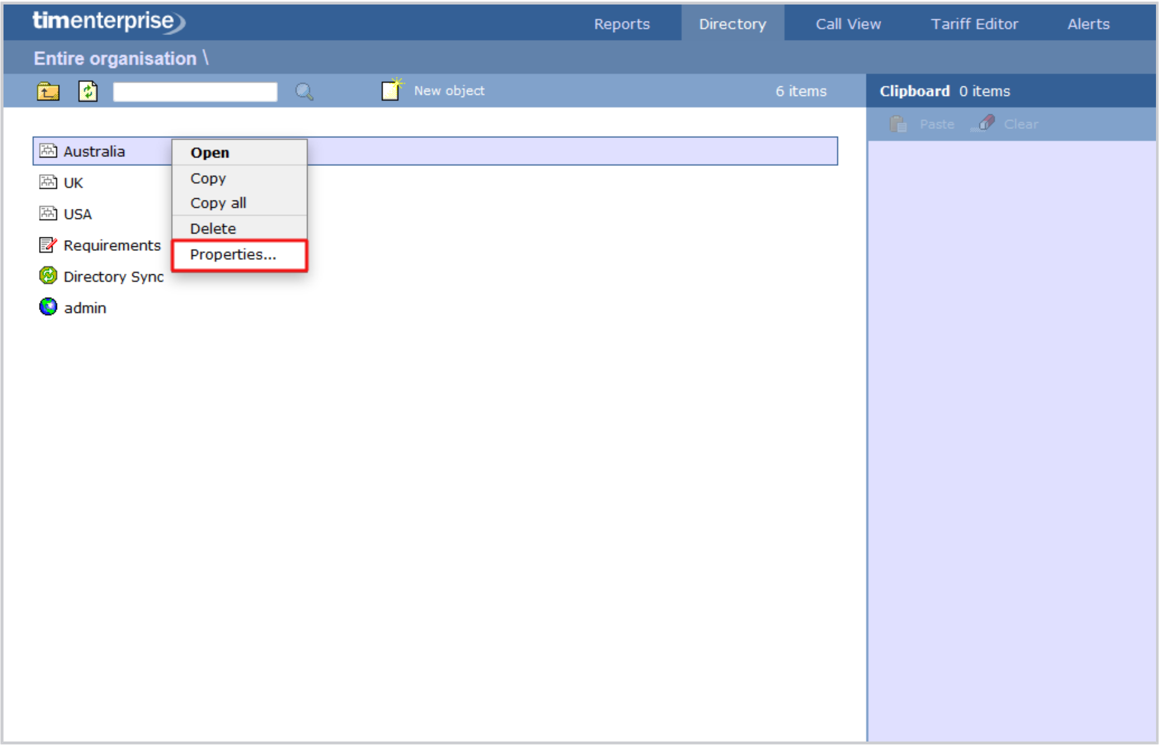
In the new window that opens, select the **Division** object from the **Organisation unit** list, enter a relevant name and click on the Add button, as shown below:



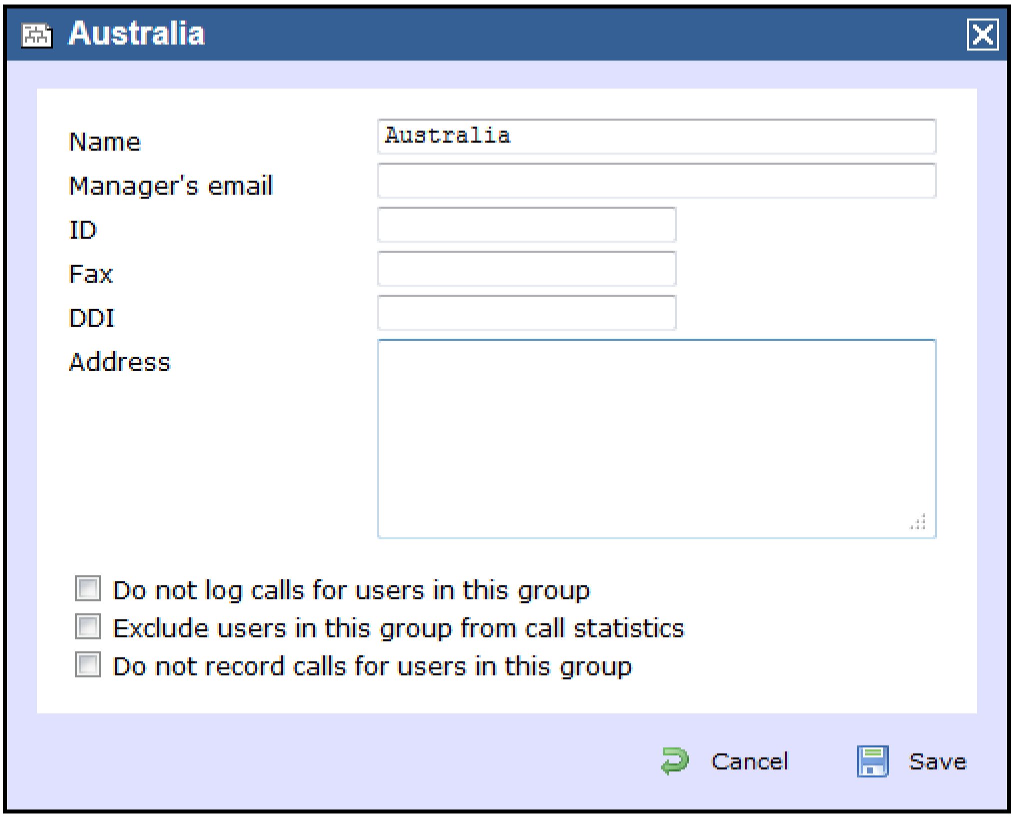
There is no limit to the number of division objects you can add to the Directory.

Configuring a division

To configure a division, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, where you can configure the general properties of the group, such as name, email address, ID etc, as shown below:



Additional options are available, allowing you to exclude users within this group from call statistics or from being logged or recorded.

Option	Description
Do not log	Calls for this group will not be logged by TIM Enterprise. In addition, if integrated call recording is in use, no audio recordings will be available.
Exclude users in this group from call statistics	Collection of statistics will not be performed for this group.
Do not record calls	Calls for this group will not be recorded, if integrated call recording is in use.

Group

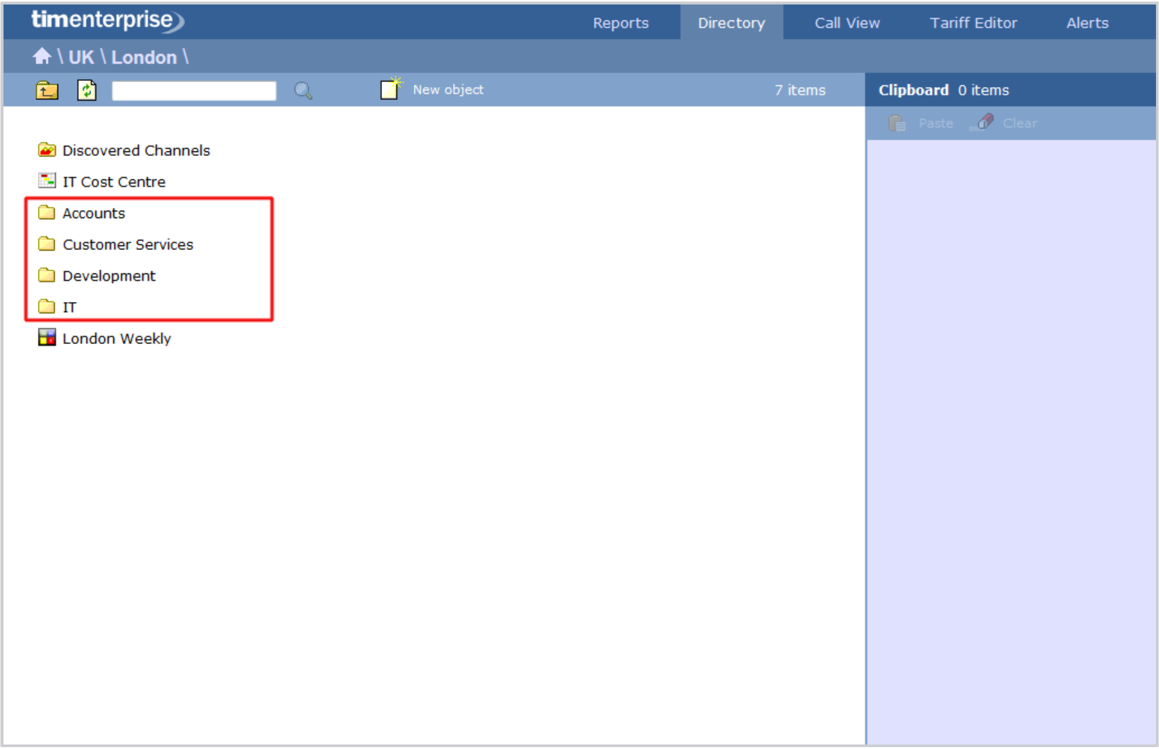
Group

- What is a group?
- Adding a group
- Configuring a group

What is a group?

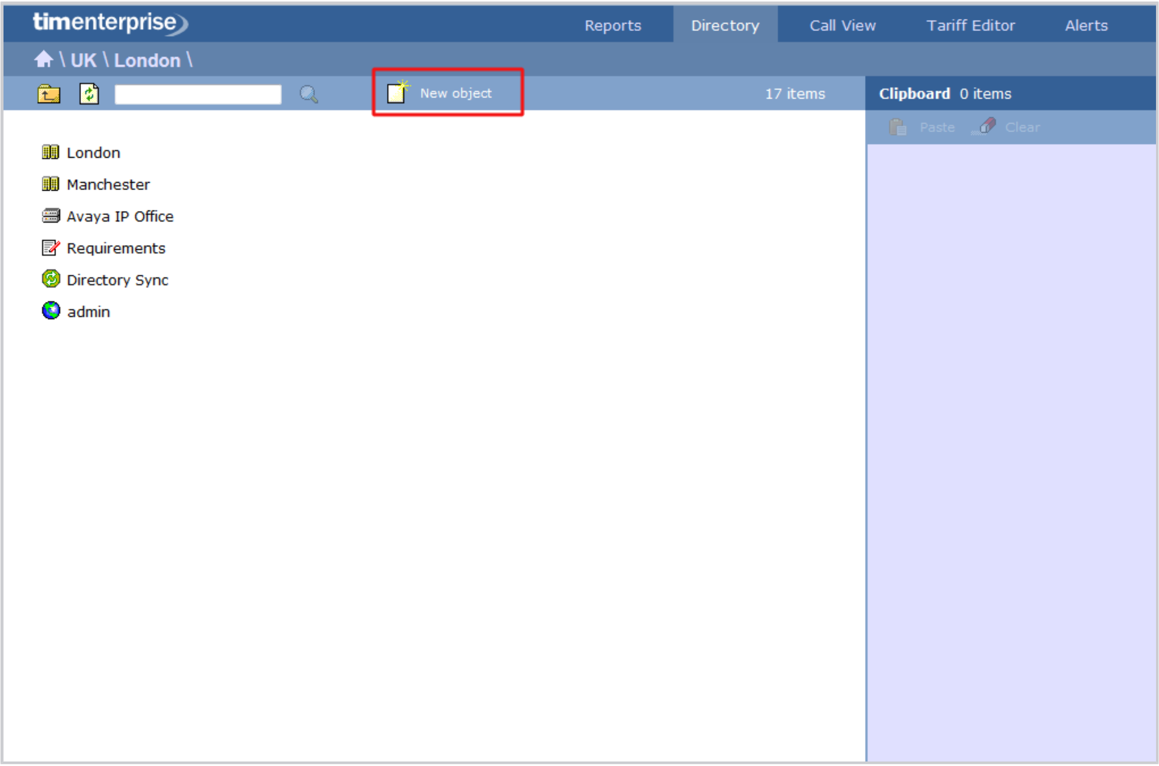
A **Group** object is normally used to represent parts of your organisation characterised by the activity they perform, e.g. designated departments (IT, Sales, Accounts).

Divisions, Cost Centres, Group and Sites are very similar and can be used interchangeably to better reflect the internal structure of your company.

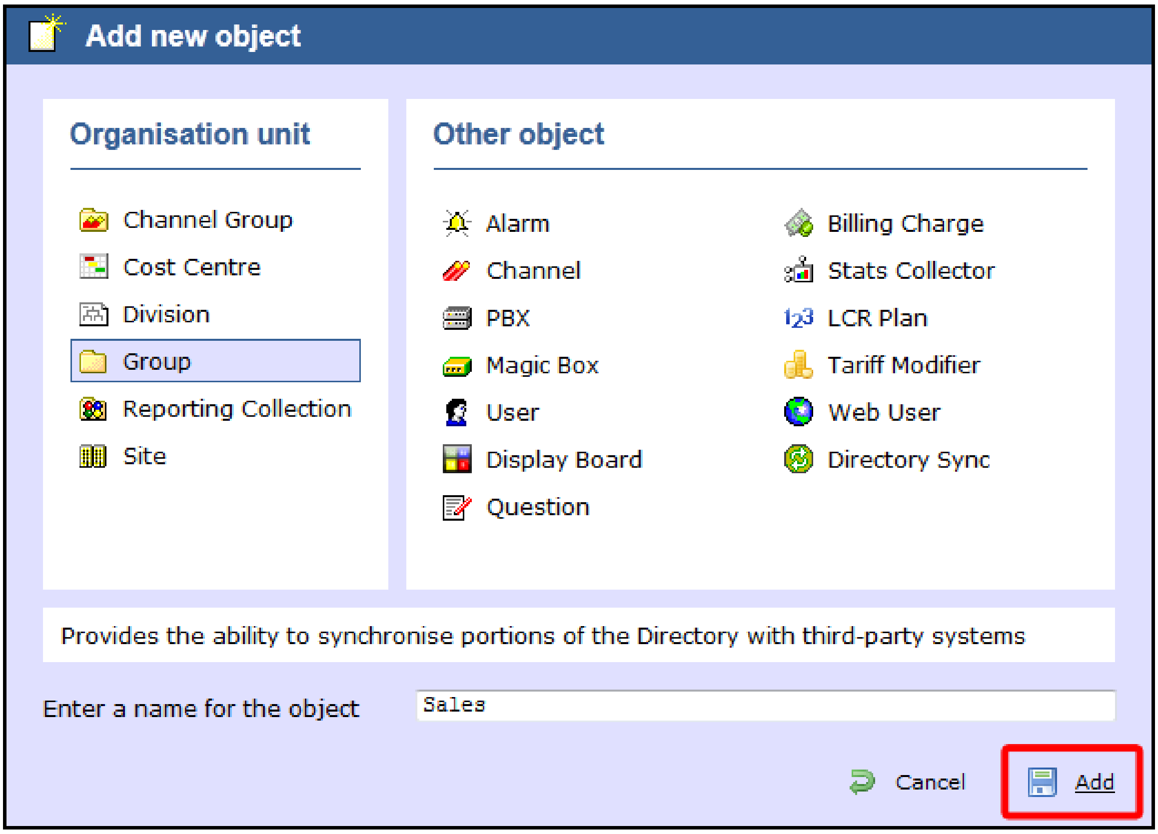


Adding a group

Drill-down to the Directory level where you want to add the group and click on the `New object` tab, as shown below:



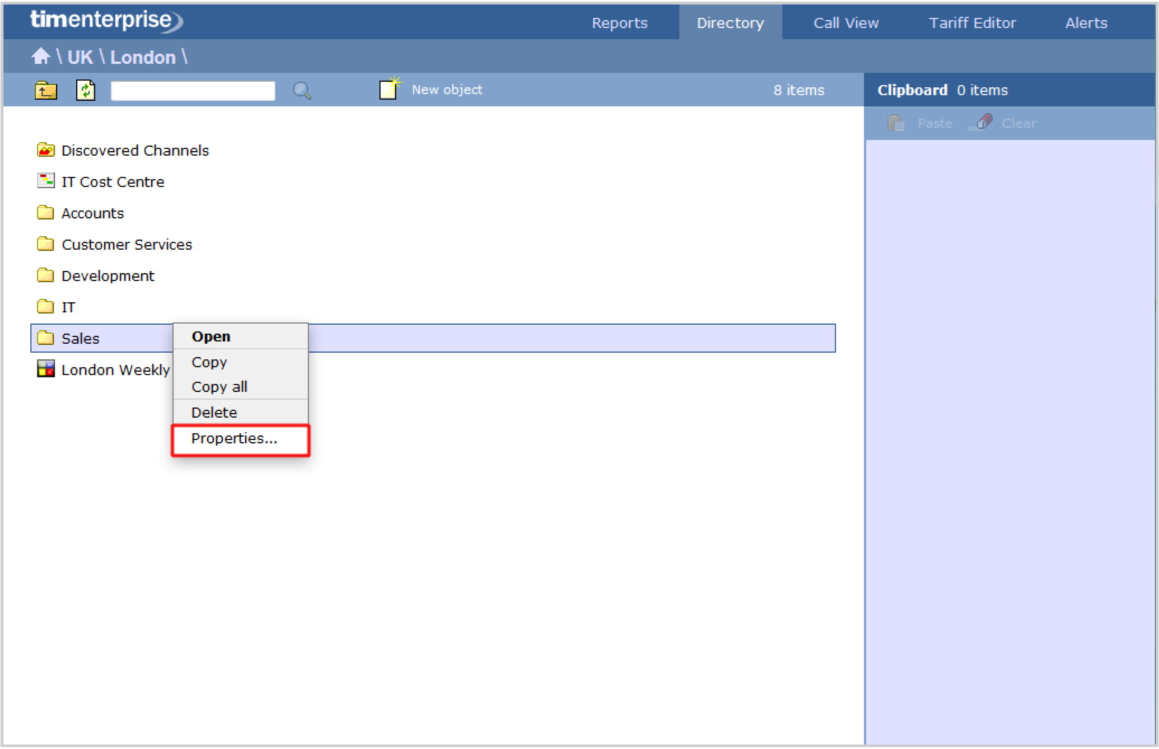
In the new window that opens, select the **Group** object from the **Organisation unit** list, enter a relevant name and click on the Add button, as shown below:



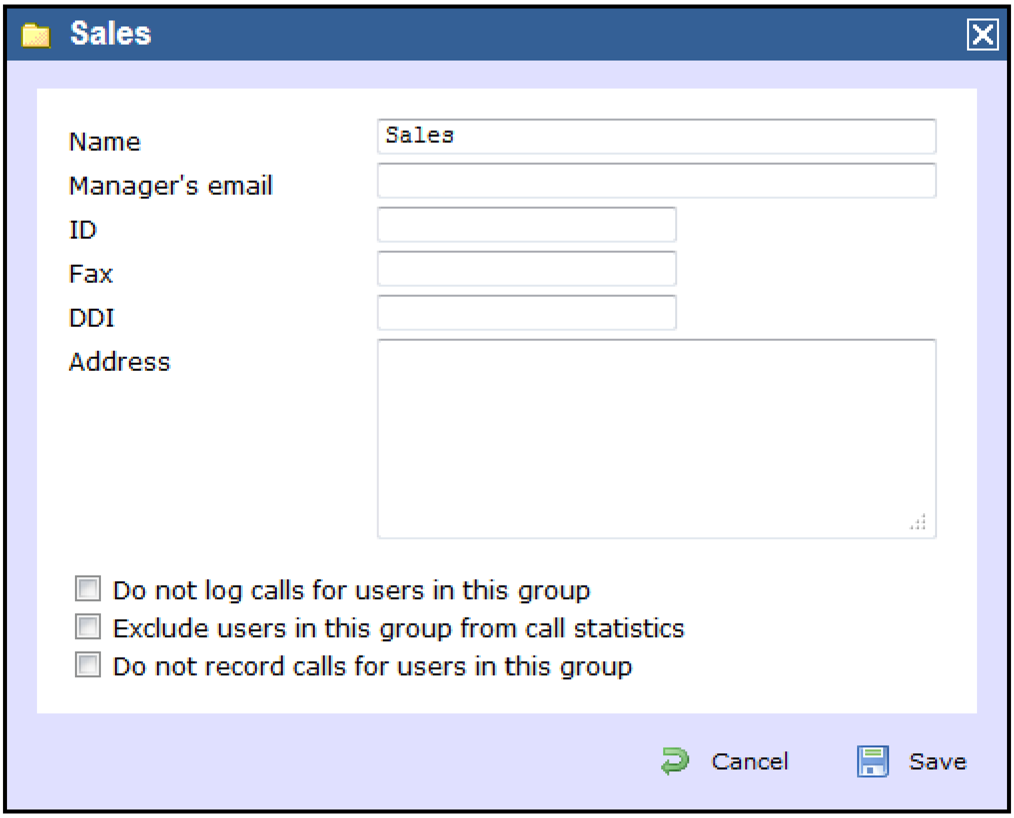
There is no limit to the number of groups you can add to the Directory.

Configuring a group

To configure a group, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, where you can configure the general properties of the group, such as name, email address, ID etc, as shown below:



Additional options are available, allowing you to exclude users within this group from call statistics or from being logged or recorded.

Option	Description
Do not log	Calls for this group will not be logged by TIM Enterprise. In addition, if integrated call recording is in use, no audio recordings will be available.
Exclude users in this group from call statistics	Collection of statistics will not be performed for this group.
Do not record calls	Calls for this group will not be recorded, if integrated call recording is in use.

Reporting Collection

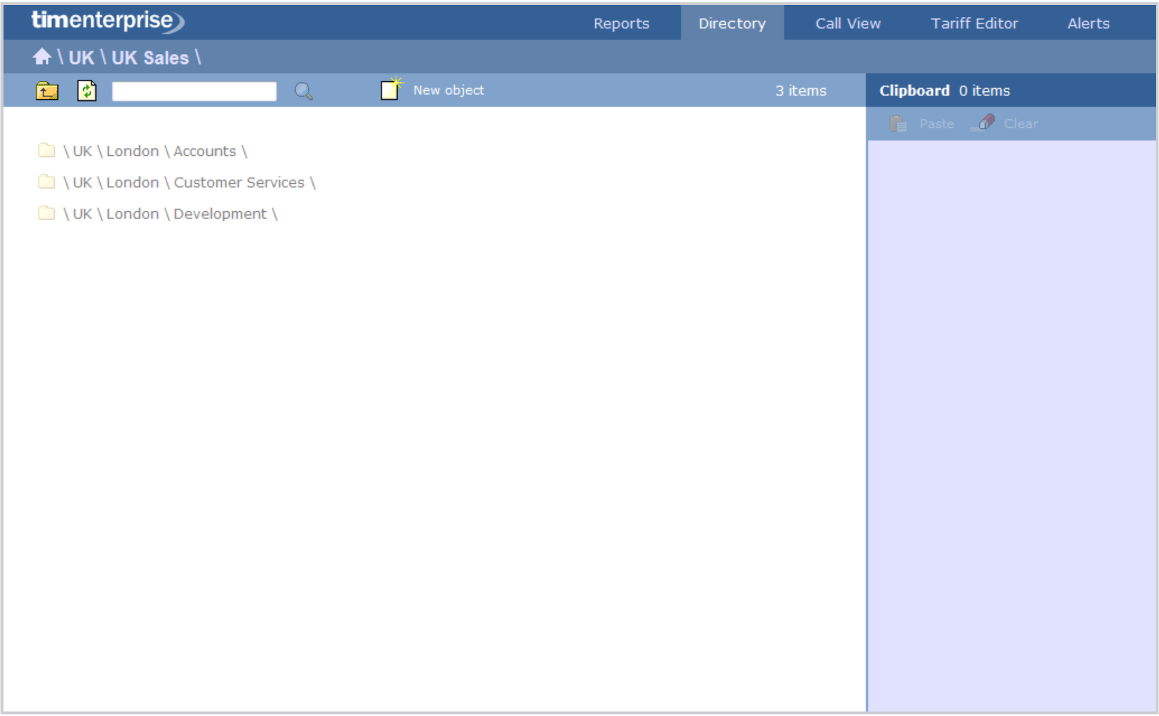
Reporting Collection

- What is a Reporting Collection?
- Adding a Reporting Collection
- Adding objects to a Reporting Collection

What is a Reporting Collection

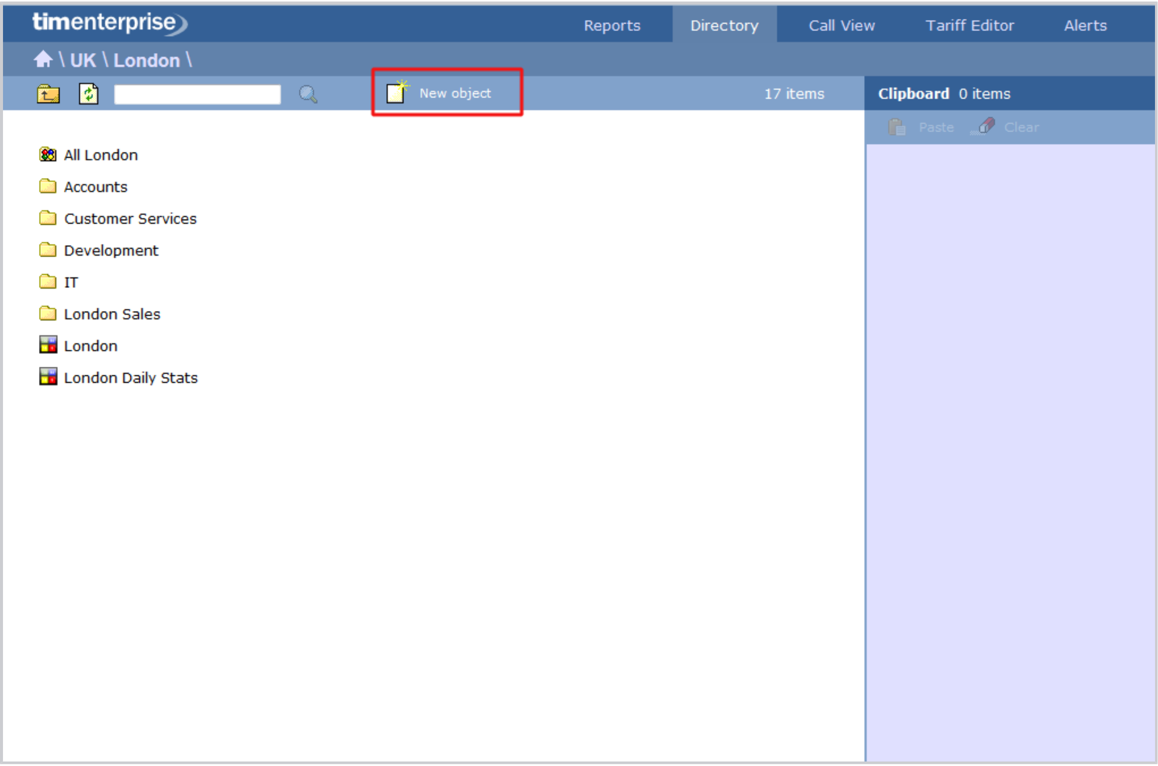
The `Reporting Collection` object is a special type of group that acts as a virtual container, collating disparate users from across the entire organisation. This allow you to group any number of directory units together, for reporting purposes, with no constrains on the directory structure. For example, you can compare statistics for all Sales teams from across the country, by running a single report on the virtual group.

When adding objects to a Reporting Collection, only a copy of the actual entity is being moved into the virtual group. To represent this, the objects in a Reporting Collection group will always show as greyed out.

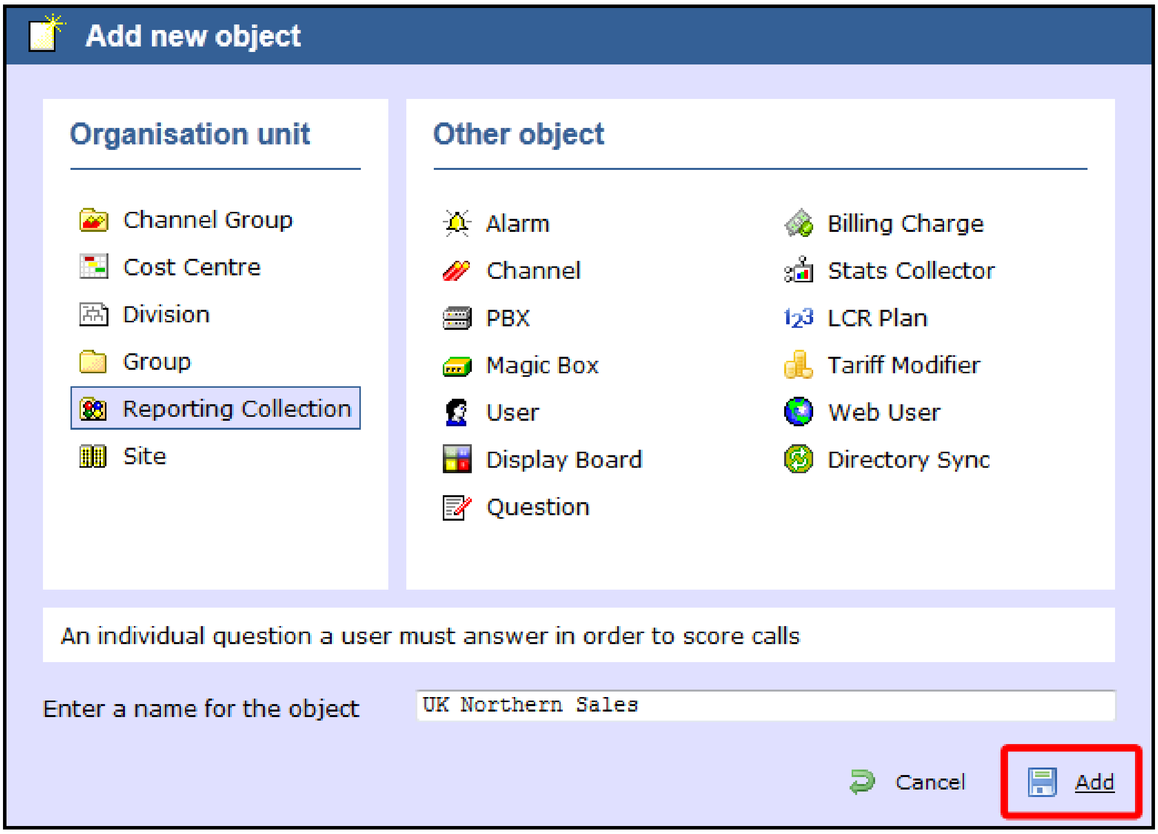


Adding a Reporting Collection

To add a Reporting Collection to the system, drill-down to the Directory level where you want to add the group and click on the `New object` tab, as shown below:



In the new window that opens, select the `Reporting Collection` object from the `Organisation unit` list, enter a relevant name and click on the Add button, as shown below:

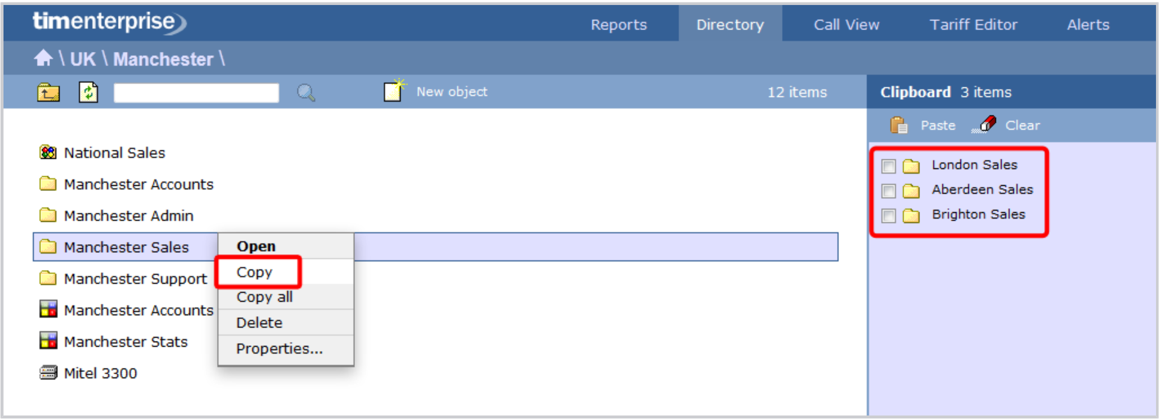


There is no limit to the amount of Reporting Collections you can add to the Directory.

Adding objects to a Reporting Collection

Follow the steps below to add an object to a Reporting Collection, e.g. sites, groups, users:

1. Locate in the Directory the object you want to add to the Reporting Collection, click on it and select `Copy` from the drop-down list, as shown below:



2. The object will be copied on the `Clipboard` panel, on the right-hand side of the screen. To add more directory objects to the Reporting Collection, follow the same procedure.
3. To move the objects, open your Reporting Collection group, tick the box alongside the objects you want to move and click on the Paste button at the top-left corner of the `Clipboard` screen, as shown below:

4. A copy of selected objects will now be added to the Reporting Collection group.

These groups are designed for reporting purposes only, therefore the calls will not be duplicated.

Site

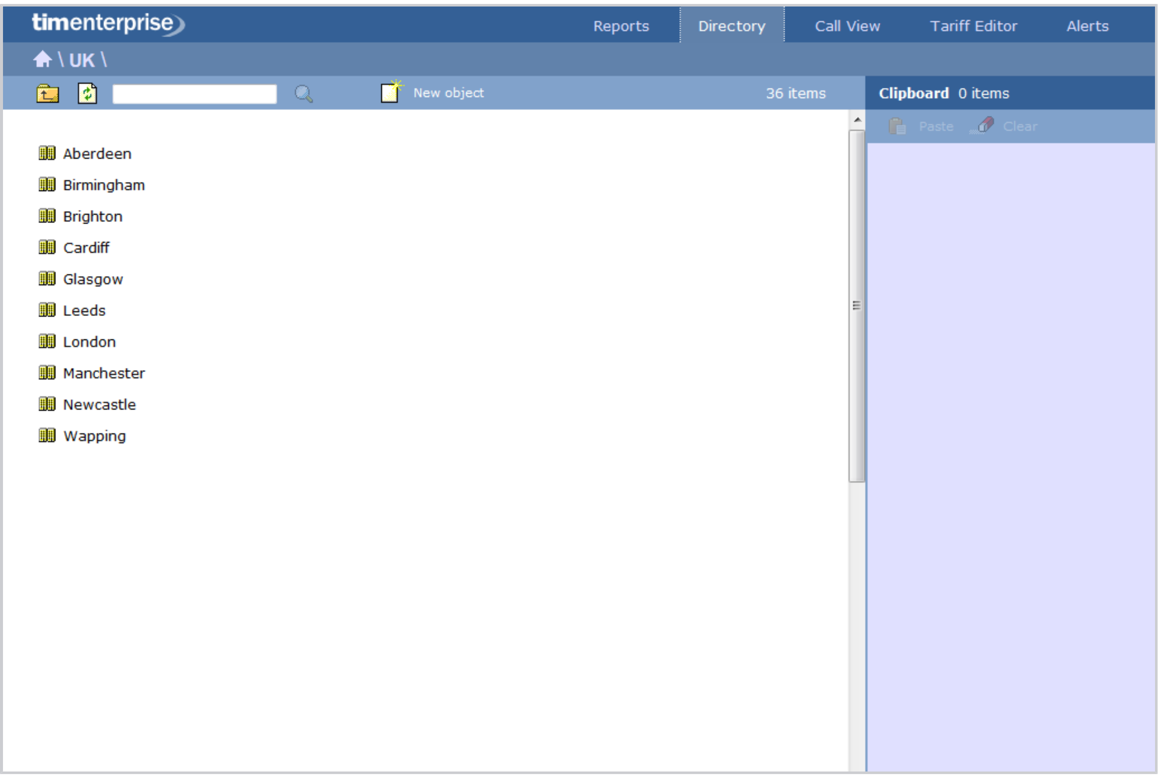
Site

- What is a site?
- Adding a site
- Configuring a site

What is a site?

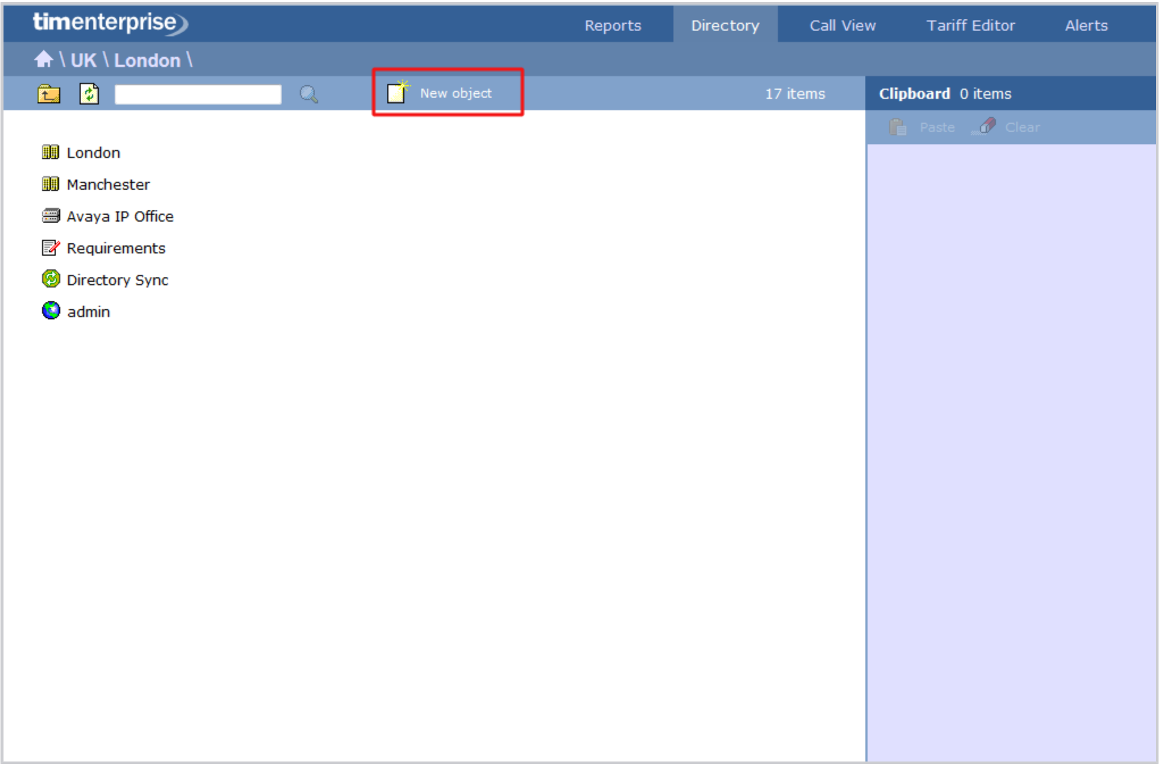
A `Site` object is normally used to represent a designated office branch within your organisation.

Divisions, Cost Centres, Group and Sites are very similar and can be used interchangeably to better reflect the internal structure of your company.

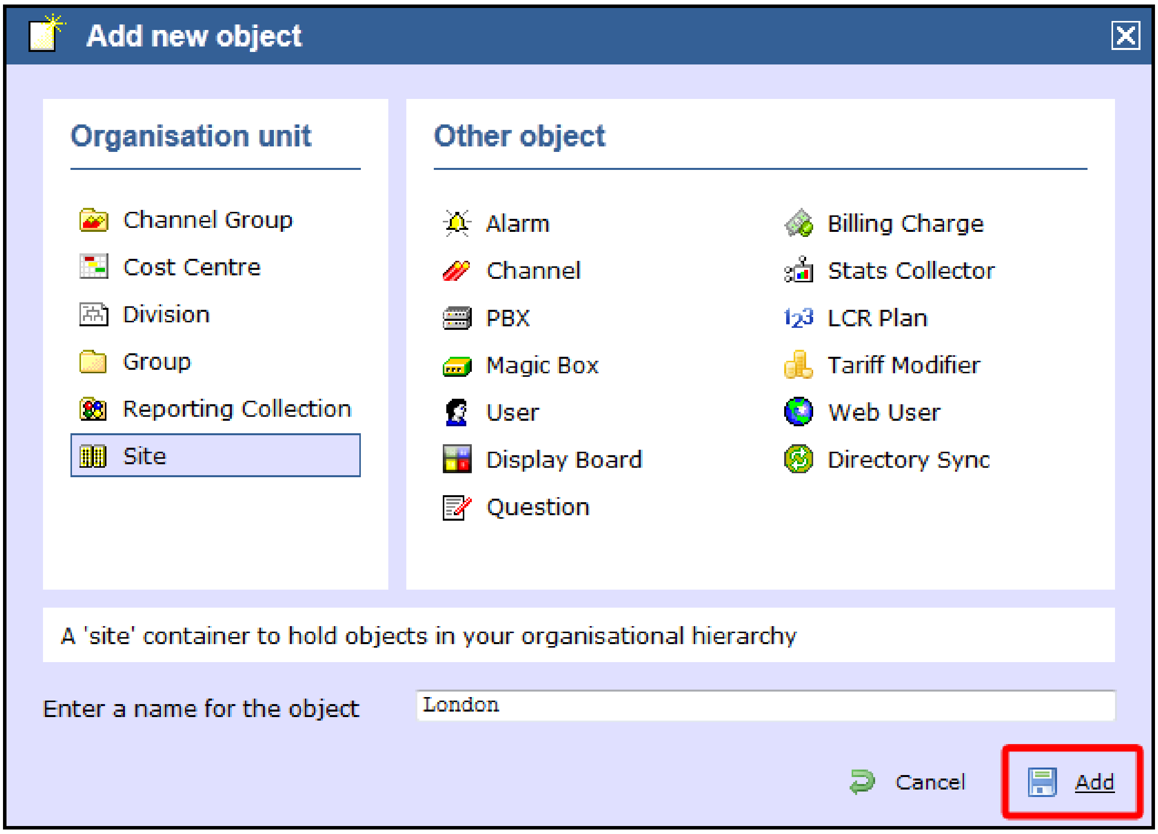


Adding a site

To add a site to the system, drill-down to the Directory level where you want to add the site and click on the **New object** tab, as shown below:



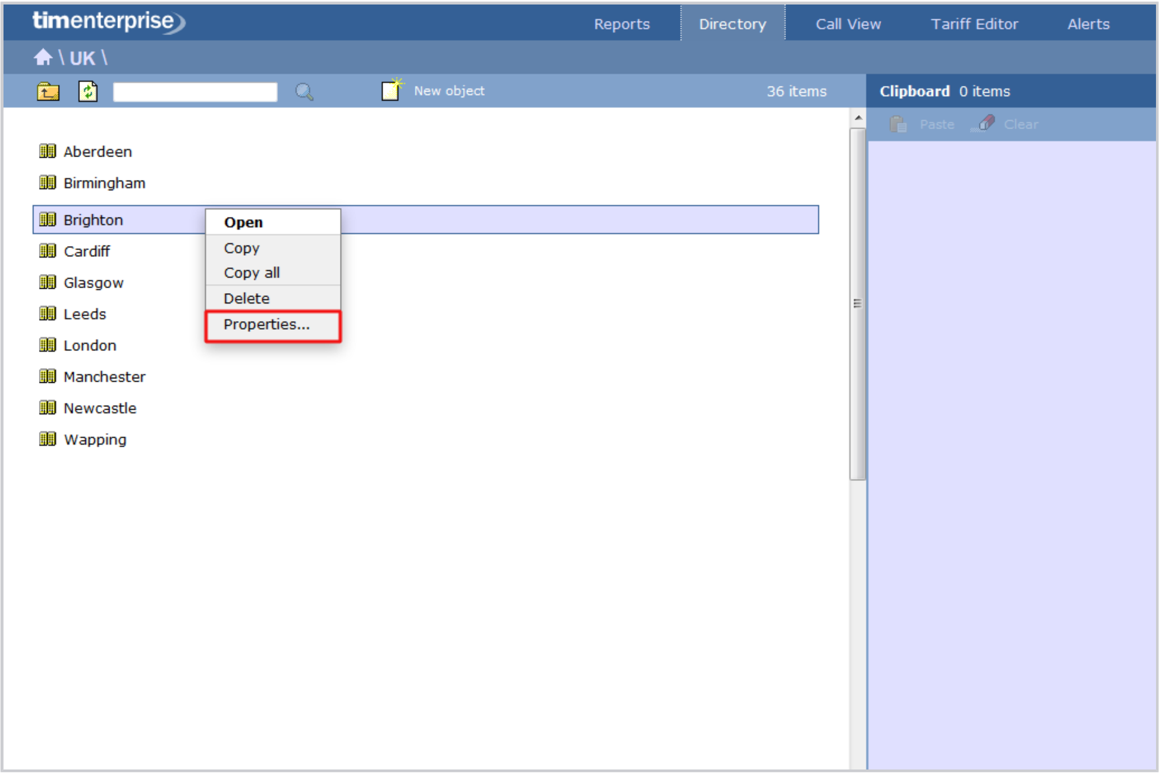
In the new window that opens, select the **Site** object from the **Organisation unit** list, enter a relevant name and click on the Add button, as shown below:



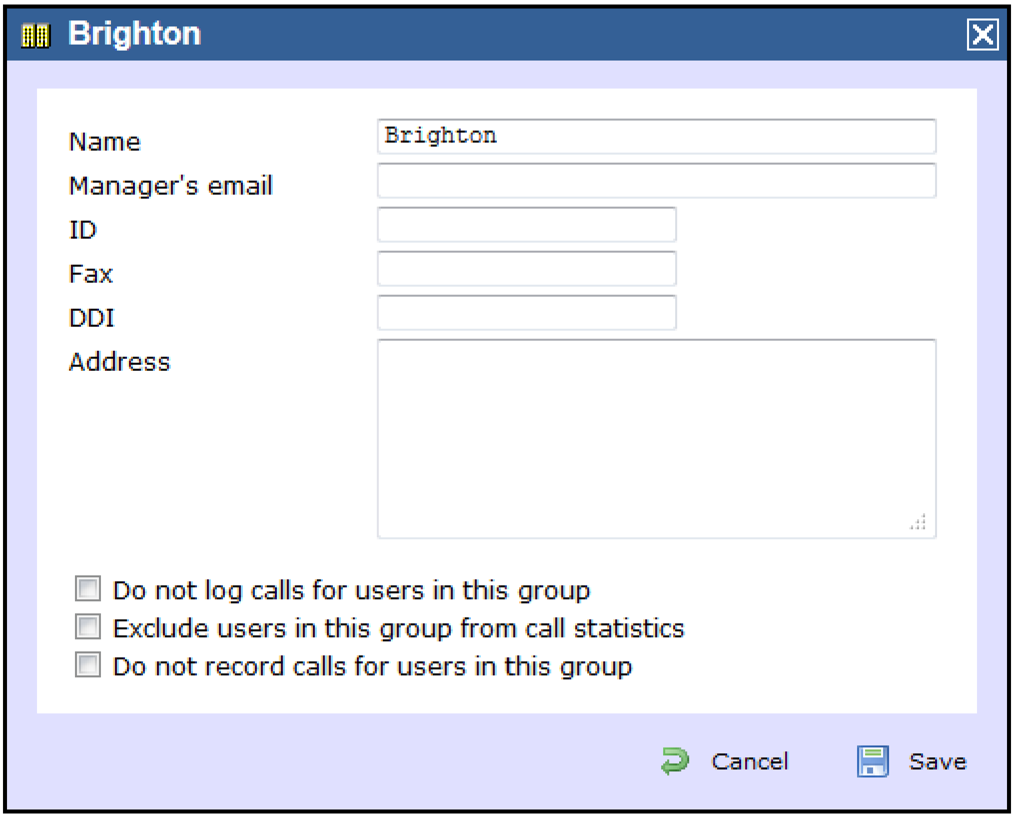
There is no limit to the number of sites you can add to the Directory.

Configuring a site

To configure a site, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, where you can configure the general properties of the site, such as name, email address, ID etc, as shown below:



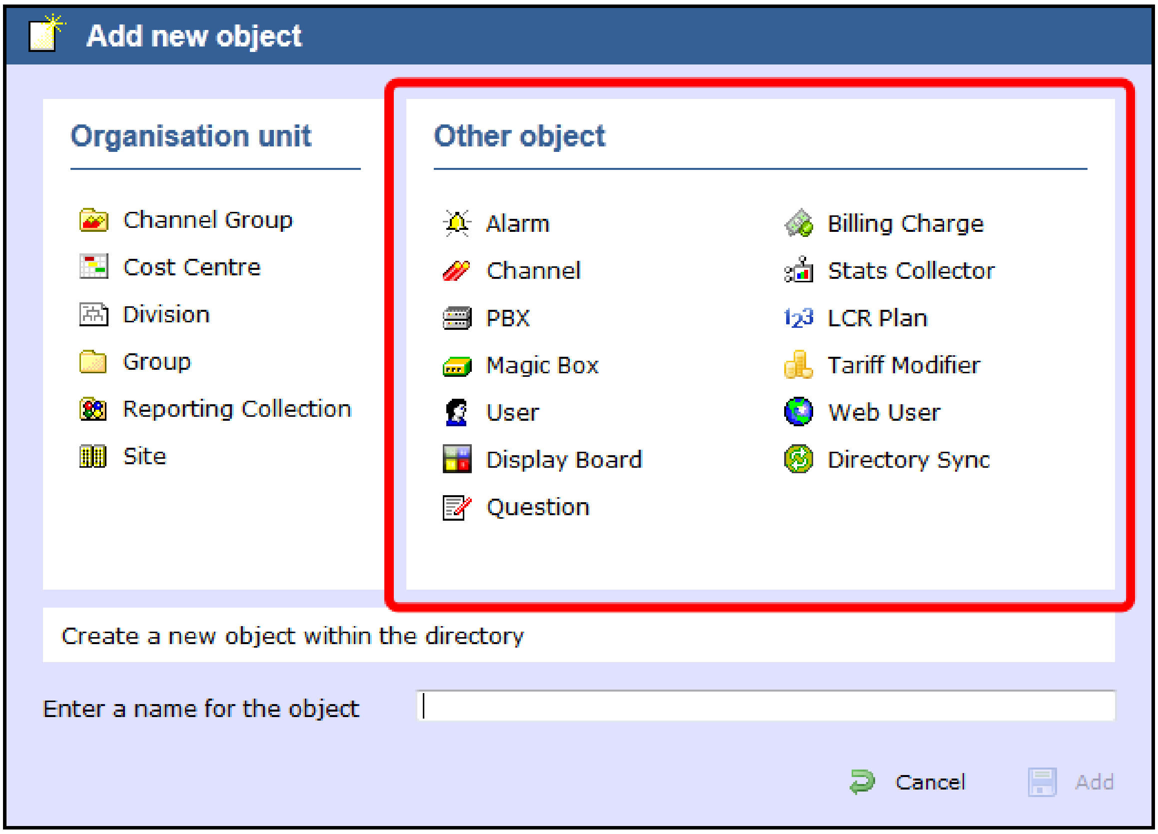
Additional options are available, allowing you to exclude users within this site from call statistics or from being logged or recorded.

Option	Description
Do not log	Calls for this site will not be logged by TIM Enterprise. In addition, if integrated call recording is in use, no audio recordings will be available.
Exclude users in this group from call statistics	Collection of statistics will not be performed for this site.
Do not record calls	Calls for this site will not be recorded, if integrated call recording is in use.

Other objects

What are Other Objects?

The `Other objects` section consists of a list of different objects, each representing an additional feature you can add to the call logger, such as call recording integration, directory sync, display boards etc.



The objects available are presented in the table below:

Object	Description
Alarm	An `Alarm` object can be set up at any level of the Directory in order to trigger an alert when calls whose properties match certain criteria have happened, such as calls above a particular duration, calls to specific phone numbers, or when user-defined cost thresholds are exceeded. The criteria that must be met to trigger an alarm is user-defined, and email alerts can be sent to one or more recipients.
Channel	Channels are system objects representing your telephone lines. When you first configure the system, your channels are automatically harvested from the data received from the phone system. The properties of each channel can be edited afterwards, and channels can also be organised subsequently into new groups, if preferred.
PBX	The function of a **PBX** object is to acquire call logging data from a telephone system. TIM Enterprise can be configured to take call records from a single PBX covering multiple sites or you can connect to a number of PBXs.
Magic Box	The `Magic Box` object allows you to integrate a call recording device to TIM Enterprise. By adding one or more of our supported voice recording options, it is possible to store the audio recording of every telephone call that TIM Enterprise processes.
User	`Users` represent the people in your organisation who make use of devices such as telephone extensions, fax machines, etc. When you first configure the system, your users are automatically harvested from the data received from the phone system. The properties of each user can be edited afterwards, and users can also be subsequently organised into new user groups, if preferred.
Display Boards	A display board is a user-definable screen that can comprise any live, up-to-the-minute information, such as call statistics, leaderboards or RSS feeds. It can also pull content from third-party systems, such as sales management, accounting or CRM software.

Question	A `Question` object can be added to the Directory to allow users to score calls. By defining a list of questions, you can apply this to each call that you score, in order to rate calls for evaluation purposes.
Billing Charge	Billing charges allow to add additional charges or markups to calls, users or bills. Billing charges can be applied as a percentage or fixed charge. When several charges are added to a bill, the charges can be prioritised according to their importance.
Stats Collector	A stats collector is a mathematical "counter" that can be placed on any subject and whose scope of data collection is determined by its placement in your directory hierarchy. As calls are made and received, the properties of each one are collated for future consumption by display boards.
LCR Plan	`LCR Plans` can be placed anywhere in the Directory in order to apply your call routing plans for costing purposes.
Tariff Modifier	`Tariff Modifiers` can be placed anywhere in the Directory in order to apply different rates to the designated object.
Web User	When accessing TIM Enterprise you are required to enter a username and password in the web browser, which form a login credential known as `Web user`. Web user can be allowed access to the entire system or restricted to any specific area of your Directory.
Directory Sync	The `Directory sync` object in TIM Enterprise allows you to sync any partition of TIM Enterprise with a third-party directory, such as Active Directory or Cisco AXL.

Alarm

Alarm

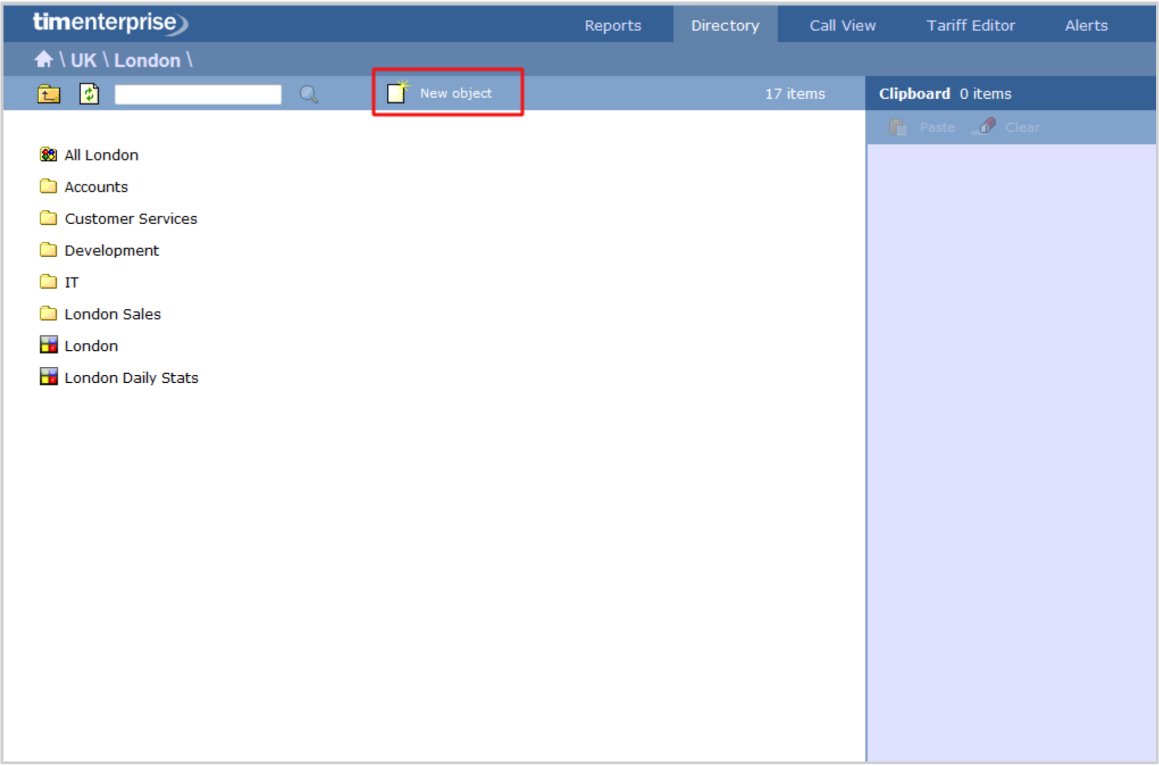
- What is an alarm?
- Adding an alarm
- Configuring an alarm
- Call alarms
- Stats alarms

What is an alarm?

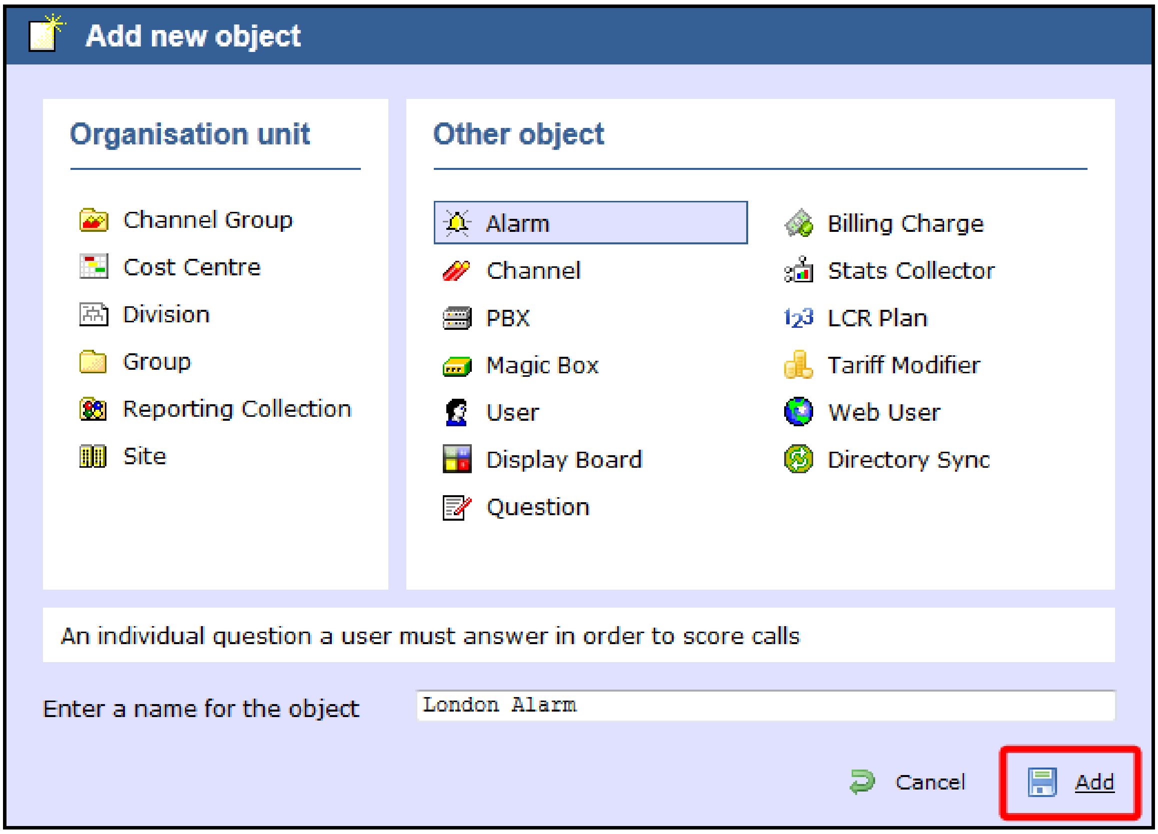
An alarm object can be set up at any point in the Directory in order to trigger an alert when calls whose properties match certain criteria have happened, such as calls above a particular duration, calls to specific phone numbers, or when user-defined cost thresholds are exceeded. The alarm criteria is user-defined and email alerts can be sent to one or more recipients.

Adding an alarm

To add an alarm object to the system, drill-down to the Directory level where you want to place the alarm and click on the `New object` tab, as shown below:

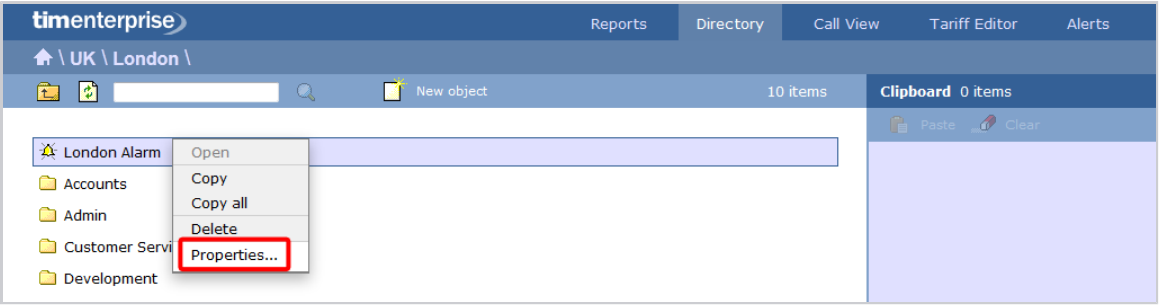


In the new window that opens, select the `Alarm` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:

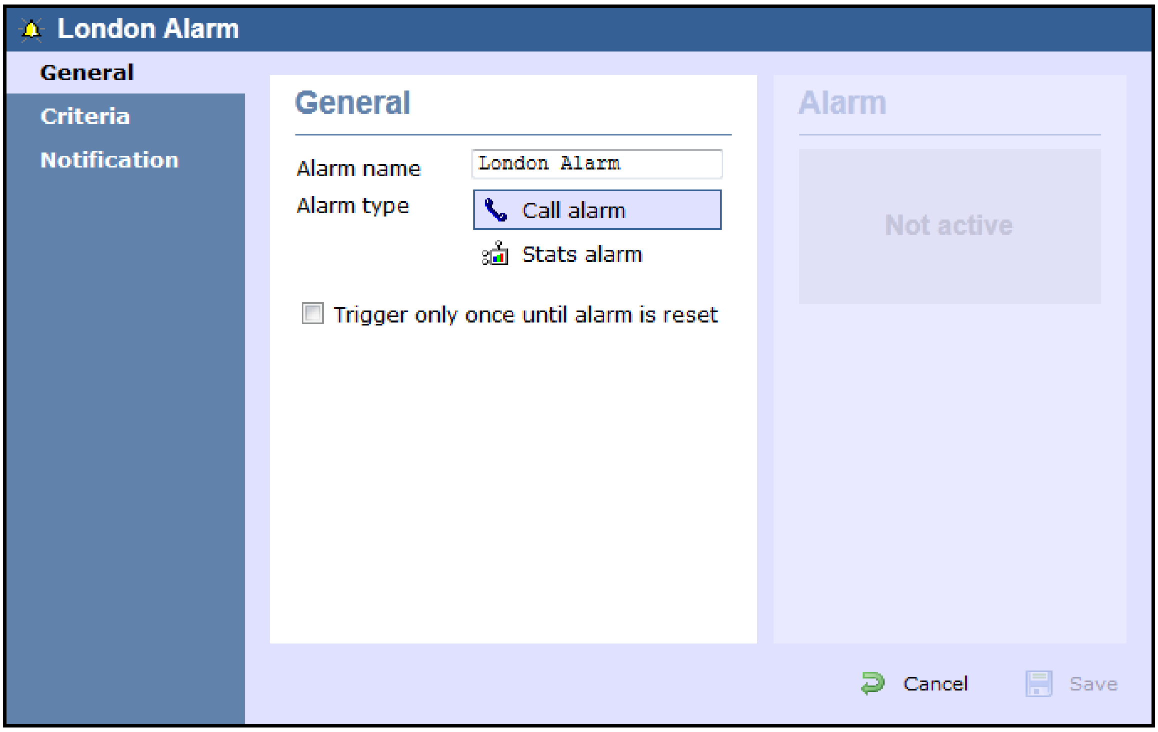


Configuring an alarm

To configure an alarm, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your alarm object.



Call alarms

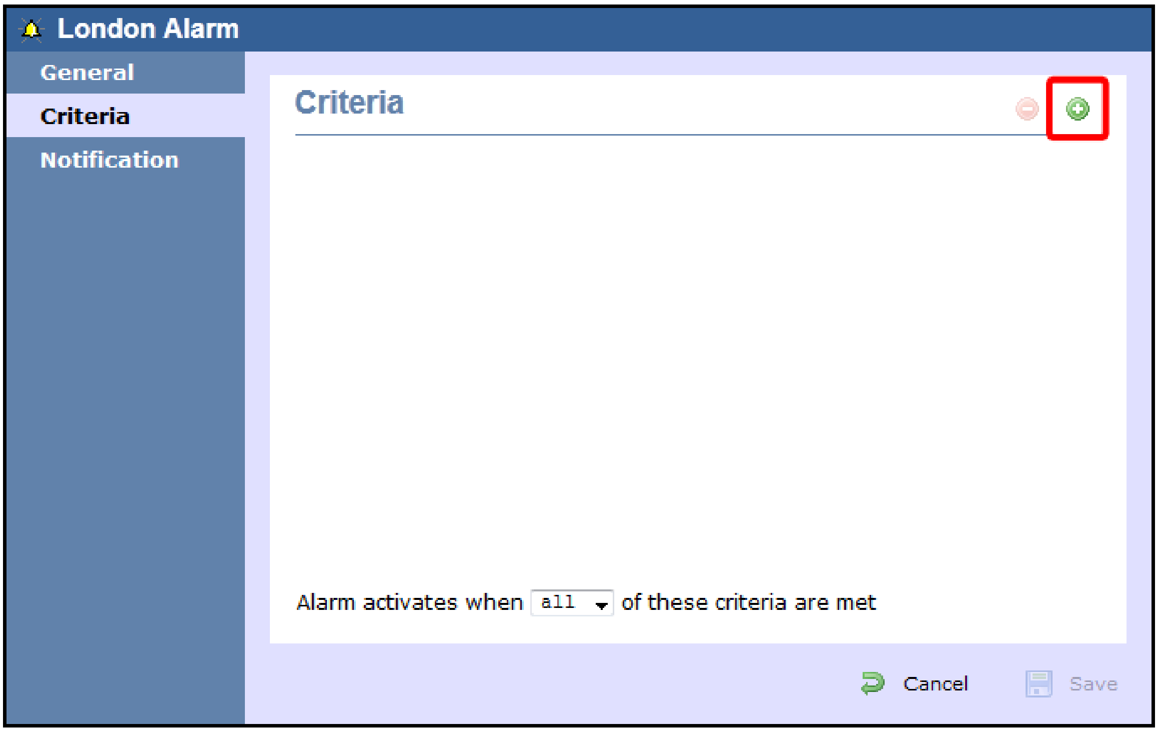
General

This tab allows you to configure the general properties of your `Call alarm` object:

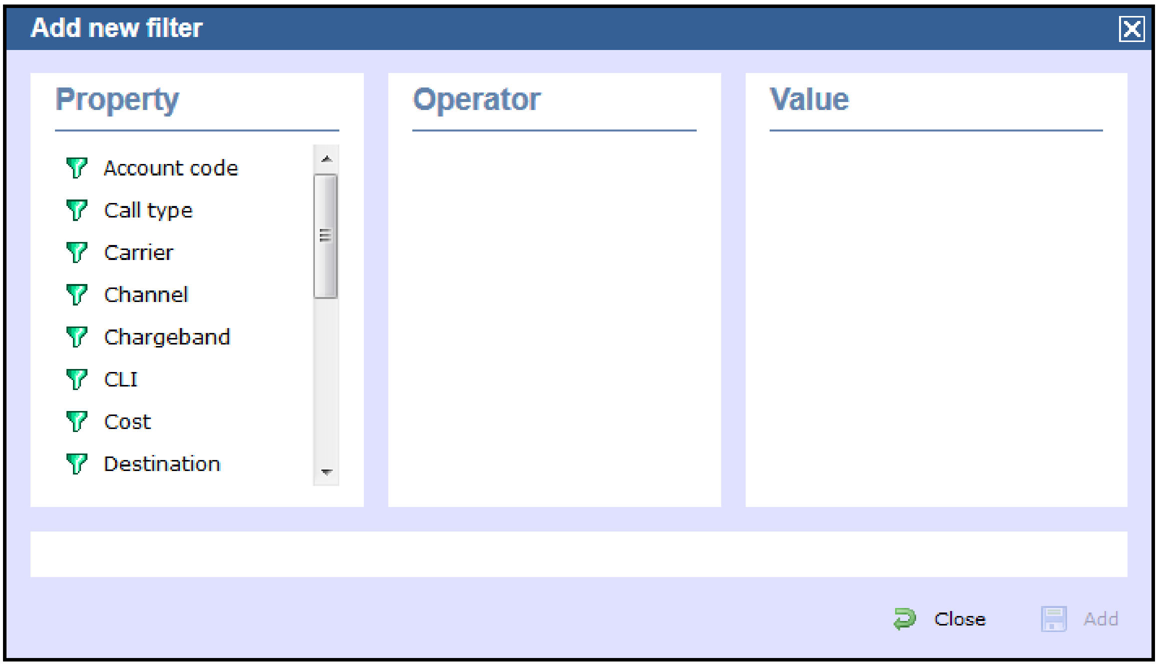
Field	Description
Alarm name	Enter a relevant name for the alarm object.
Alarm type	Select the type of alarm you want to add to the Directory.
Trigger only once until alarm is reset	Enable this option if you want the alarm to be triggered only the first time the alarm's criteria is met.

Criteria

To set up the criteria that must be met in order to trigger the alarm, click on the icon, as shown below:



A new window will open, displaying a list of filters you can set up in order to configure the alarm criteria. Each filter consists of three elements: the filter's property (account code, dialled number, etc), an operator and a value field.



To add a filter to your alarm object, choose the filter type from the **Property** list, enter a relevant value and select an operator in order to define its meaning. The filters available for this type of alarm object are described below:

Account code

This filter allows you to set up an alarm based on account codes. To set up the alarm criteria, enter the account code (or part of the account code number) in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call whose account code contains **21** is logged.

Call type

This filter allows you to set up an alarm based on call type, in terms of where the call originated and where it was delivered, e.g. incoming, outgoing, internal, etc. To set up the alarm criteria, choose a call type from the list provided and select the appropriate operator. In the example below, an alarm will be triggered when a **Tandem** call is logged:

Call type	Equals	Tandem

Carrier

This filter allows you to set up an alarm based on the carrier (tariff table) used to cost calls. To set up the alarm criteria, choose a carrier from the list provided and select the appropriate operator. In the example below, an alarm will be triggered when a call routed over a **BT** carrier is logged.

Carrier	Equals	BT

Channel

This filter allows you to set up an alarm based on the call traffic going over your telephone lines. To set up the alarm criteria, click on the i con to locate the relevant channel in the Directory; select the channel and choose the appropriate operator. In the example below, an alarm will be triggered when channel **T234** is used to log a call.

Channel	Equals	T234

Chargeband

This filter allows you to set up an alarm based on the chargeband used to cost calls. To set up the alarm criteria, enter the chargeband's name (or a sequence of characters you want to be matched) in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call's chargeband begins with the characters **Mob**.

Chargeband	Begins with	Mob

CLI

This filter allows you to set up an alarm based on CLI. To set up the alarm criteria, enter the CLI (or part of the CLI number) in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call's CLI contains the digits **2652626**.

CLI	Contains	2652626

Cost

This filter allows you set up an alarm in order to monitor calls below or above a specific cost. To set up the cost criteria, enter the relevant value in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when the cost of a call is greater than **10**.

Cost	Is greater than	10

Destination

This filter allows you set up an alarm based on the destination of the call. To set up the alarm criteria, enter the destination name (or part of its name) in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when the destination of a call is **France**.

Destination	Equals	France

Dialled number

This filter allows you set up an alarm when a full or partial number is dialled. To set up the alarm criteria, enter the relevant number in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when the dialled number begins with **074**.

Dialled number	Begins with	074

Duration

This filter allows you set up an alarm based on the duration of a call. To set up the alarm criteria, enter the duration in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call whose duration is greater than **3600** seconds is logged.

Duration	Is greater than	3600

LCR code

This filter allows you set up an alarm based on Least Cost Routing (LCR) codes. To set up the alarm criteria, enter the LCR code in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call whose LCR code ends with **680** is logged.

LCR code	Ends with	680

Response time

This filter allows you set up an alarm based on response time. To set up the alarm criteria, enter the response time in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when the response time of a calls is greater than **20** seconds.

Response time	Is greater than	20

Start time

This filter allows you set up an alarm based on the time a call started. To set up the alarm criteria, enter the start time in **hh:mm:ss** format in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call that started before **09:00:00** is logged in the system.

Start time	Is less than	09:00:00

Trunk access code

If your telephone system uses trunk access codes to connect calls using specific channels, you can set up an alarm based on calls made using these codes. To set up the alarm criteria, enter the trunk access code in the box provided and select the appropriate operator. In the example below, an alarm will be triggered when a call whose trunk access code is **5480** is logged.

Trunk access code	Equals	5480

User

This filter allows you set up an alarm in order to monitor the calls of a particular user. To set up the alarm criteria, click on the icon to locate the user in the Directory; select the user and choose an appropriate operator. In the example below, an alarm will be triggered when a call is logged for the user **John Smith** .

User	Equals	John Smith

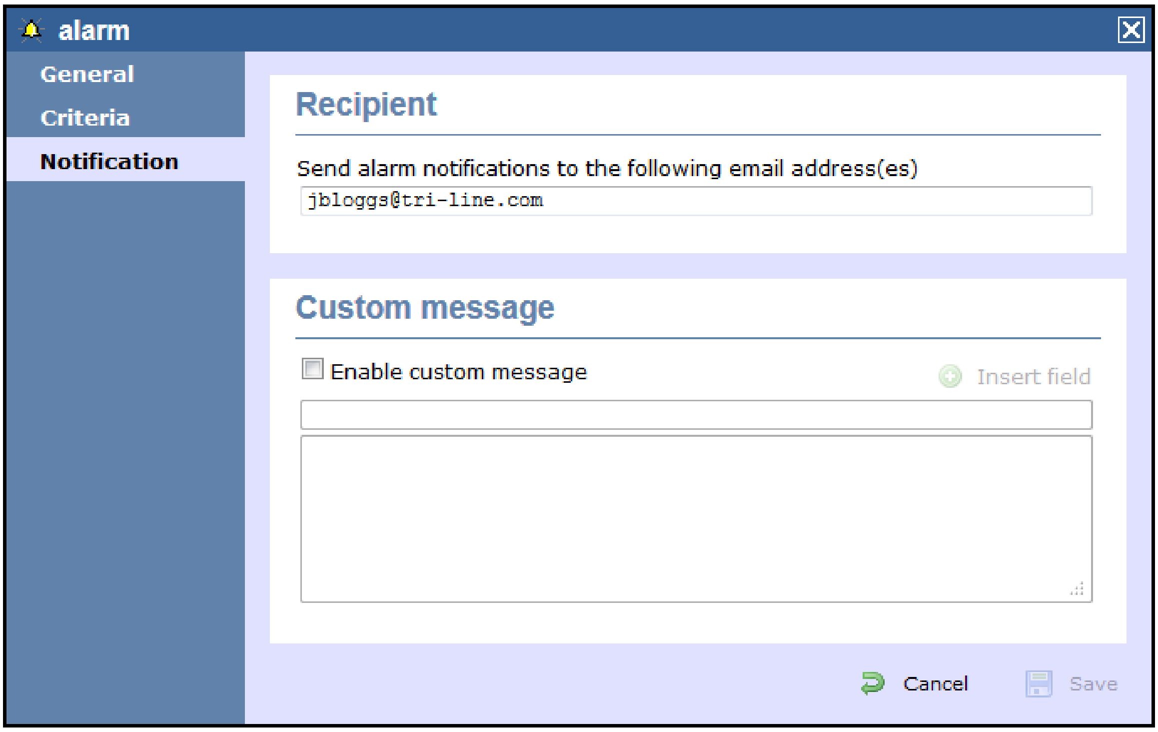
Weekday

This filter allows you set up an alarm in order to monitor the call activity for a particular day of the week. To set up the alarm criteria, choose the relevant weekday from the list provided and select an appropriate operator. In the example below, an alarm will be triggered when a call is logged on a Sunday.

Weekday	Equals	Sunday

Notification

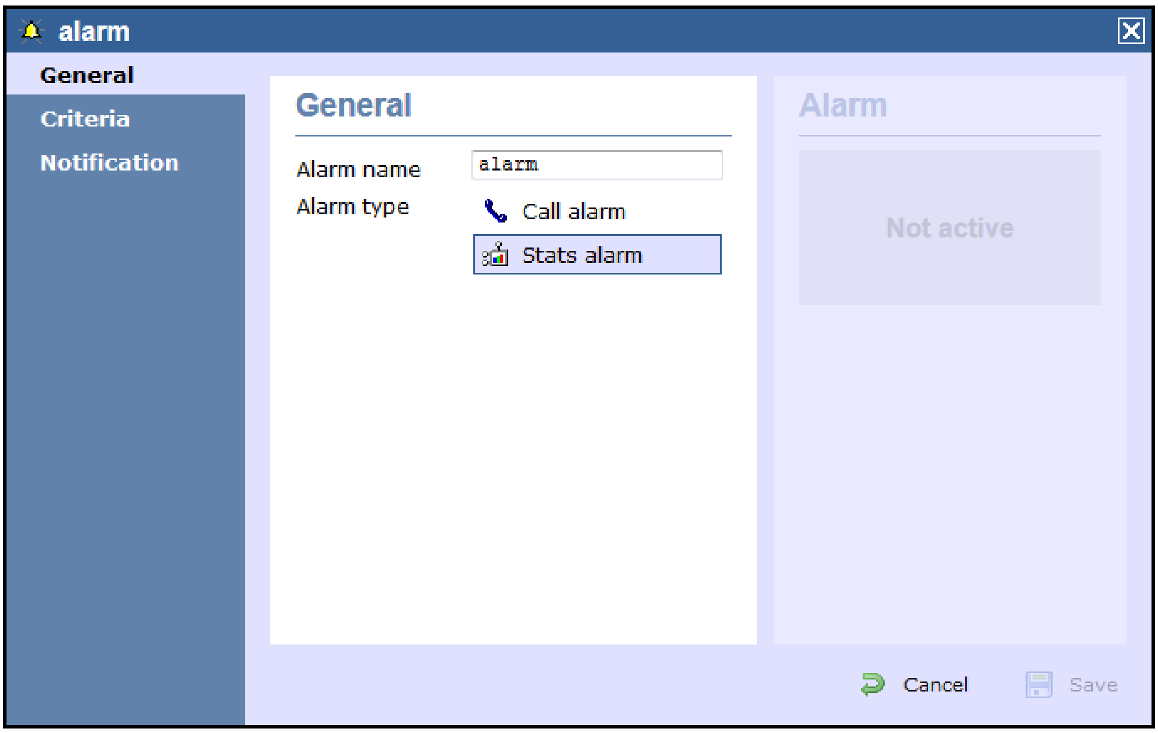
The **Notification** tab allows you set up an email alert when the alarm is being triggered. To send the notification to multiple email addresses, separate each entry with a comma.



Stats alarms

General

This tab allows you to edit the general properties of your **`Stats alarm`** object:



Field	Description
Alarm name	Enter a relevant name for the alarm object.

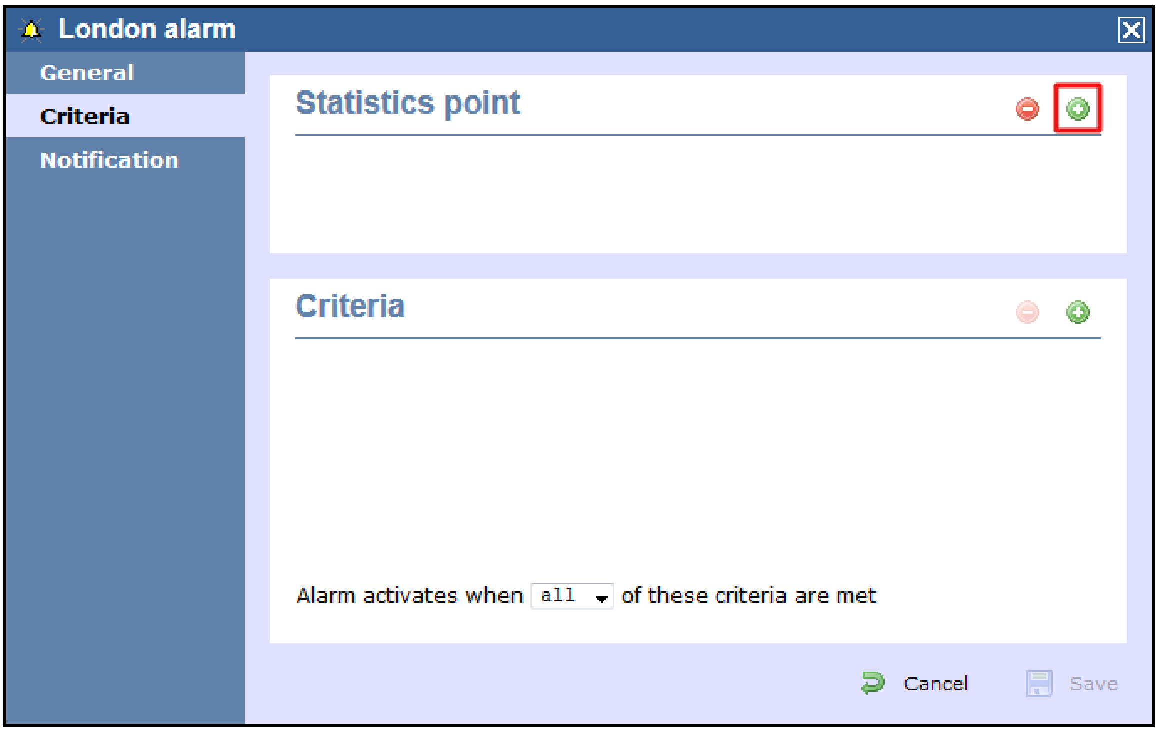
Alarm type	Select the type of alarm you want to add to the Directory.

Criteria

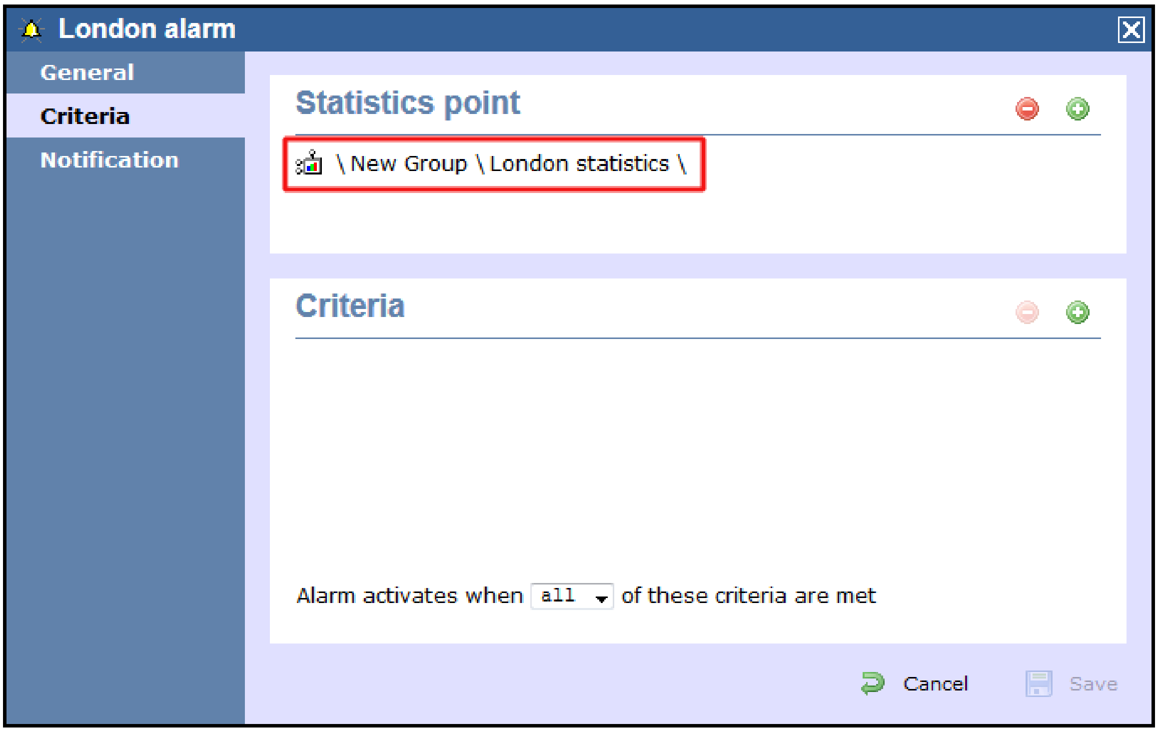
This tab allows you to select the stats point where you want to place your alarm object and to set up the criteria that must be met in order to trigger the alarm.

Selecting a stats point

To select a stats point object, click on the icon, as shown below:

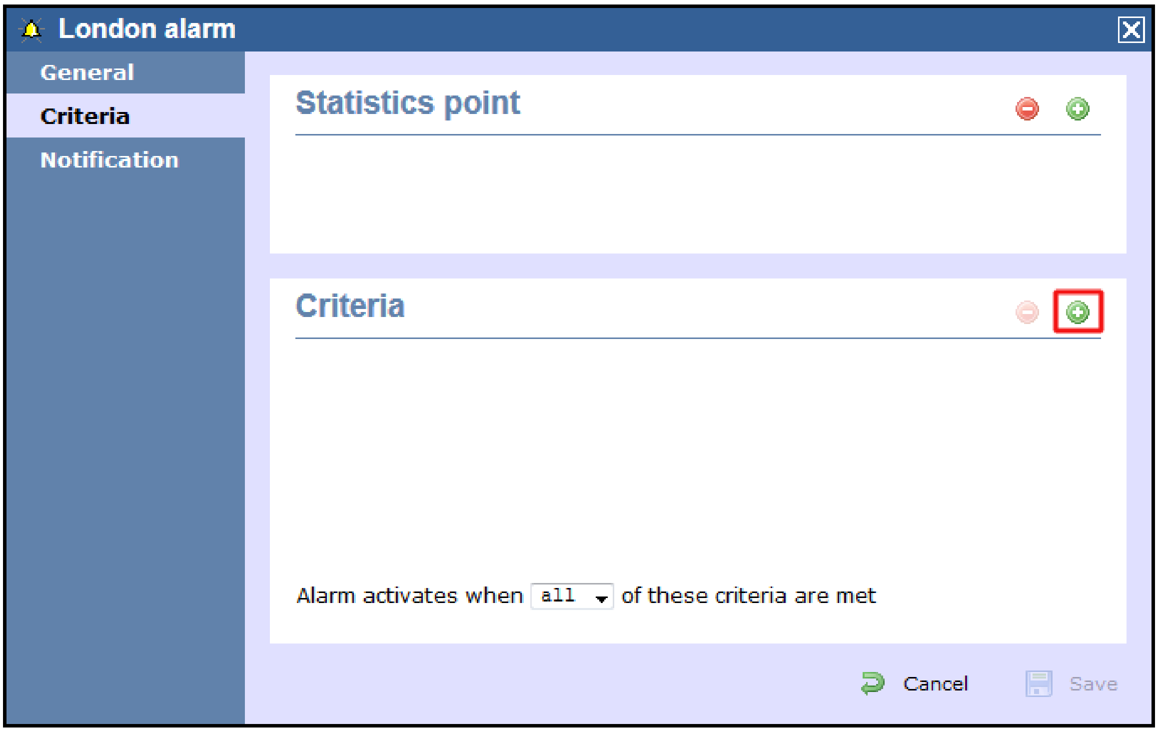


A new window will open, allowing you to drill through the Directory in order to locate the stats point object where you want to add the alarm. Click on the icon to select it. The stats point will be added in the list, as shown below:

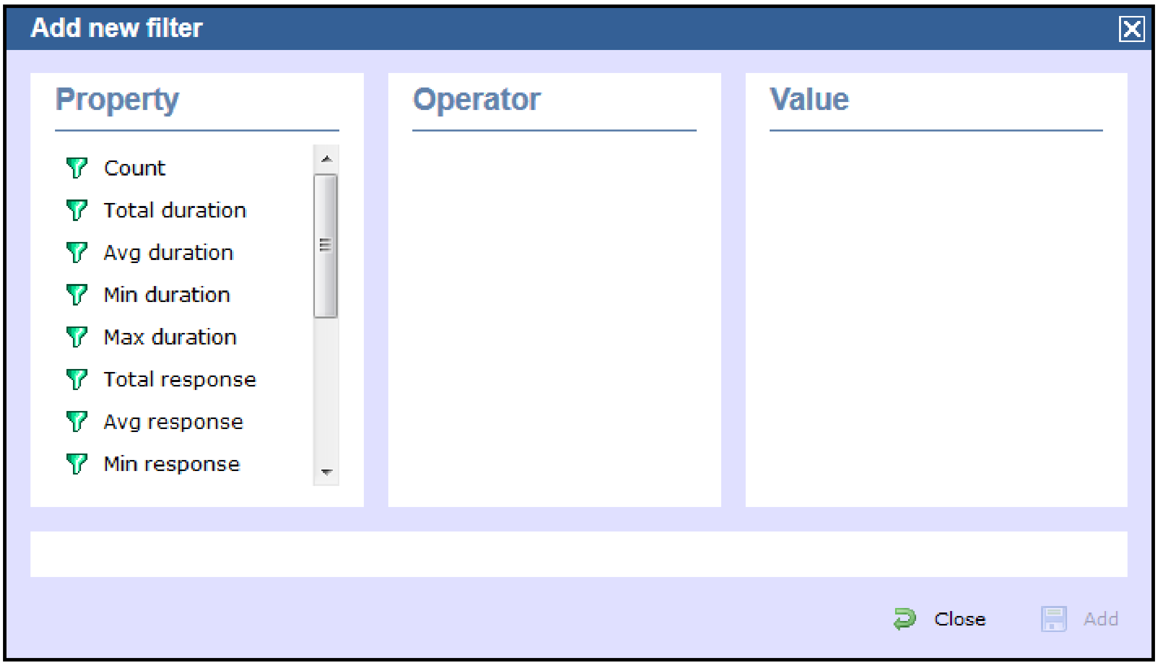


Selecting the criteria

To set up the criteria that must be met in order to trigger the alarm, click on the icon, as shown below:



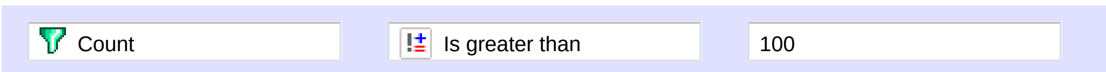
A new window will open, displaying a list of filters you can set up in order to configure the alarm criteria. Each filter consists of three elements: the filter's property (account code, dialled number, etc), an operator and a value field.



To add a filter to your alarm object, choose the filter type from the `Property` list, enter a relevant value and select an operator in order to define its meaning. The available filters for this type of alarm object are described in detail in the table below:

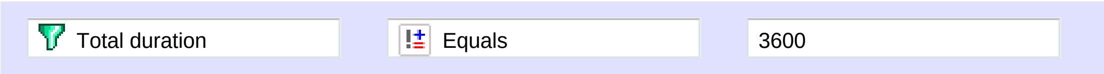
Count

This filter allows you set up an alarm based on the total number of calls registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the total number of calls collected by the stats point is greater than **`100`**.



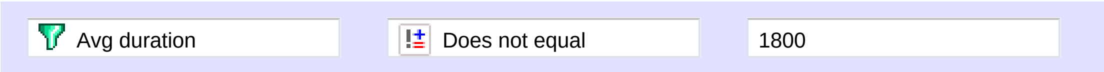
Total duration

This filter allows you to set up an alarm based on the total call duration register by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the total duration registered by the stats point is **3600** seconds.



Average duration

This filter allows you to set up an alarm based on the average call duration registered for the calls collected by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the average duration registered by the stats point is not equal to **1800** seconds.

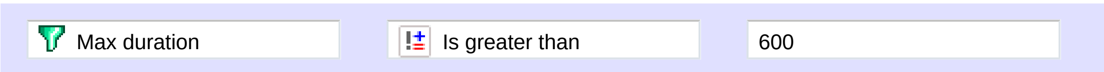


Minimum duration

This filter allow you to set up an alarm based on the minimum call duration registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the minimum duration registered by the stats point is less than **600** seconds.

Maximum duration

This filter allow you to set up an alarm based on the maximum call duration registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the maximum duration registered by the stats point is greater than **600** seconds.

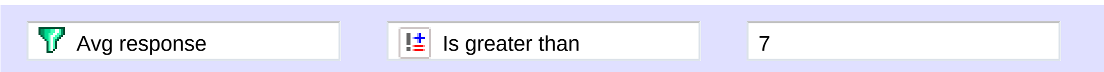


Total response

This filter allow you to set up an alarm based on the total response time registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the total response time registered by the stats point is less than **10** seconds.

Average response

This filter allow you to set up an alarm based on the average response time registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the average response time registered by the stats point is greater than **7** seconds.

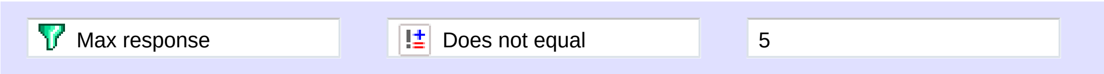


Minimum response

This filter allow you to set up an alarm based on the minimum response time registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the minimum response time registered by the stats point is **5** seconds.

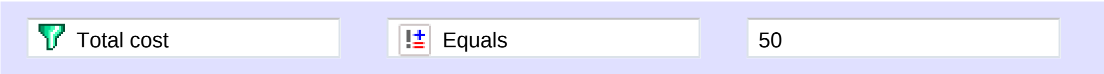
Maximum response

This filter allows you to set up an alarm based on the maximum response time registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the maximum response time registered by the stats point is not **5** seconds.



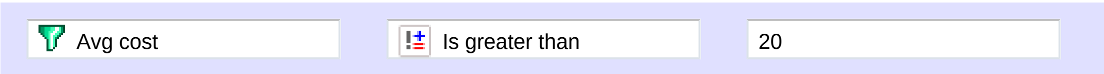
Total cost

This filter allows you to set up an alarm based on the total cost registered for the calls collected by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the total cost registered by the stats point is **50**.



Average cost

This filter allows you set up an alarm based on the average cost registered for the calls collected by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the average cost registered by the stats point is greater than **20**.

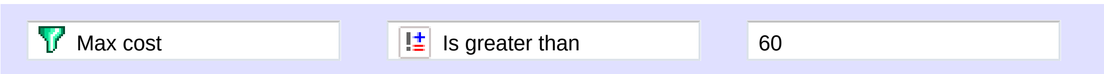


Minimum cost

This filter allows you set up an alarm based on the minimum cost registered for the calls collected by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the minimum cost registered by the stats point is **10**.

Maximum cost

This filter allows you set up an alarm based on the maximum cost registered for the calls collected by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the maximum cost registered by the stats point is greater than **60**.

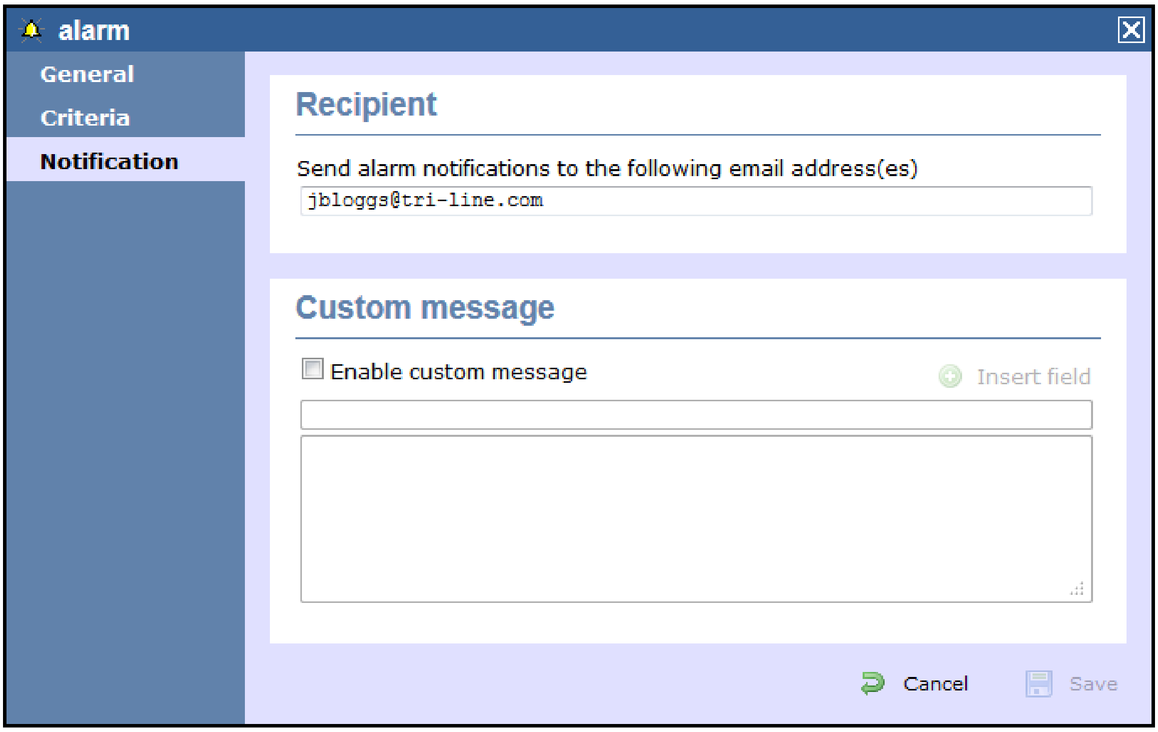


Concurrency

This filter allows you set up an alarm based on the concurrency of calls registered by the selected stats point. To set up the alarm criteria, enter the relevant value in the box provided and select an appropriate operator. In the example below, an alarm will be triggered when the call concurrency registered by the stats point is greater than **5**.

Notification

The `Notification` tab allows you set up an email alert when the alarm is being triggered. To send the notification to multiple email addresses, separate each entry with a comma.



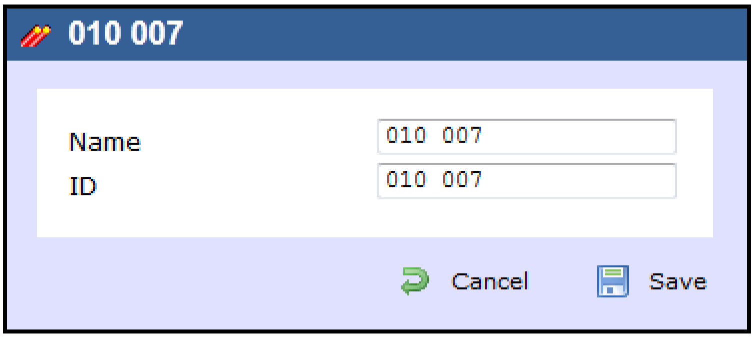
Channel

Channel

- What is a channel?
- Adding a channel
- Configuring a channel

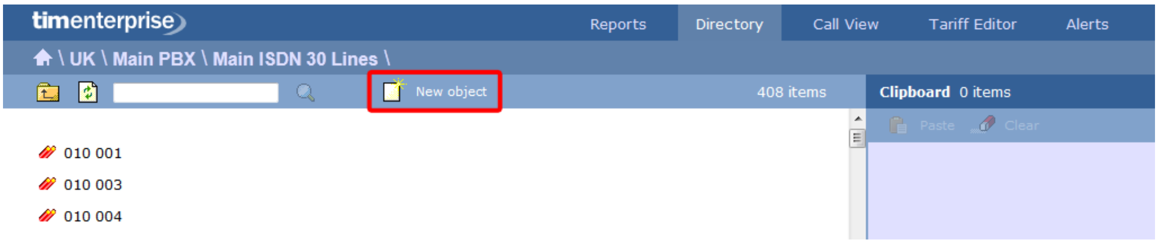
What is a channel?

Channels are system objects representing your telephone lines. When you first configure TIM Enterprise, your channels are automatically harvested from the data received from the phone system, into a folder named `Discovered Channels`. The properties of each channel can be edited afterwards, and channels can also be organised subsequently into new channel groups, if preferred.

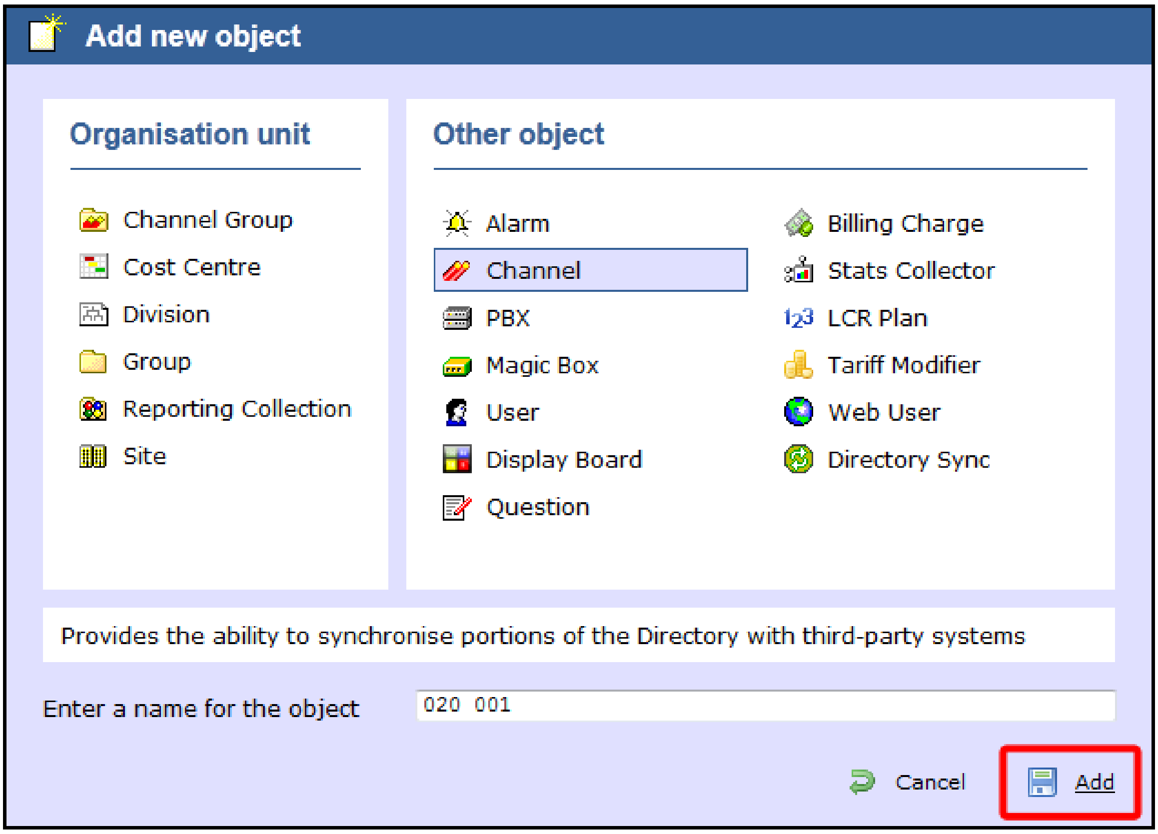


Adding a channel

To add an channel object to the system, drill-down to the Directory level where you want to add the channel and click on the `New object` ta b, as shown below:

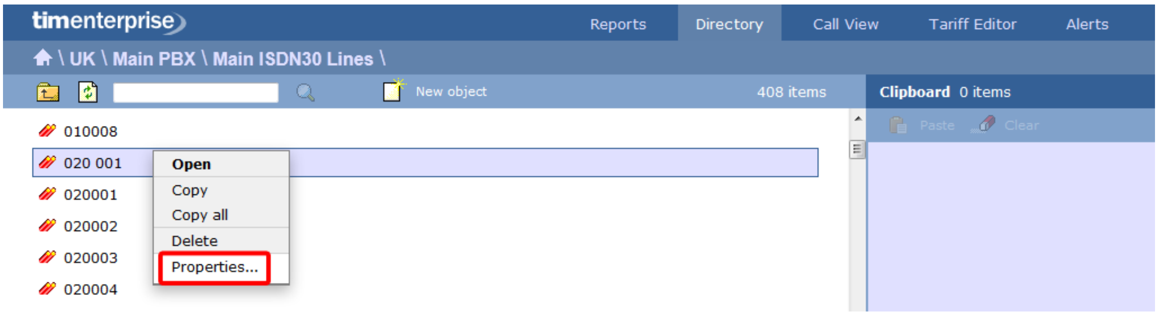


In the new window that opens, select the **Channel** object from the **Other object** list, enter a relevant name and click on the Add button, as shown below:

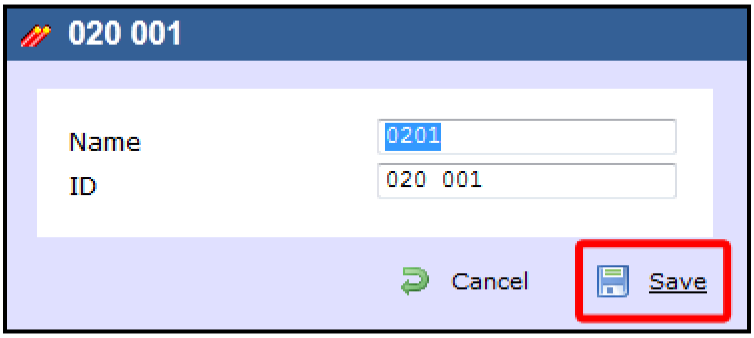


Configuring a channel

To configure a channel, locate the object in the Directory, click on it and select **Properties** from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your channel object, as shown below:



Magic Box

Magic Box

- What is a Magic Box
- Adding a Magic Box
- Configuring a Magic Box
- Voice recording - video overview

What is a Magic Box

The `Magic Box` object allows you to add one or more of our supported voice recording options, enabling you to store the audio recording of every telephone call that TIM Enterprise processes.

Which option you choose depends on what type of telephone calls you want to record. In most cases, the recording equipment is placed between your telephone system and your telephone lines (channels) and any phone calls that are made over those channels are intercepted, recorded, then sent to TIM Enterprise to be attached to the logged call.

To record calls over PSTN channels such as ISDN30 (PRI/E1/T1/J1), ISDN2 (BRI) or analogue POT lines, a piece of physical hardware - the Magic Box - is used to physically connect into your lines.

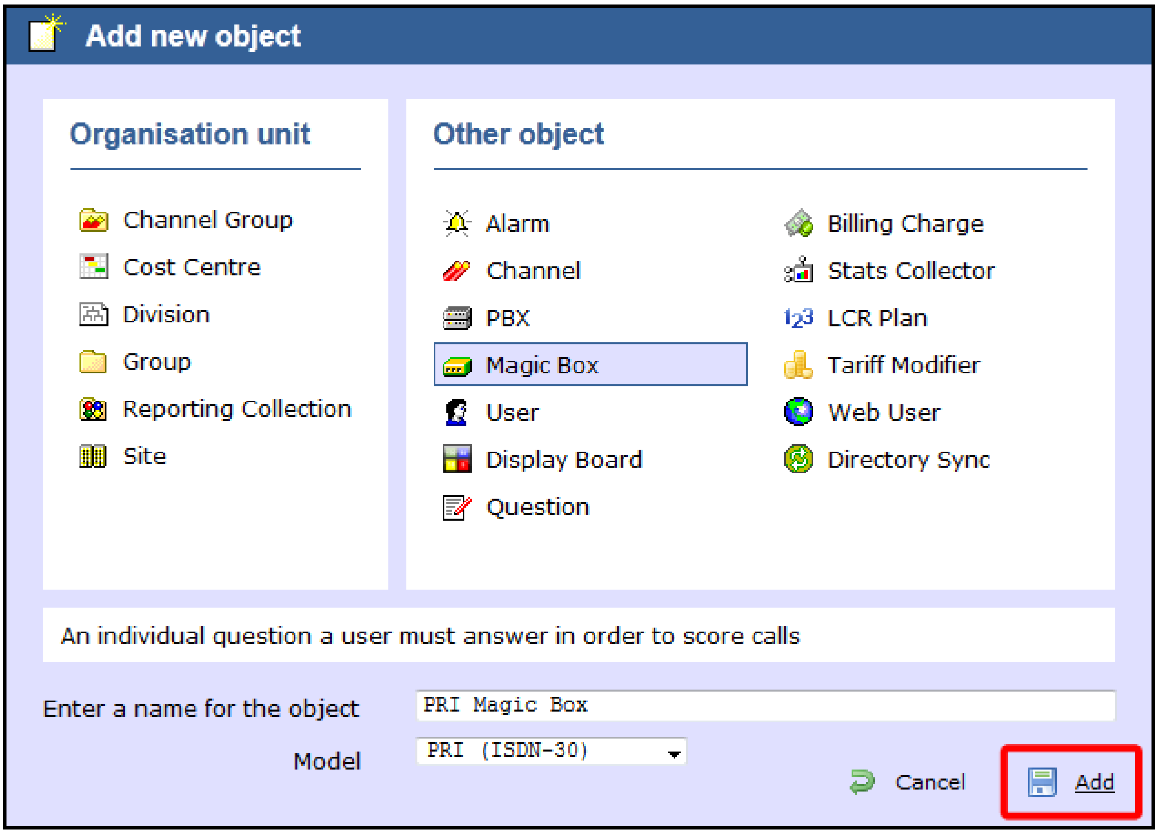
For VoIP (SIP) channels, a PC with a standard network interface card (NIC) can be used to capture the voice packets from strategic points in your voice network. If many simultaneous VoIP calls are expected, a dedicated computer with multiple NICs becomes necessary.

Any number of recording devices can be configured to provide their audio recordings to TIM Enterprise, and a hybrid network of both types of interface can be used in a single TIM Enterprise deployment.

Adding a Magic Box

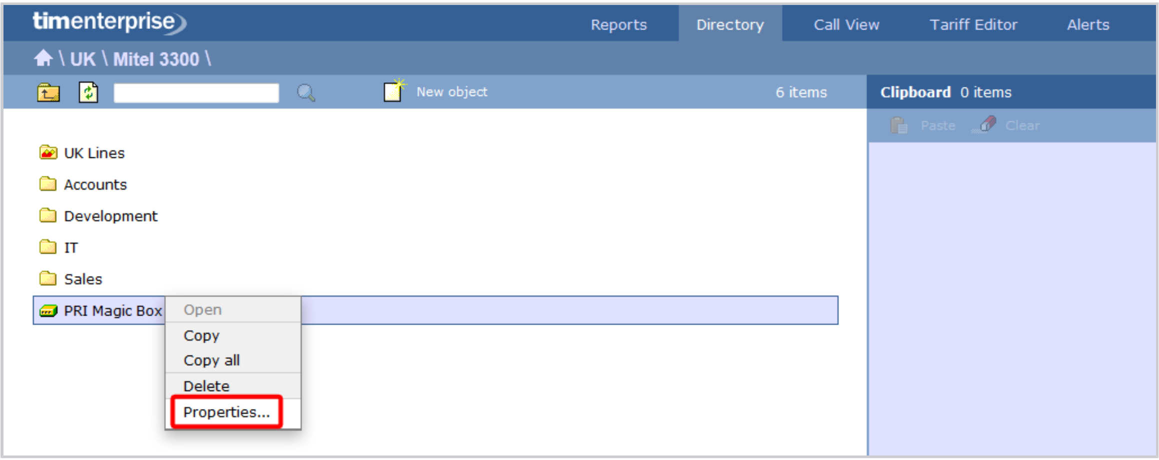
To add a recording device object to the system, drill-down to the Directory level where you want to place the object and click on the `New object` tab, as shown below:

In the new window that opens, select the `Magic Box` object from the `Other object` list, enter a name and select the type of telephone lines you are using (PRI, BRI, Analogue, VOIP), as shown below:



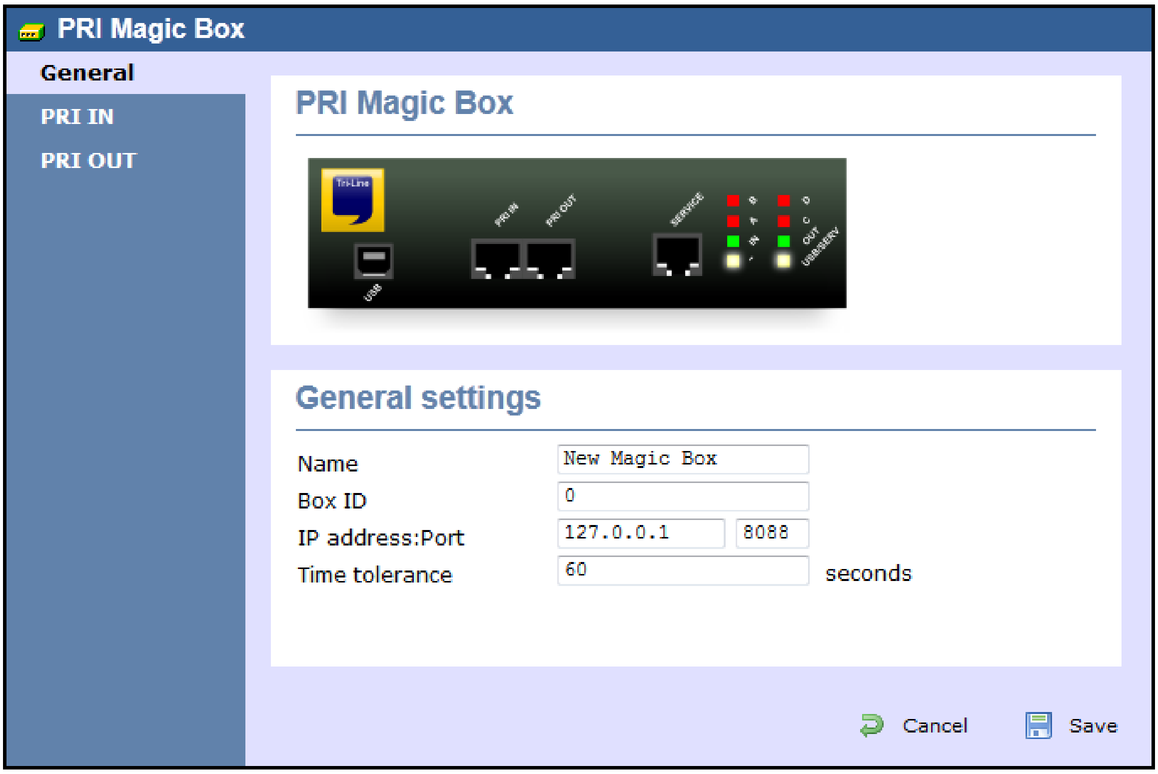
Configuring a Magic Box

To configure your recording device, locate object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your recording device object.

General



Setting	Description
Name	The name of your recording device
Box ID	The unique identifier of each call recording device
IP address: Port	The IP address of the recording device, or computer to which the device is attached and the port number
Time tolerance	The time interval around which TIM Enterprise will search for calls when matching audio files

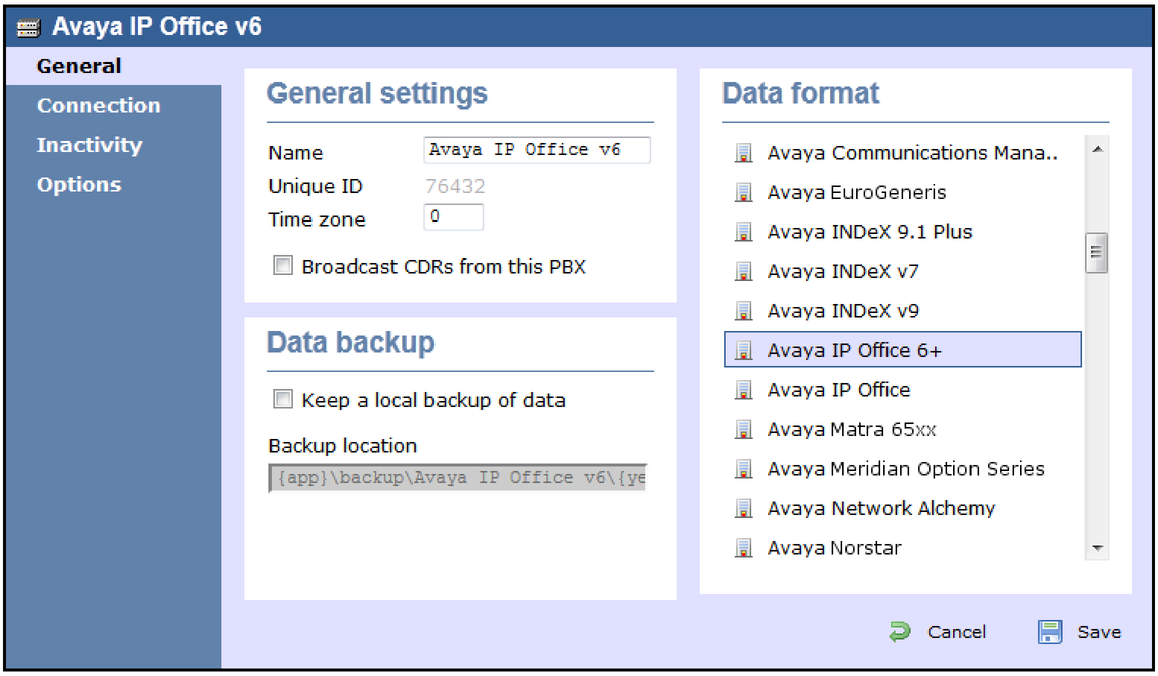
Voice recording - video overview

PBX

What is a PBX?

The function of a **PBX** object is to acquire call logging data from your telephone system and can be added at any point in your Directory structure. TIM Enterprise can log an unlimited number of telephone systems and a PBX object must be configured for each one.

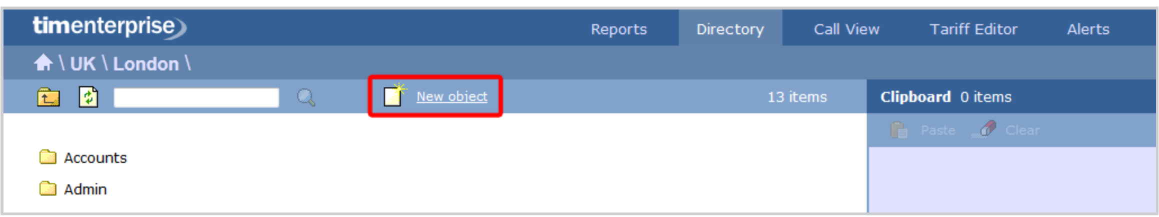
> If a large number of PBXs is added to the system, you must ensure you have the required license capacity to log them. If additional users or sites need to be added, you need to increase the license capacity on your software.



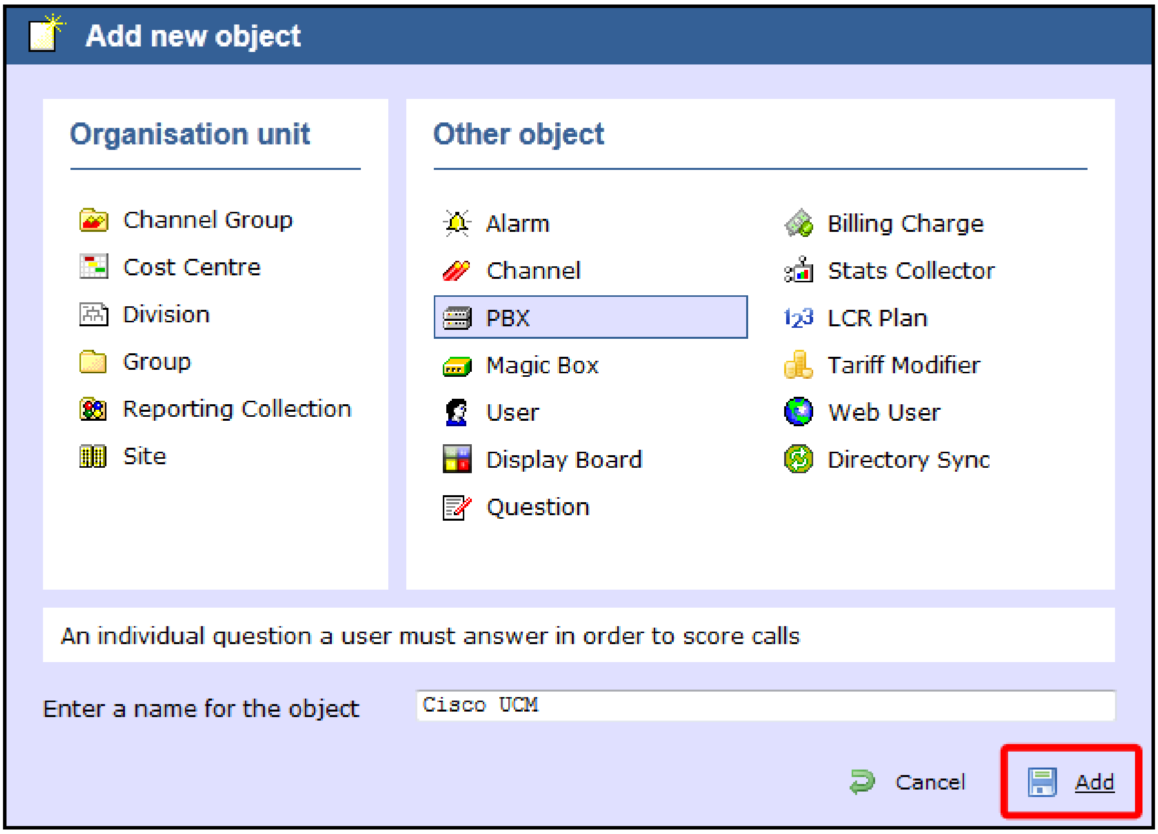
TIM Enterprise supports a large number of PBXs. For a full list of supported PBXs, click here.

Adding a PBX

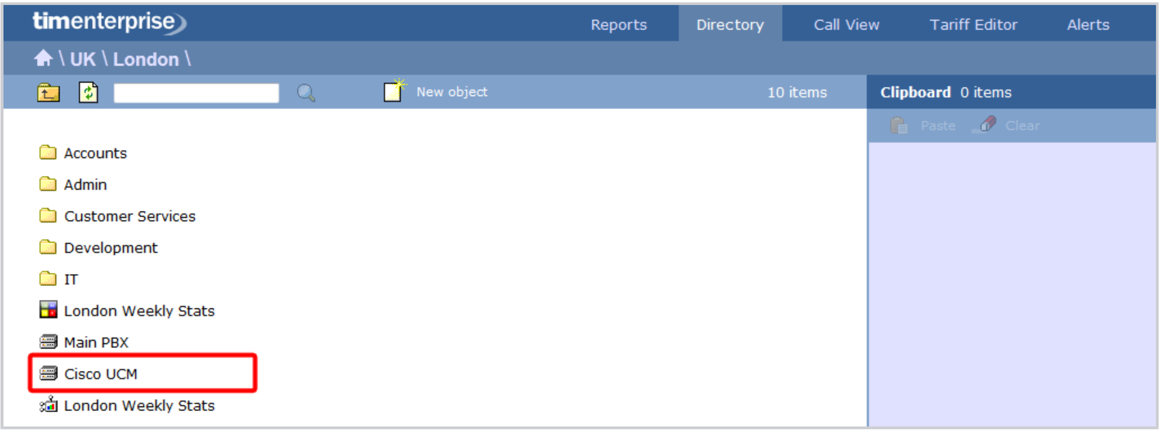
To add a PBX object to the system, drill-down to the Directory level where you want to add the PBX and click on the `New object` tab, as shown below:



In the new window that opens, select the **PBX** object from the `Other object` list, enter a relevant name and click on the Add button. The name given to the PBX is usually its make or model ID. In the example below, a Cisco UCM PBX is being added in the **UK \ London** site.



The PBX object will appear in the Directory as follows:



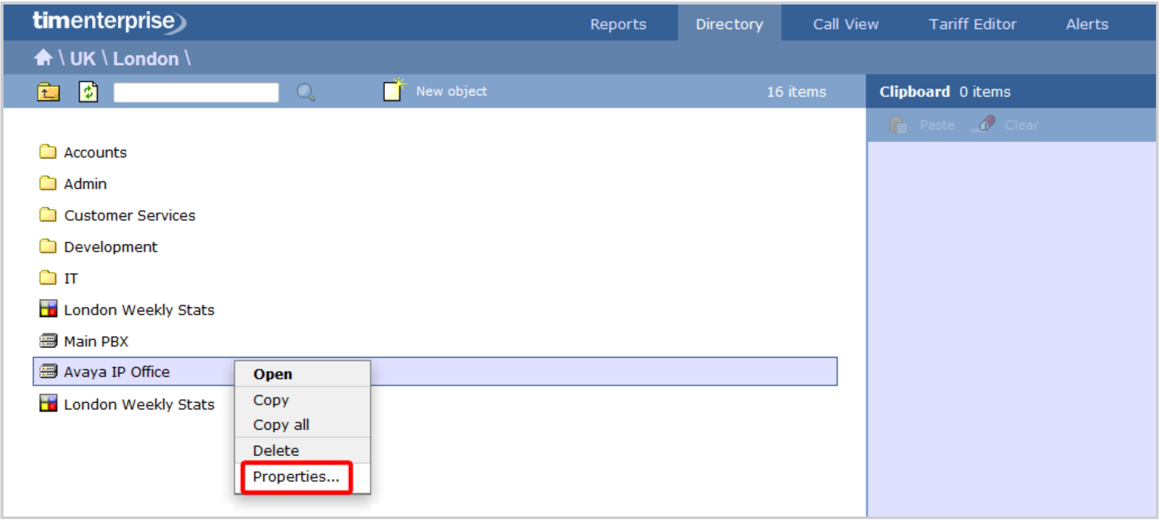
Configuring a PBX

Configuring a PBX

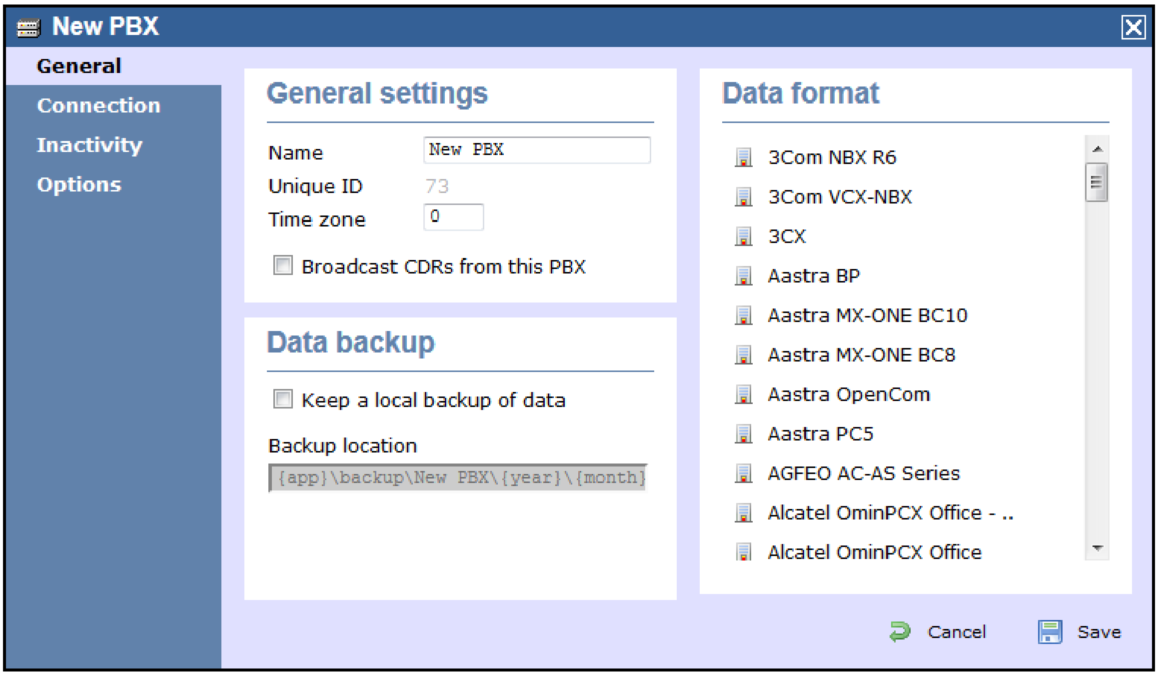
- Overview
- General
- Connection
- Inactivity
- Options

Overview

To configure a PBX, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your PBX object, as shown below:



General

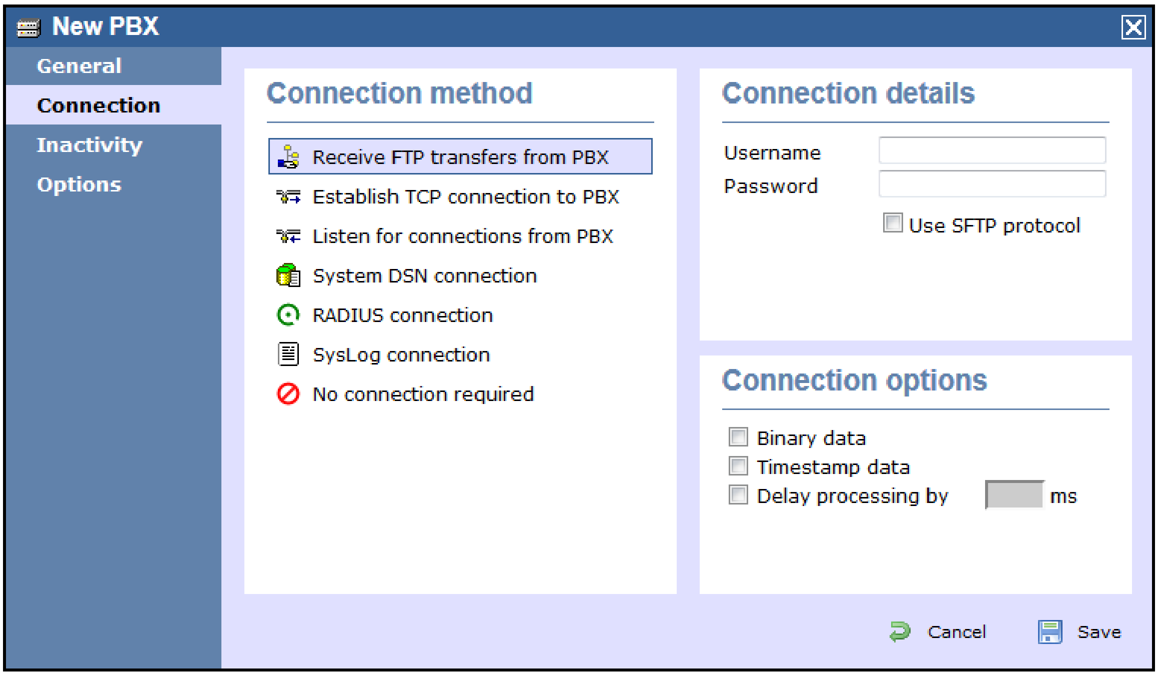
This tab allows you configure the general properties of your PBX object, which are described in the table below:

Field	Description
Name	The name by which you want your PBX to be identified. Usually, the make or model name of your PBX is used
Unique ID	The unique ID of the site object
Time zome	This feature is no longer in use
Broadcast CDRs from this PBX	This feature is no longer in use

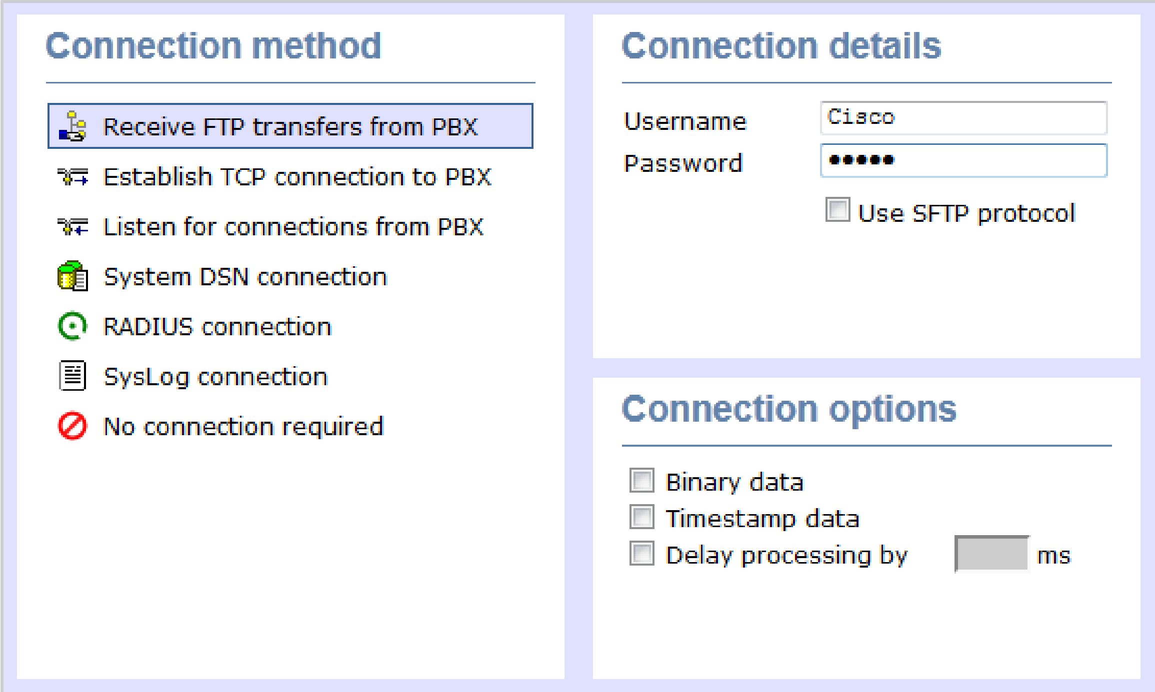
<table>
<tr><td>Keep a local backup of data</td><td>
Tick this box to backup your call logging data and enter the location of the folder you want to store these files
The default path is <code>{app}\backup\backup-{year}-{month}-{day}.{uiv}</code> and can contain dynamic variables, as detailed below:
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td><code>app</code></td><td>The full installation path of TIM Enterprise</td></tr>
<tr><td><code>year</code></td><td>The year the data was captured, in <code>yyyy</code> format</td></tr>
<tr><td><code>month</code></td><td>The month the data was captured, in <code>mm</code> format</td></tr>
<tr><td><code>day</code></td><td>The day of the month when data was captured, in <code>dd</code> format</td></tr>
<tr><td><code>uiv</code></td><td>The unique ID representing each site in the Directory</td></tr>
</table>
</td></tr>
<tr><td>Data format</td><td>Each telephone system outputs its call logging data in a different format. Select your PBX model from the list provided to ensure your calls are logging correctly.</td></tr>
</table>

Connection

This tab allows you to configure the connection parameters of your telephone system. The properties presented in the `Connection details` section will vary, depending on the connection method used by your telephone system to provide call logging data. Each type of connection is described below:

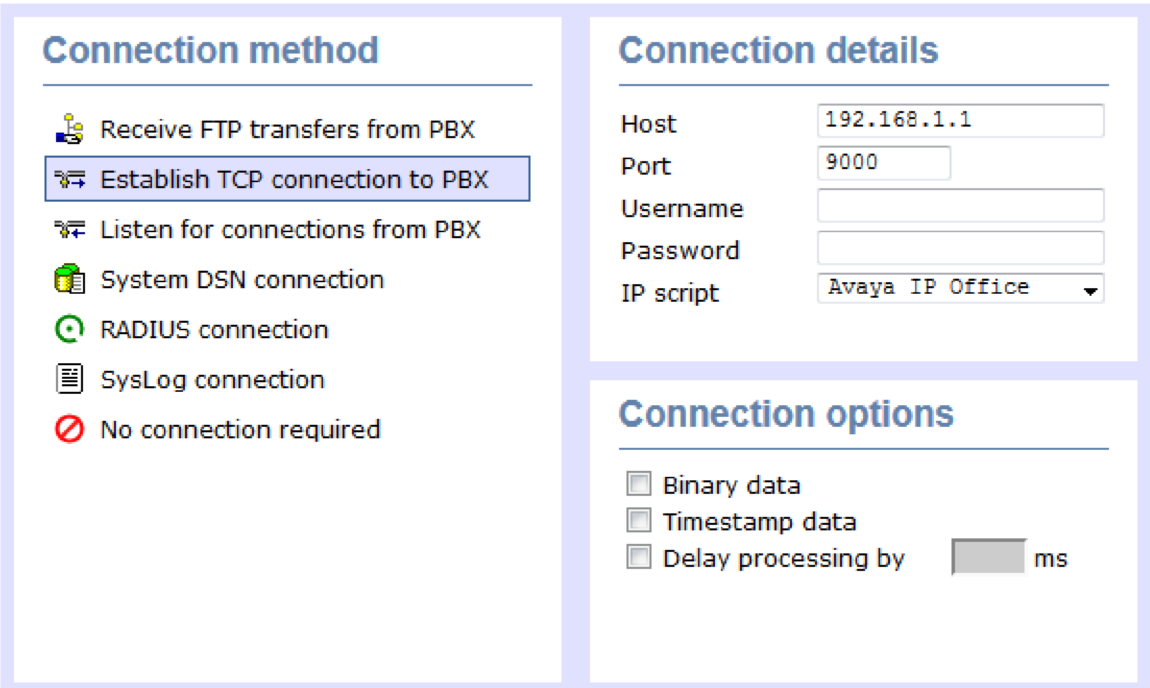


Receive FTP transfers from PBX



Field	Description
Username	The username of the FTP account on your telephone system.
Password	The password of the FTP account on your telephone system.

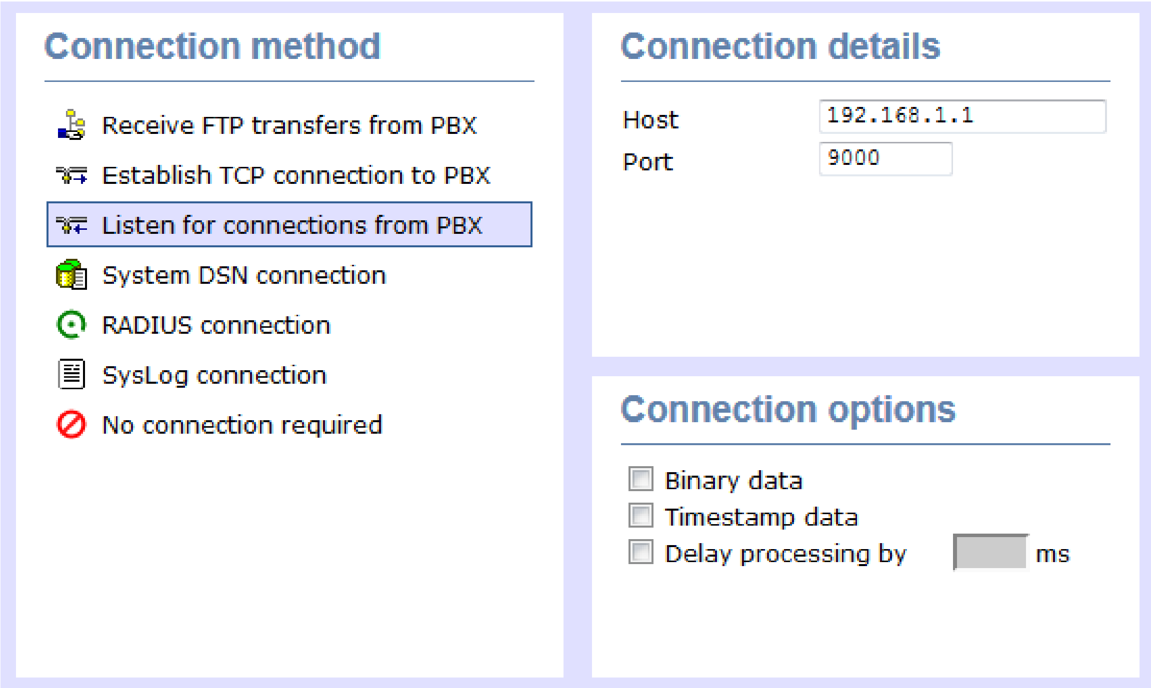
Establish TCP connection to this PBX



Field	Description
Host	The IP address of the telephone system.
Port	The port number that your telephone system listens on.

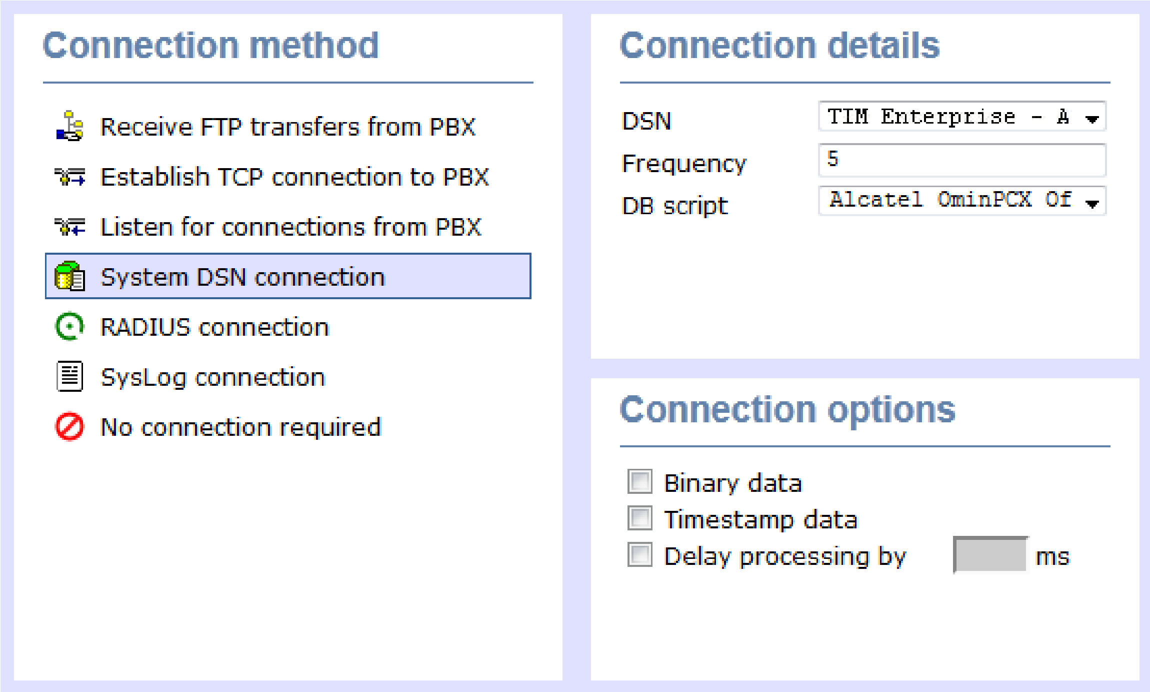
Username	The username required to log in to your telephone system, if applicable.
Password	The password required to log in to your telephone system, if applicable.
IP script	The script file that TIM Enterprise uses when checking for new data.

Listen for connection to this PBX



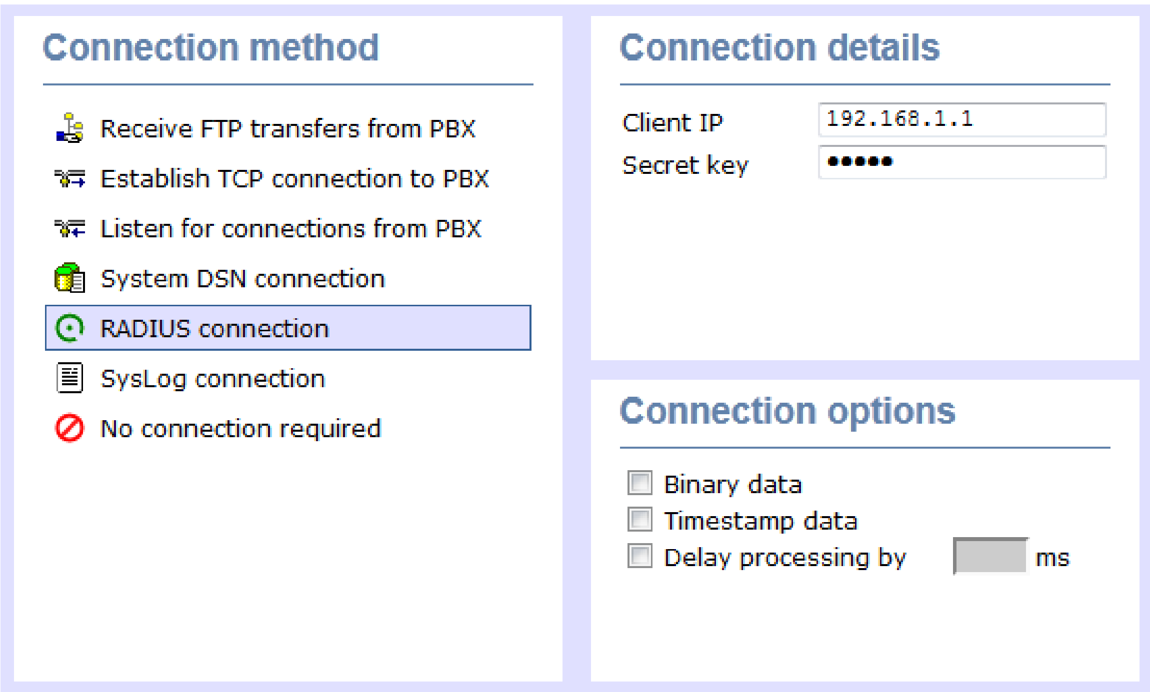
Field	Description
Host	Specify the IP address of your PBX to only allow data to be sent from that address. You may leave this field blank to accept data from any IP address.
Port	The port number that TIM Enterprise should listen on for call logging data.

System DSN connection



Field	Description
DSN name	The name of the system DSN connection to use when connecting to your telephone system's database.
Frequency	The frequency, in seconds, of the checks that TIM Enterprise makes when connecting to the database to determine if new data is available.
DB Script	The database script that TIM Enterprise uses when checking for new data.

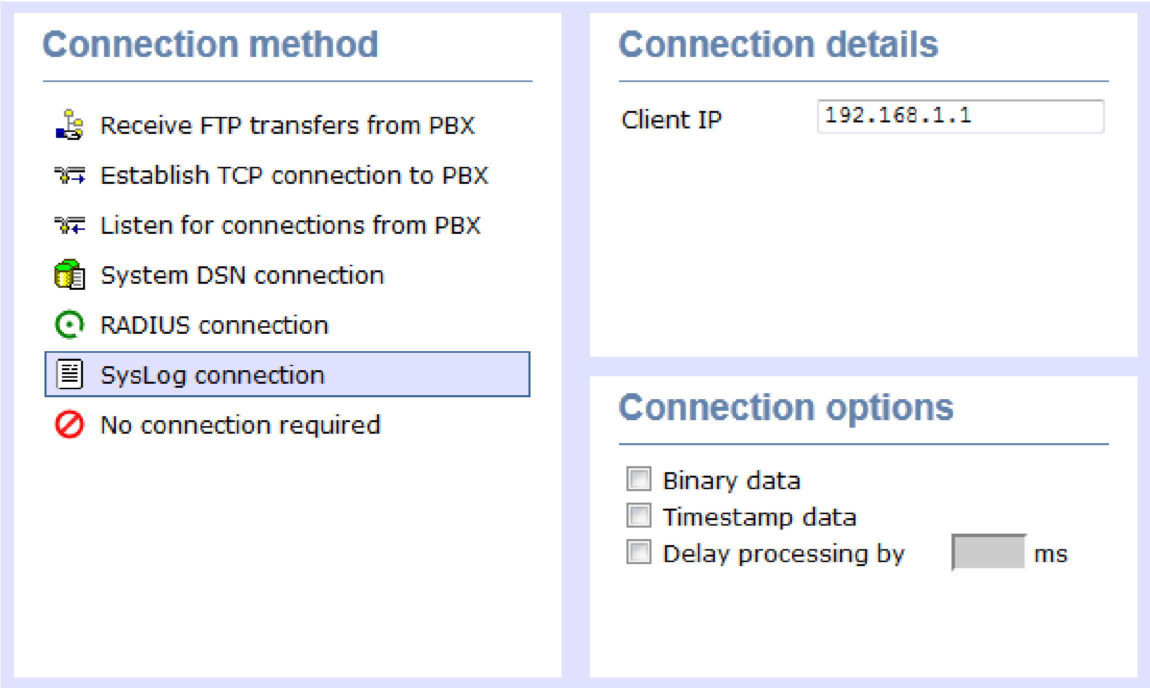
RADIUS connection



Field	Description
Client IP	The IP address of your telephone system responsible for sending RADIUS packets.

Secret	The secret key used in RADIUS authentication between TIM Enterprise and your telephone system.

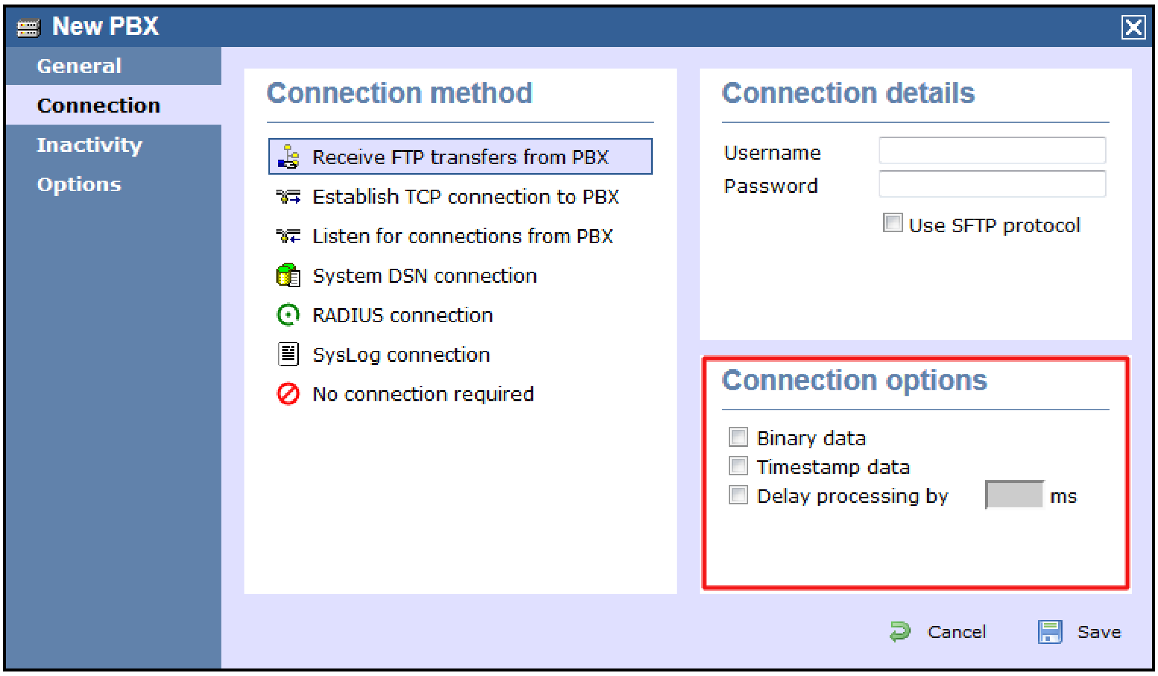
Syslog connection



Field	Description
Client IP	The IP address of your telephone system responsible for sending SysLog events to TIM Enterprise.

For detailed information about connecting to all makes/models of PBX, refer to the Connecting to your PBX section.

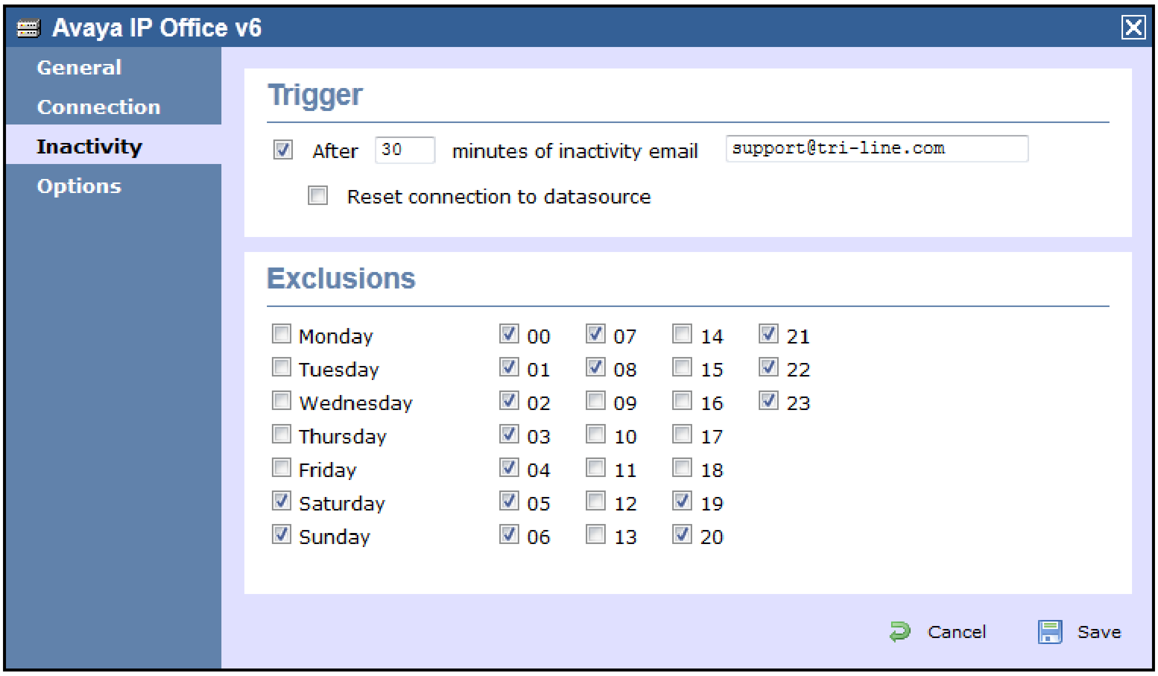
Connection options



Option	Description
Binary data	Select this option if your telephone system sends call records in a non-textual format.
Timestamp data	TIM Enterprise can timestamp call records from your telephone system as they are received, if they do not already include dates and times.
Delay processing by	Enable this option and enter a time delay, in milliseconds, if call records are sent from your telephone system over a slow connection. This helps to prevent data loss when call records are processed before they are fully received.

Inactivity

This tab allows you to set up an inactivity timer, which can notify you by e-mail when TIM Enterprise has not received data from your telephone system for a given amount of time.



Enable inactivity timer

Select this option to enable inactivity monitoring for the site you are configuring. Enter the amount of time, in minutes, that must pass with no call activity, before an e-mail is sent. Next, enter the e-mail address that will receive inactivity alerts for this site.

Reset connection on inactivity

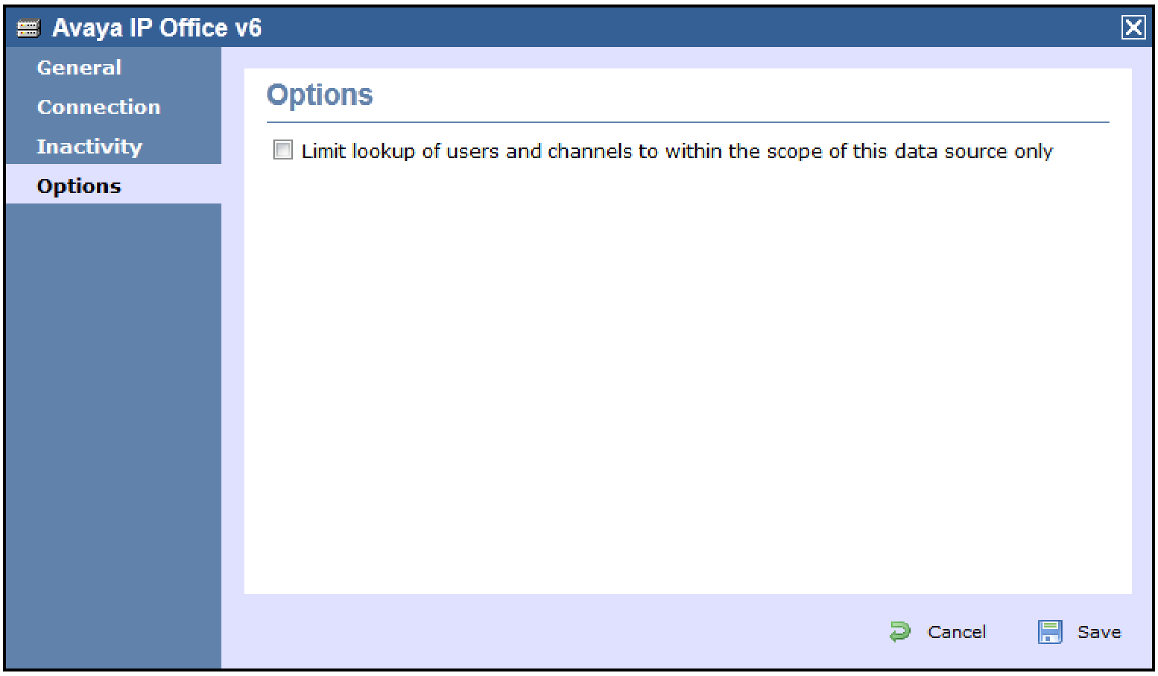
TIM Enterprise can reset the network connection to your telephone system when an inactivity alert is sent, in order to cause the telephone system to restart its connection.

Exclude days and hours from inactivity monitoring

Tick the box alongside the days and hours when it is legitimate that no call activity takes place, such as at night or at weekends, so as not to receive unnecessary e-mail notifications for those periods.

Options

The `Options` tab allows you to restrict the lookup of users outside the selected PBX object. This will allow you to log users with the same extension number across different sites.



This option is turned off by default and it is recommended that you check with our Technical Support team whether it needs to be enabled on our system.

User

User

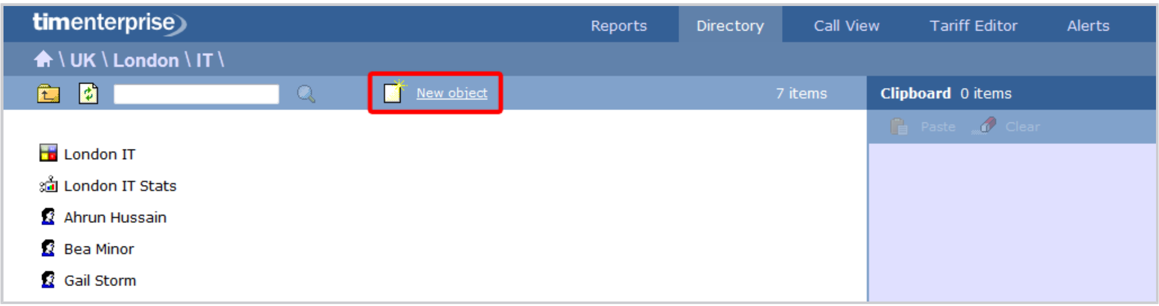
- What is a user?
- Adding a user
- Configuring a user

What is a user?

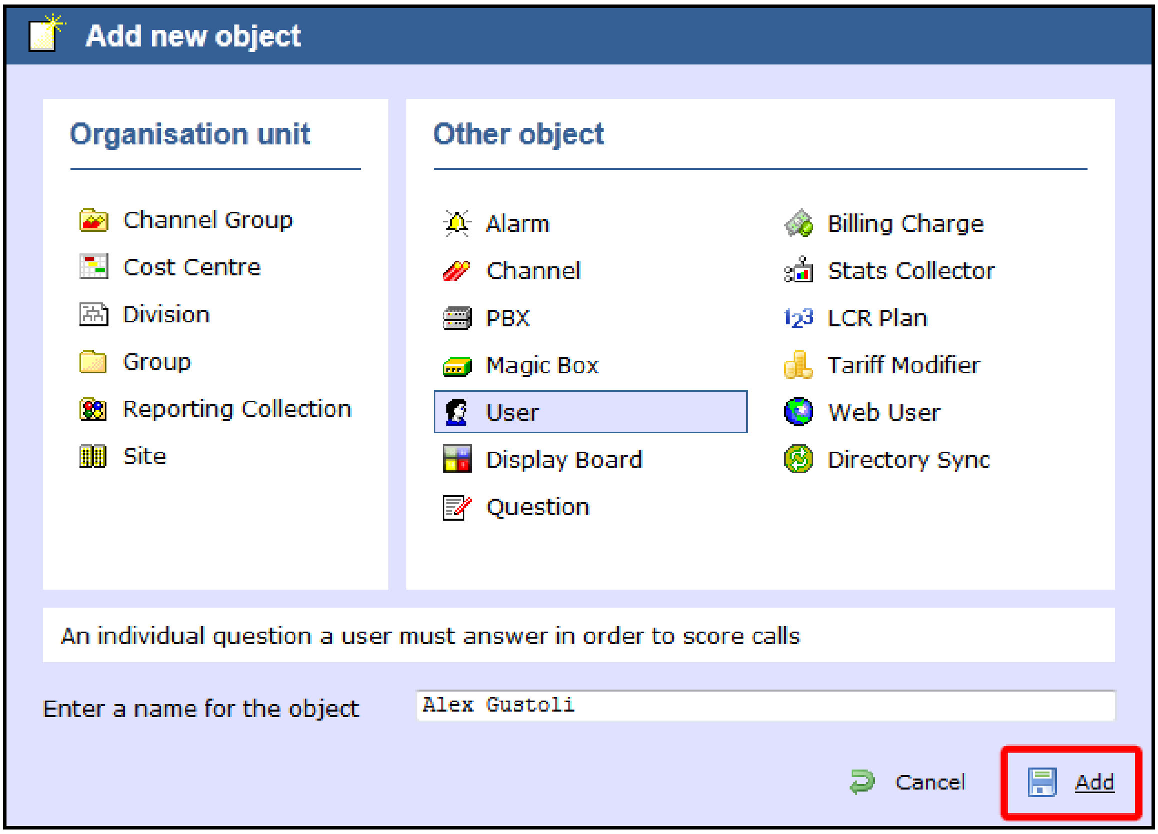
Users represent the people in your organisation who make use of devices such as telephone extensions, fax machines, etc. When you first configure TIM Enterprise, your users are automatically harvested from the data received from the phone system into a folder named **`Discovered Users`**. The properties of each user can be edited afterwards, and users can also be subsequently organised into new user groups, if preferred.

Adding a user

To manually add a user to the system, drill-down to the Directory level where you want to add the user and click on the **`New object`** tab, as shown below:

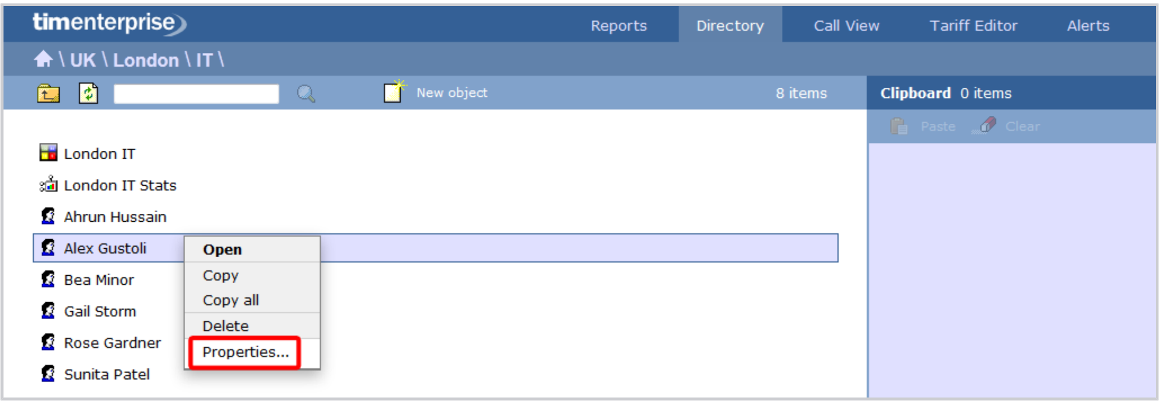


In the new window that opens, select the **`User`** object from the **`Other object`** list, enter a relevant name and click on the Add button, as shown below:



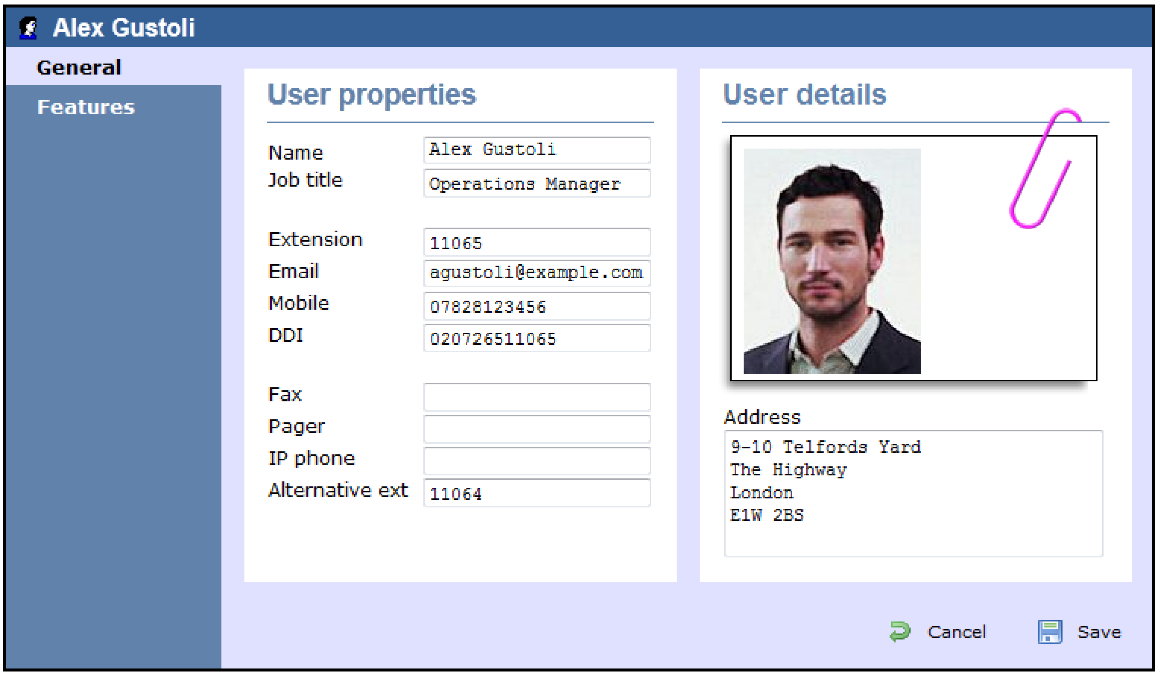
Configuring a user

To configure a user, locate the object in the Directory, click on it and select **`Properties`** from the drop-down list, as shown below:



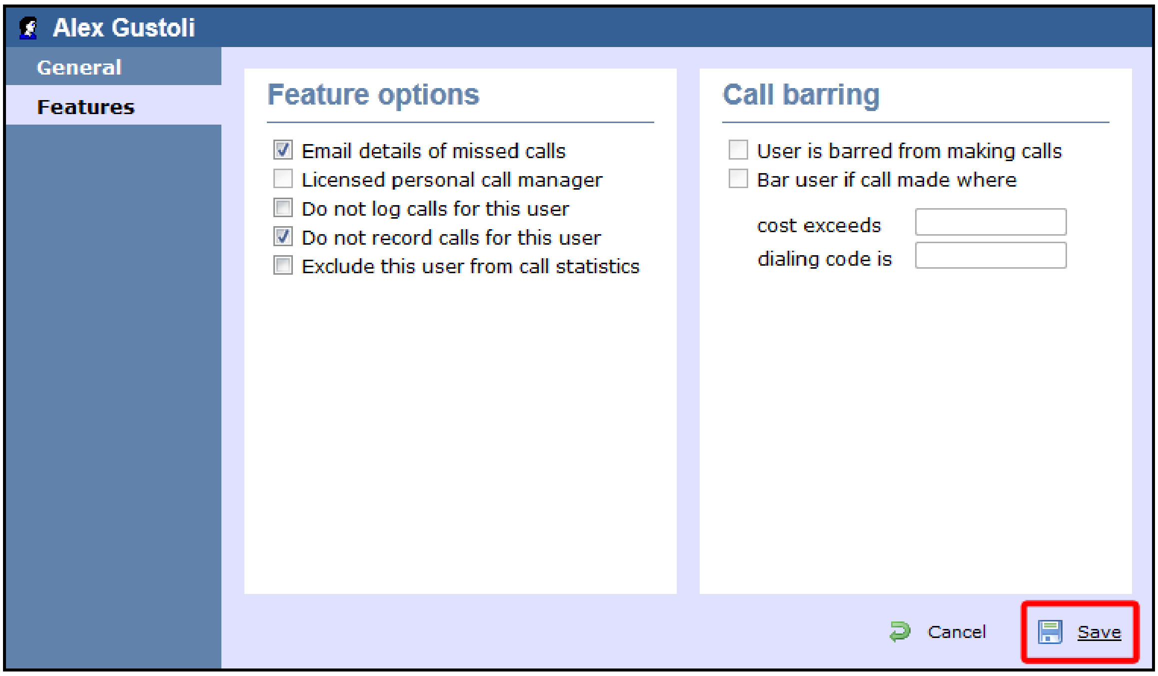
A new window will open, allowing you to configure the properties of your user object, as shown below:

General



Field	Description
Name	The name of the user. If no name is entered, the extension number will show instead
Job title	The job title of the user
Extension	The extension number of the user
Email	The e-mail address of the user
Mobile	The mobile number of the user
DDI	The DDI number of the user
Fax	The fax number of the user
IP Phone	The IP phone number of the user
Alt extension	The alternative extension number(s) or the DDI digits of the user, if applicable

Features



<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Email details of missed calls</td><td>Tick this box if you would like this user to receive e-mail notifications every time they have a missed call</td></tr>
<tr><td>Licensed personal call manager</td><td>This feature is no longer in use</td></tr>
<tr><td>Do not log calls for this user</td><td>When selected, calls for this user will not be logged</td></tr>
<tr><td>Do not record calls for this user</td><td>When selected, calls for this user will not be recorded</td></tr>
<tr><td>Exclude this user from call statistics</td><td>When selected, collection of statistics will not be performed for calls to and from this user</td></tr>
<tr><td>Call barring</td><td>This feature is not available on the majority of telephone systems as it requires tight integration with the PBX. If available it will allow you to:
<table>
<tr><th></th><th></th></tr>
<tr><td>Bar user from making calls</td><td>Prevents the user making calls. i.e. set a block on the PBX to prevent outbound calls from this user.</td></tr>
<tr><td>Partically Bar calls</td><td>Bar calls to specific numbers or calls that exceed a specific pre-allocted amount.</td></tr>
</table></td></tr>
</table>

Display Boards

What is a display board?

A display board is a user-definable screen that can comprise any live, up-to-the-minute information, such as call statistics, leaderboards or RSS feeds. It can also pull content from third-party systems, such as sales management, accounting or CRM software.

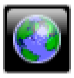
Starting from either a blank canvas or from a pre-defined template, a display board can be customised by adding any combination of the following types of panel, using an on-screen designer:


Label panel

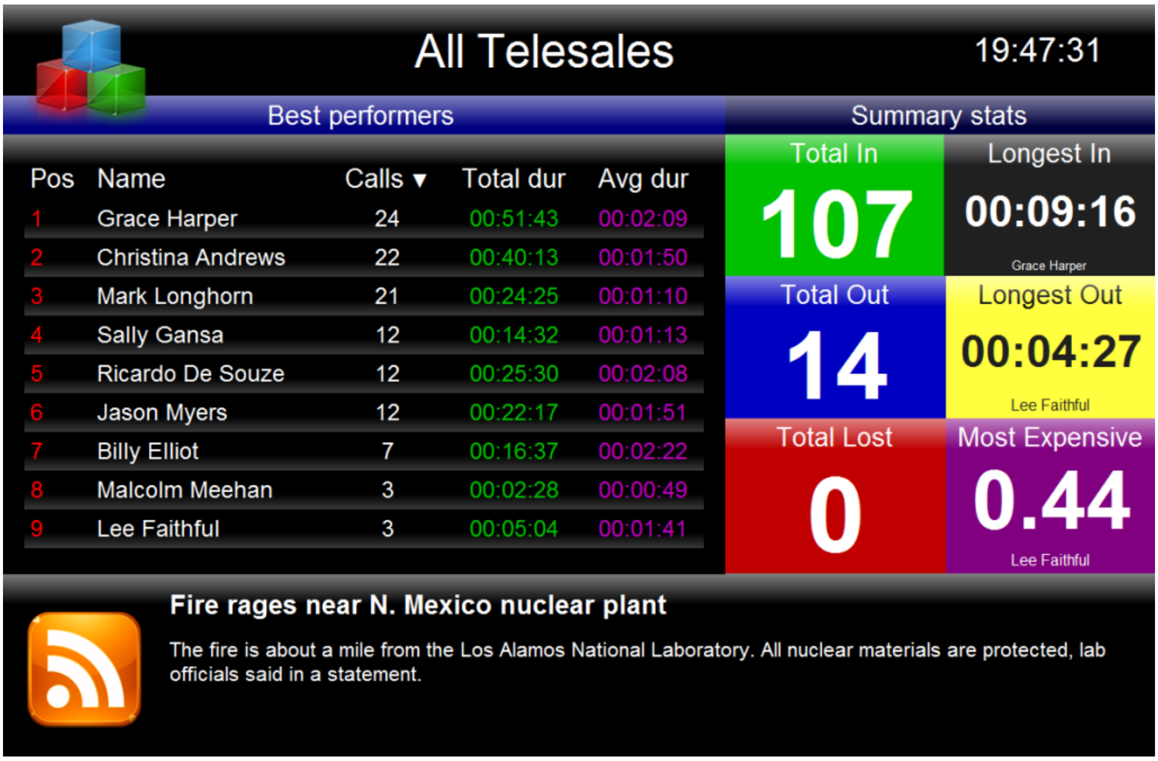

Leaderboard panel


Summary panel


RSS panel


Web panel

The example below shows a display board containing a label panel at the top of screen, a leaderboard panel on the left-hand side, and a series of 6 summary panels on the right-hand side. An RSS panel is displayed at the bottom of the screen. At the top-left corner of the display board, an additional transparent label panel was added to represent a company logo.

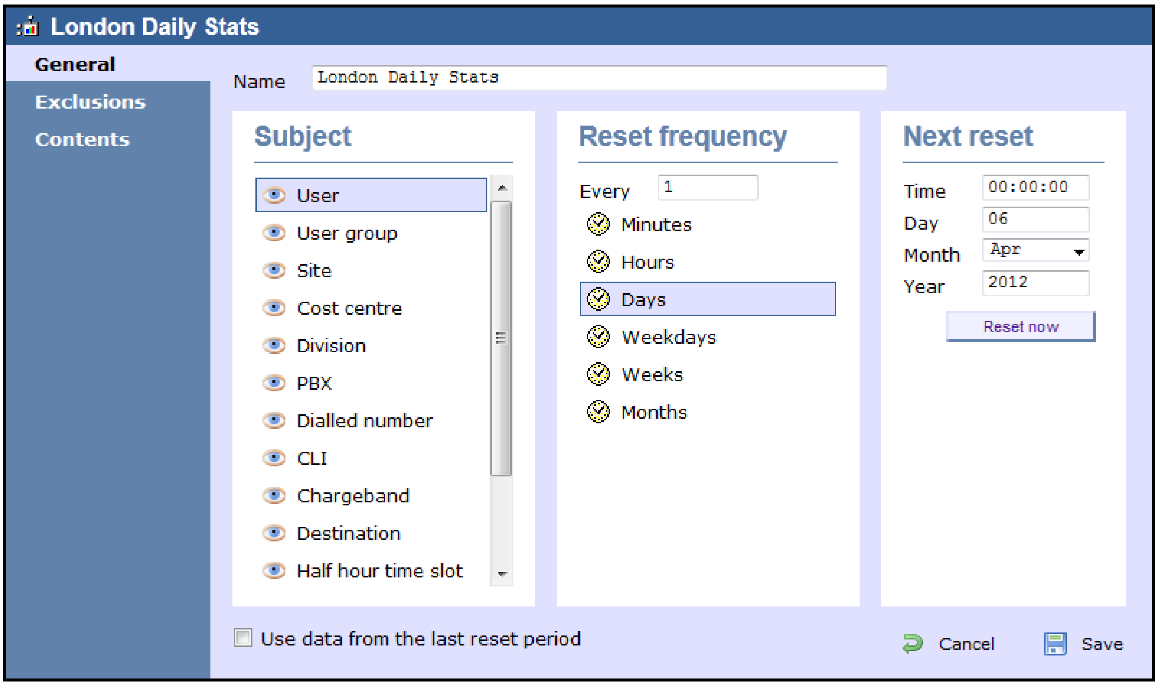


The following pages contain details of how to create and customise display boards.

How are display boards populated?

Whilst display boards can be populated by various external data feeds, their principal use is to display up-to-the-minute information about your organisation's phone calls, for which objects known as "stats collectors" are employed. These statistics collection points are mathematical "counters" whose scope is determined by their placement in your directory hierarchy. For example, placing a stats point inside a specific user group ensures that call information is collected only for users that inhabit the selected group. Similarly, placing a stats point inside a site will collect only call information for the chosen site.

Additionally, when configuring a stats point, a subject must be specified, which determines the property of each call whose value will be used when grouping its collated information into distinct sets. For example, specifying a subject of "user" will group its collated call information into sets of data for each distinct user.

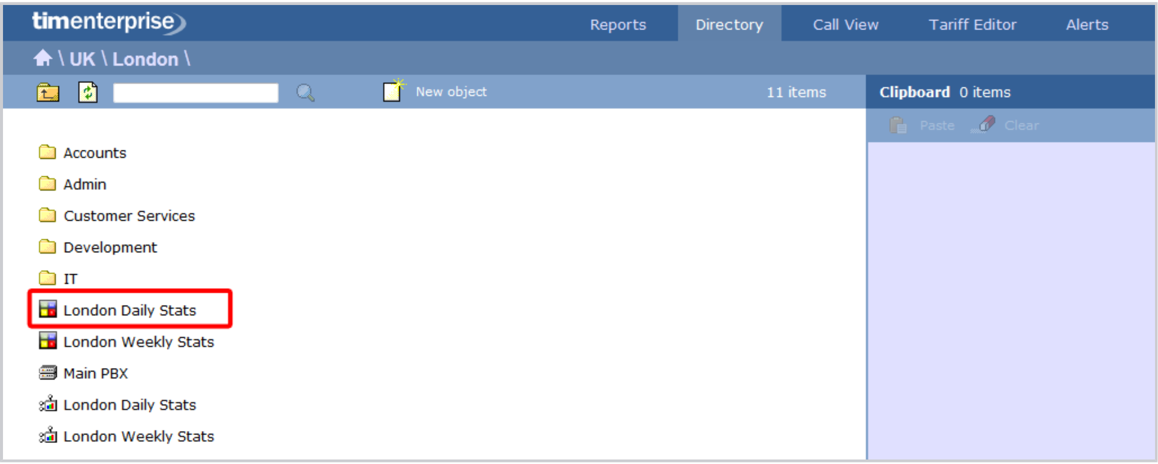


For more information about stats points and how to create them, refer to the Stats collector section.

In order to create a display board containing call information, at least one stats collection point must be defined first.

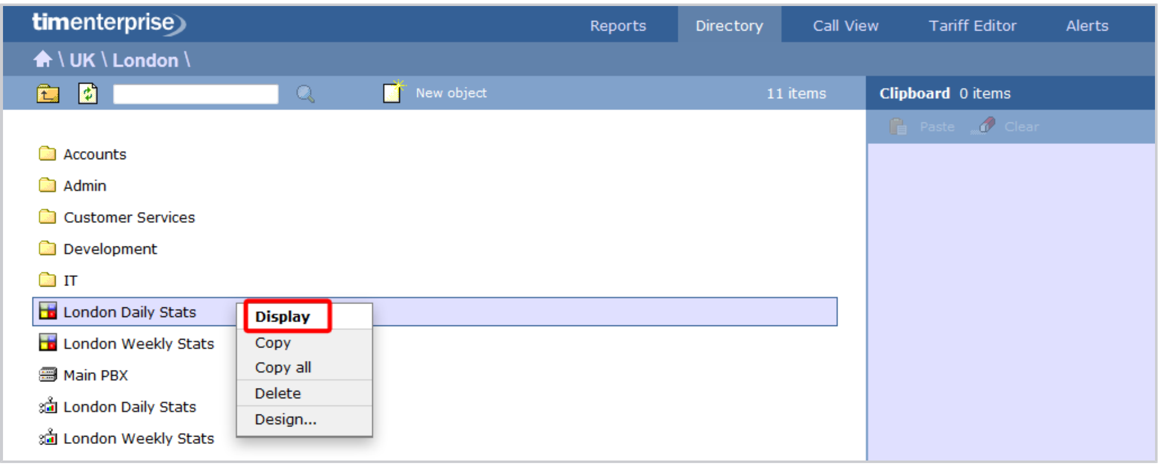
Accessing a display board

To access a display board, drill-down to the point in your Directory where your display board object is located.

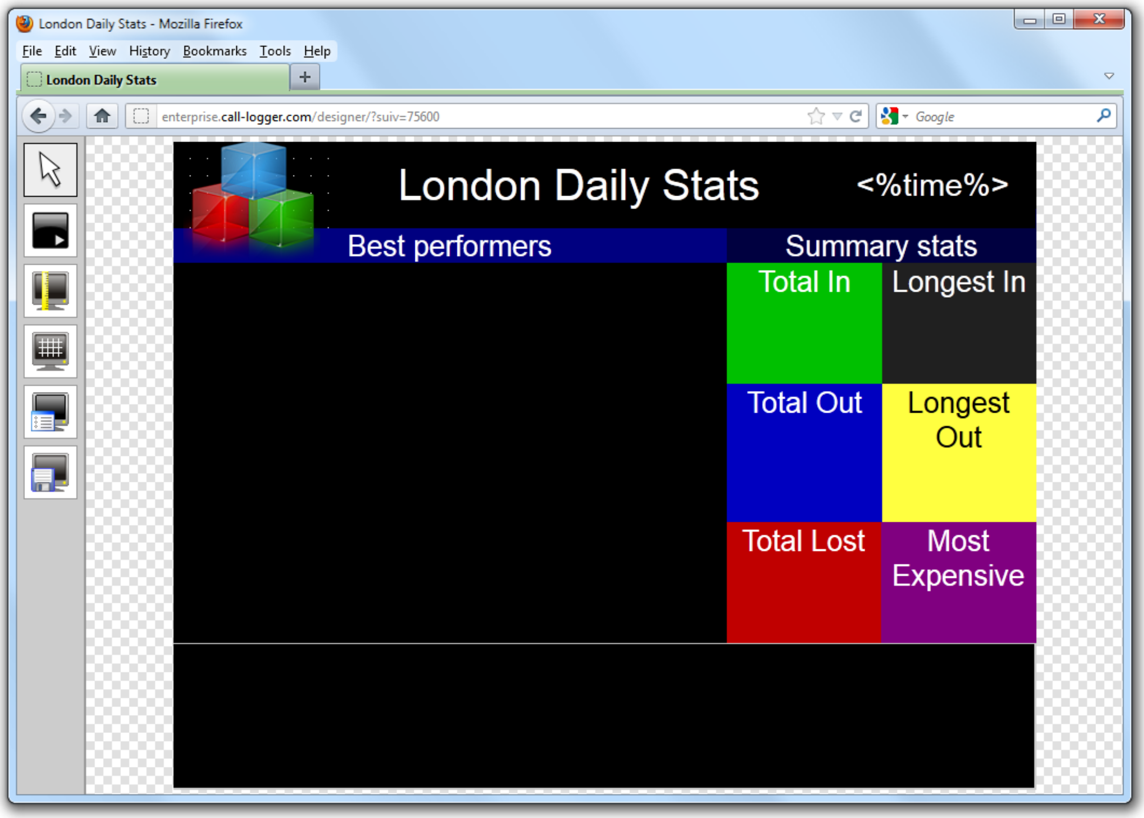


The list of display boards you are allowed to see depends on the place of your login account in the Directory. To be able to see additional display boards, contact your system administrator.

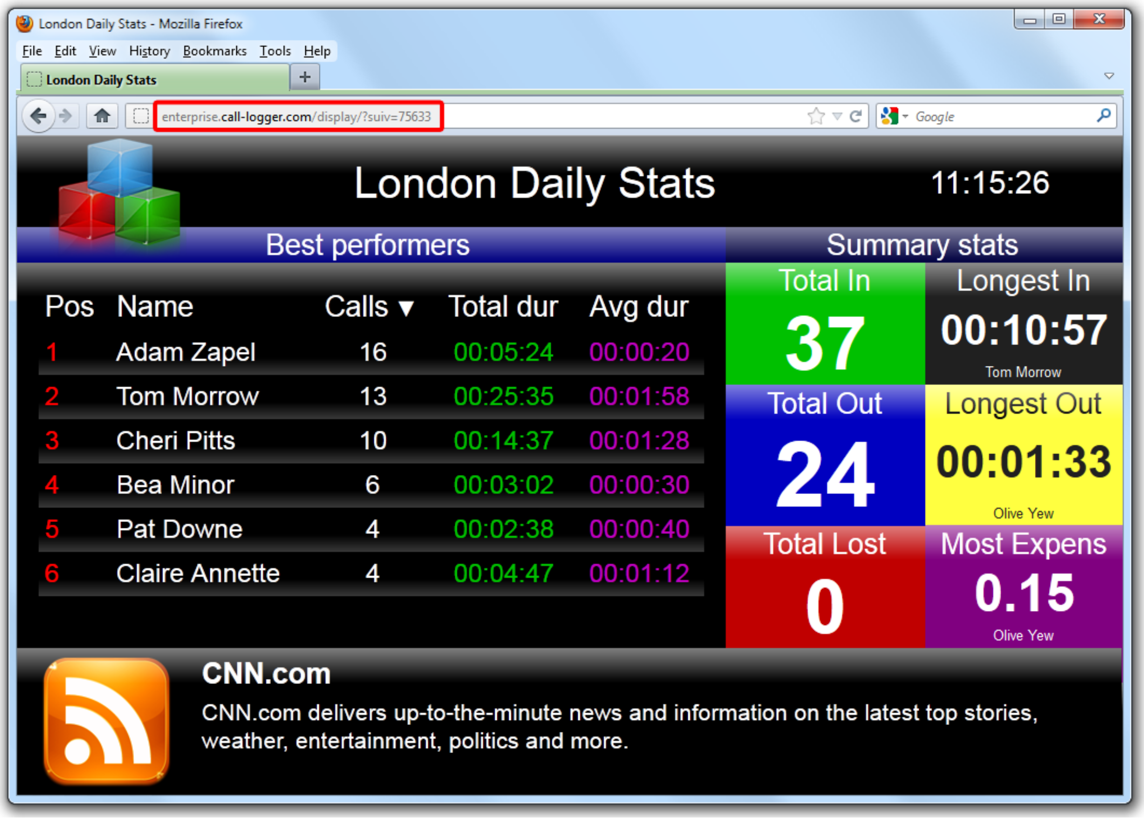
To view the display board, click on it to expand the drop-down list and select `Display`, as shown below:



To design or edit a display board, select `Design` from the drop-down list. The design mode of your display board will display as follows:



To access a display board directly, type its URL in the address bar of your web browser, as shown below:



The URL of the display board can be saved in your Favorites, to your desktop or mobile device - if you need to view this screen frequently. Alternatively, you may want to display this permanently on a large screen in your office so that everyone in your team can monitor the statistics.

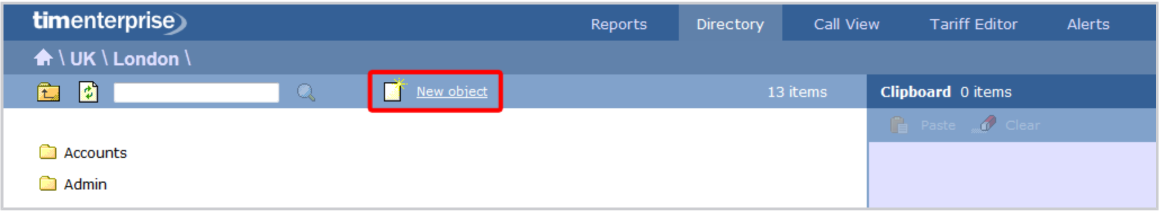
Creating a display board

Creating a display board

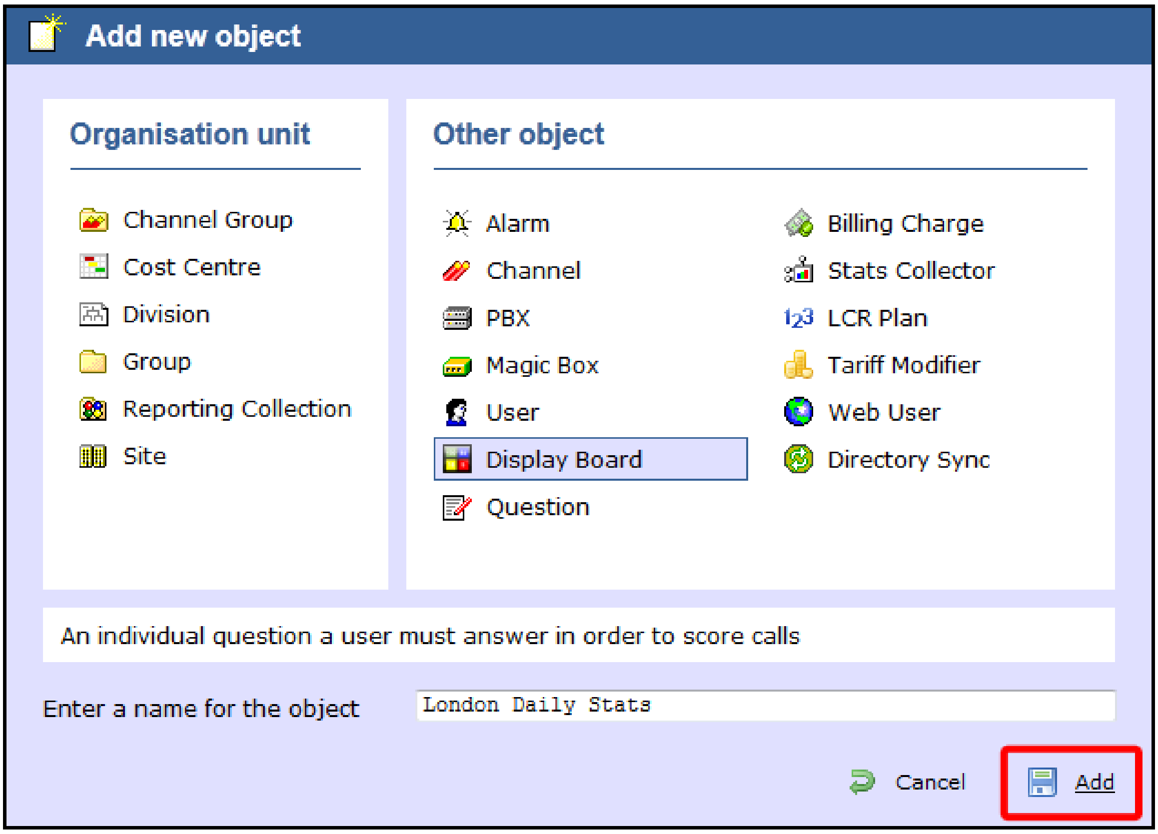
- Adding a display board
- Create blank
- Create from a template
- Create from an existing display board

Adding a display board

To add a display board object to the system, drill-down to the Directory level where you want to add the display board and click on the `New object` tab, as shown below:

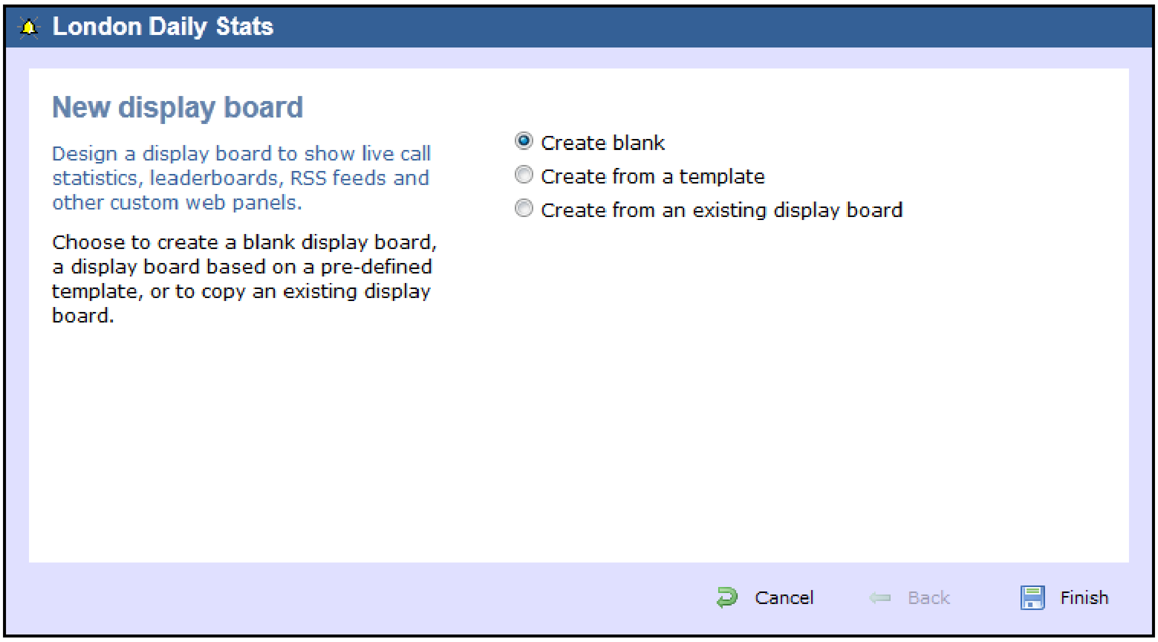


In the new window that opens, select the `Display board` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:



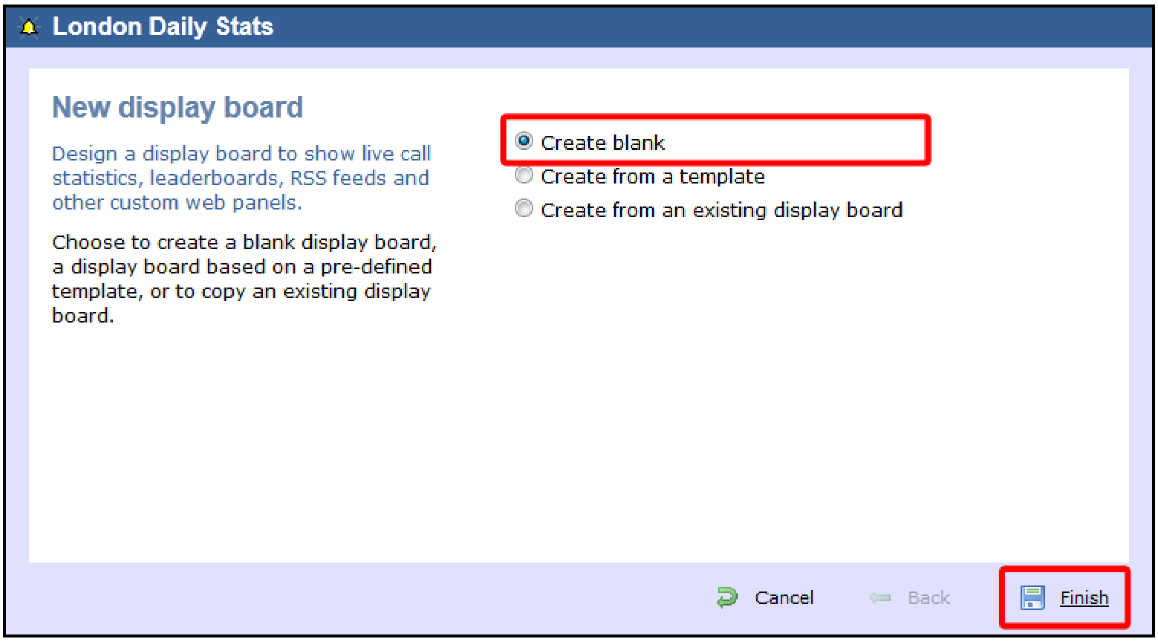
A new window will open, allowing you to select one of the following three options:

- **Create blank:** This option allows you to design your own display board from scratch
- **Create from a template:** This option allows you to choose a predefined display board template
- **Create from an existing display board:** This option allows you to create a new display board based on an existing template

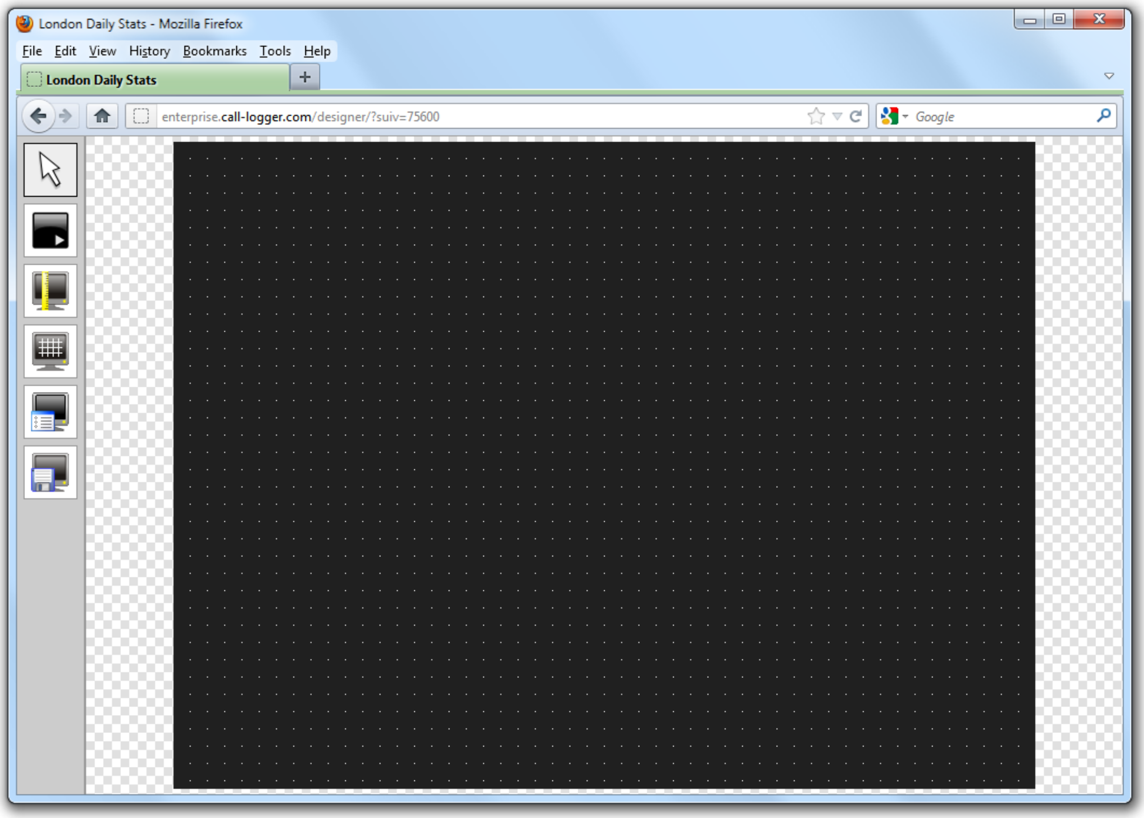


Create blank

To design your own display board from scratch, select the **Create blank** option and click on the Finish button, as shown below:



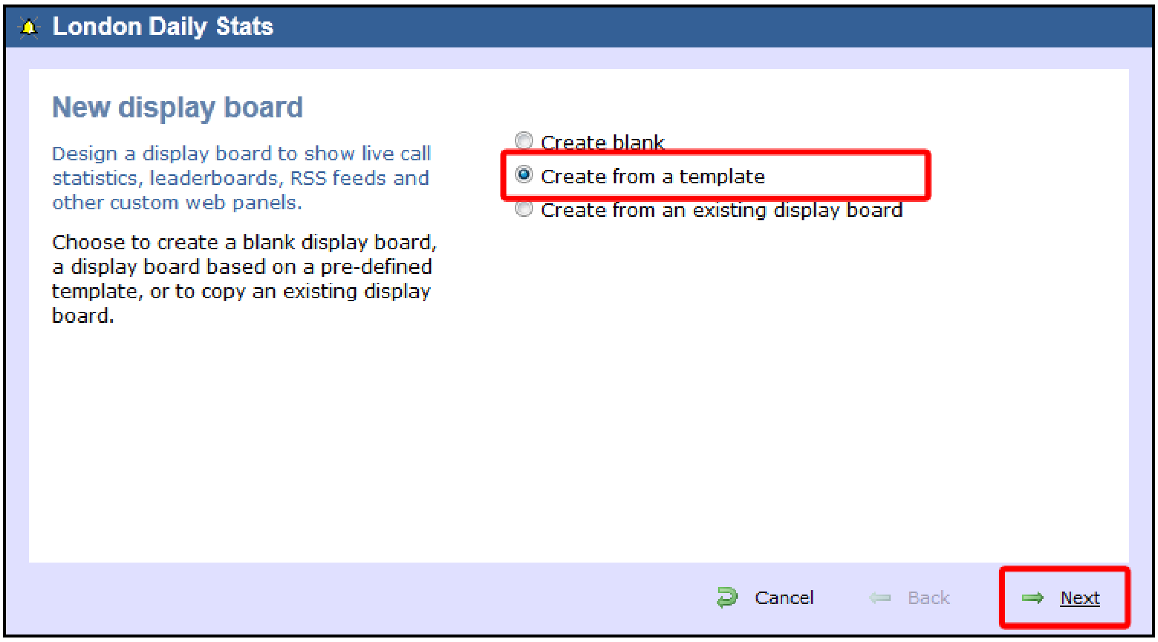
A new window will open, showing the design mode of your display board, as shown below:



For information on how to design your own display board, refer to the Designing a display board section.

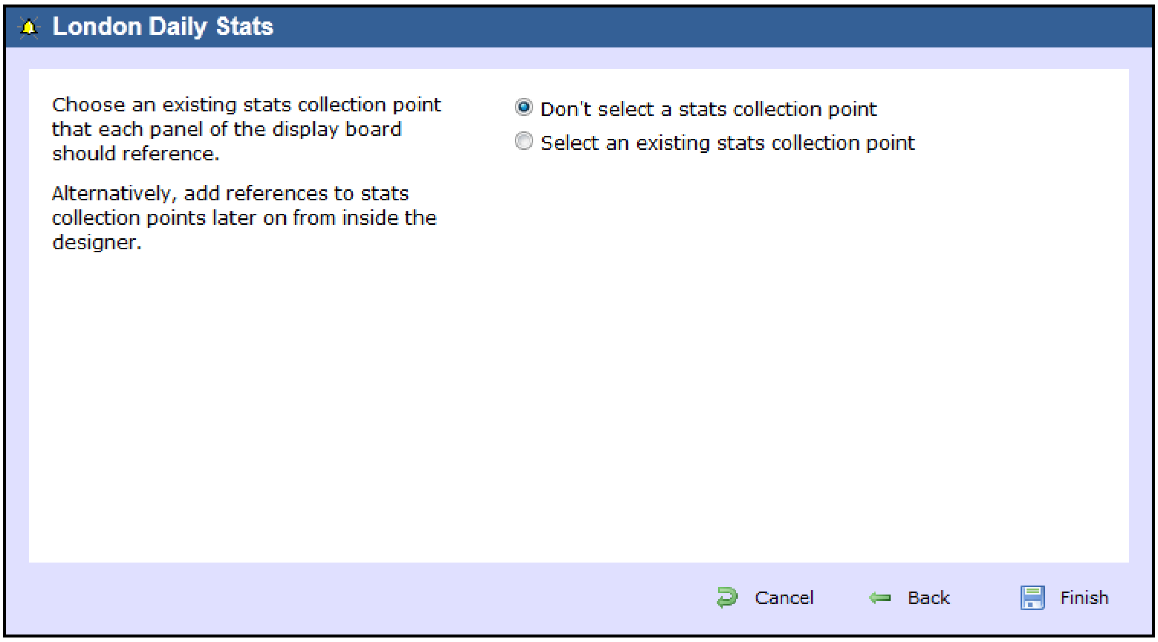
Create from a template

To create a display board from a predefined template, select the **`Create from a template`** option and click on the Next button, as shown below:



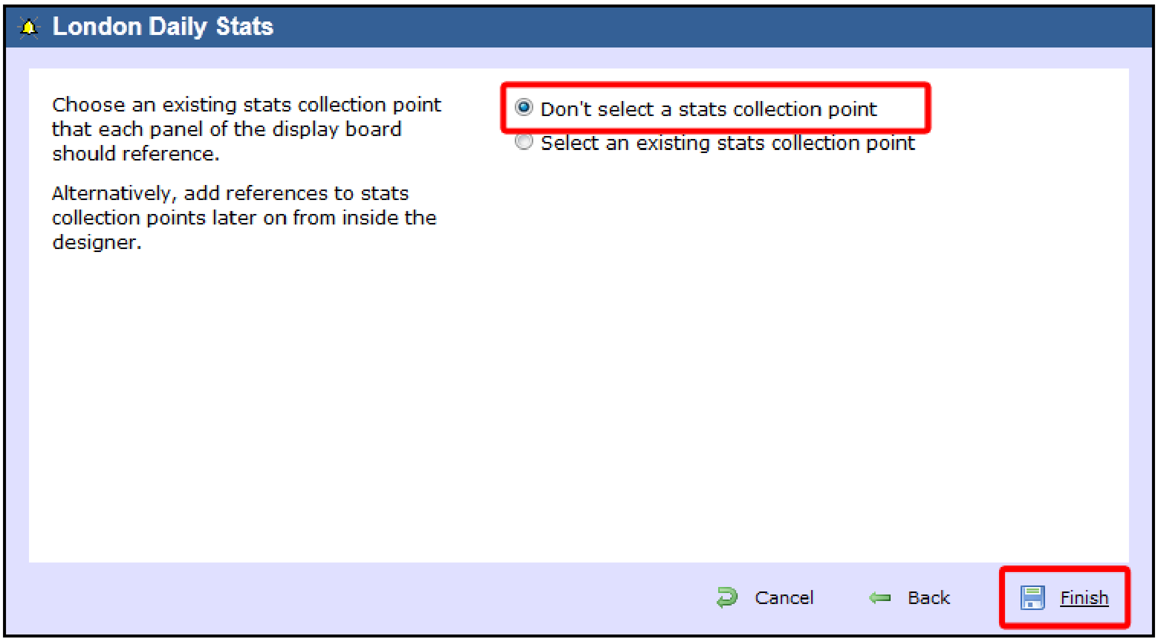
You can now select from a series of predefined templates, by clicking on its associated number, then click on the Next button.

At this stage, you are asked to select a stats collection point or skip to the next section.



Don't select a stats collection point

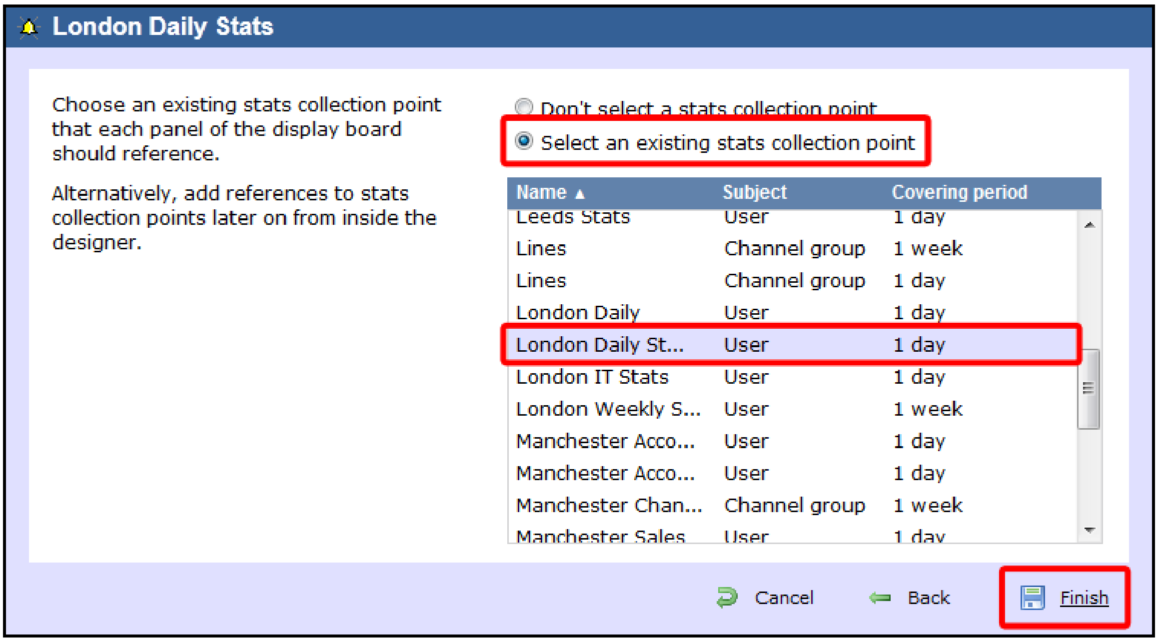
If you don't want to select a stats point at this time, click Finish and your display board will be added to the Directory. A stats point can be added at a later stage, by accessing the `Design` mode of your display board. For information about how to configure a stats collection point, refer to the Adding a stats collector section.



The display board will be blank until a stats collection point is selected.

Select an existing stats collection point

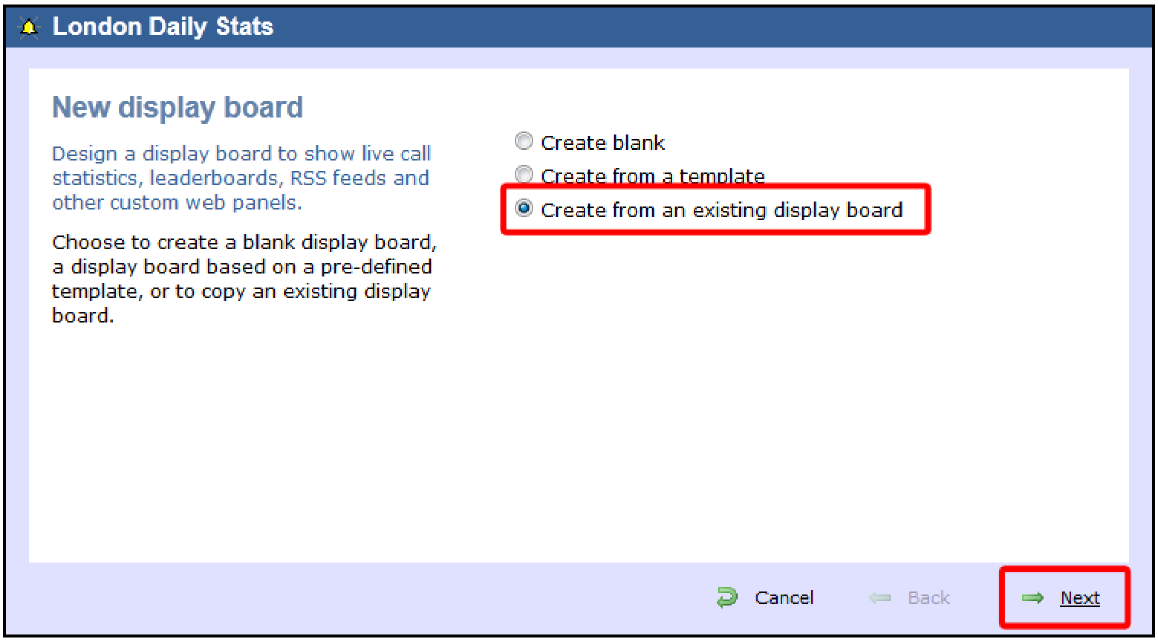
If you select this option, a list with the existing stats points objects will be displayed, as shown below:



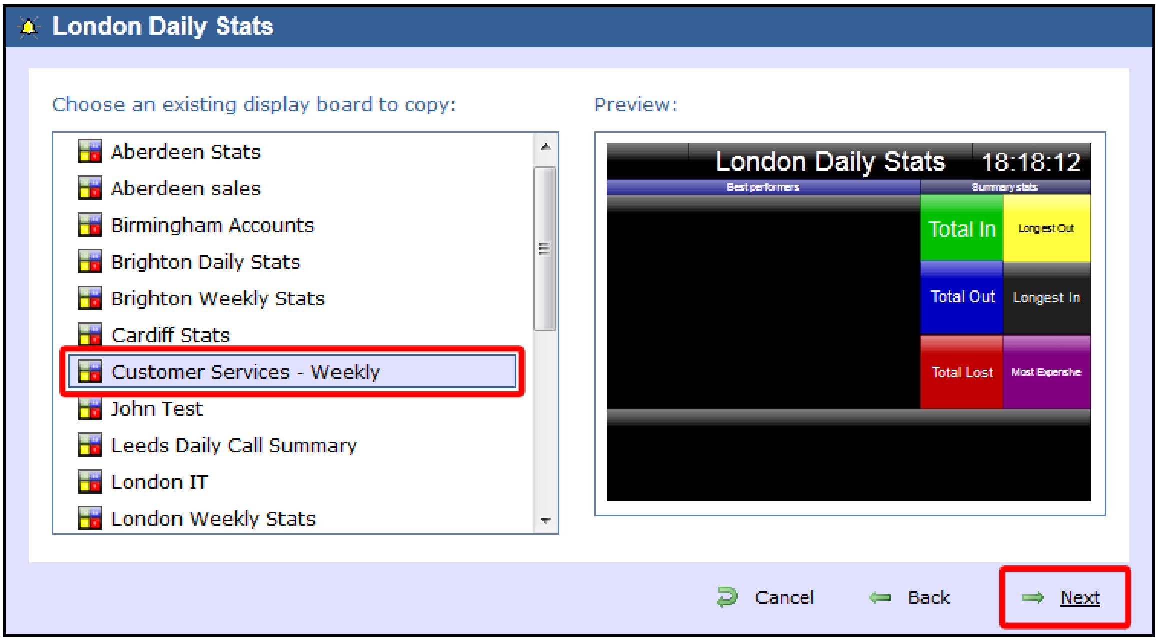
Select the relevant stats point from the list and click on the Finish button to add the new display board to the Directory.

Create from an existing display board

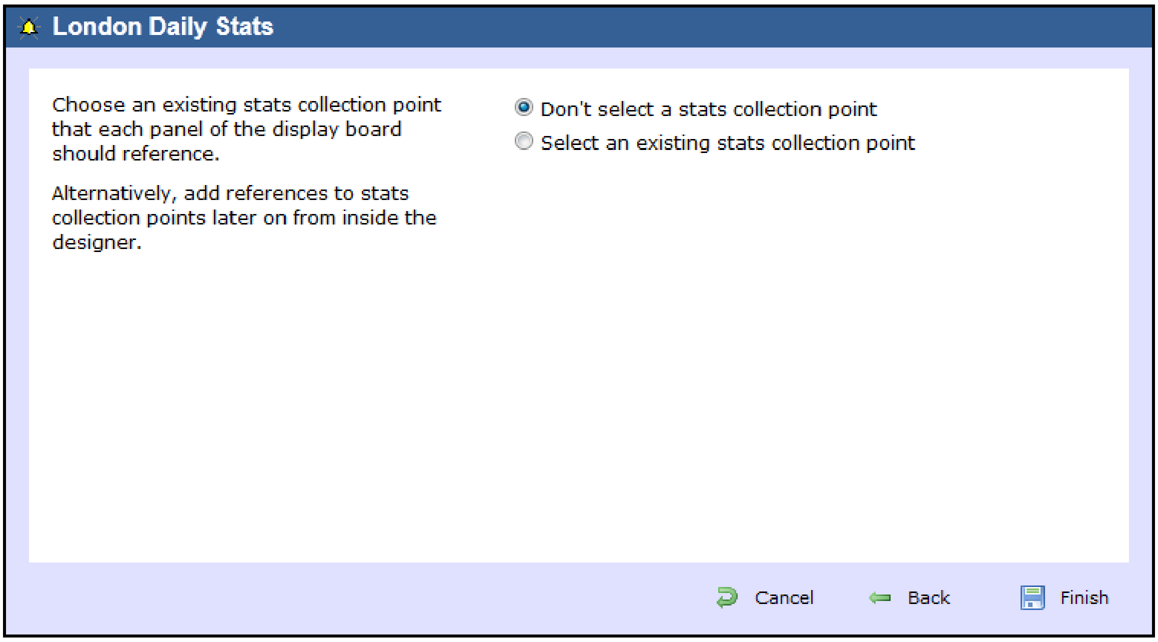
To create a display board from an existing template, select the `Create from an existing display board` option and click the Next button.



A list with the currently-available display boards will be shown. Select the one you want to copy, then click on the Next button.

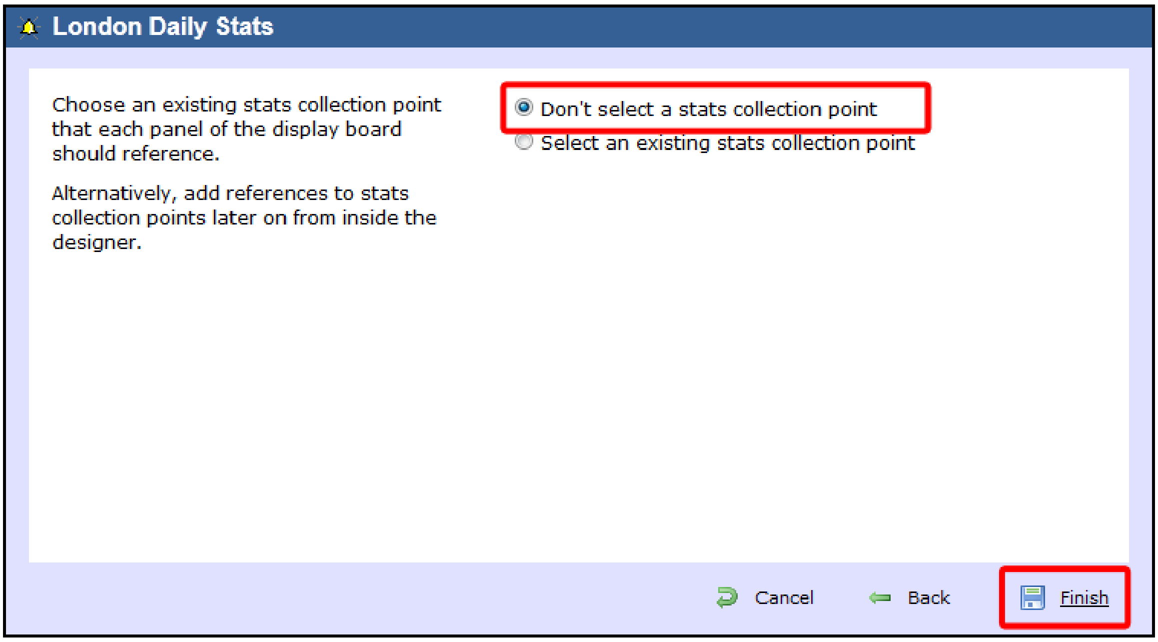


At this stage, you are asked to select a stats collection point or skip to the next section.



Don't select a stats collection point

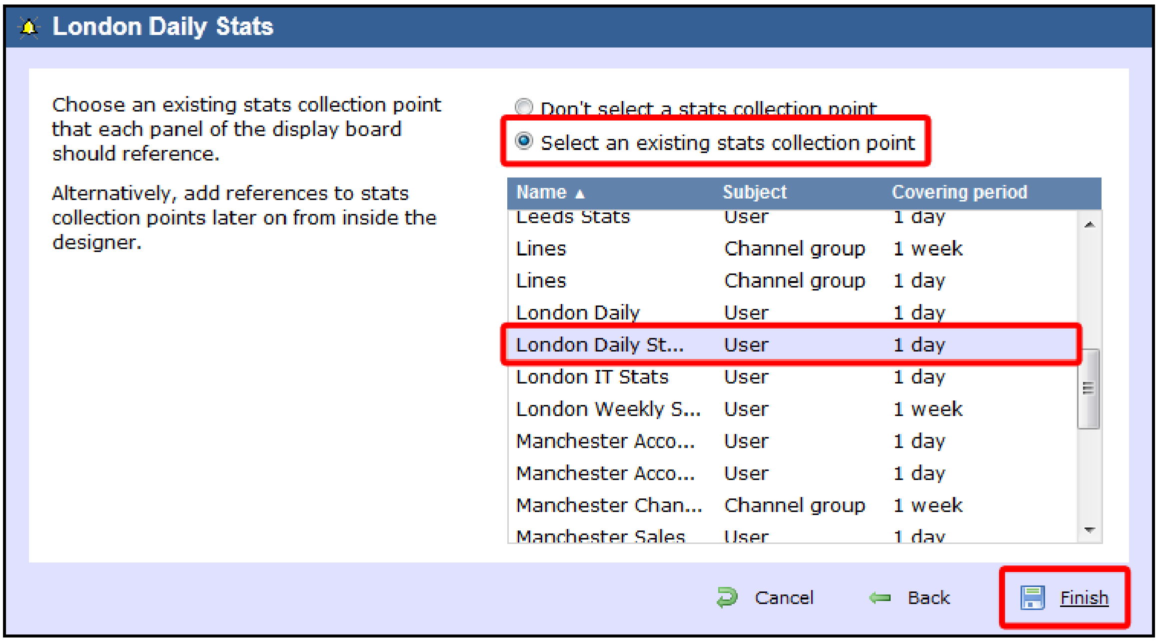
If you don't want to select a stats point at this time, click Finish to add the display boards to the Directory. A stats collection point can be added at a later stage, by accessing the **Design** mode of your display board. For information about how to configure a stats collection point, refer to the Adding a stats collector section.



> The display board will be blank until a stats collection point is selected.

Select an existing stats collection point

If you select this option, a list with the existing stats points objects will be displayed, as shown below:



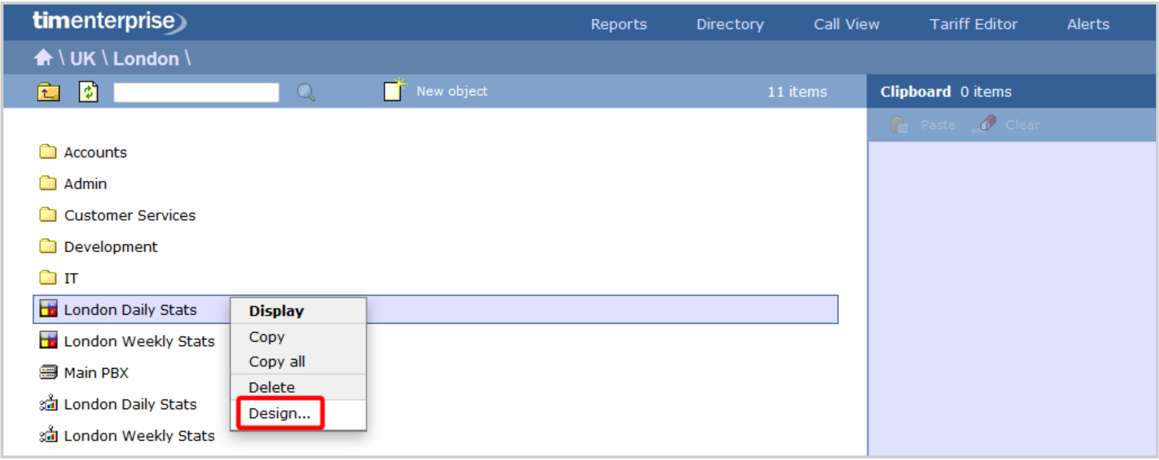
Select the relevant stats point from the list and click on the Finish button to add the new display board to the Directory.

Designing a display board

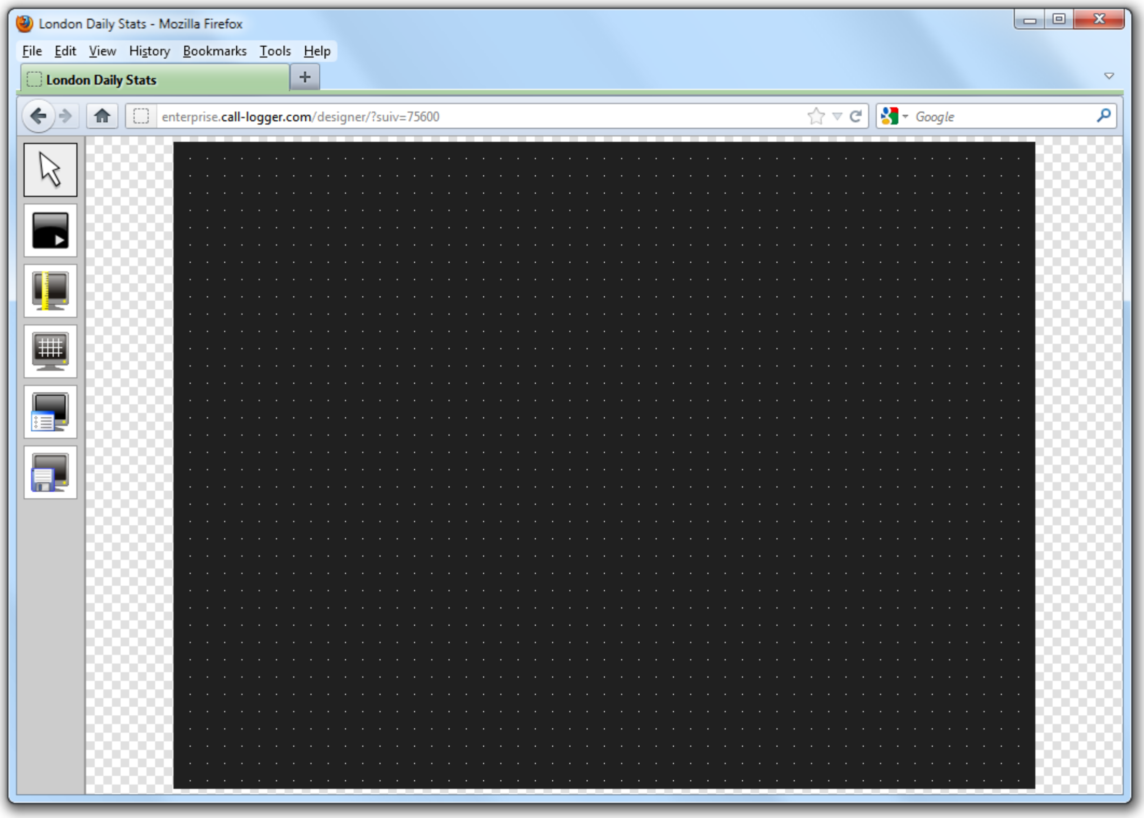
Designing a display board video

How to design a display board

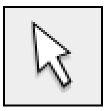
To design a display board, locate the object in the Directory, click on it and select **Design** from the drop-down list, as shown below:



If you opted to design your display board from scratch, the following screen will appear:

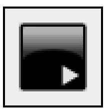


To add or edit panels in your display board, use the toolbar on the left-hand side of the panel. Each toolbar button is described below:



The pointer button

The pointer (selector) button allows you to select an object and alter its properties.

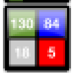


The panel type button

This button allows you to select the type of panel you want to add to the canvas. The available panel types are presented below:

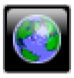
 Label panel

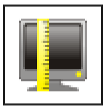
Leaderboard panel



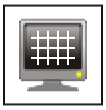
Summary panel


RSS panel


Web panel


The aspect ratio button

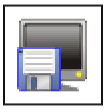
This button allows you to change the ratio of the screen. The defaults available are 16:10 and 4:3, but the board can be stretched to any value you set.


The grid button

The grid button is a simple toggle switch that shows or hides the grid.


The canvas settings button

This button allows you to change the background properties of the canvas.


The save button

This button allows you to save any changes made to the canvas.

Display Board panels

Common features

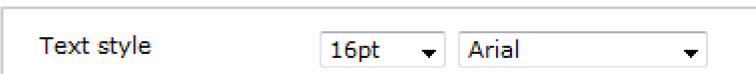
This section offers information about how to style the panels of your display boards.

Common features

- Selecting a font
- Colour picker
- Formatting buttons
- Text position

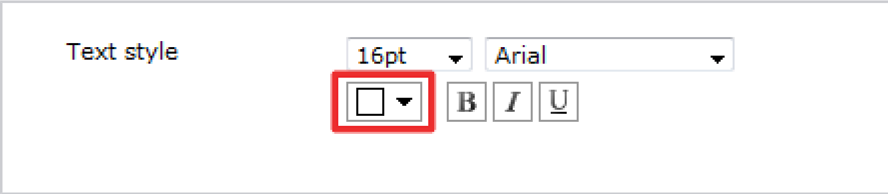
Selecting a font

To select a font style or a font size, expand the drop-down list and choose from the available options, as shown below:



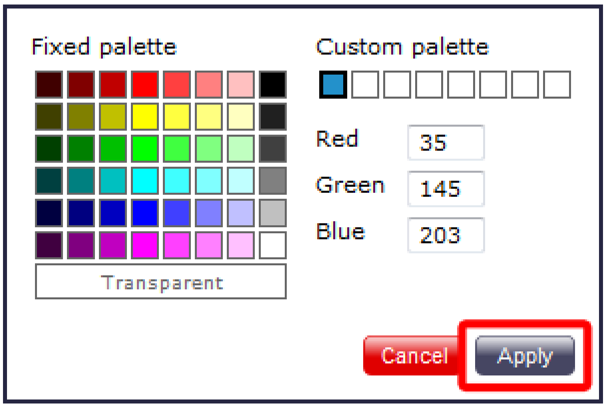
Colour picker

To select the colour of an object, click on the drop-down arrow to expand the colour palette.



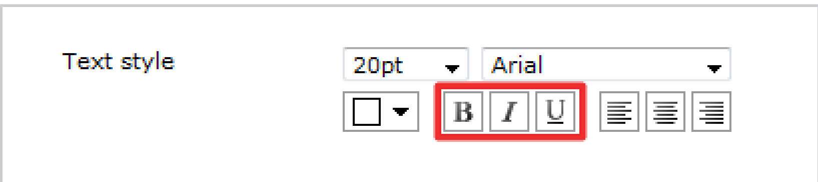
To select a standard colour, choose from the **Fixed palette** section. If you are adding an image, select the background to be transparent, so it doesn't interfere with the appearance of the image.

To select a custom colour, click on one of the blank colour squares and type the RGB colour codes to add it to your custom palette. Click on the  button to set the chosen colour:



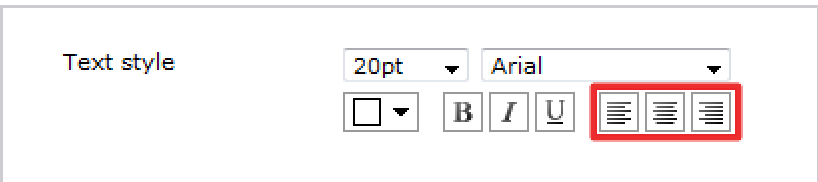
Formatting buttons

If you would like the text in your display board to appear as bold, italic or underlined, click on the relevant  button, as shown below:



Text position

To determine the position of your text, click on the relevant  button, as shown below:



Label panel

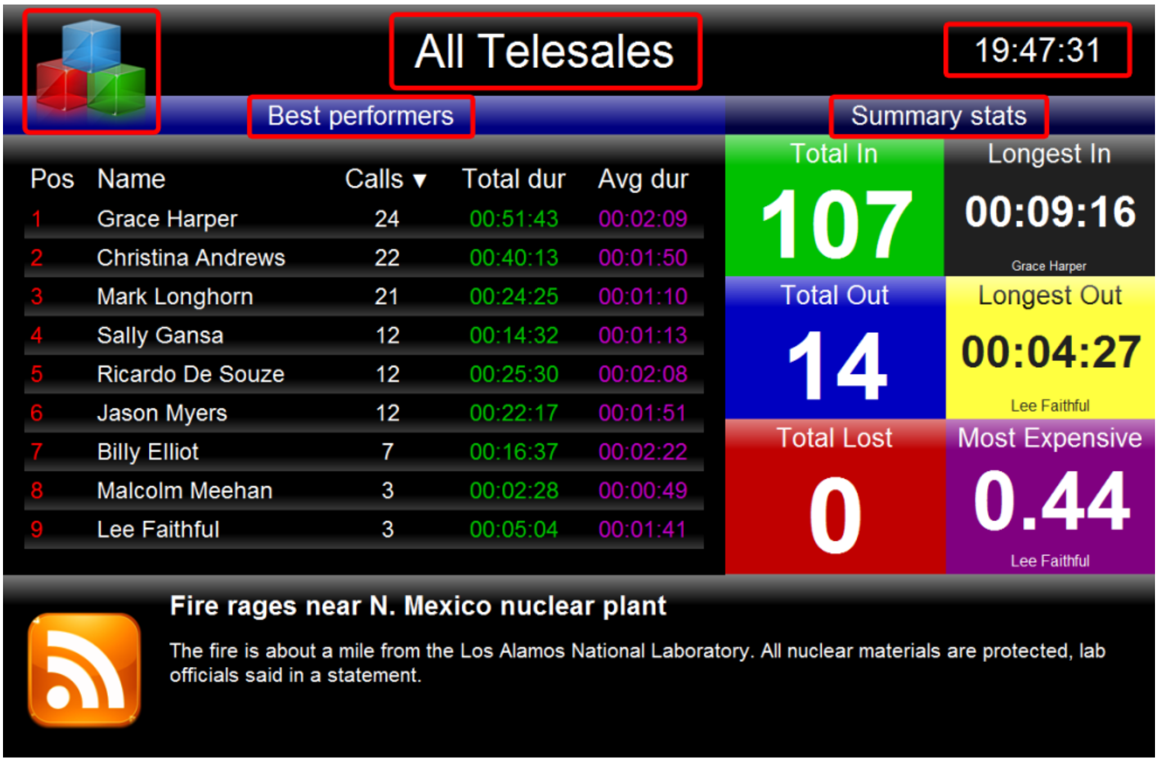
Label panel

- What is a label panel?
- Adding a label panel
- Customising a label panel
- Label panel - overview video

What is a label panel?

The label panel allows you to add textual labels anywhere on your display board. These labels can consist of static text, dynamic text (such as the current date and time), and images (such as your company logo) by specifying no text but choosing a background image.

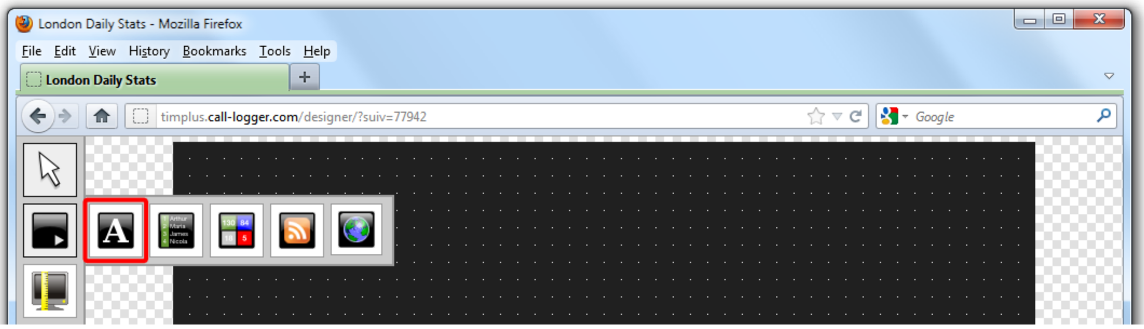
The example below shows how label panels - highlighted in red - appear on a display board; a large label panel, `All Telesales`, is shown at the top of the screen, followed by two smaller label panels, `Best Performers` and `Summary Stats`, describing the sections below them. Two further label panels were used to add a company logo (at the top-left of the page) and the current date and time (at the top-right of the page).



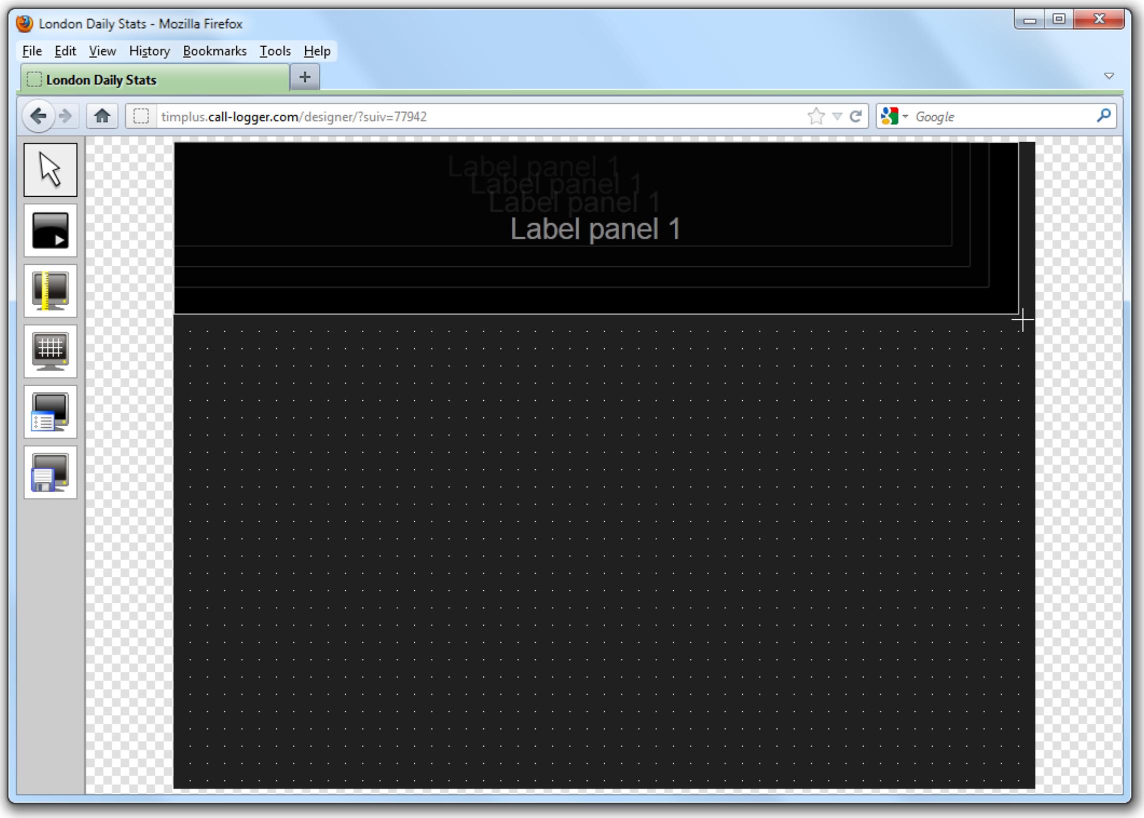
There is no limit to the number of label panels you can use on a display board.

Adding a label panel

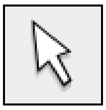
To add a label panel, click on the toolbar button to expand the list of panel types and choose the button, as shown below:



After selecting the label panel button, the mouse pointer changes into a white crosshair pointer, indicating that the designer is ready to draw your panel. Click and hold your left mouse button, starting at the point defining the upper-left corner of your new panel. Whilst still holding down the left mouse button, drag the marquee that will appear to the point that will define the lower-right corner of your panel, as shown below:



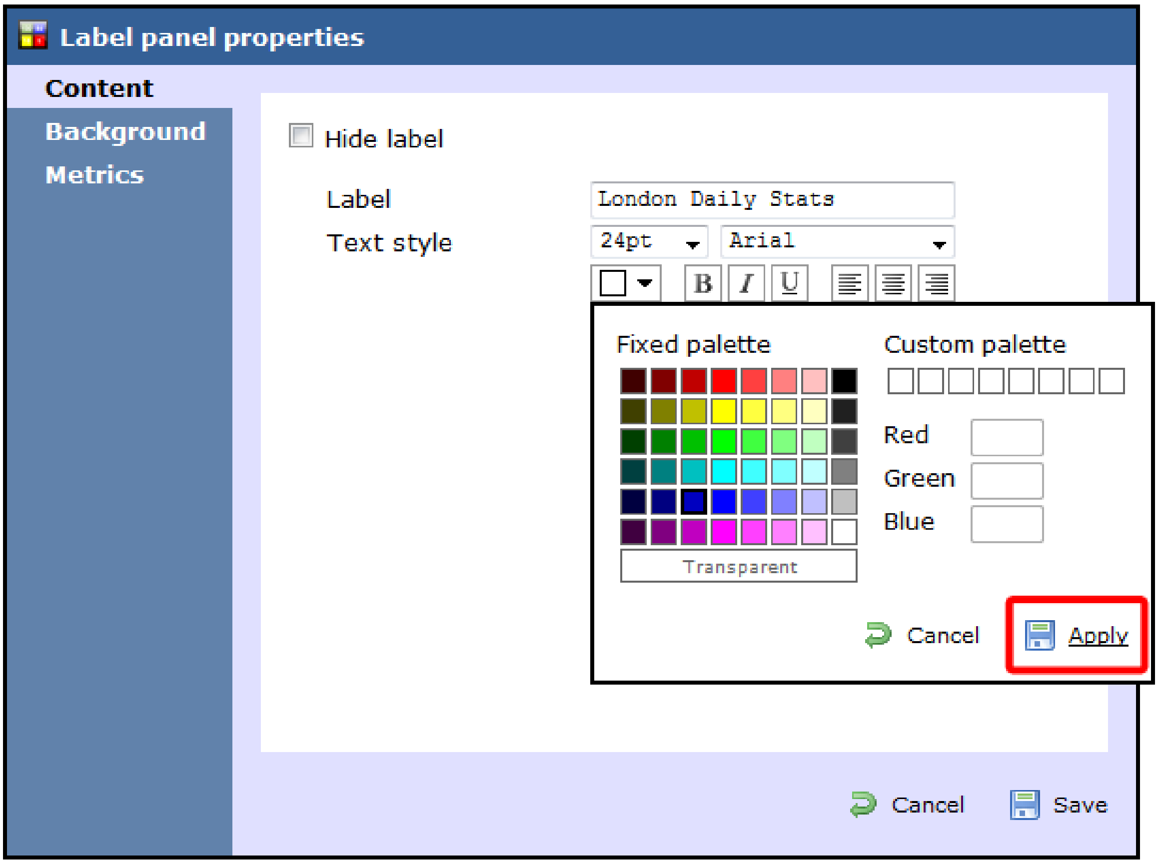
Customising a label panel

To customise a label panel, click on the  toolbar button to switch to panel selection mode. Hover your mouse pointer over the label panel you want to customise and click on the  icon, when it appears towards the top-right corner of the panel, as shown below:

The `Label panel properties` window will open, containing the following tabs:

Content

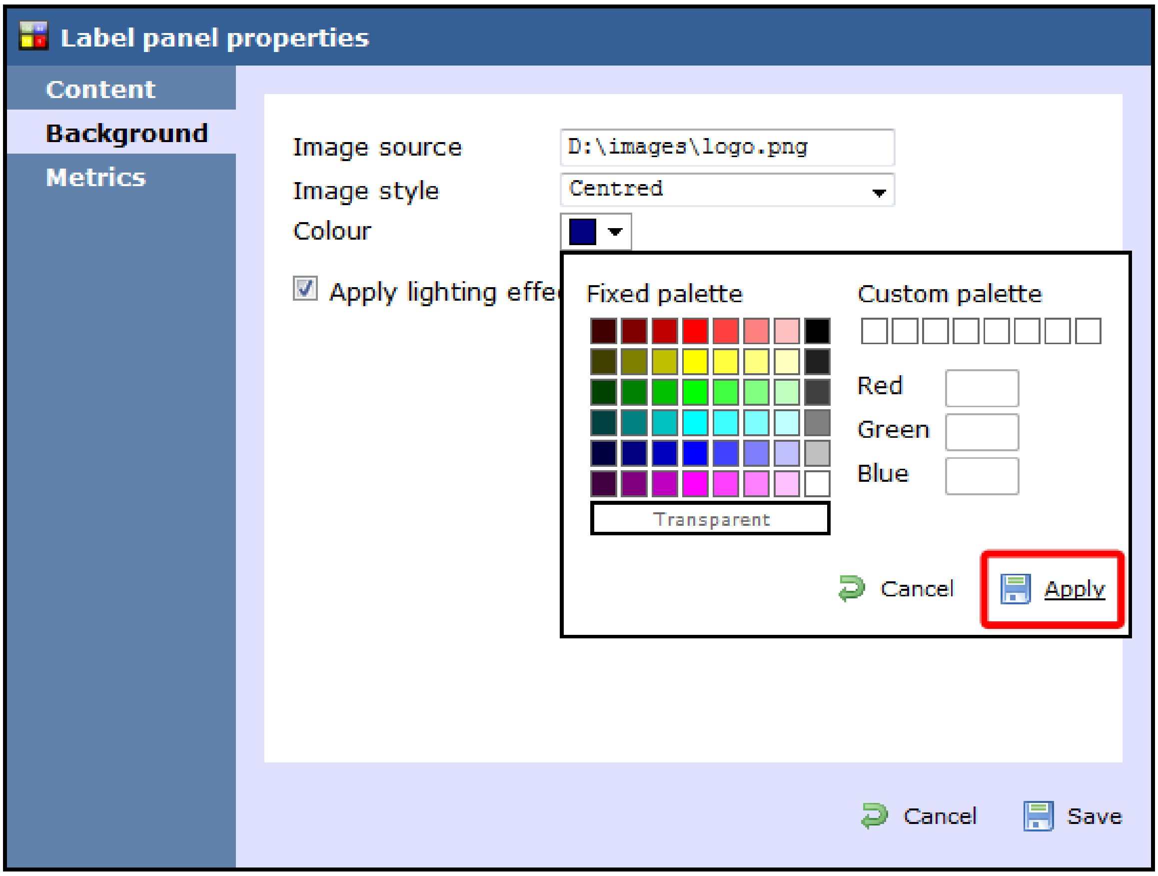
This tab allows you to enter the name you want to appear on the label panel and apply any styling properties, such as font size, font style, text colour, etc.



Field	Description
Hide label	Tick this option if you don't want your panel to display the textual element, such as when you are adding a stand-alone image in the panel's background property
Label	Enter the text you want to appear on the label panel
Text style	Select any styling properties, such as font size, font style, text colour, etc.

Background

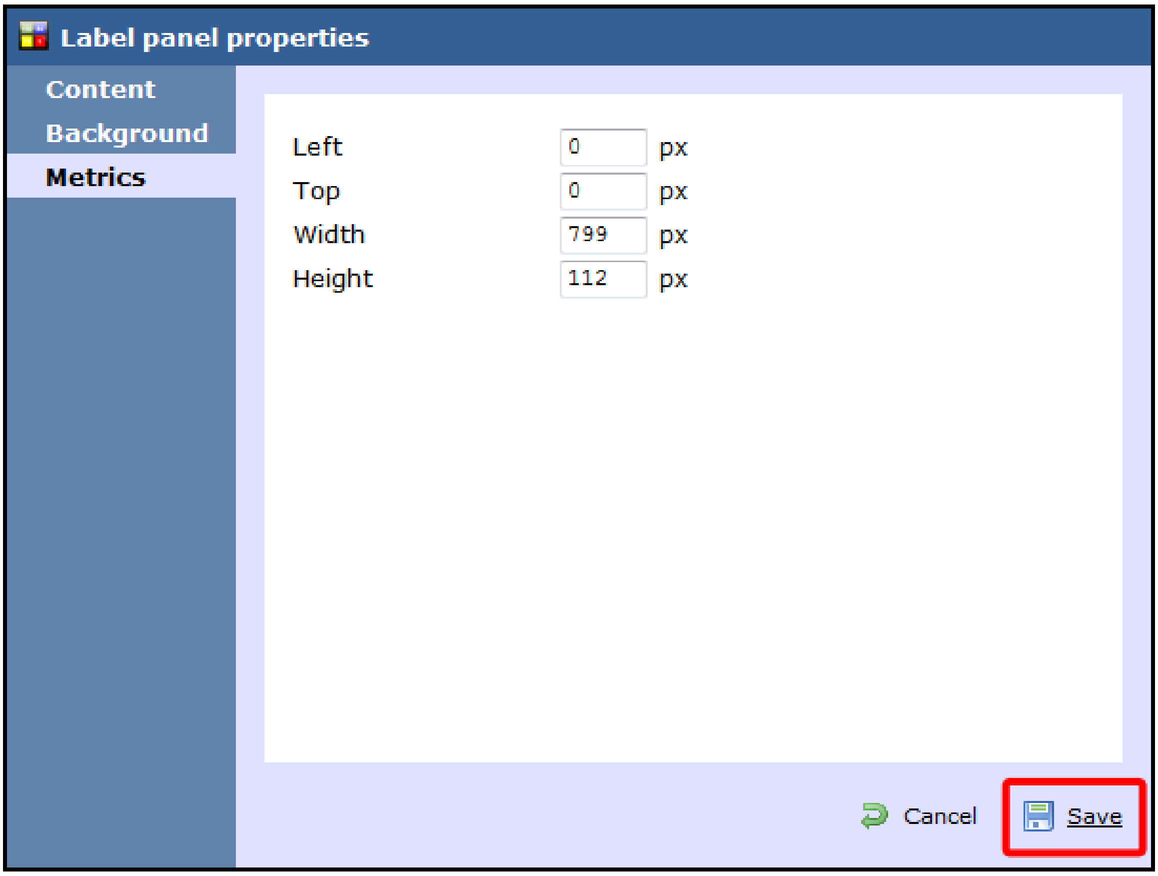
This tab allows you to configure the background properties of your label panel.



Field	Description
Image source	If you want your panel to display an image, type its source here. Remember, the path is relative to the folder on disk from which the web content is served, and is different for each class of web user
Image style	Choose how the image should be displayed
Colour	Choose the background colour of the panel; if you are adding an image, you may want to select `Transparent` so that this does not interfere with your image
Apply lighting effects to this panel	Tick this option to apply a shine effect to the entire panel; if you are using the panel to display an image, this may adversely affect how it appears

Metrics

This tab allows you to define the shape of the panel, by entering values for its position and size.



When you have configured the properties of your Label panel, click on the Save button to apply the changes.

Label panel - overview video

For a live demonstration of how to design and customise a label panel, watch the video below:

Leaderboard panel

Leaderboard panel

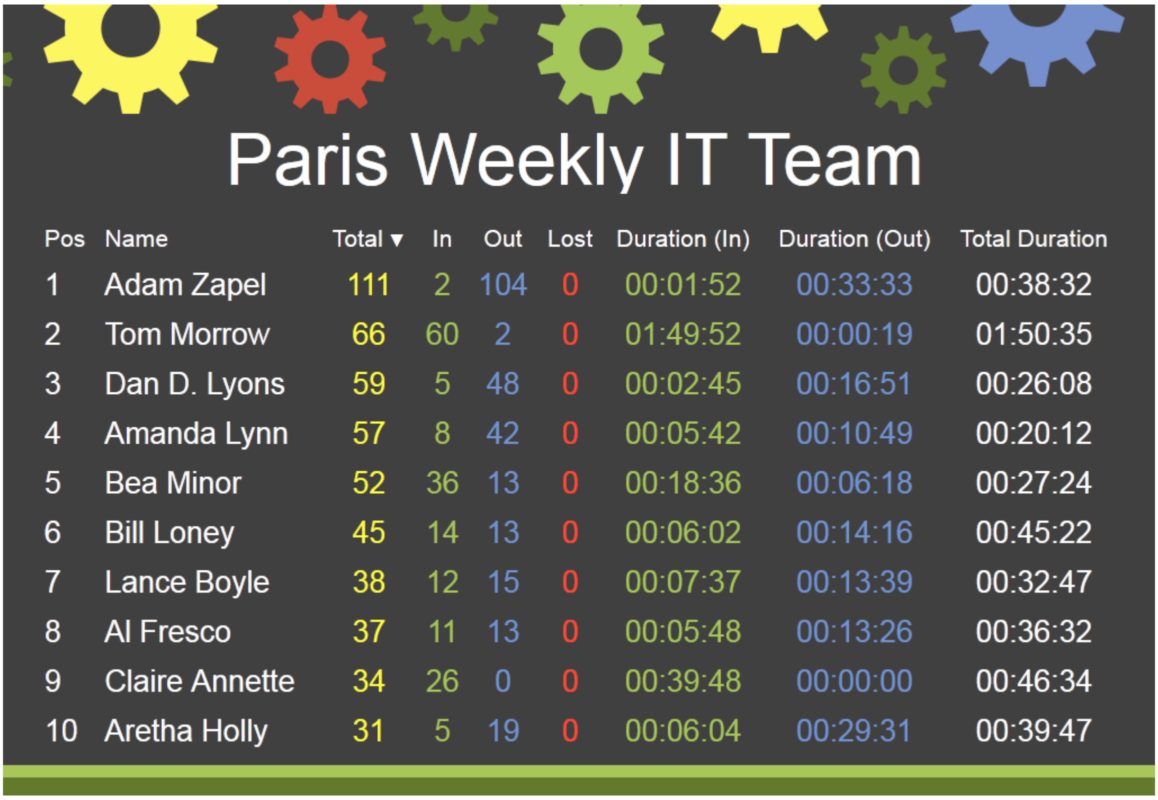
- What is a leaderboard panel?
- Adding a leaderboard panel
- Customising a leaderboard panel
- Leaderboard panel - overview video

What is a leaderboard panel?

The leaderboard panel allows you to display your live call logging data organised in columns placed next to each other, in order to provide a visual summary of any call information you wish to monitor. The content of each column is determined solely by your selection and the leaderboard can show any combination of column types. The fonts and background of the panel are also customisable.

The information shown in the leaderboard is updated every time a call finishes and has been logged by the system.

The example below shows a leaderboard panel containing the following columns: the total number of calls, inbound, outbound, lost calls, duration of inbound, duration of outbound, total duration of calls and is ordered by total number of calls per user:

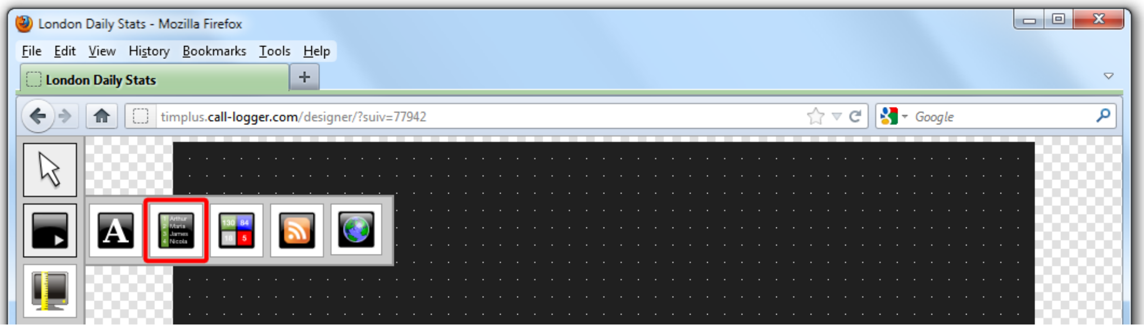


Paris Weekly IT Team

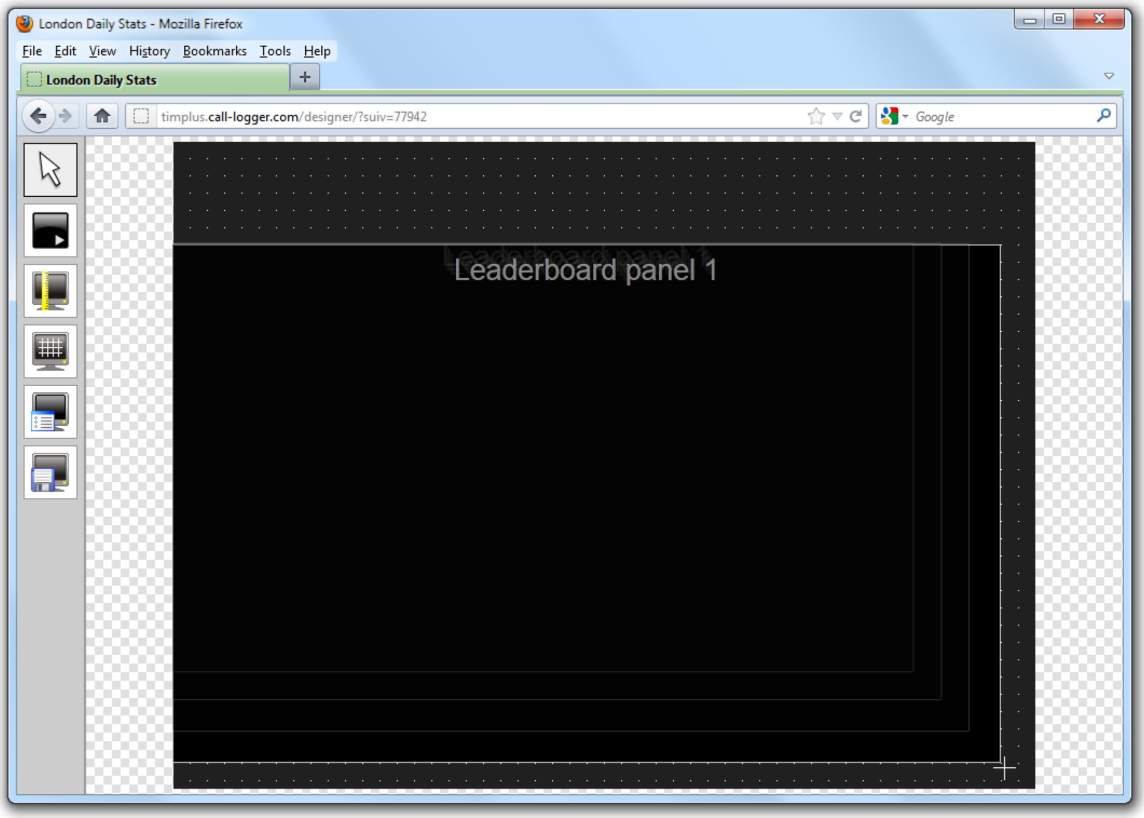
Pos	Name	Total ▾	In	Out	Lost	Duration (In)	Duration (Out)	Total Duration
1	Adam Zapel	111	2	104	0	00:01:52	00:33:33	00:38:32
2	Tom Morrow	66	60	2	0	01:49:52	00:00:19	01:50:35
3	Dan D. Lyons	59	5	48	0	00:02:45	00:16:51	00:26:08
4	Amanda Lynn	57	8	42	0	00:05:42	00:10:49	00:20:12
5	Bea Minor	52	36	13	0	00:18:36	00:06:18	00:27:24
6	Bill Loney	45	14	13	0	00:06:02	00:14:16	00:45:22
7	Lance Boyle	38	12	15	0	00:07:37	00:13:39	00:32:47
8	Al Fresco	37	11	13	0	00:05:48	00:13:26	00:36:32
9	Claire Annette	34	26	0	0	00:39:48	00:00:00	00:46:34
10	Aretha Holly	31	5	19	0	00:06:04	00:29:31	00:39:47

Adding a leaderboard panel

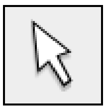
To add a leaderboard panel, click on the toolbar button to expand the list of panel types and choose the button, as shown below:

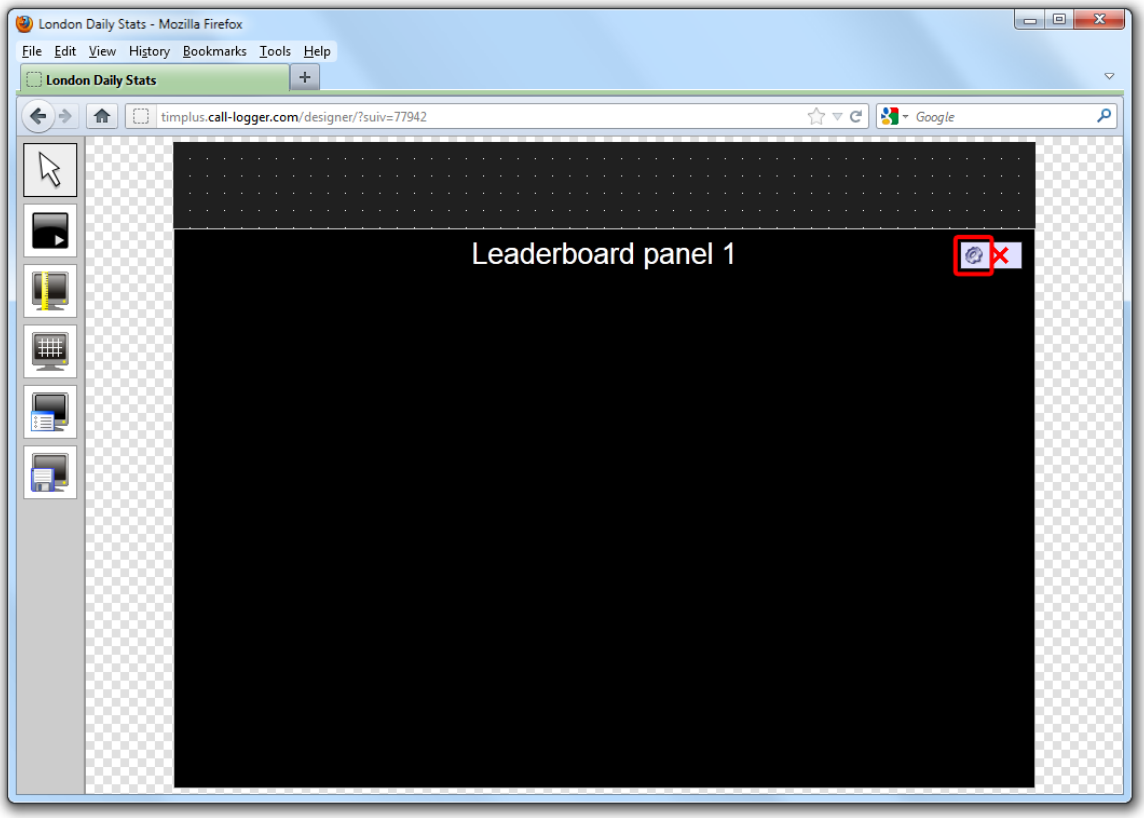


After selecting the leaderboard panel button, the mouse pointer changes into a white crosshair pointer, indicating that the designer is ready to draw your panel. Click and hold your left mouse button, starting at the point defining the upper-left corner of your new panel. Whilst still holding down the left mouse button, drag the marquee that will appear to the point that will define the lower-right corner of your panel, as shown below:



Customising a leaderboard panel

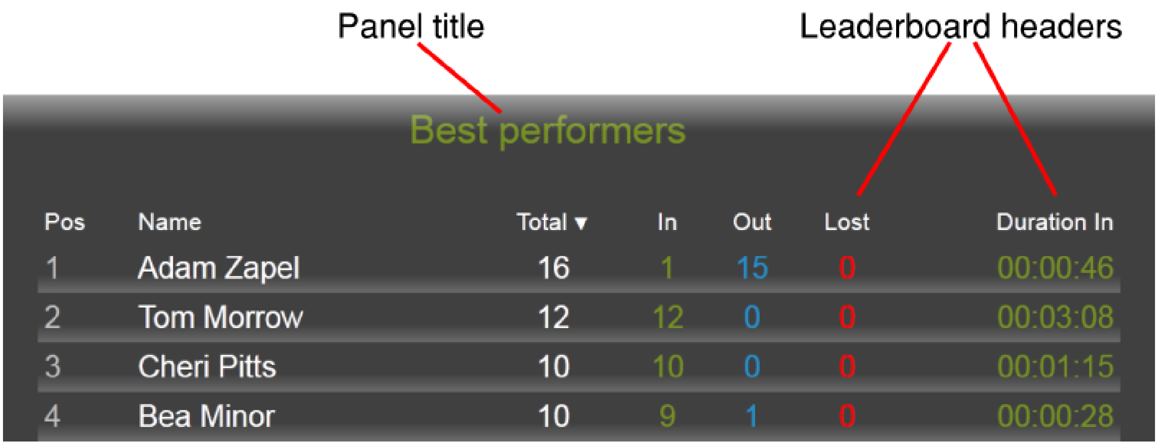
To customize a leaderboard panel, click on the  toolbar button to switch to panel selection mode. Hover your mouse pointer over the leaderboard panel you want to customise and click on the  icon, when it appears towards the top-right corner of the panel, as shown below:



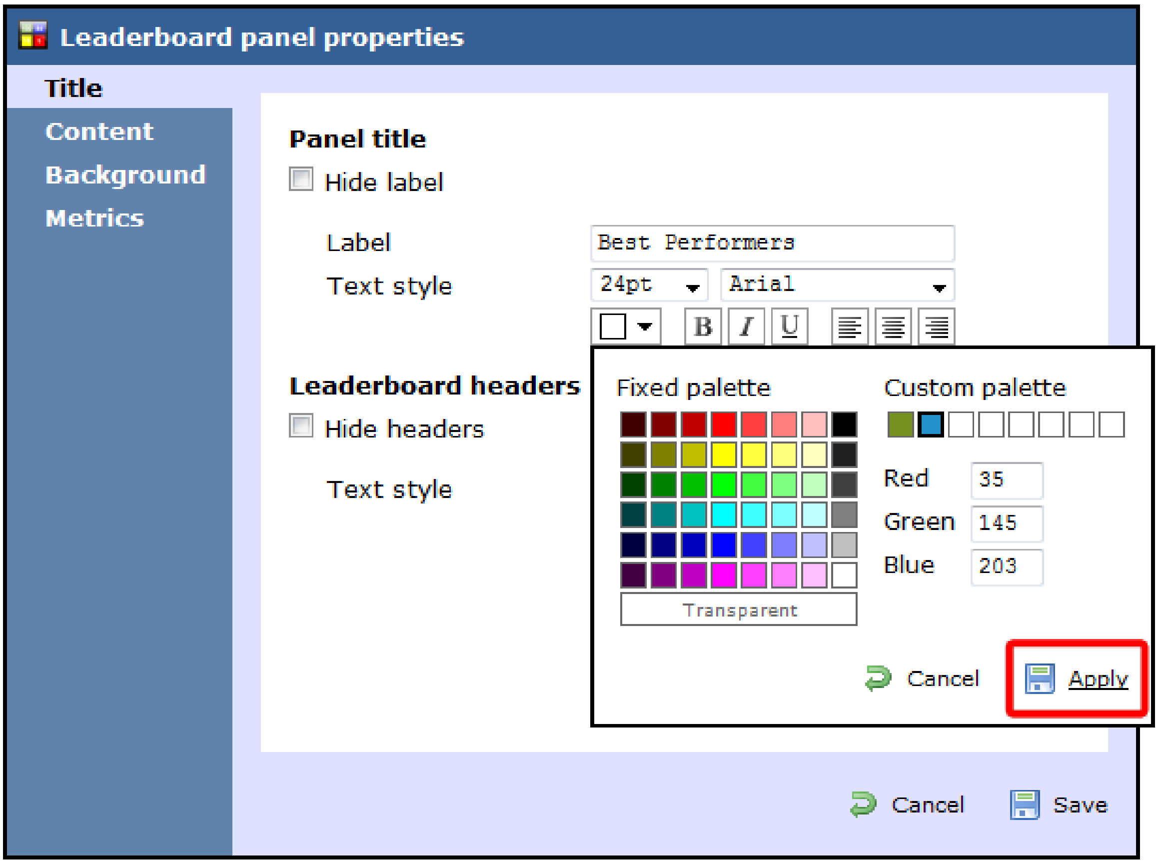
The **Leaderboard panel properties** window will open, containing the following tabs:

Title

The Title tab allows you to configure the properties of the panel title and of the leaderboard headers:

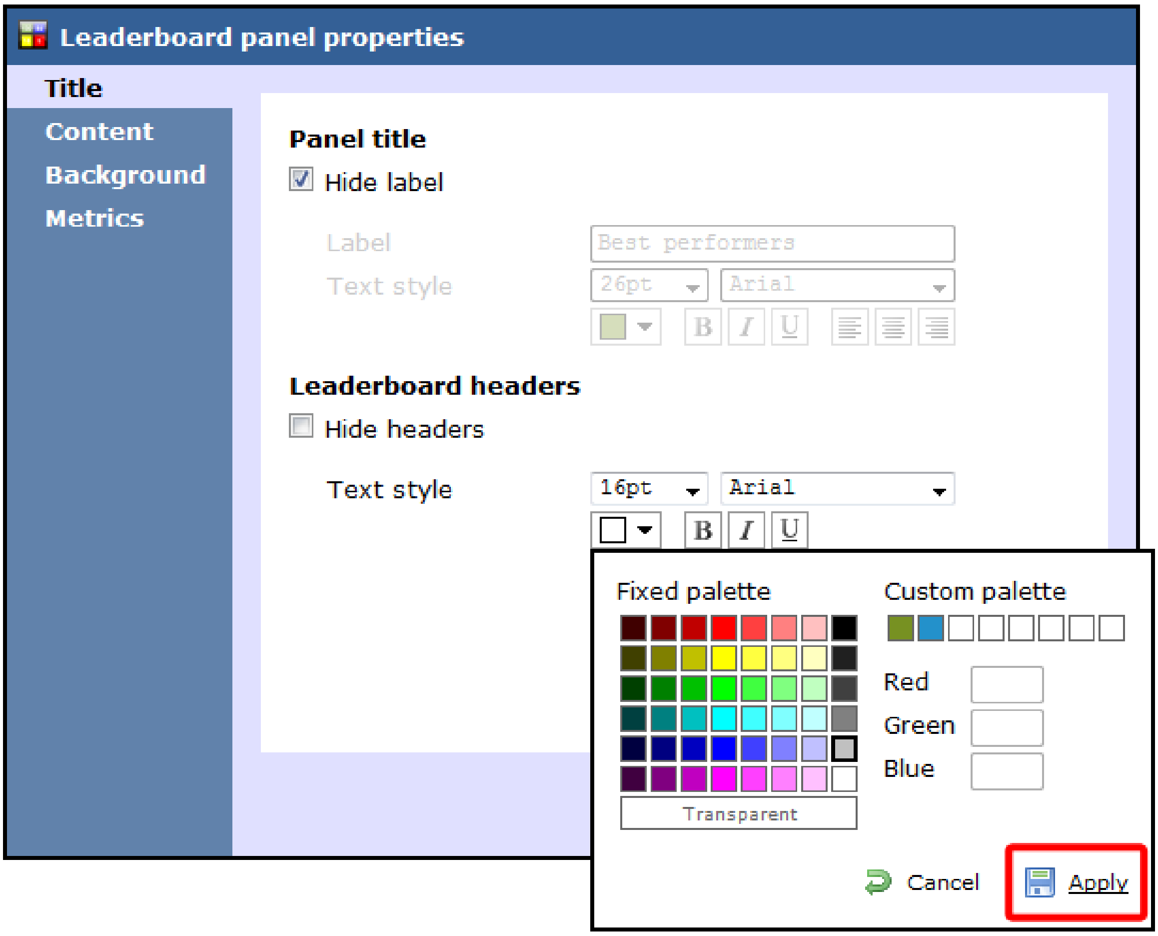


Panel title



Field	Description
Hide label	Tick this option if you don't want your panel to have a title
Label	Enter the name of your leaderboard
Text style	Select any styling properties for your panel title, e.g font size, font style or text colour etc.

Leaderboard headers



Field	Description
Hide label	Tick this option if you don't want to add any column headers
Text style	Select any styling properties for your column headers, e.g font size, font style or text colour etc.

Content

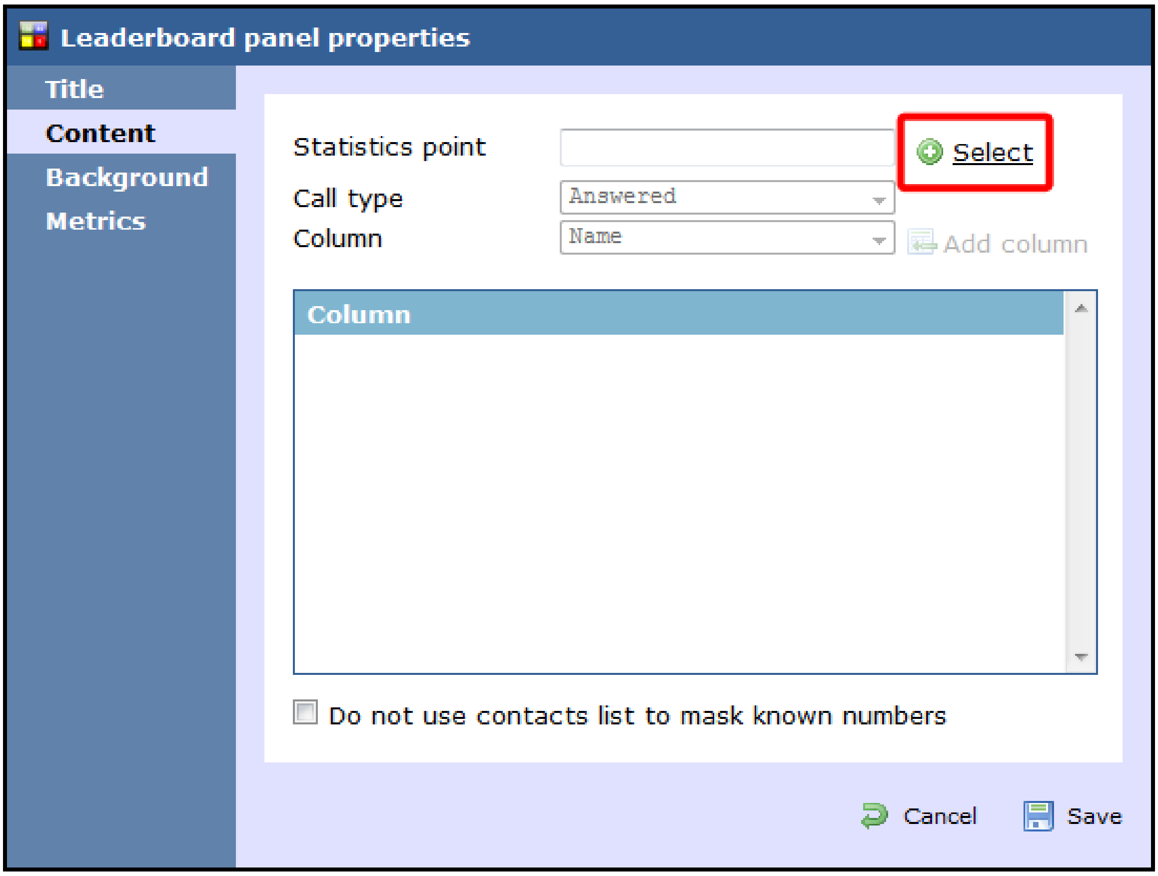
The Content tab allows you to select the type of information you want to display in your leaderboard. Each column can comprise different call information (duration, response time, etc.), for different call types (inbound, outbound, etc.) and for different entities (sites, groups, users). For example, one column can show statistics for the total number of inbound calls on a daily basis, while in a different column you can display the same information, but for a different user group and on a weekly basis.

To add a column to your leaderboard panel, perform the steps below:

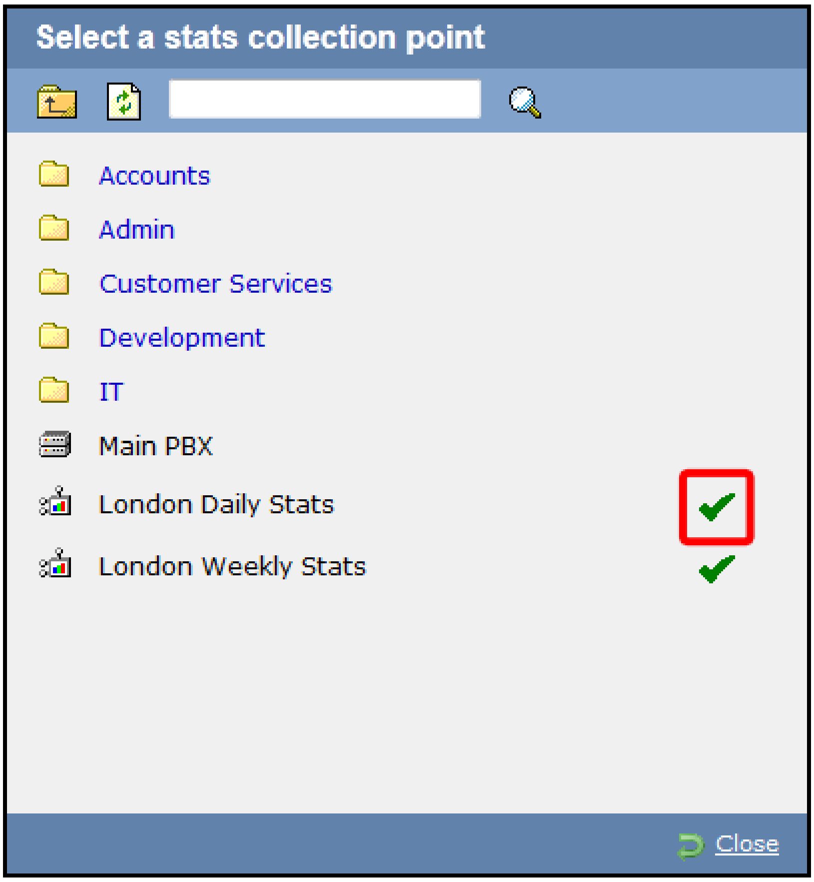
Select a stats point

> To populate a leaderboard with call logging information, you first need to configure a stats collector object to collect data for the site, group or user you want the leaderboard to display.

To select the relevant stats point for your leaderboard, click on the Select button, as shown below:



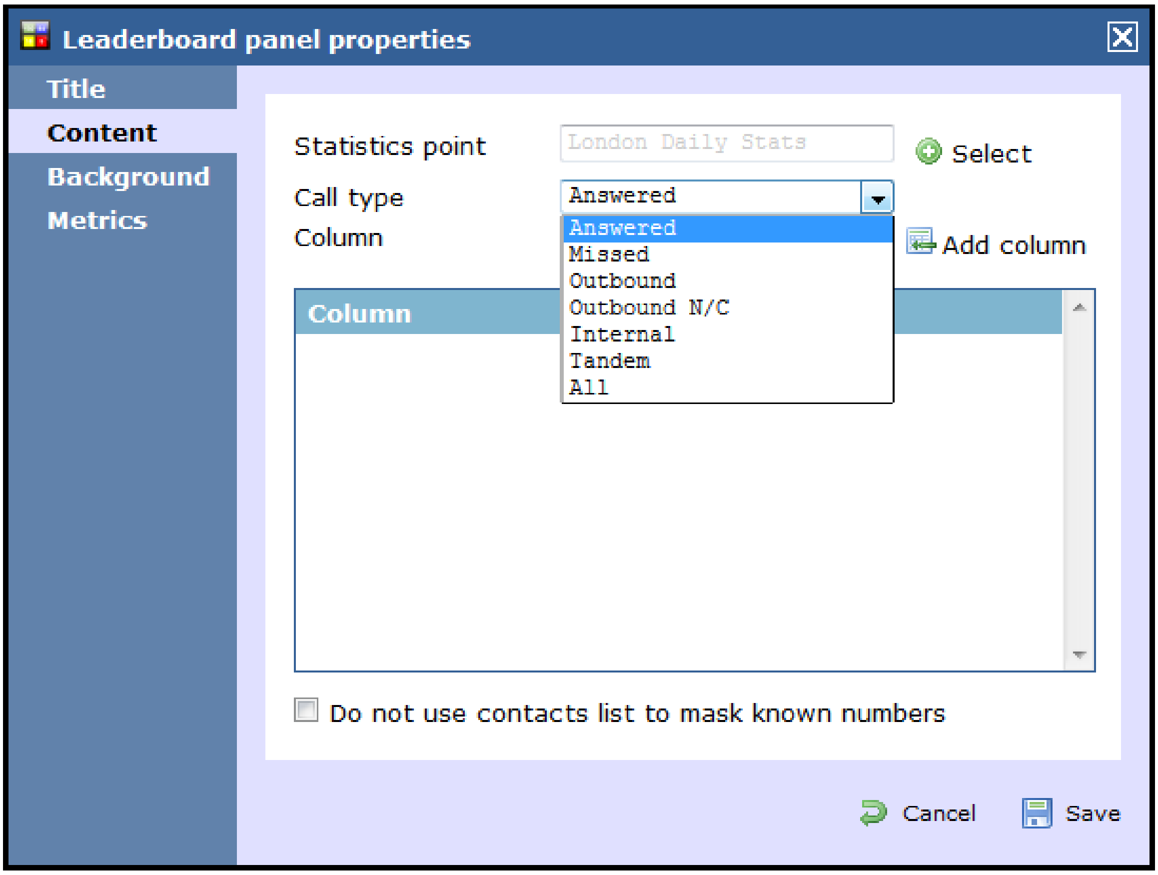
A new window will open, allowing you to drill-down to the Directory level where the stats point you want to add resides. To select the stats point, click on the ✔ icon alongside it.



The selected stats point will automatically feed all columns in the leadearboard, but each individual column can be set afterwards to use a different stats point.

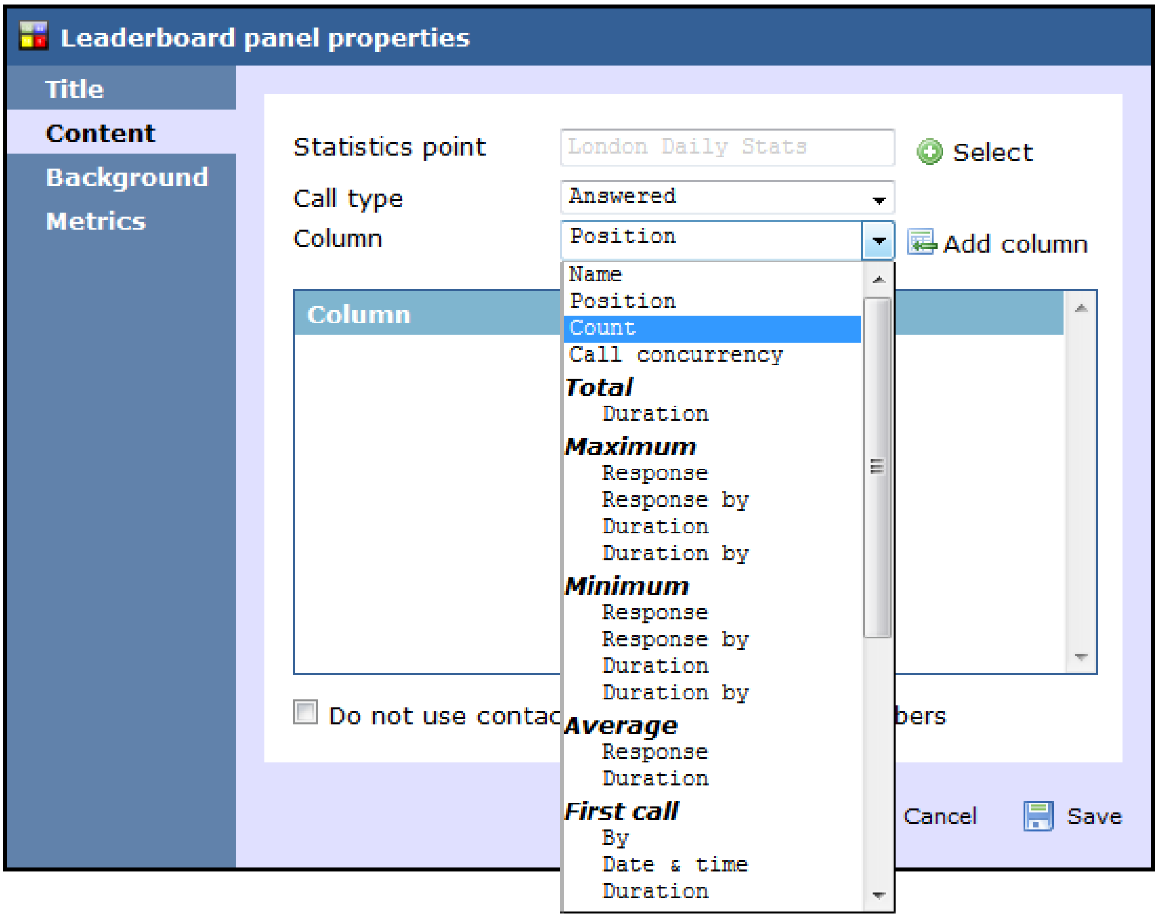
Select a call type

To select the type of call you want to display in this column, click on the **Call type** drop-down list and choose from the available options, as shown below:

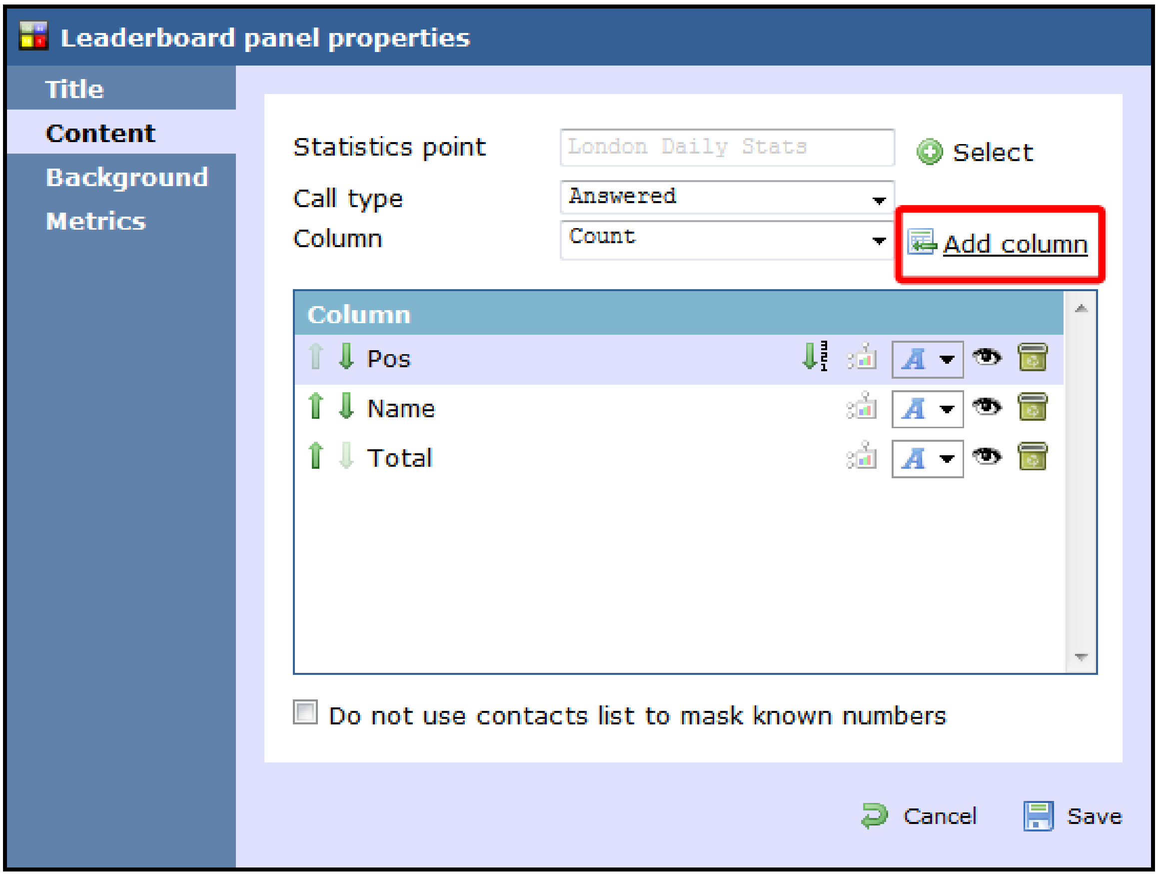


Select the column information

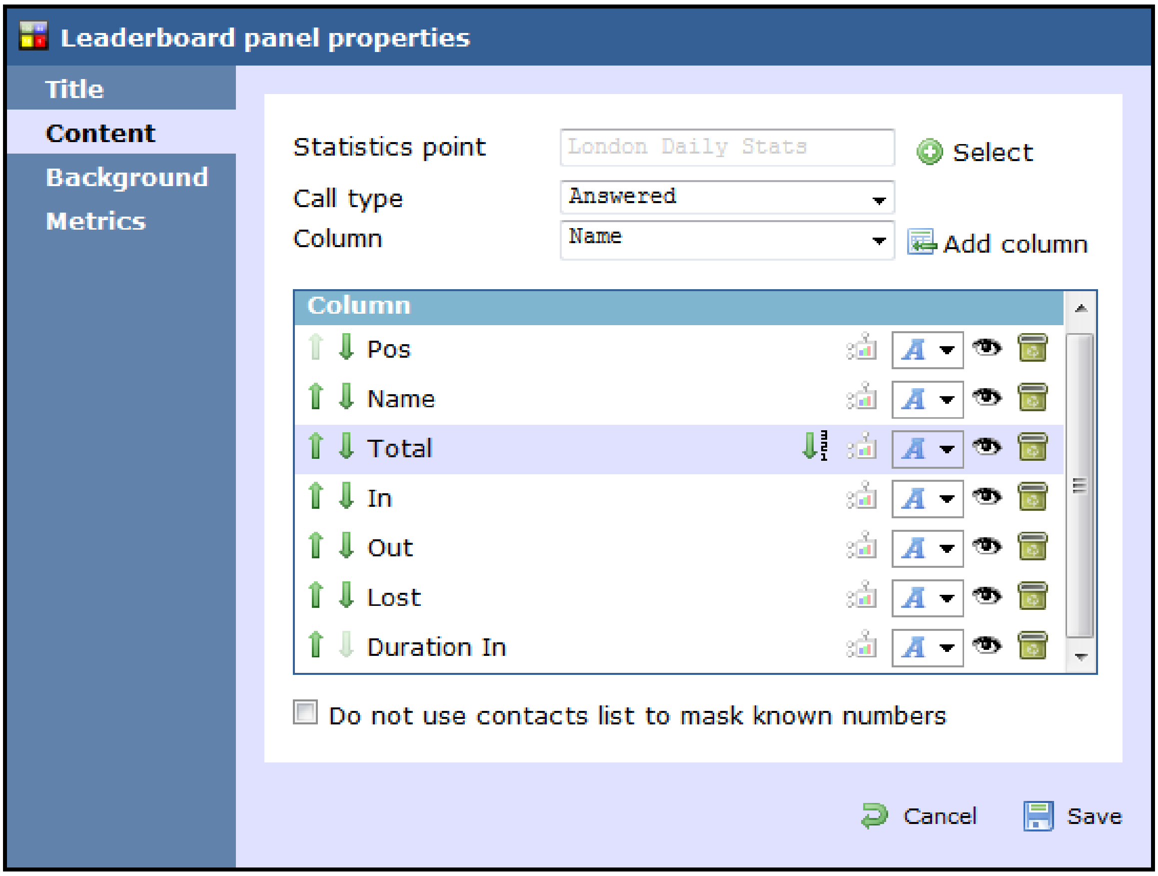
To select the type of call information you want to display in each column, such as total duration, response time, etc., click on the **Column** drop-down list and choose from the available options, as shown below:



Click on the Add column button to add the column to the list and repeat the process if you need to add another column to your leaderboard panel.



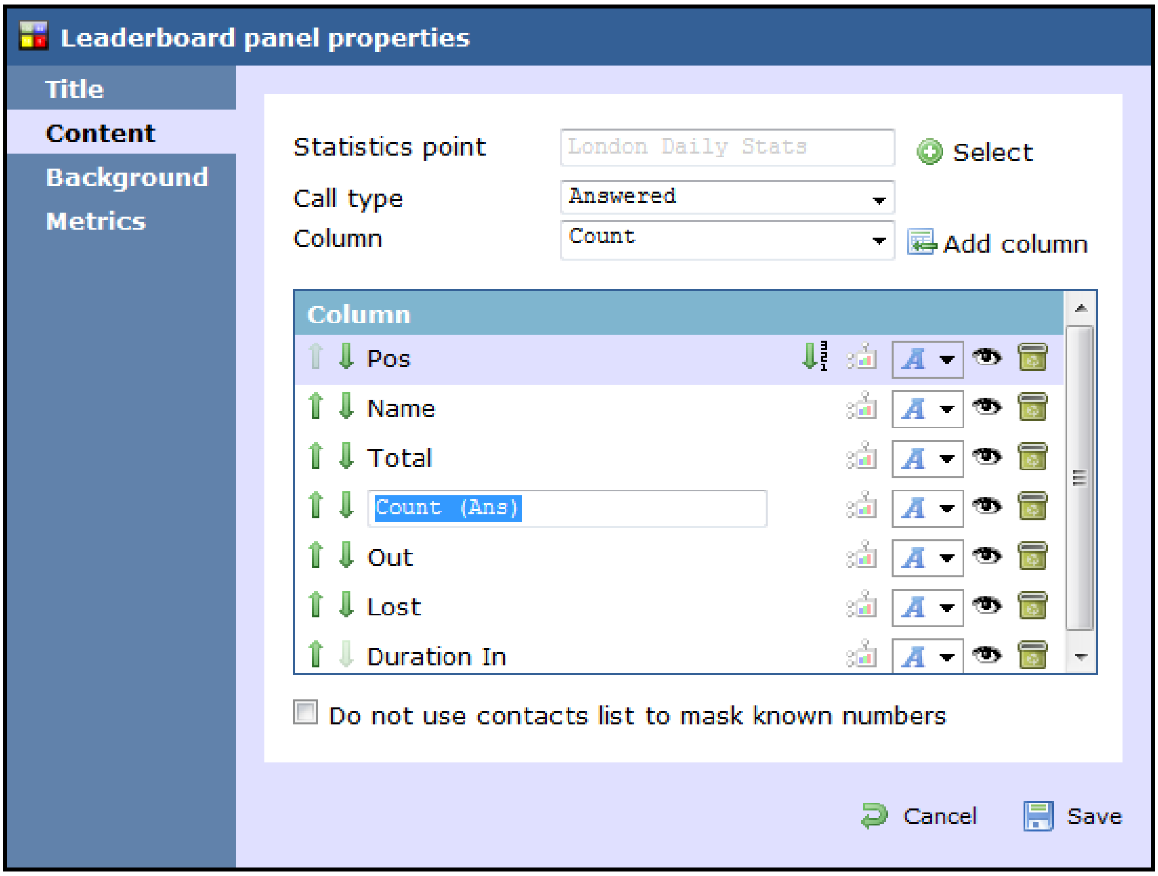
In the example below, the following settings for the `Call type` and `Column` fields have been selected in order to form the columns that appear in the list:



Name	Call type	Column
`Pos`	`All`	`Position`
`Name`	`All`	`Name`
`Total`	`All`	`Count`
`In`	`Answered`	`Count`
`Out`	`Outbound`	`Count`
`Lost`	`Missed`	`Count`
`Duration In`	`Answered`	`Average duration`

Changing column name

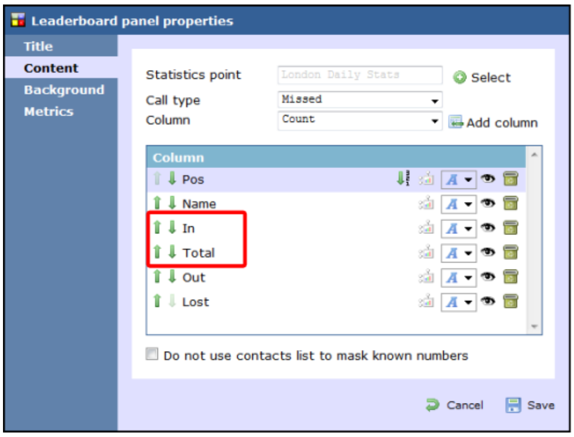
To change the name of a column, click on it to highlight the text and enter the new name. Press the `Enter` key to save the changes.

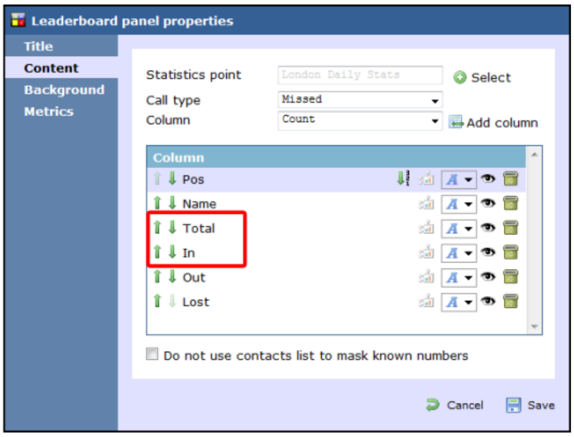


Rearranging columns

To rearrange the columns in a different order, click on the icons alongside each column. By clicking on the icon, the column will move one level up in the design mode, and one column to the left on the live display board.

In the example below, we rearrange the **`In`** and **`Total`** columns. By clicking on the icon next to the **`Total`** column, we move it one level up.

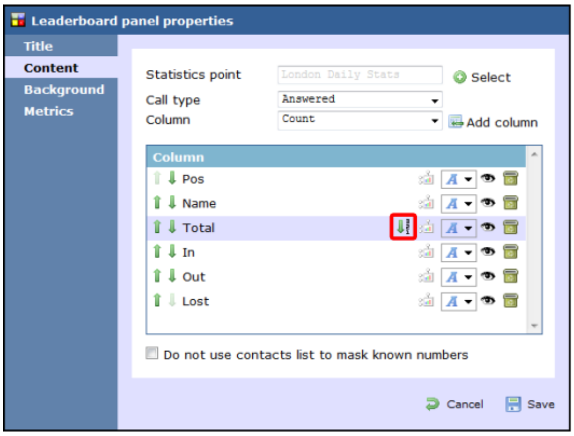


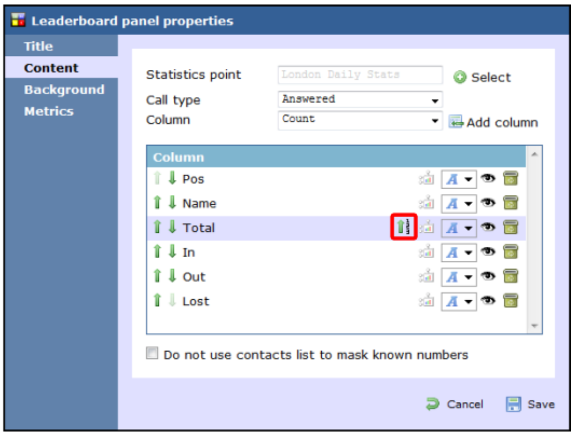


Changing a column's sorting

To sort the columns to appear in a specific order, click on the icon.

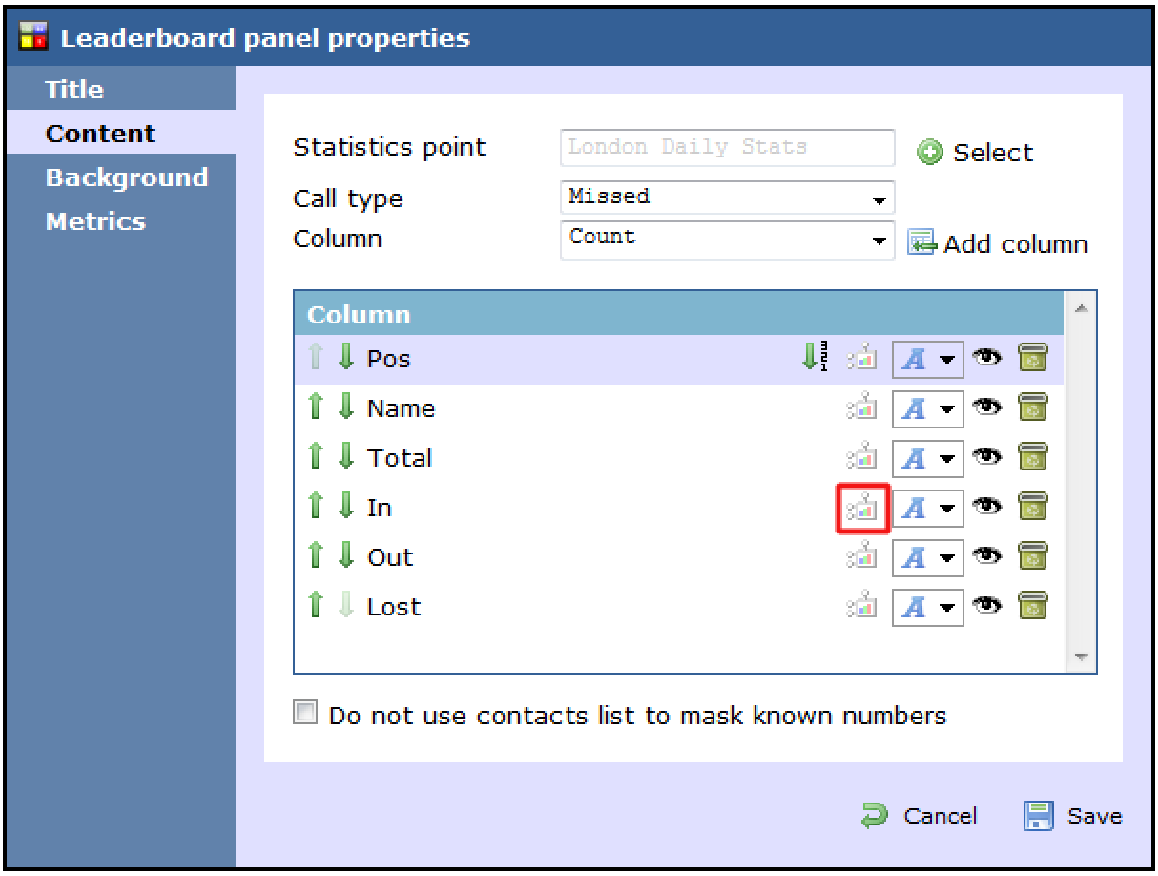
In the example below, we change the sorting of the **`Total`** column from descending to ascending. By clicking on the icon alongside the **`Total`** column, we turn the sorting of this column to descending.



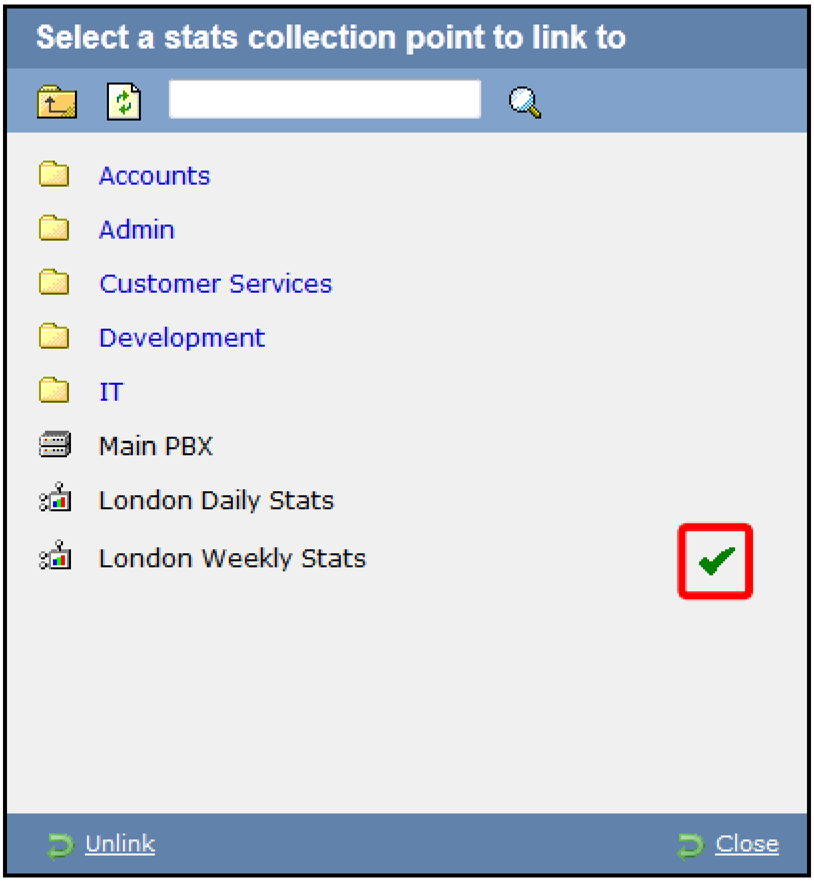


Changing the stats collection point

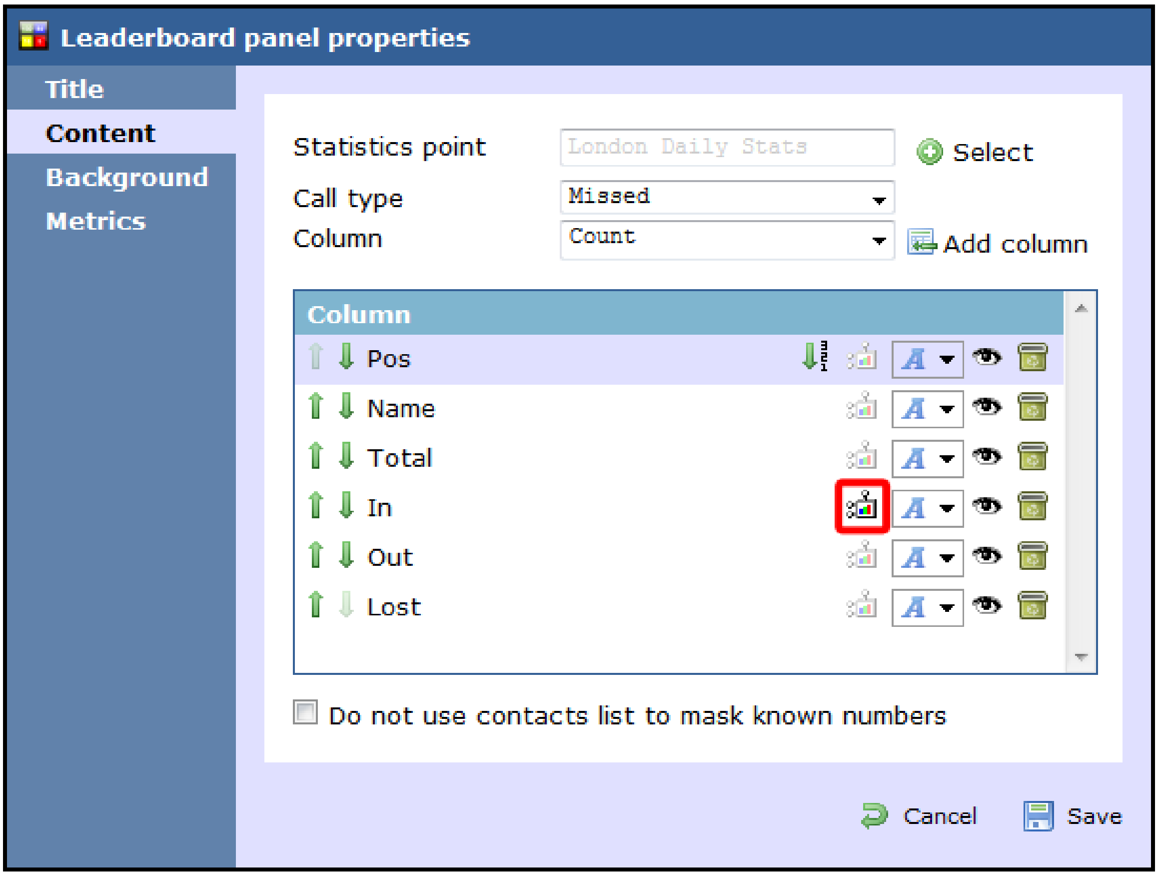
To change the stats collection point of a column, click on the icon alongside it, as shown below:



A new window will open, allowing you to drill-down to the Directory level where the stats point you want to add resides. To select the stats point, click on the icon alongside it.

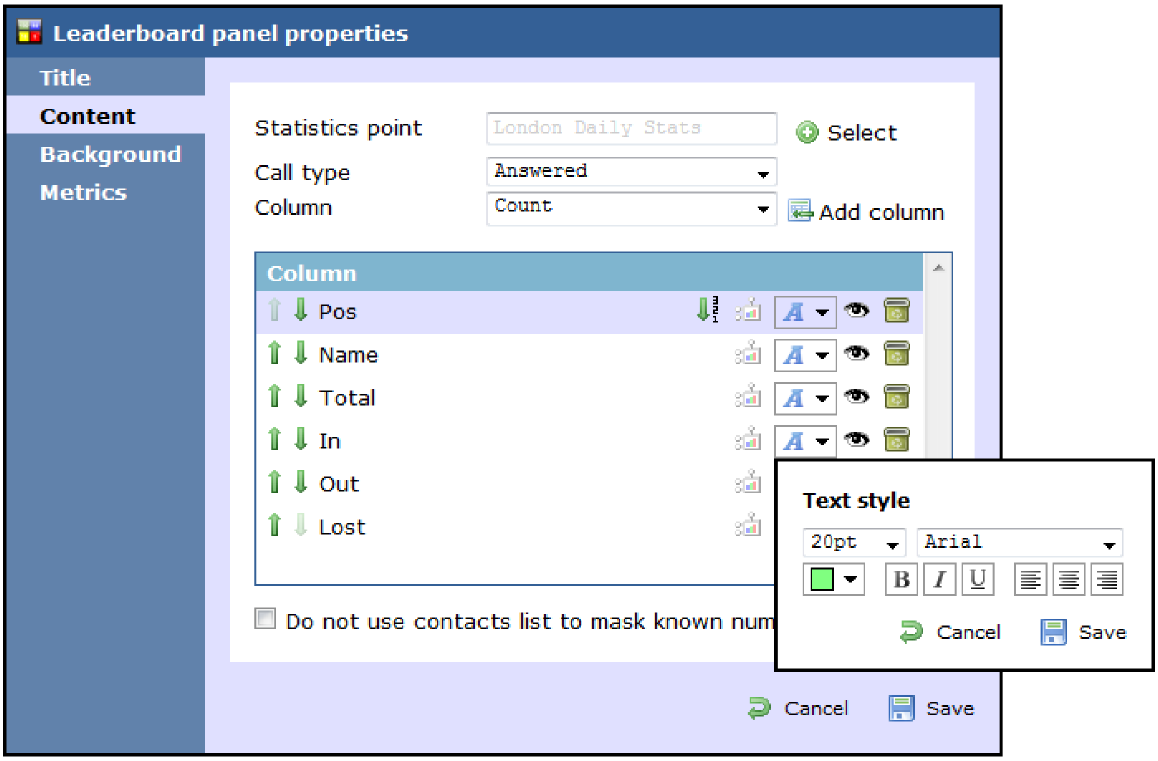


After selecting the new stats point, the icon will automatically turn into , to highlight that the current column is using a different stats collection point.



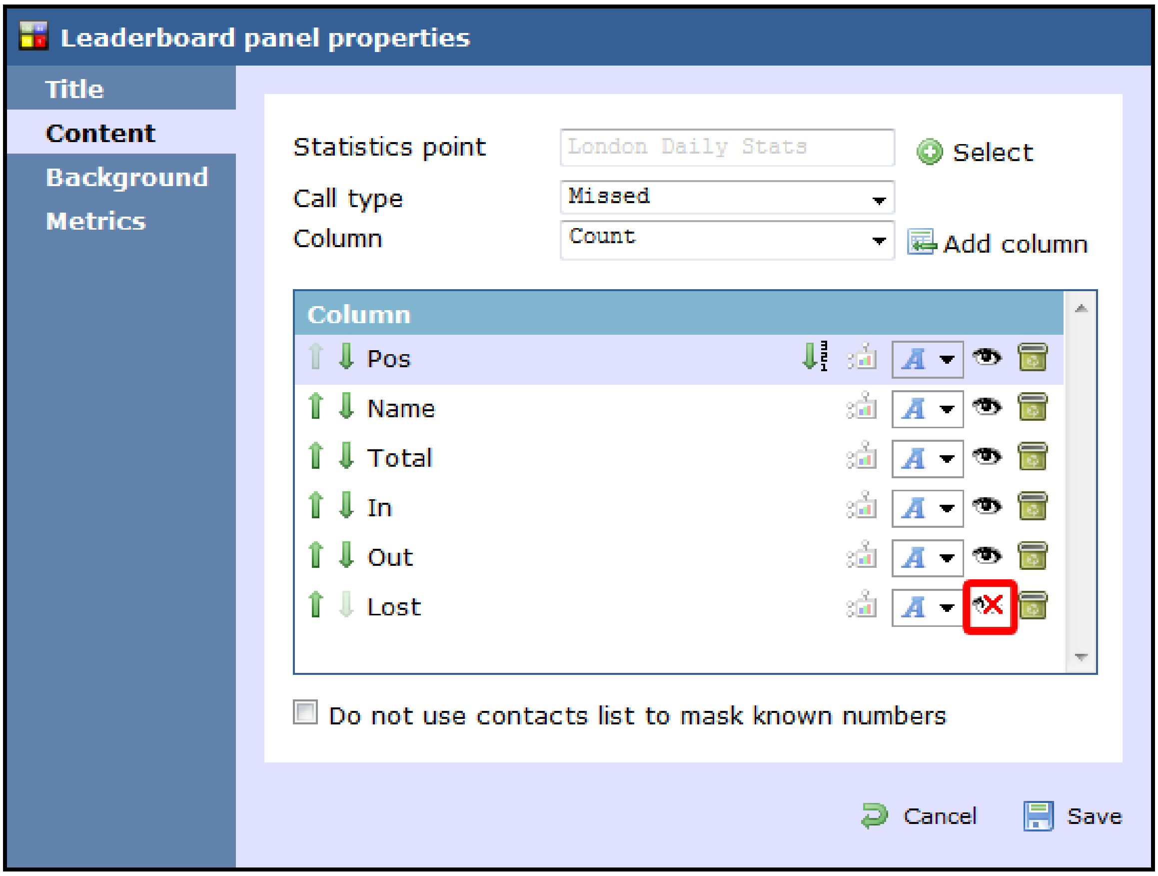
Changing the font properties

Click on the icon to change any styling properties for the selected column, e.g font size, font style or text colour etc.



Hiding a column

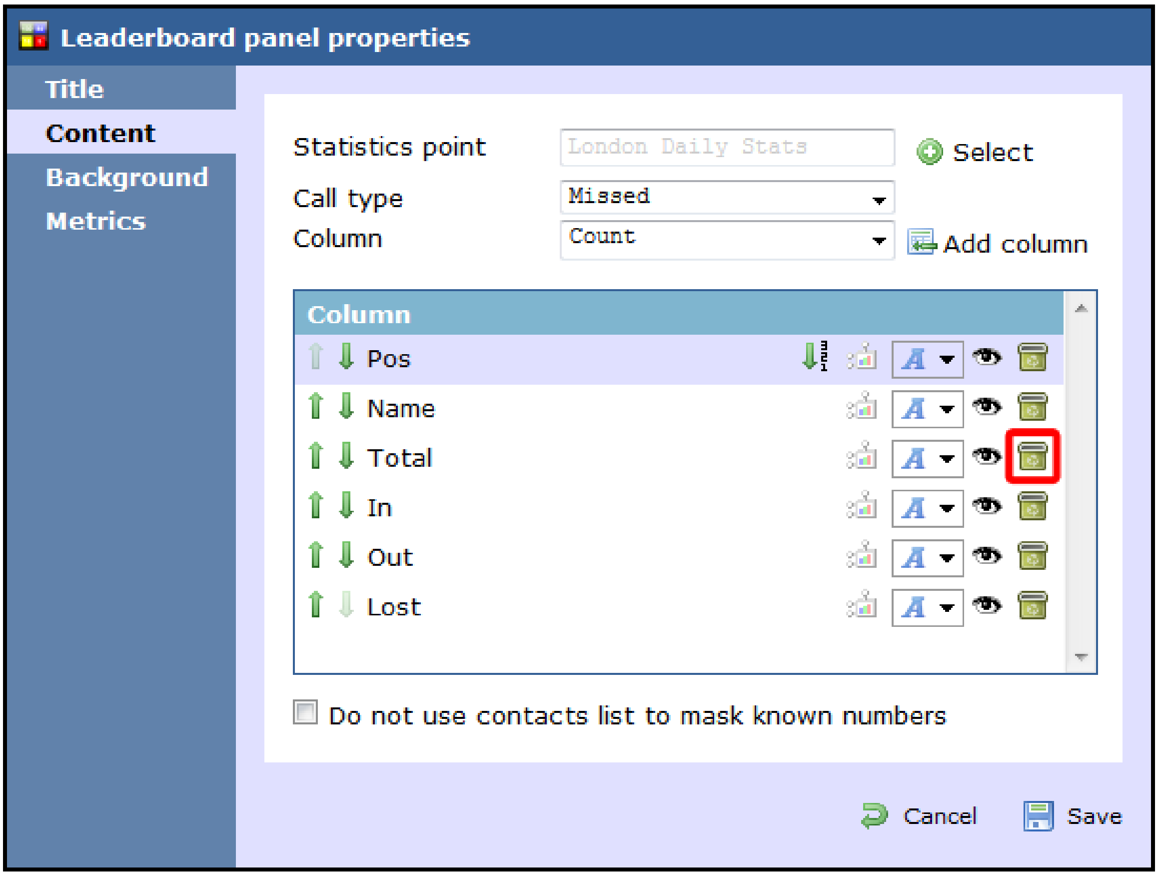
To temporarily hide a column from your leaderboard panel, click on the icon, which will turn automatically into , highlighting the column is hidden.



To display the column again, click on the icon, which will turn back into .

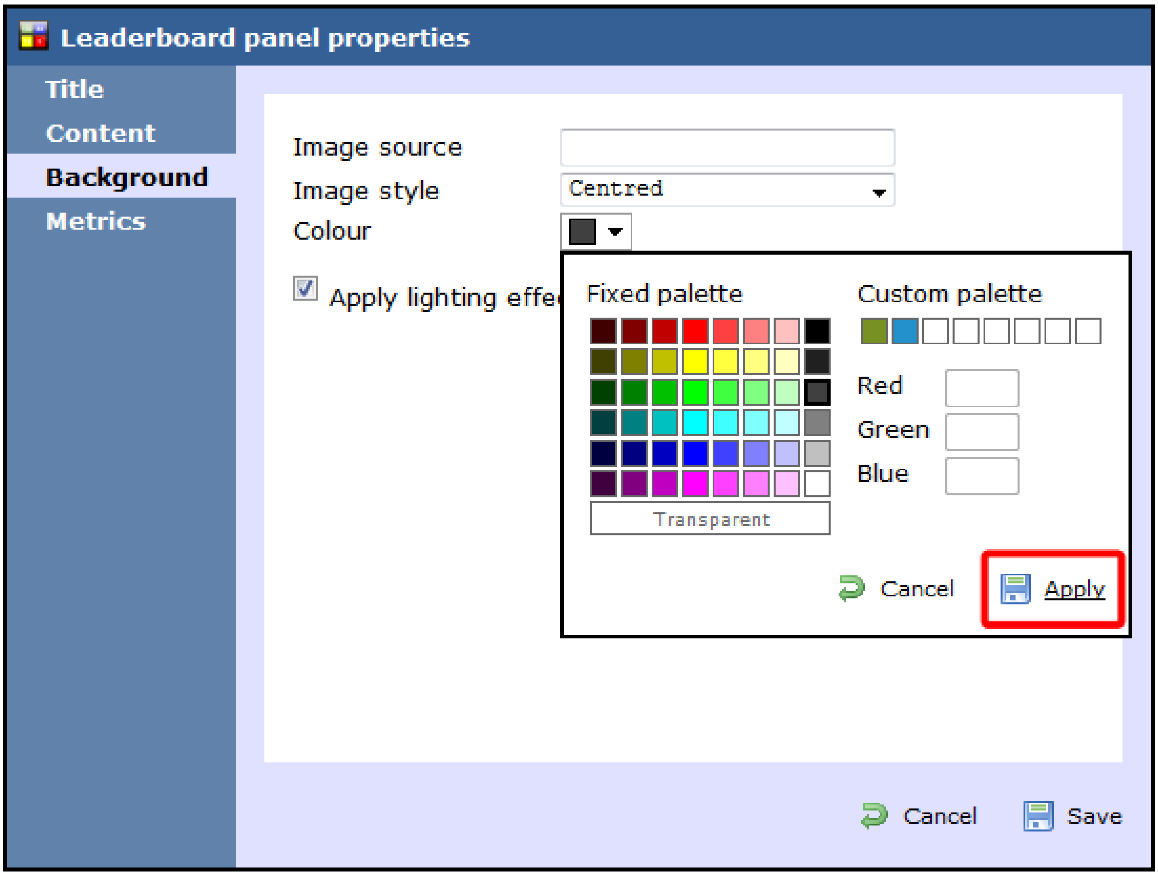
Deleting a column

If you would like to permanently delete a column from your leaderboard panel, click on the  icon, as shown below:



Background

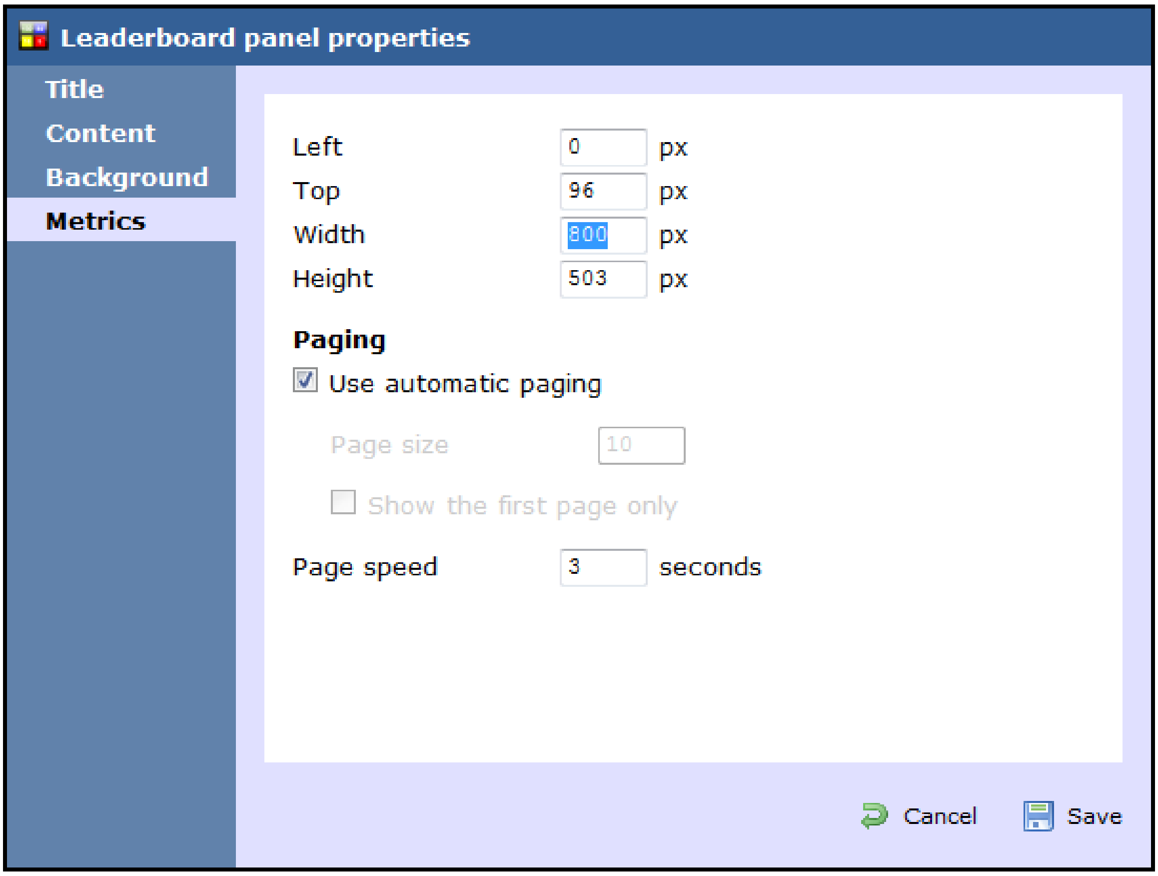
The Background tab allows you to configure the background properties of your leaderboard panel.



Field	Description
Image source	If you want your panel to display an image, type its source here. Remember, the path is relative to the folder on disk from which the web content is served, and is different for each class of web user
Image style	Choose how the image should be displayed
Colour	Choose the background colour of the panel; if you are adding an image, you may want to select **`Transparent`** so that this does not interfere with your image
Apply lighting effects to this panel	Tick this option to apply a shine effect to the entire panel; if you are using the panel to display an image, this may adversely affect how it appears

Metrics

The Metrics tab allows you to define the size of the leaderboard panel and the parameters of the page.



Panel size

To define the shape of the panel, enter the values for its position and size.

Paging

If you want to use automatic paging, select the box provided. Alternatively, you can determine the number of rows you want the leaderboard to show per page, or select **`Show the first page only`**. If the leaderboard has more than one page, you can set the rate at which the pages should change, by entering a value in the **`Page speed`** box.

Once you have configured the settings of your leaderboard panel, click on the Save button to apply any changes.

Leaderboard panel - overview video

For a live demonstration of how to design and customise a leaderboard panel, watch the video below:

Summary panel

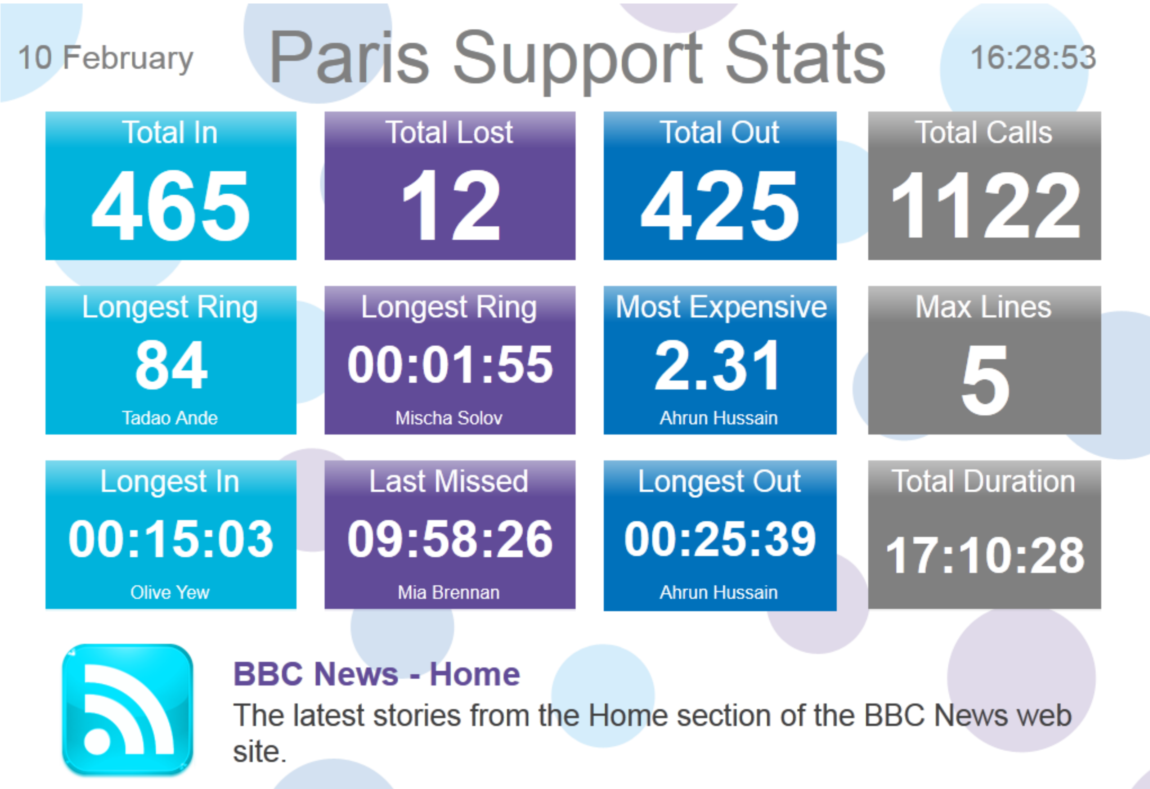
Summary panel

- What is a summary panel?
- Adding a summary panel
- Customising a summary panel
- Summary panel - overview video

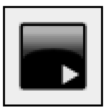
What is a summary panel?

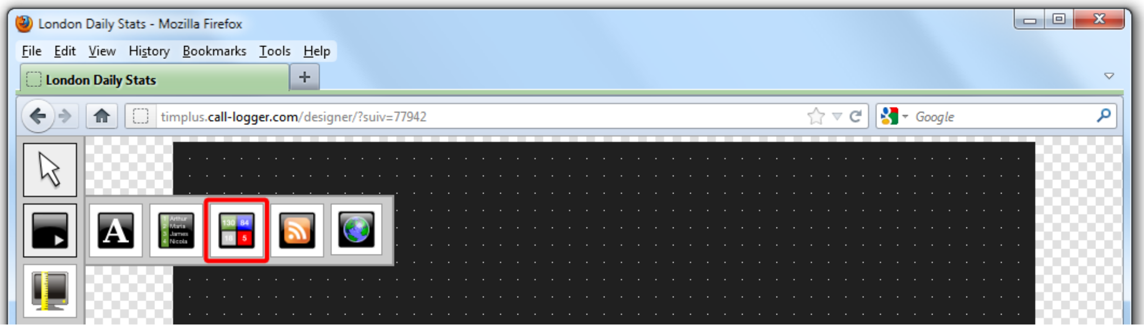
Summary panels are normally used to display call statistics based on a particular call type or call property, e.g. the longest call, the most expensive call, the total number of inbound calls etc.

The display board in the screenshot below displays several summary panels, each of them showing call information grouped by different criteria

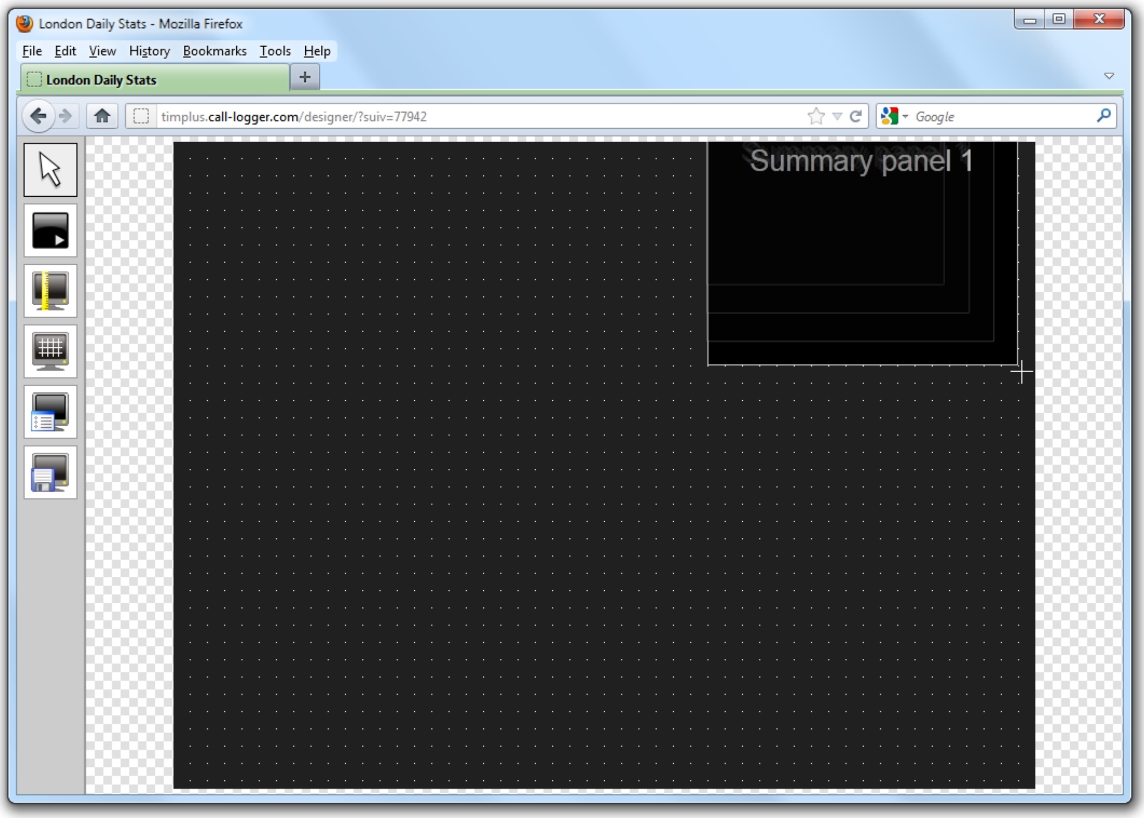


Adding a summary panel

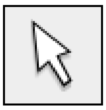
To add a summary panel, click on the  toolbar button to expand the list of panel types and choose the  button, as shown below:

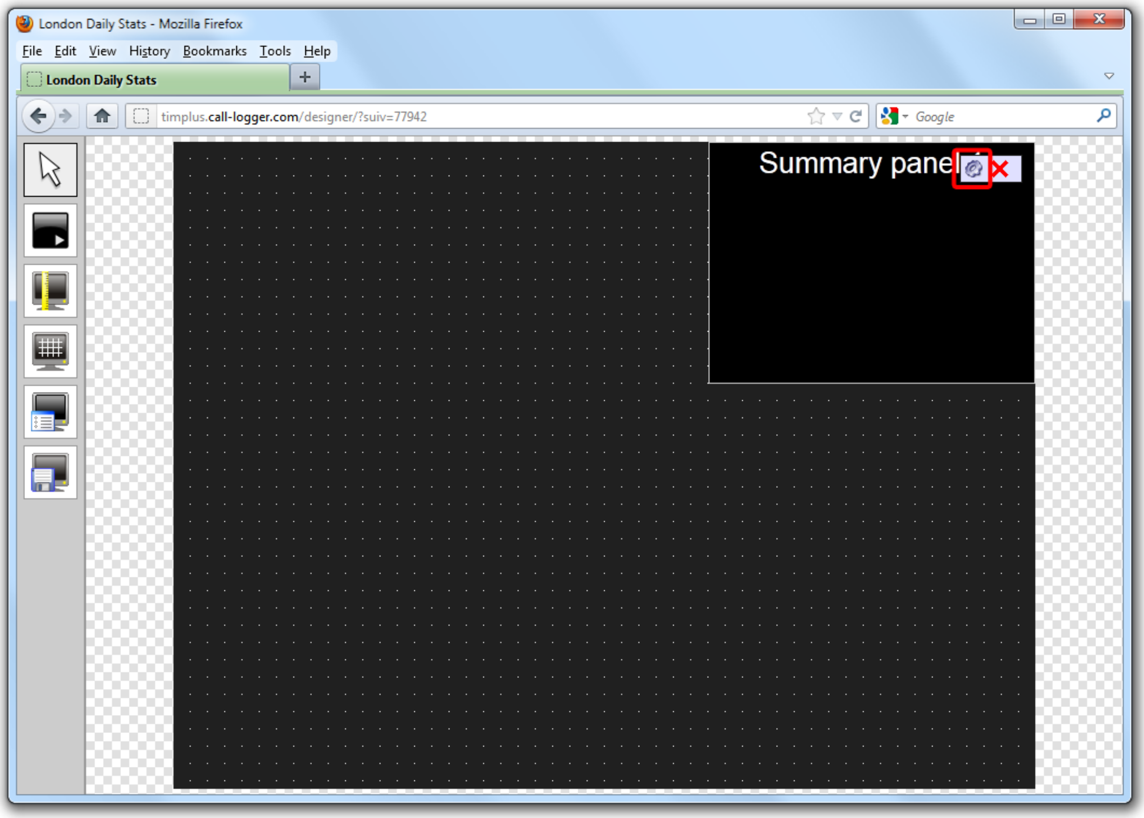


After selecting the summary panel button, the mouse pointer changes into a white crosshair pointer, indicating that the designer is ready to draw your panel. Click and hold your left mouse button, starting at the point defining the upper-left corner of your new panel. Whilst still holding down the left mouse button, drag the marquee that will appear to the point that will define the lower-right corner of your panel, as shown below:

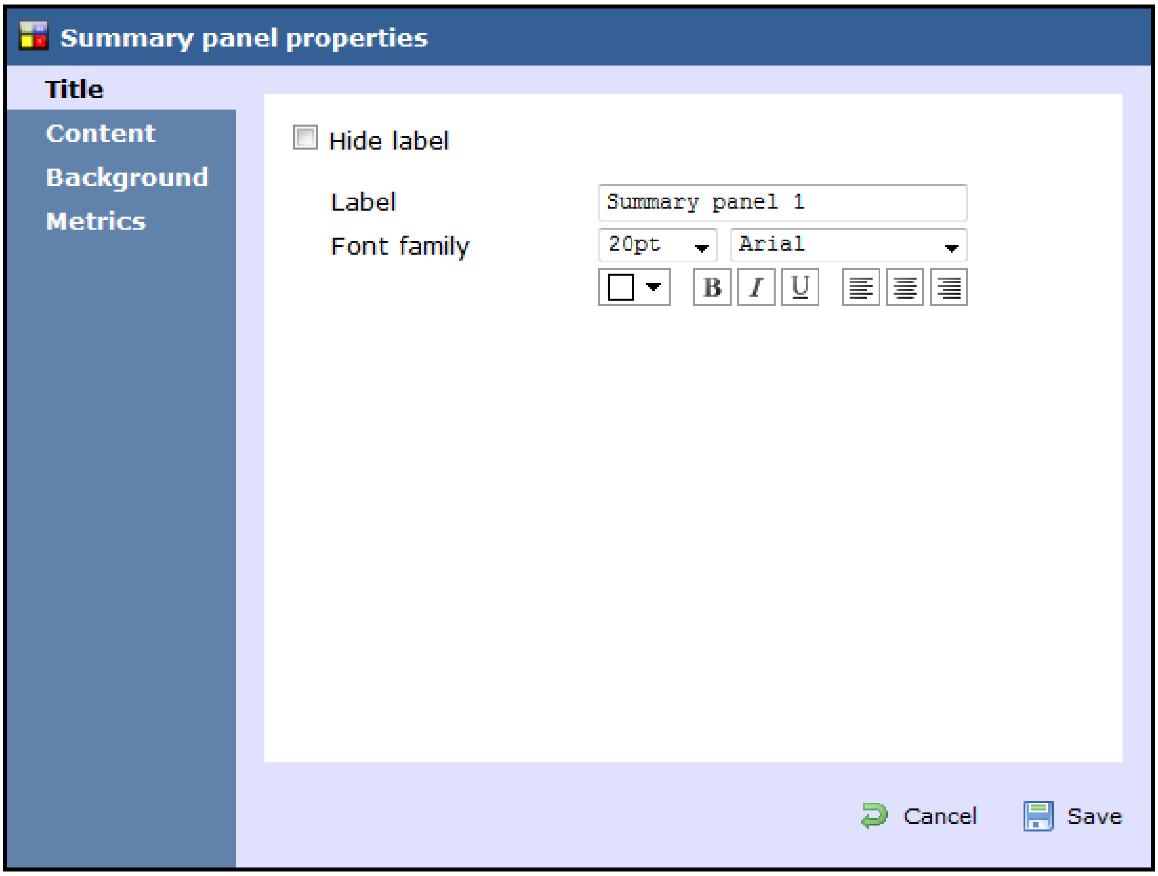


Customising a summary panel

To customize a summary panel, click on the  toolbar button to switch to panel selection mode. Hover your mouse pointer over the label panel you want to customise and click on the  icon, when it appears towards the top-right corner of the panel, as shown below:

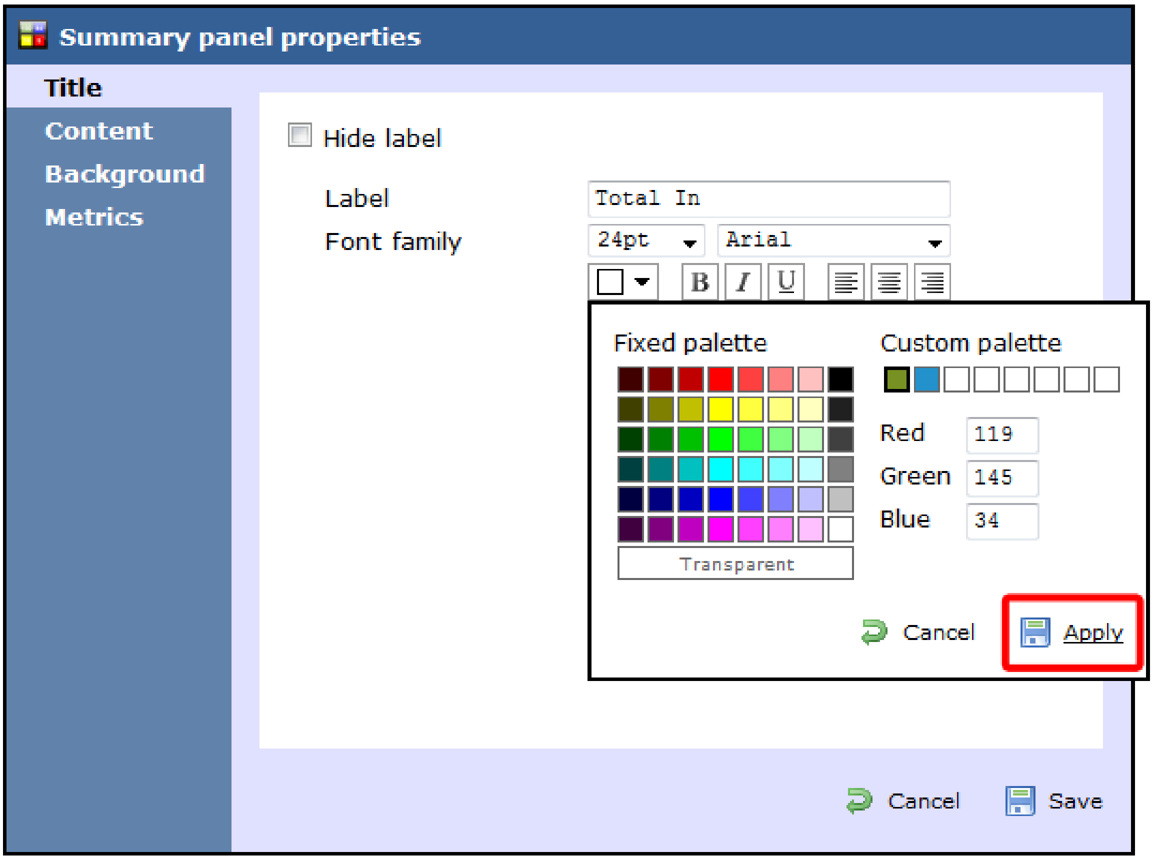


The **Summary panel properties** window will open, containing the following tabs:



Title

The **Title** tab allows you to enter the name you want to appear on the summary panel and apply any styling properties, such as font size, font style, text colour, etc.



Field	Description
Hide label	Tick this option if you don't want your panel to have a title
Label	Enter a title for your summary panel
Text style	Select any styling properties for your panel title, e.g font size, font style or text colour etc.

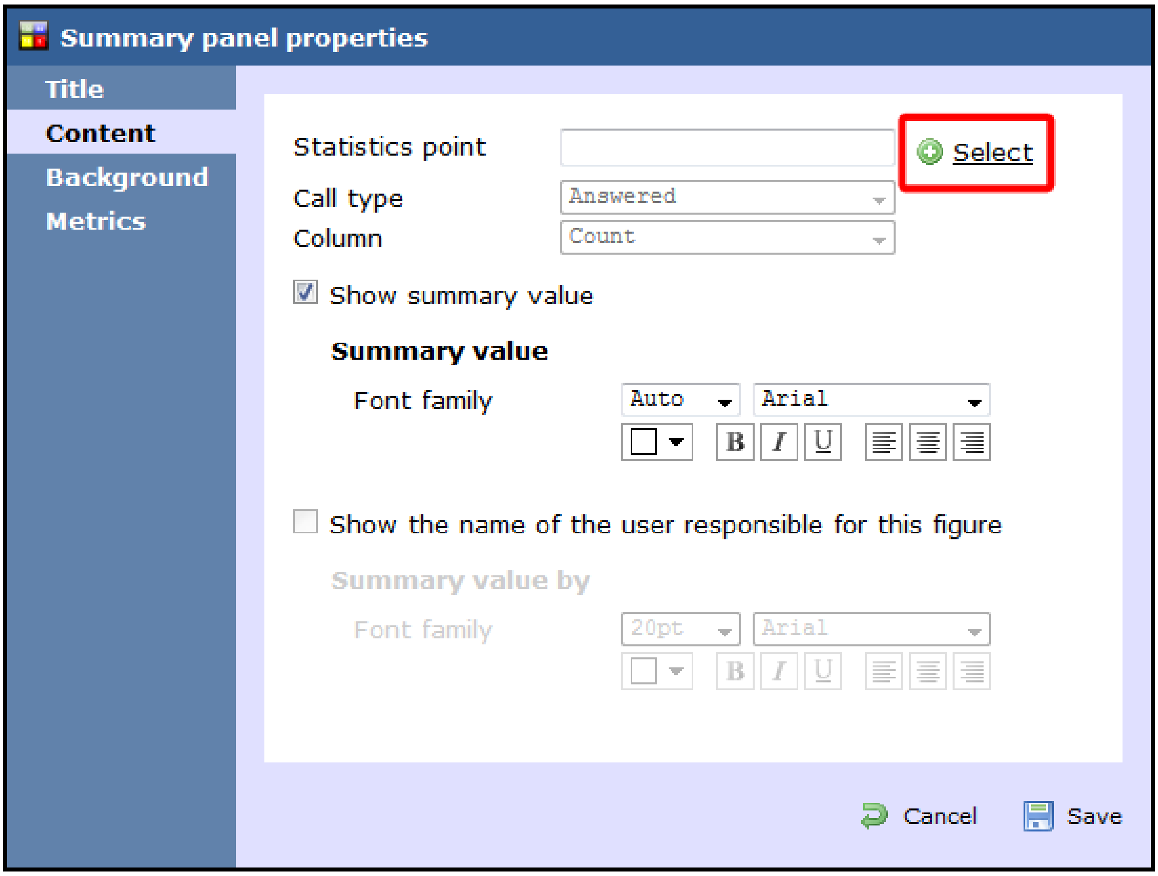
Content

The Content tab allows you to select the type of call information you want to display in your summary panel.

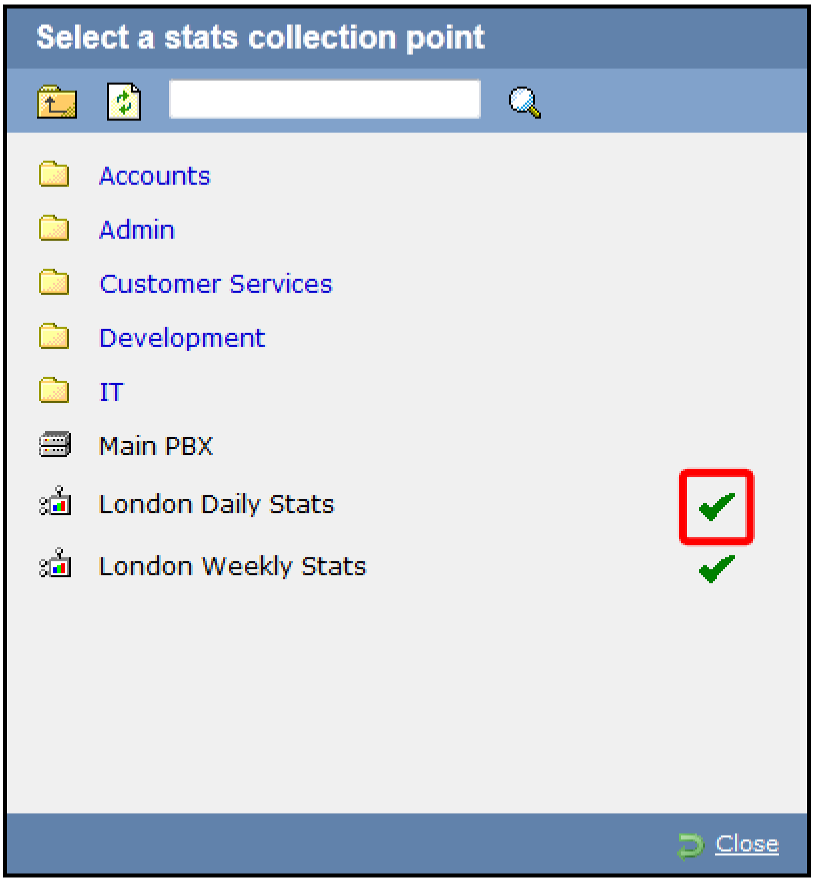
Selecting a stats point

To populate the summary panel with call logging information, you first need to create a stats point object in the Directory to collect data for the site, group or user that you want the summary panel to display.

To choose the entity whose calls you want to display in this panel, select a stats collection point, by clicking on the Select button.

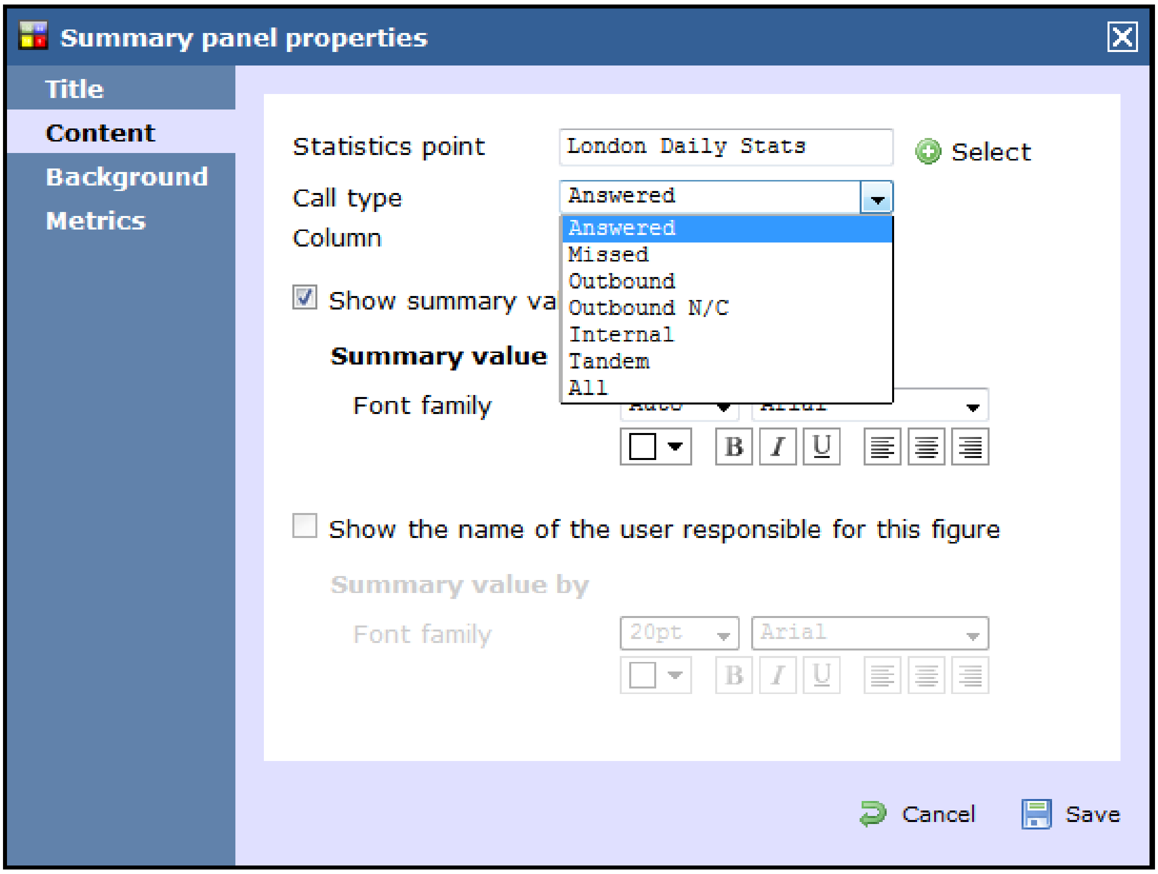


A new window will open, allowing you to drill-down to the site or group level in the Directory where the stats point object you want to add resides. To select the stats point, click on the ✔ icon alongside it.



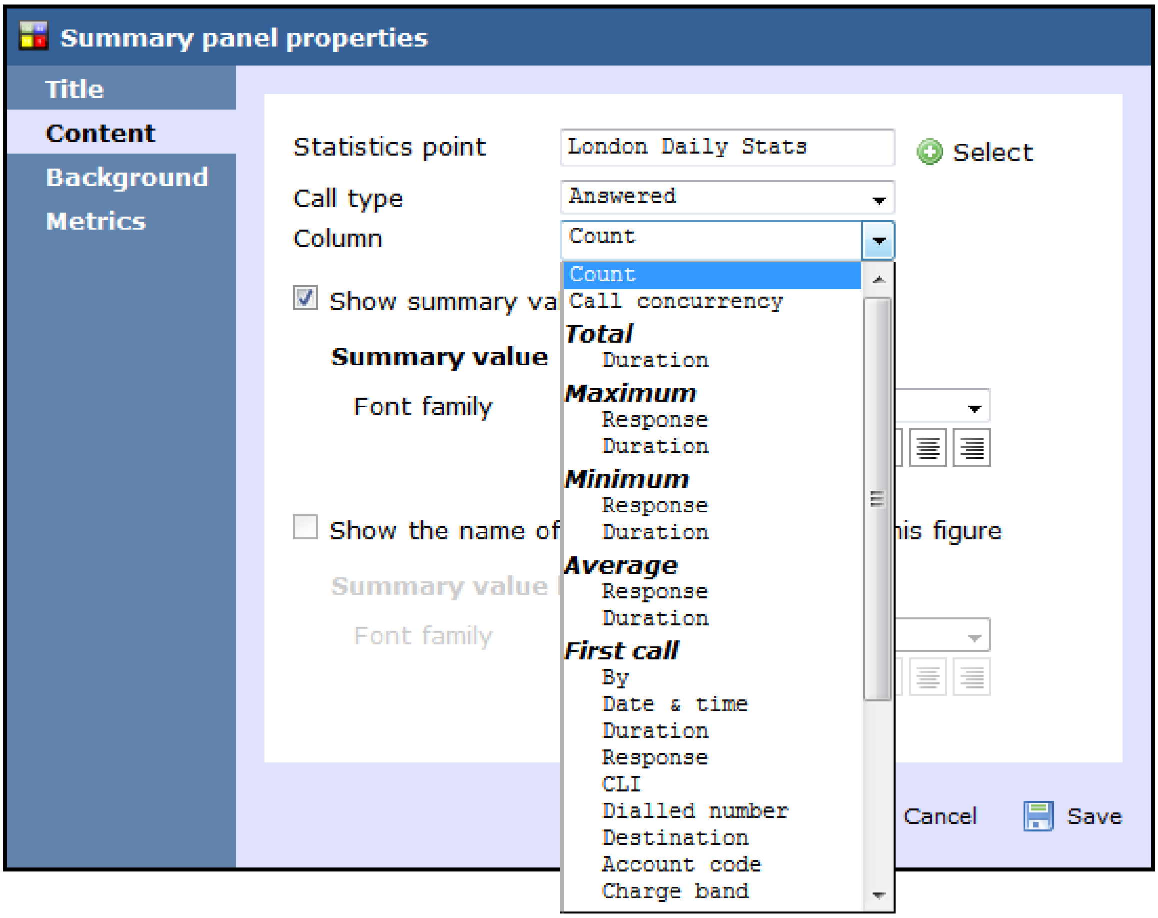
Selecting the call type

To select the type of call you want to display in this column, click on the `Call type` drop-down list and choose from the available options, as shown below:



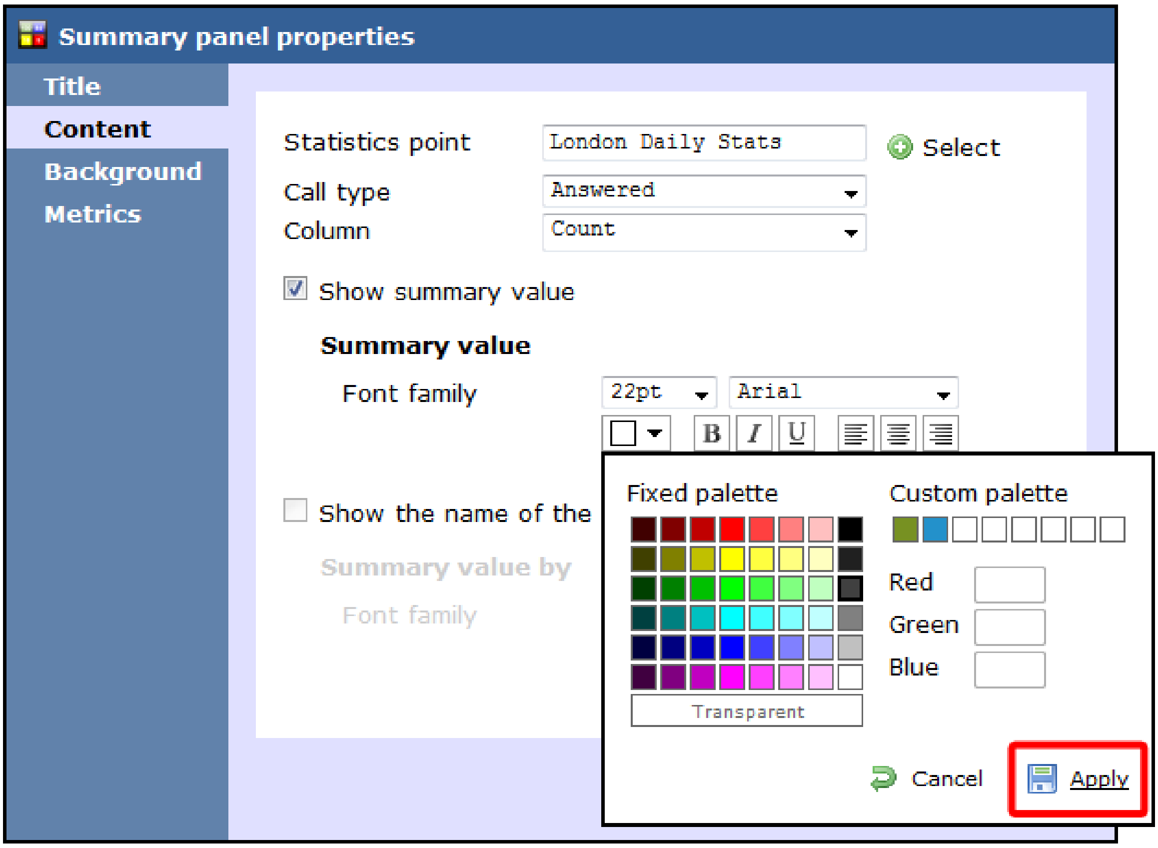
Selecting the column information

To select the type of call information you want to display in the summary panel, such as total duration, response time, etc., click on the `Column` drop-down list and choose from the available options, as shown below:



Show summary values

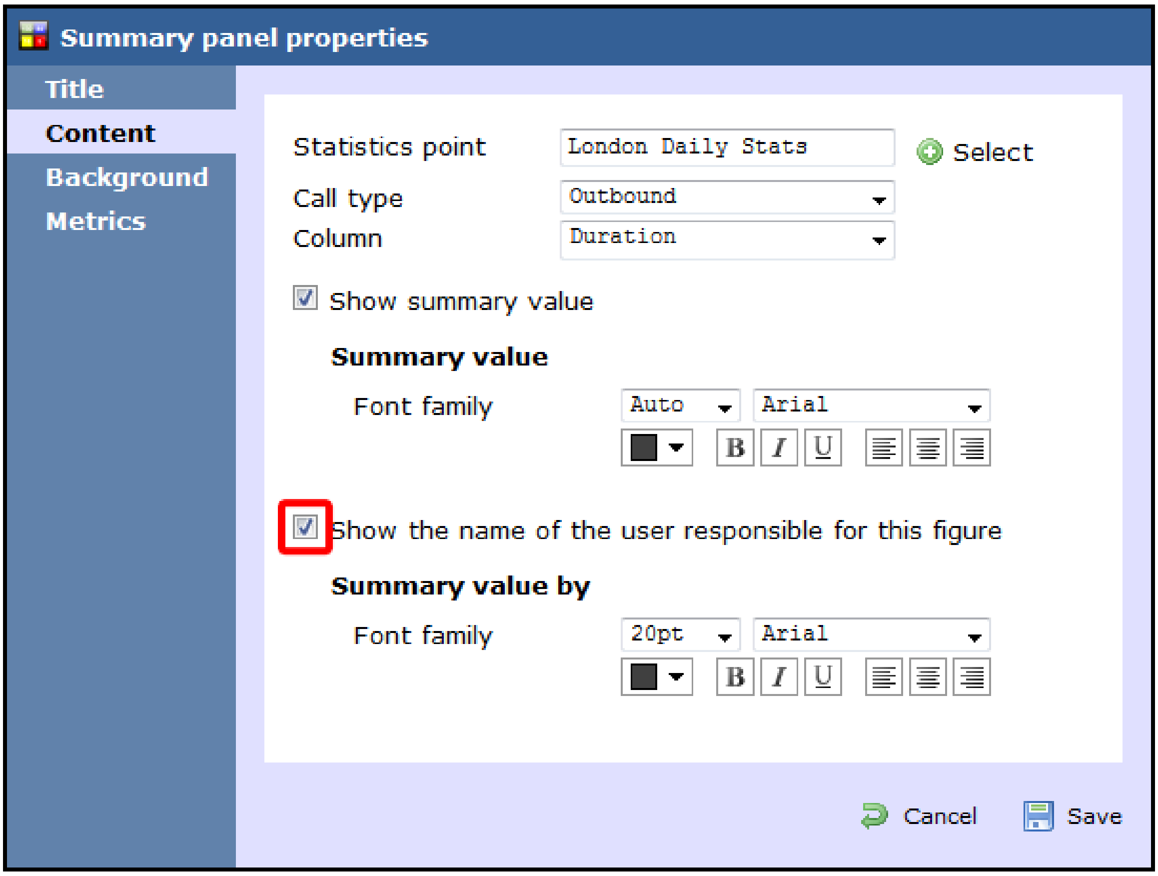
To see only the summary values for the information displayed in this panel, without the textual element, tick the available option and apply any styling properties, if preferred.



Show the name of the user

To see the name of the user whose call information is displayed in this panel, tick the available option and apply any styling properties, if preferred.

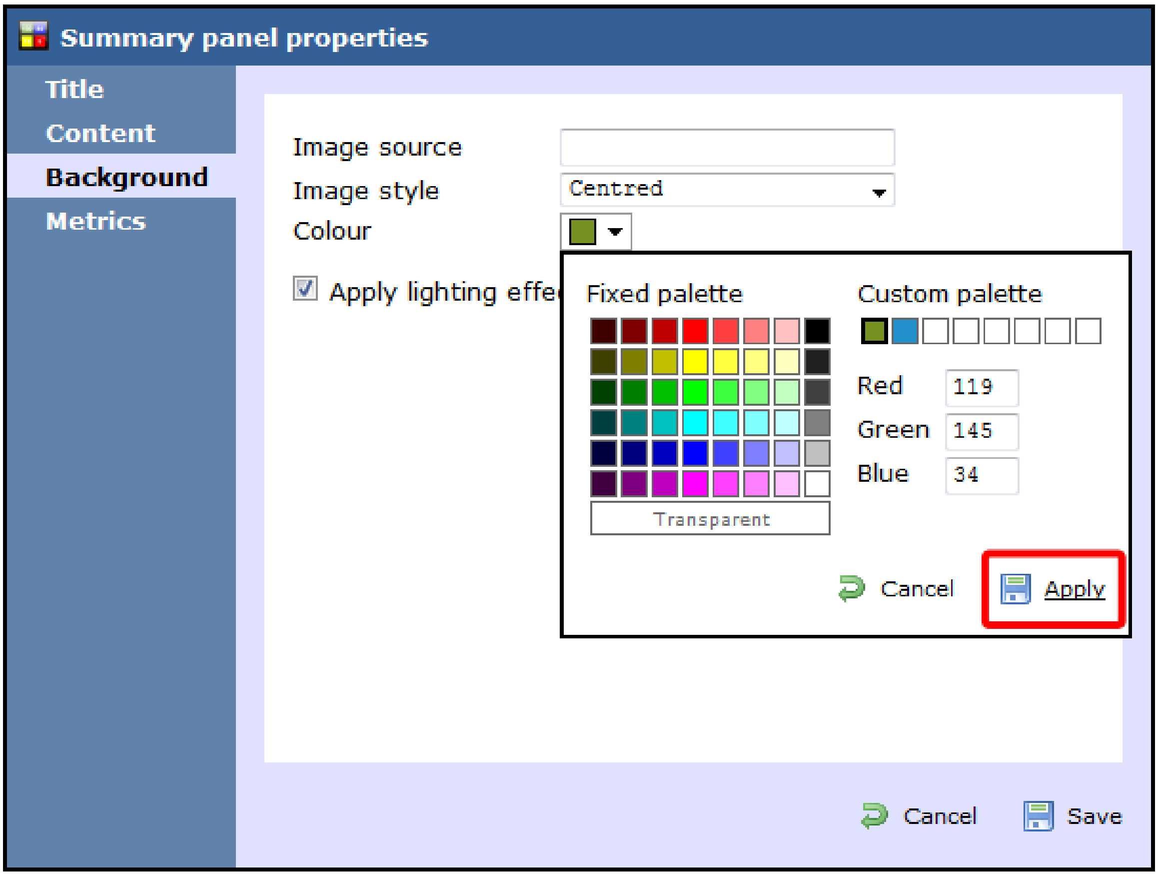
In the example below, we have selected to show the longest outbound call, so in the `Call type` field we have selected **`Outbound`**, and in the `Column` field we have selected **`Maximum Duration`**. Ticking the box to display the name of the user that meets the criteria above, the summary panel will display the outbound call with the max duration and the name of the person who achieved this.



The summary panel of this last example will display as shown below:

Background

The Background tab allows you to configure the background properties of your summary panel.

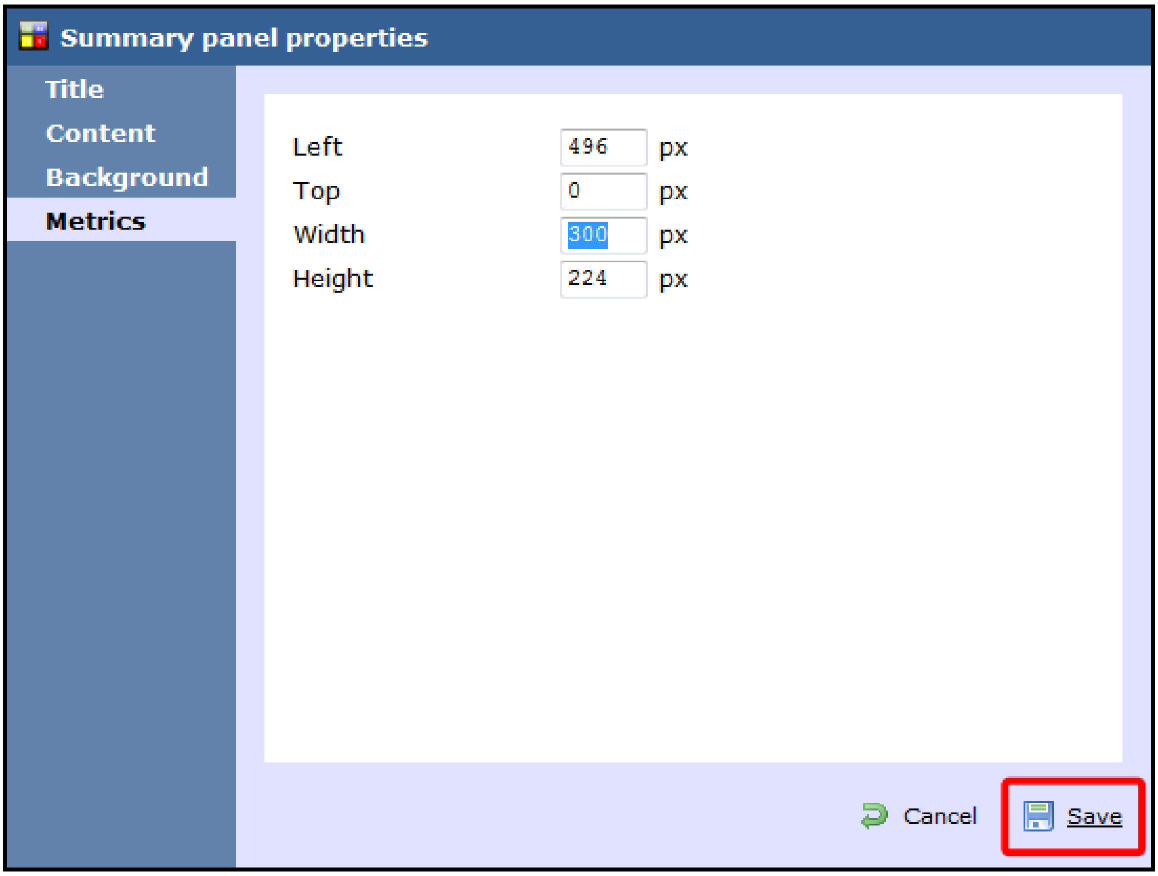


Field	Description
Image source	If you want your panel to display an image, type its source here. Remember, the path is relative to the folder on disk from which the web content is served, and is different for each class of web user
Image style	Choose how the image should be displayed
Colour	Choose the background colour of the panel; if you are adding an image, you may want to select `Transparent` s o that this does not interfere with your image
Apply lighting effects to this panel	Tick this option to apply a shine effect to the entire panel; if you are using the panel to display an image, this may adversely affect how it appears

The two examples below show the difference between panels with and without lighting effects.

Metrics

The Metrics tab allows you to define the shape of the panel, by entering values for its position and size.



When you have finished configuring the properties of your Summary panel, click on the Save button to apply the changes.

Summary panel - overview video

For a live demonstration of how to design and customise a summary panel, watch the video below:

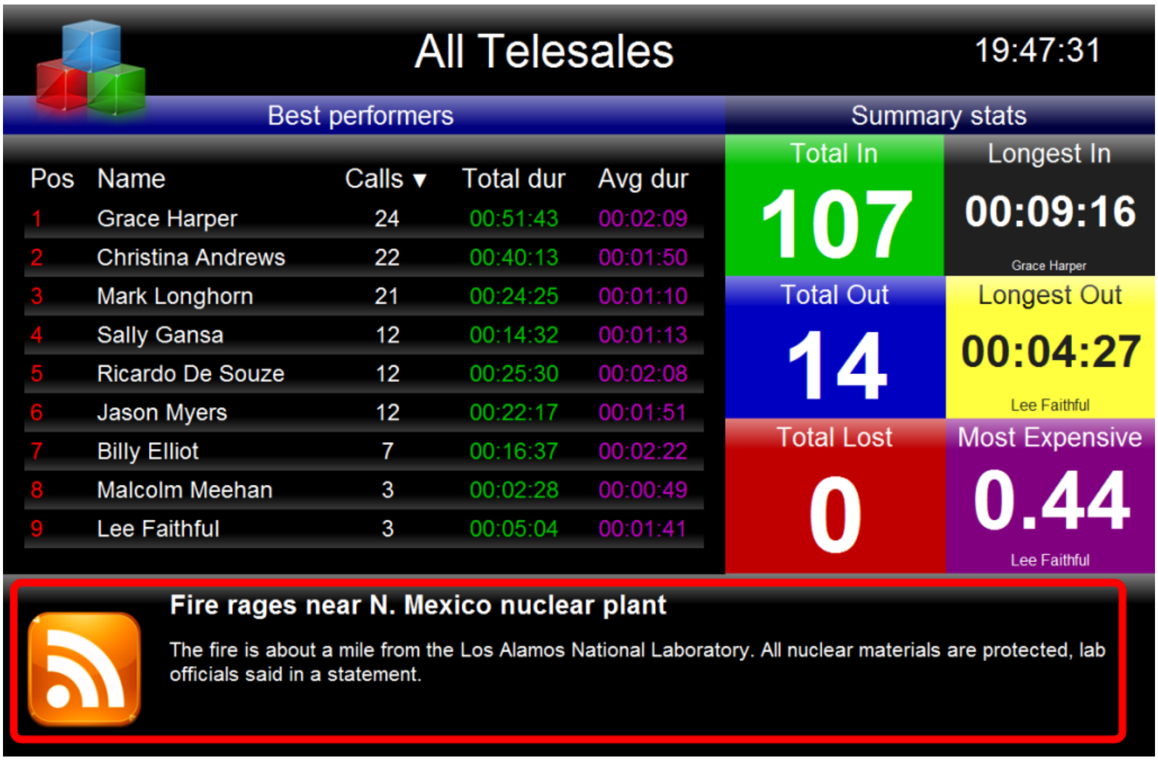
RSS panel

RSS panel

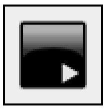
- What is an RSS panel?
- Adding an RSS panel
- Customising an RSS panel
- RSS panel - overview video

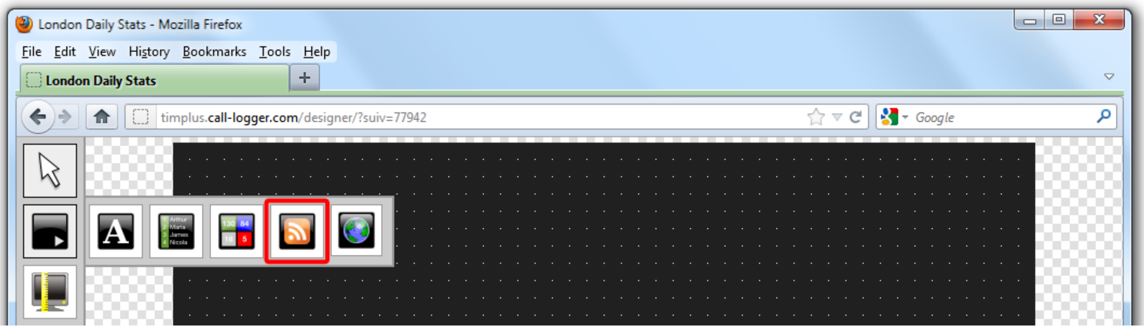
What is an RSS panel?

An RSS panel allows you to send a live RSS feed to your display board. The example below shows an RSS panel displayed at the bottom of the board.

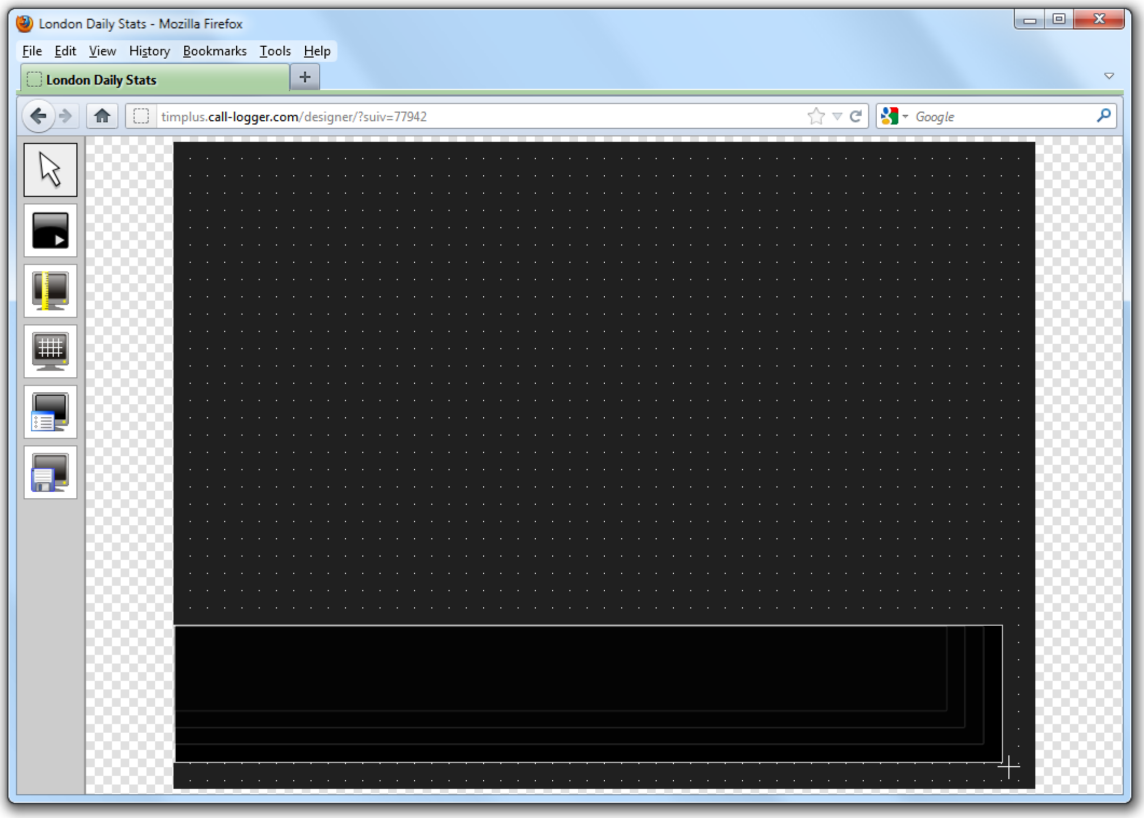


Adding an RSS panel

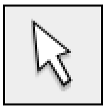
To add an RSS panel, click on the  toolbar button to expand the list of panel types and choose the  button, as shown below:

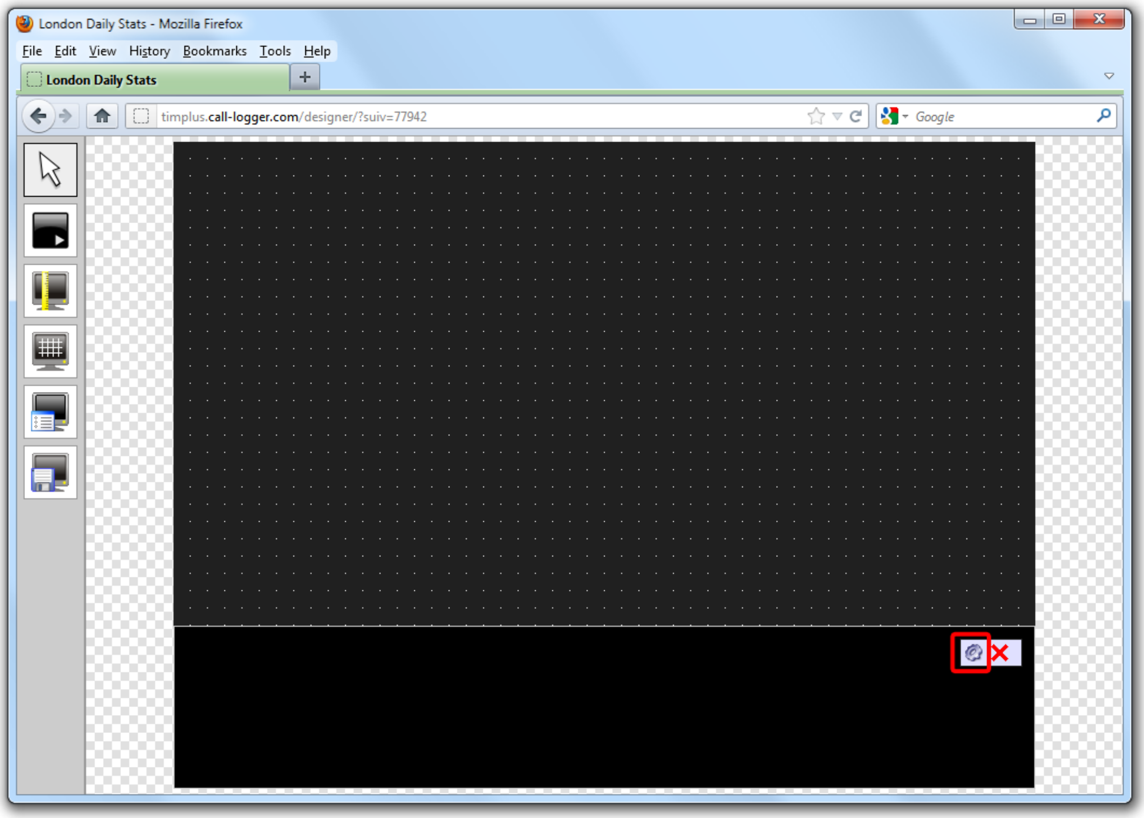


After selecting the RSS panel button, the mouse pointer changes into a white crosshair pointer, indicating that the designer is ready to draw your panel. Click and hold your left mouse button, starting at the point defining the upper-left corner of your new panel. Whilst still holding down the left mouse button, drag the marquee that will appear to the point that will define the lower-right corner of your panel, as shown below:



Customising an RSS panel

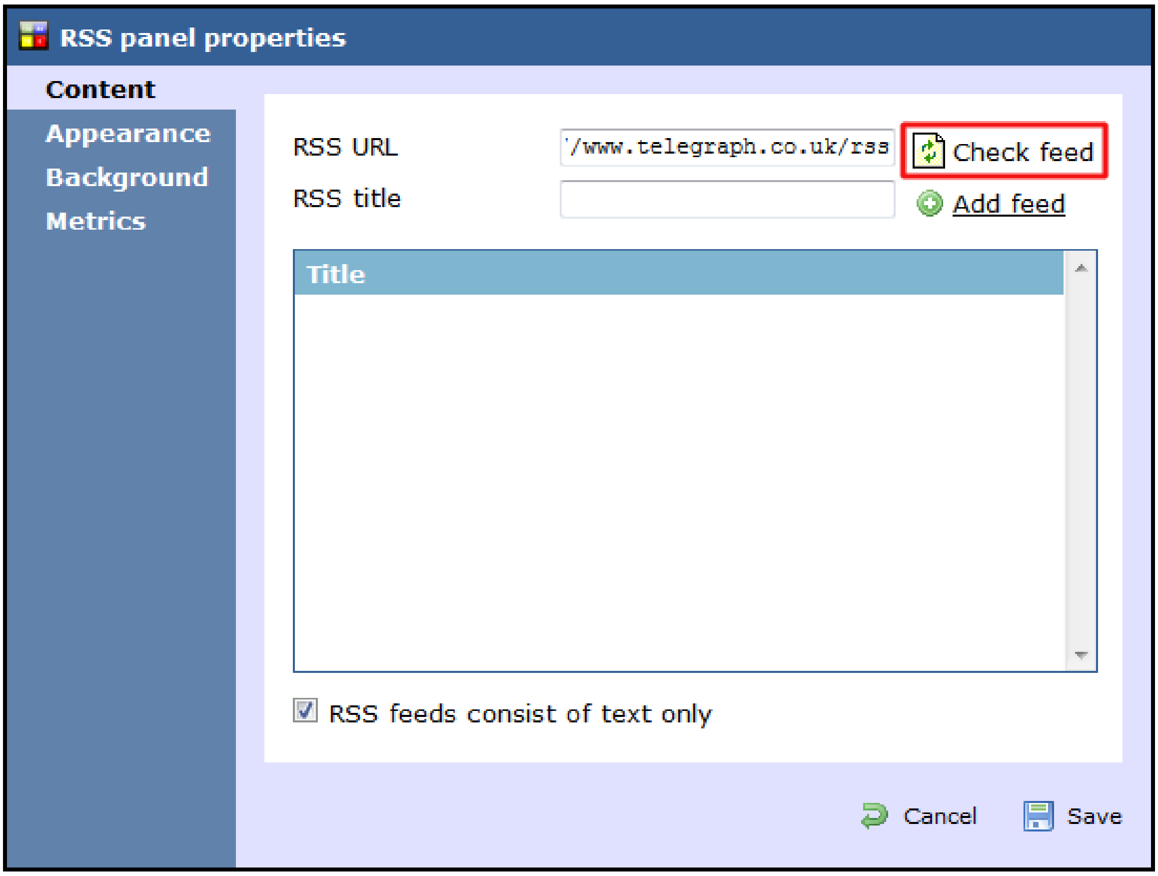
To customize an RSS panel, click on the  toolbar button to switch to panel selection mode. Hover your mouse pointer over the label panel you want to customise and click on the  icon, when it appears towards the top-right corner of the panel, as shown below:



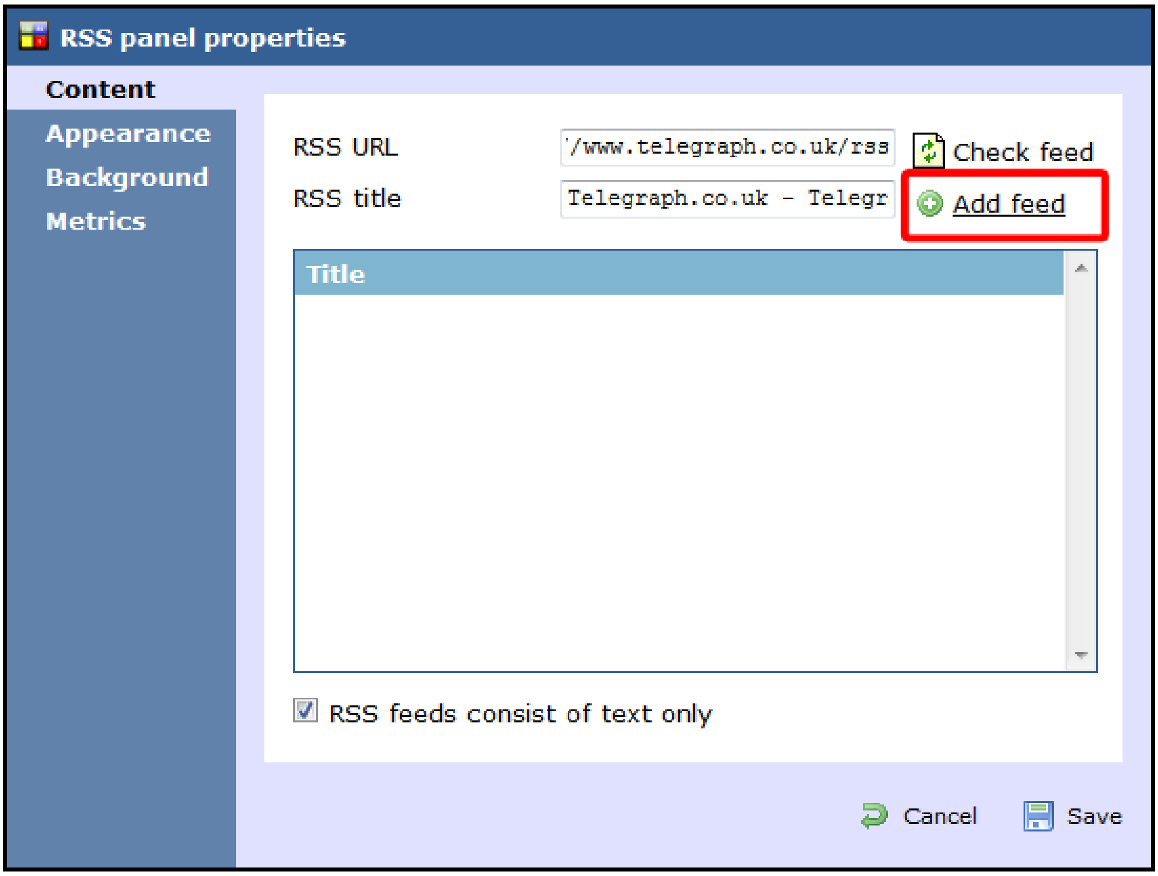
The **RSS panel properties** window will open, containing the following tabs:

Content

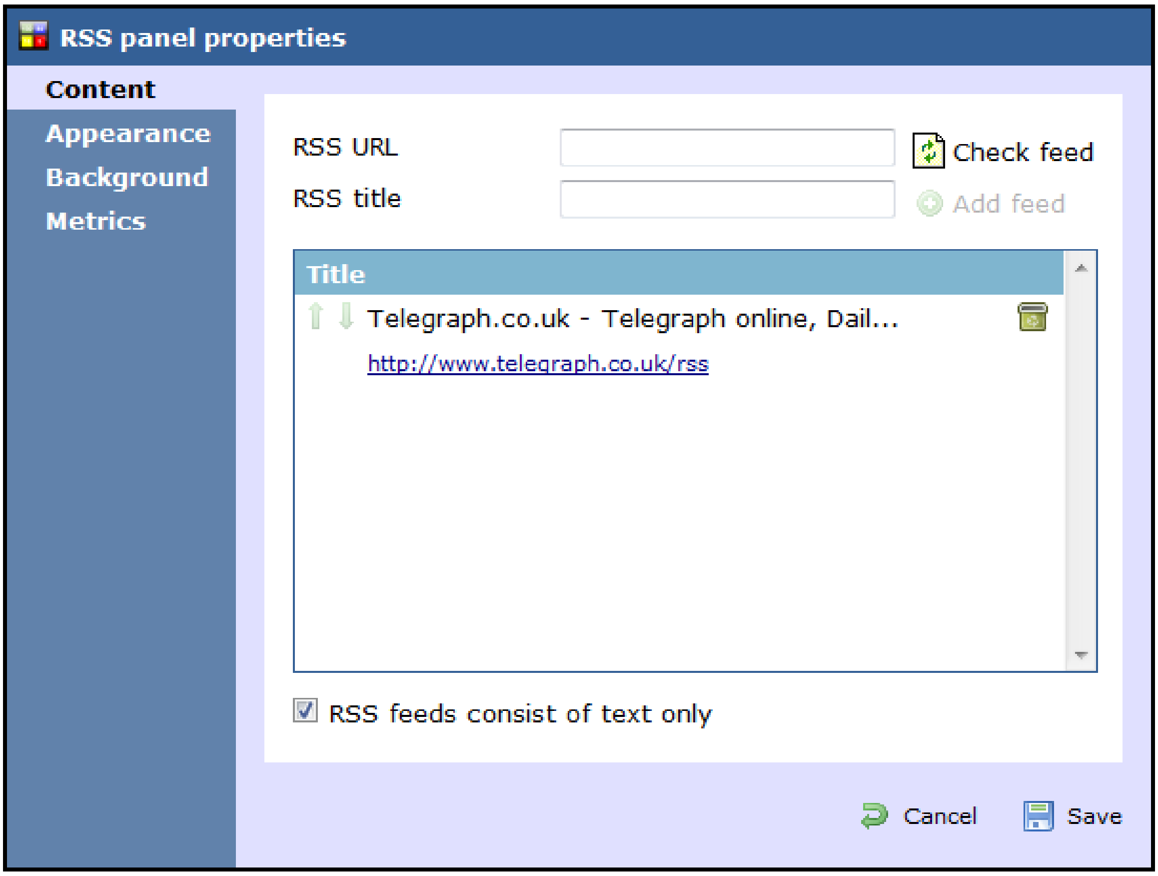
The Content tab allows you to add the URL of your RSS feed, e.g. http://www.telegraph.co.uk/rss. To verify that the feed is valid, click on the Check feed button.



If the entry is valid, the title of the RSS feed will appear in the **RSS title** field. Click on the Add feed button to add this feed to your RSS panel, as shown below:



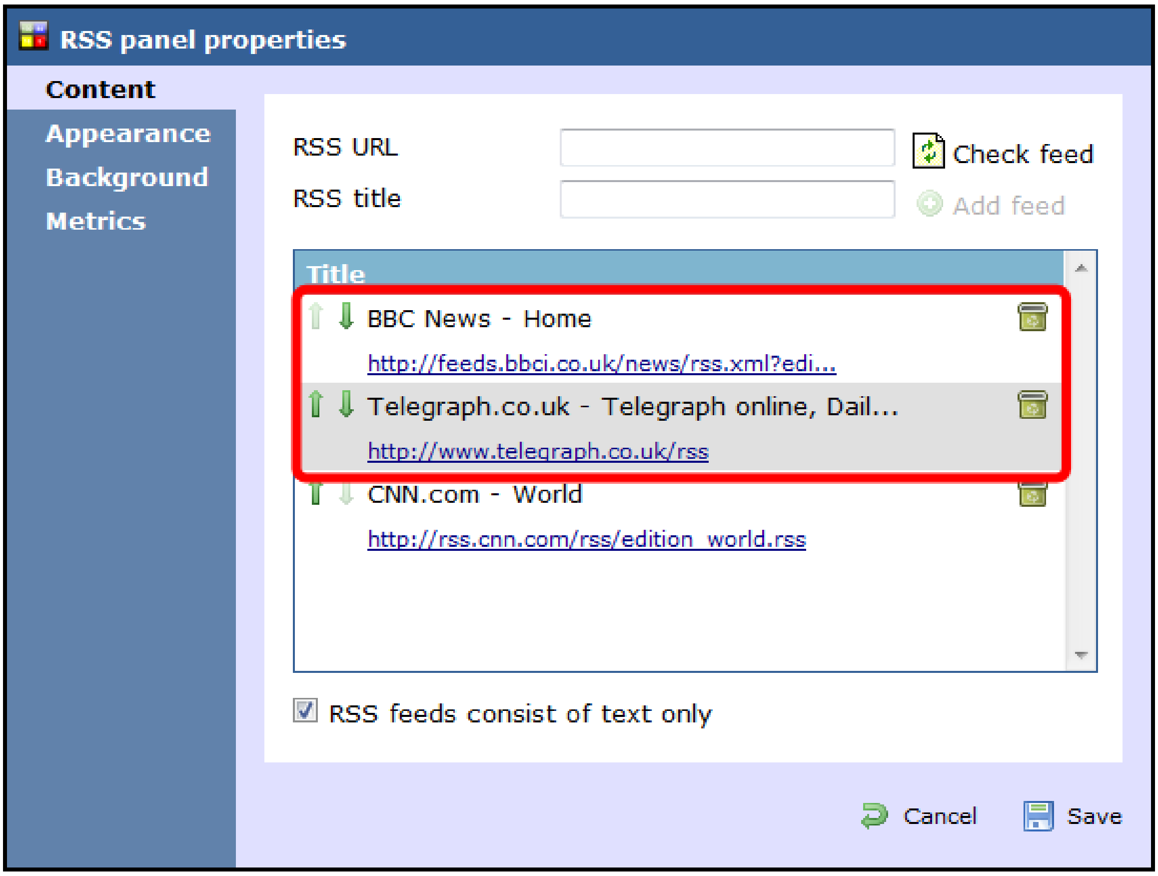
By default, this will appear in your RSS panel as shown below:



To add another RSS feed to your panel, follow the same procedure as described above.

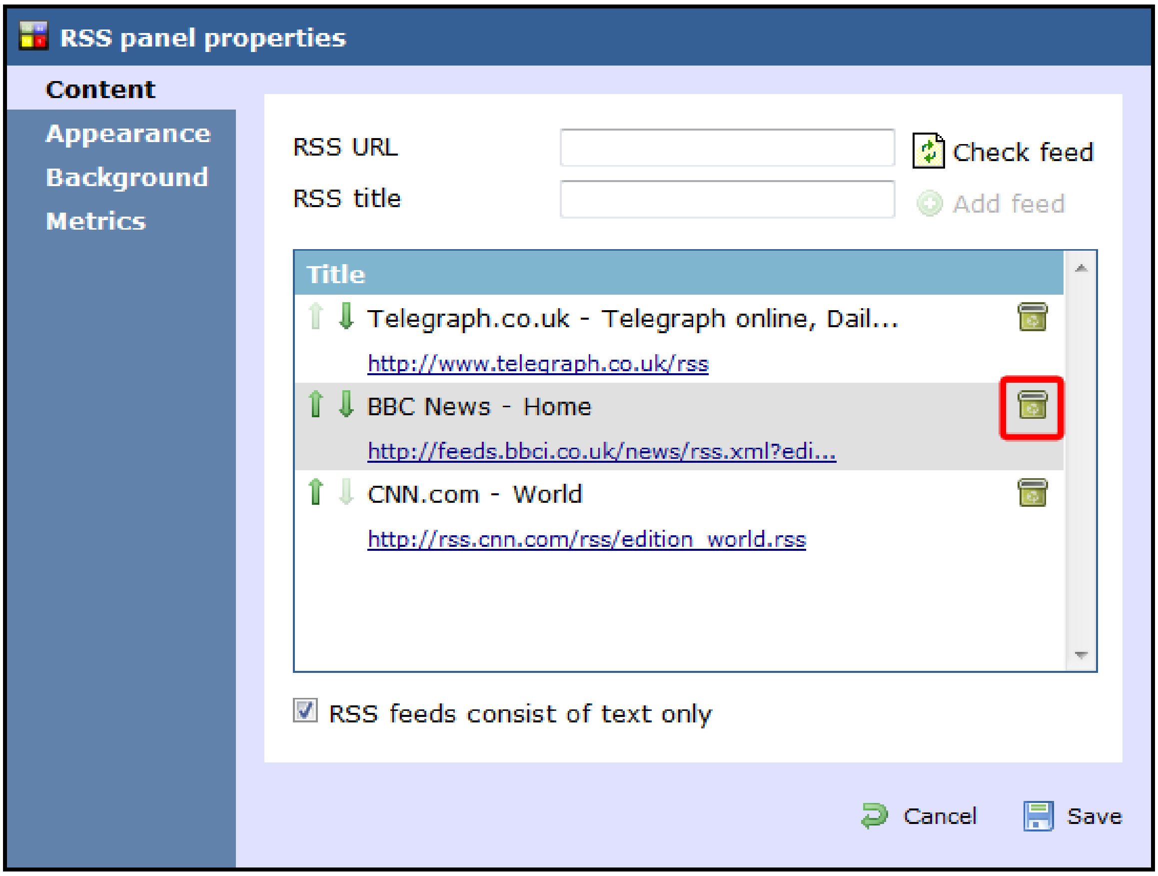
Reordering RSS feeds

If your RSS panel contains more than one RSS feed, you can change the order they will appear on your display board by clicking on the icons alongside each feed, as shown below:



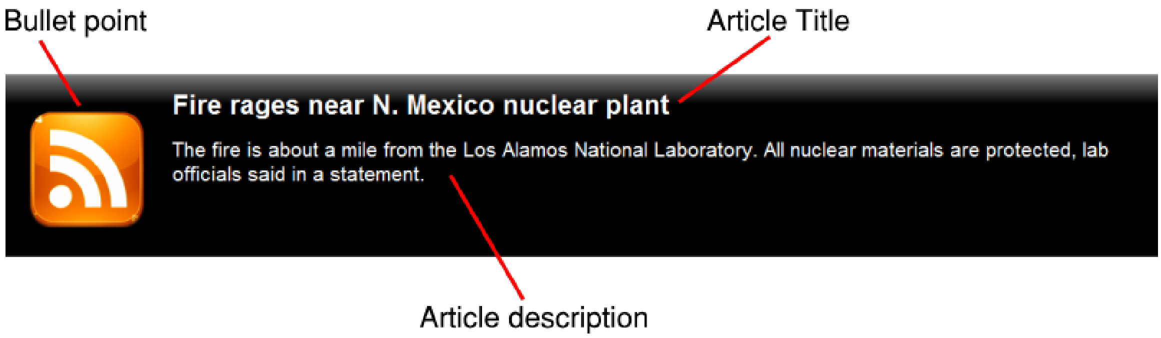
Deleting an RSS feed

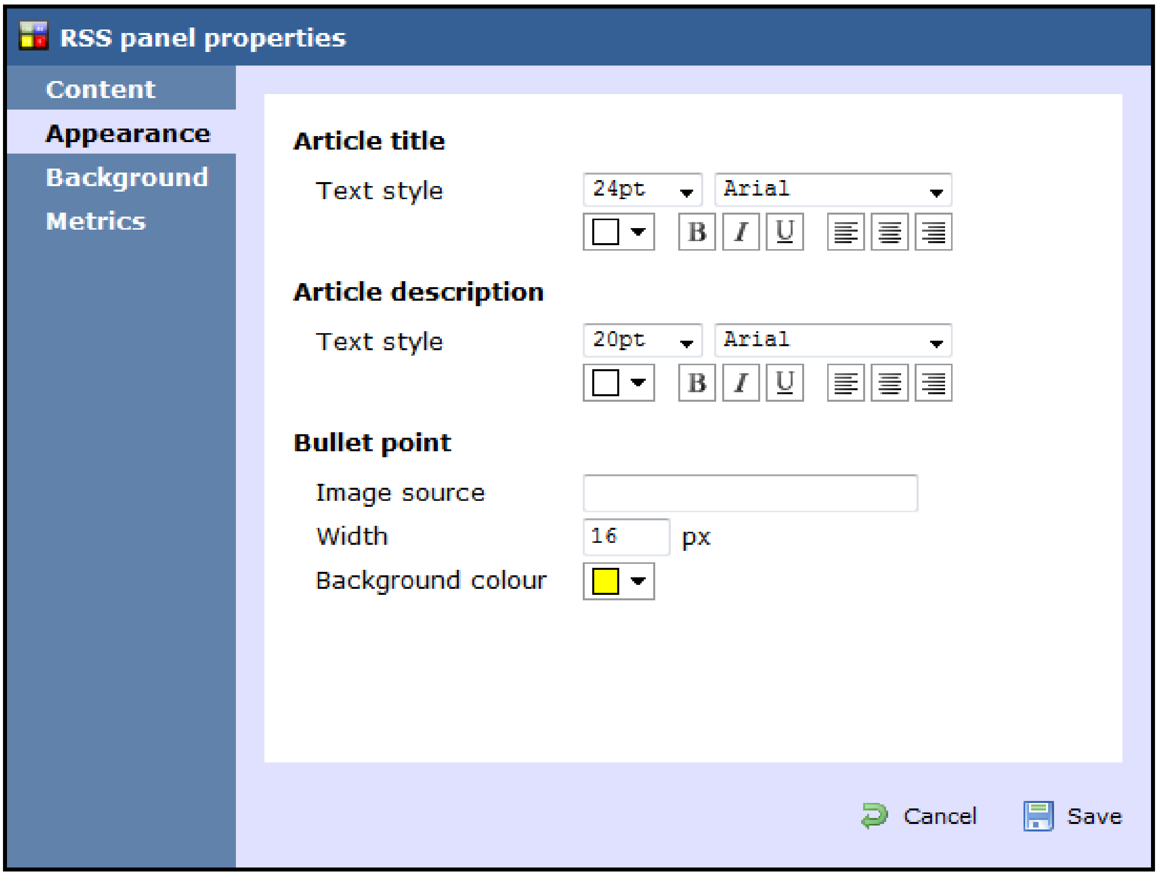
To delete an RSS feed from the panel, click on the icon as shown below:



Appearance

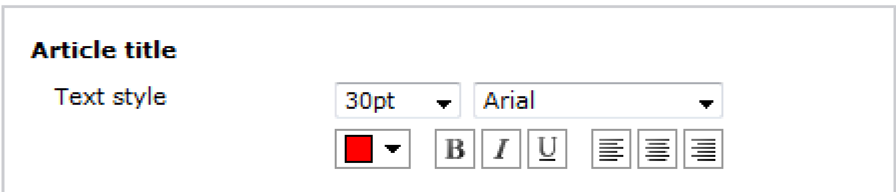
The Appearance tab allows you change the look of your RSS feed, by amending one or more of the following properties: the article title, the article description and the bullet point, as shown below:





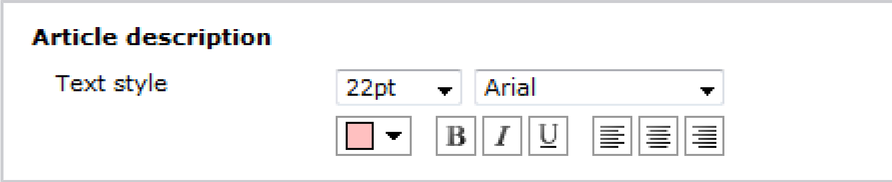
Article title

Apply any styling properties, such as font size, font style or text colour, if you want to change the appearance of your article title.

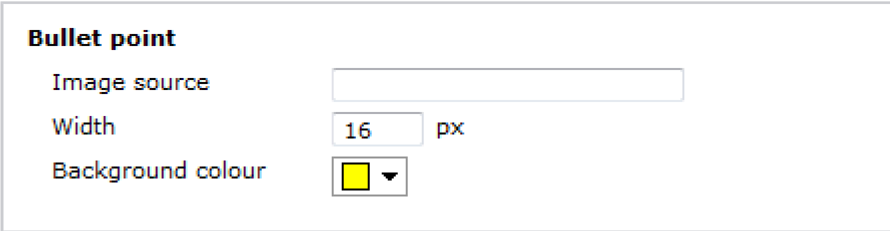


Article description

Apply any styling properties, such as font size, font style or text colour, if you want to change the appearance of your article description.



Bullet point

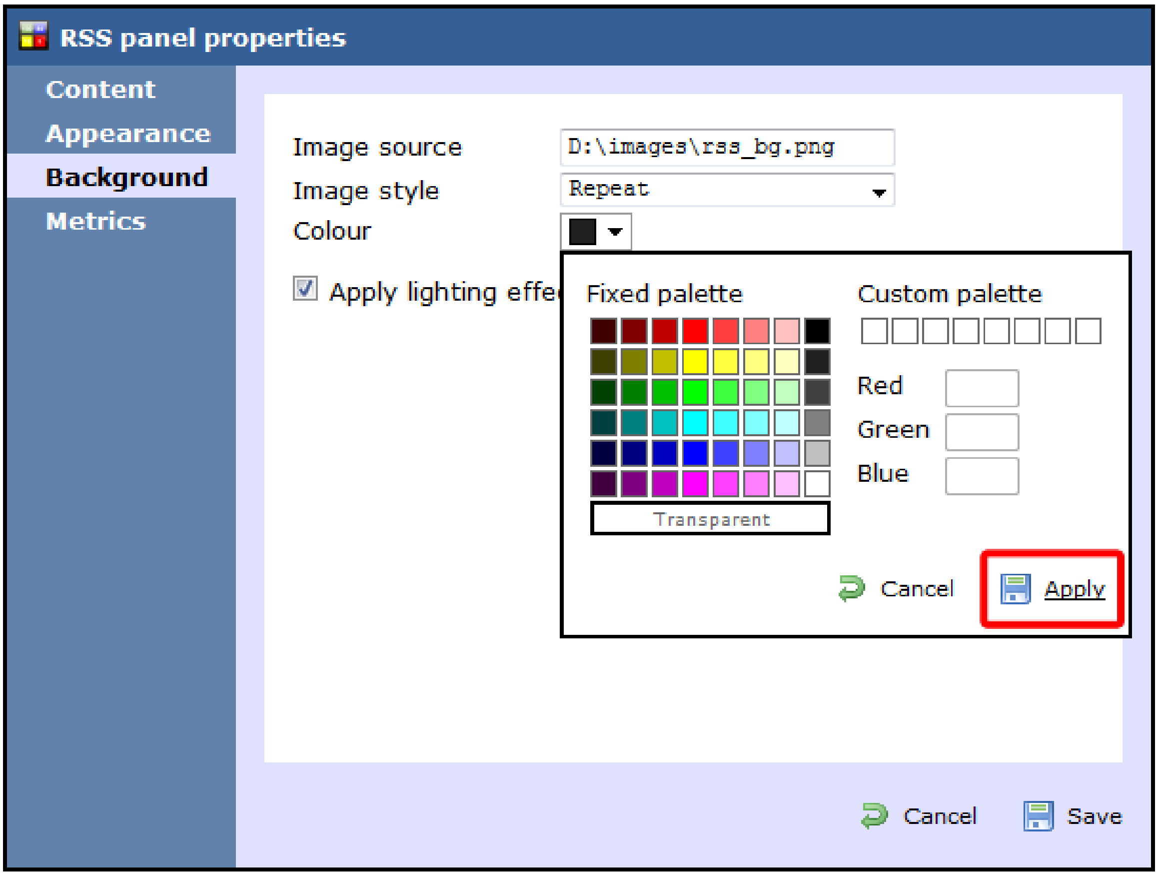


Field	Description
Image source	To use an image rather than a plain colour as your bullet point, enter its source here; the path is relative to the folder on disk from which the web content is served, and is different for each class of web user; the background colour should be set as `Transparent`, so it does not interfere with your image
Width	Define the width of the image, in pixels
Background colour	If you don't want to use an image as your bullet point, you can select a background colour

The example below shows two different bullet point implementations of the same RSS feed. On the left, you can see an image as a bullet point, whereas on the right the bullet point is a coloured rectangle of specific width.

Background

The Background tab allows you to configure the background properties of your RSS panel.



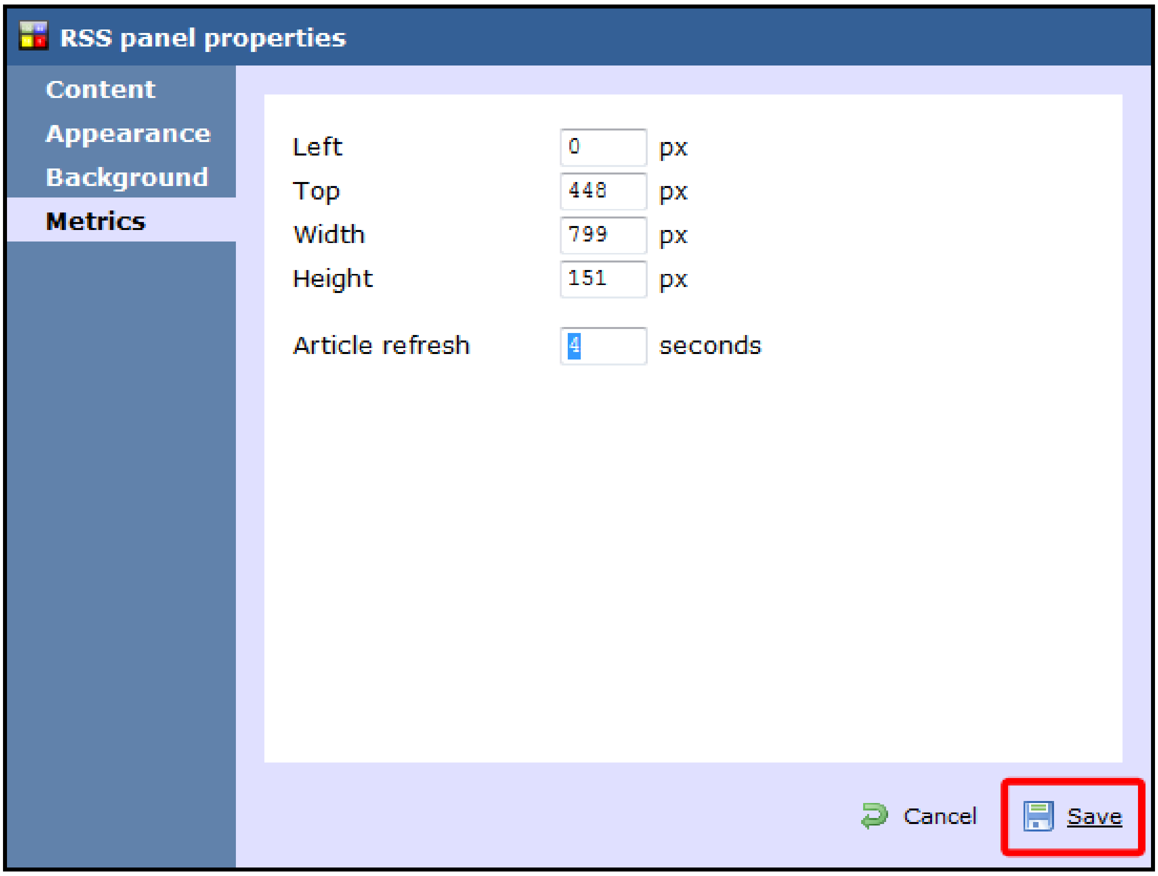
Field	Description
Image source	If you want your panel to display an image, type its source here. Remember, the path is relative to the folder on disk from which the web content is served, and is different for each class of web user
Image style	Choose how the image should be displayed
Colour	Choose the background colour of the panel; if you are adding an image, you may want to select `Transparent` s o that this does not interfere with your image
Apply lighting effects to this panel	Tick this option to apply a shine effect to the entire panel; if you are using the panel to display an image, this may adversely affect how it appears

The two examples below highlight the difference between panels with and without lighting effects.

It is recommended that you check with the RSS feed provider that they are happy for you to use their feed.

Metrics

The Metrics tab allows you to define the shape of the panel, by entering values for its position and size. You are also given the option to determine the refresh frequency of the page, by entering a value in the `Article refresh` box.



When you have finished configuring the properties of your RSS panel, click on the Save button to apply the changes.

RSS panel - overview video

For a live demonstration of how to design and customise an RSS panel, watch the video below:

Web panel

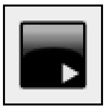
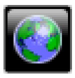
Web panel

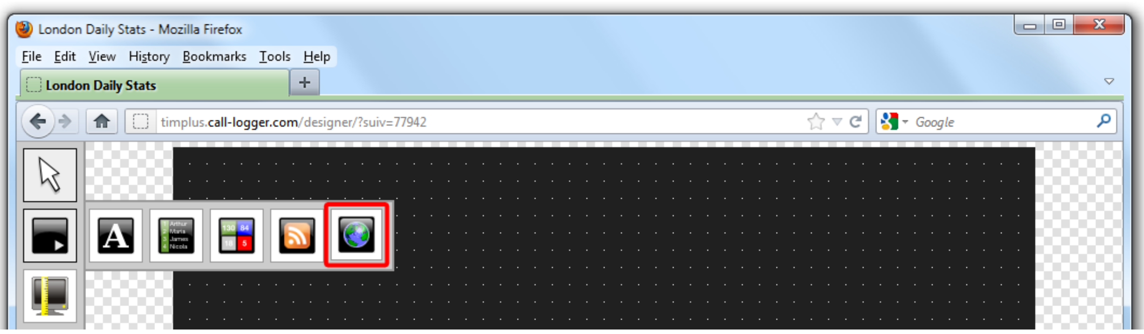
- What is a web panel?
- Adding a web panel
- Customising a web panel
- Web panel - overview video

What is a web panel?

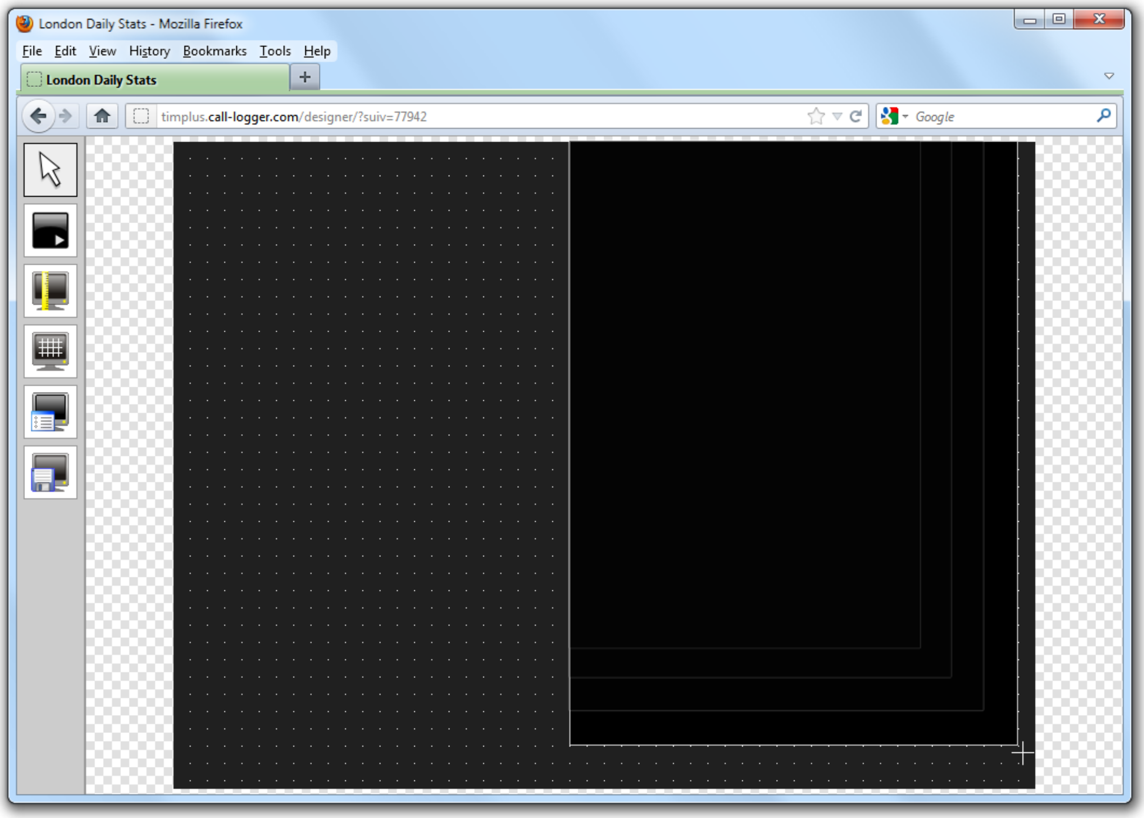
A web panel allows you to display a web page in any section of your display board. In the example below, the BBC News page is displayed on the right-hand side of the board, alongside a leaderboard panel.

Adding a web panel

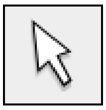
To add a web panel, click on the  toolbar button to expand the list of panel types and choose the  button, as shown below:

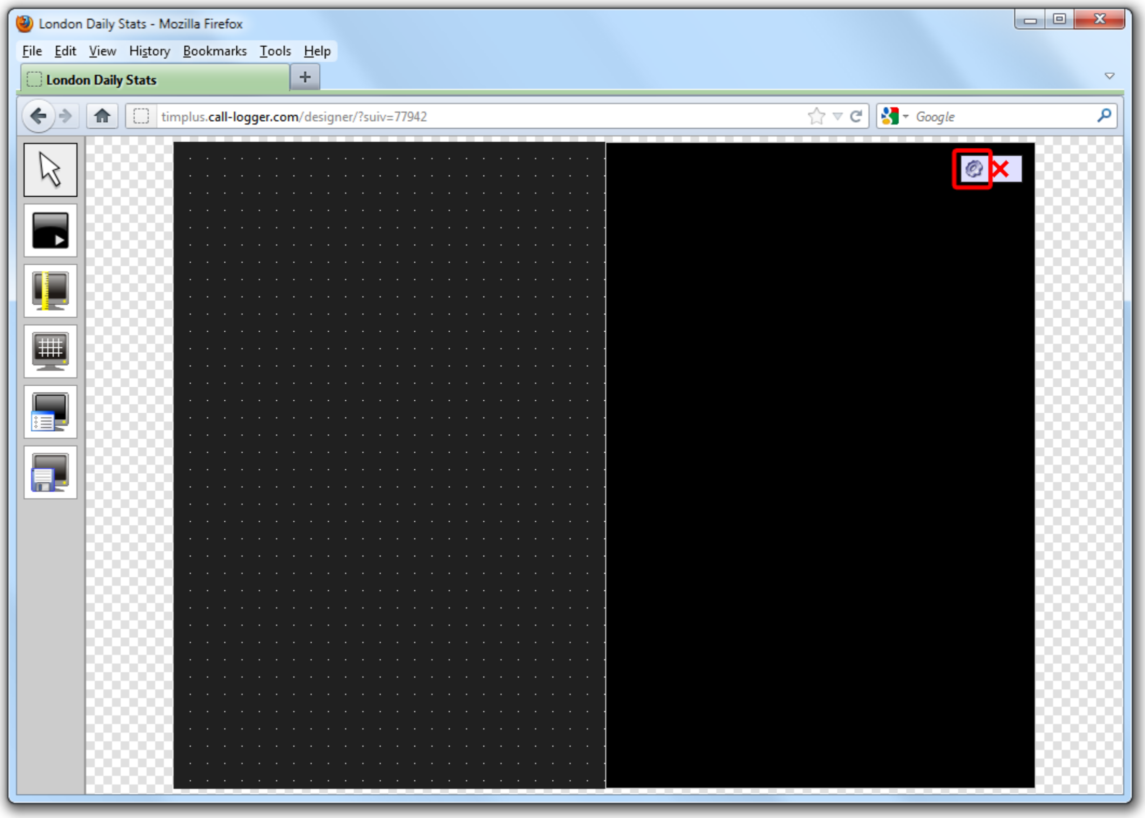


After selecting the web panel button, the mouse pointer changes into a white crosshair pointer, indicating that the designer is ready to draw your panel. Click and hold your left mouse button, starting at the point defining the upper-left corner of your new panel. Whilst still holding down the left mouse button, drag the marquee that will appear to the point that will define the lower-right corner of your panel, as shown below:



Customising a Web panel

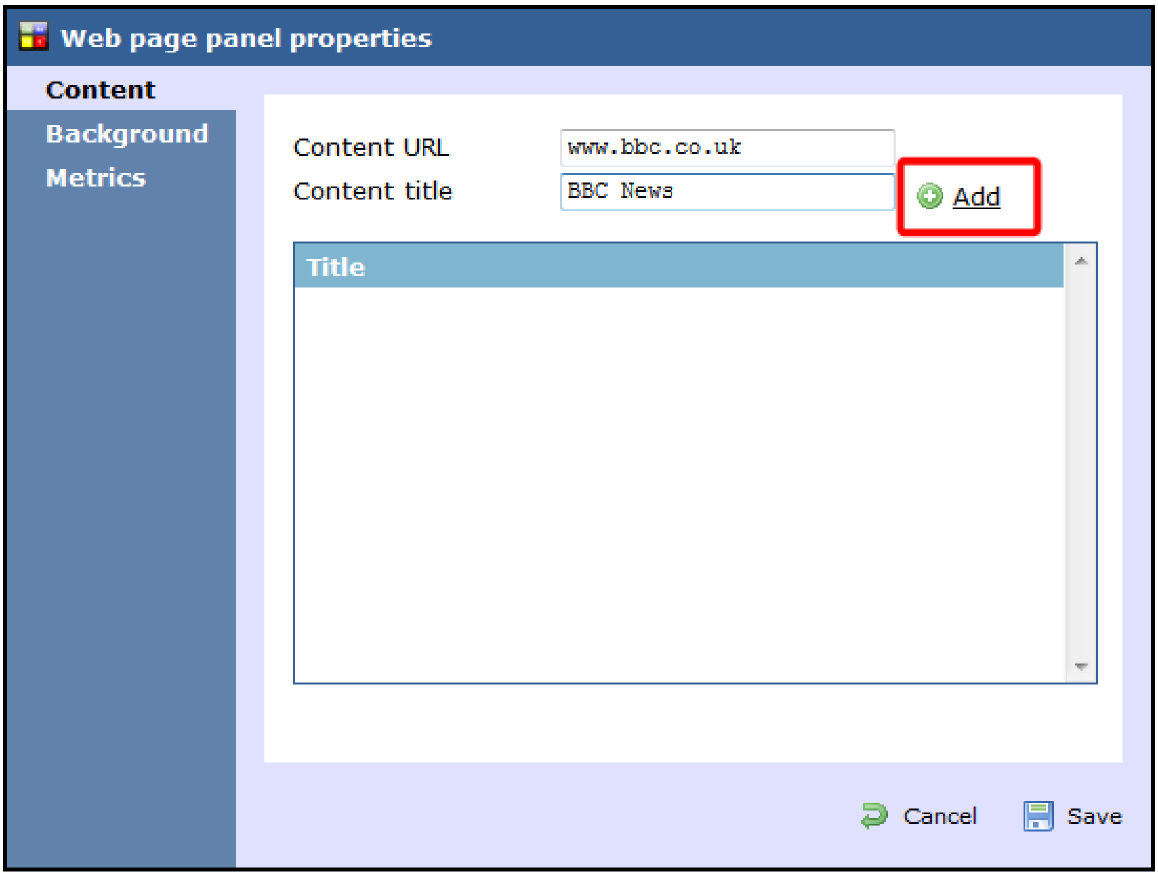
To customize a web panel, click on the  toolbar button to switch to panel selection mode. Hover your mouse pointer over the label panel you want to customise and click on the  icon, when it appears towards the top-right corner of the panel, as shown below:



The **Web page panel properties** window will open, containing the following tabs:

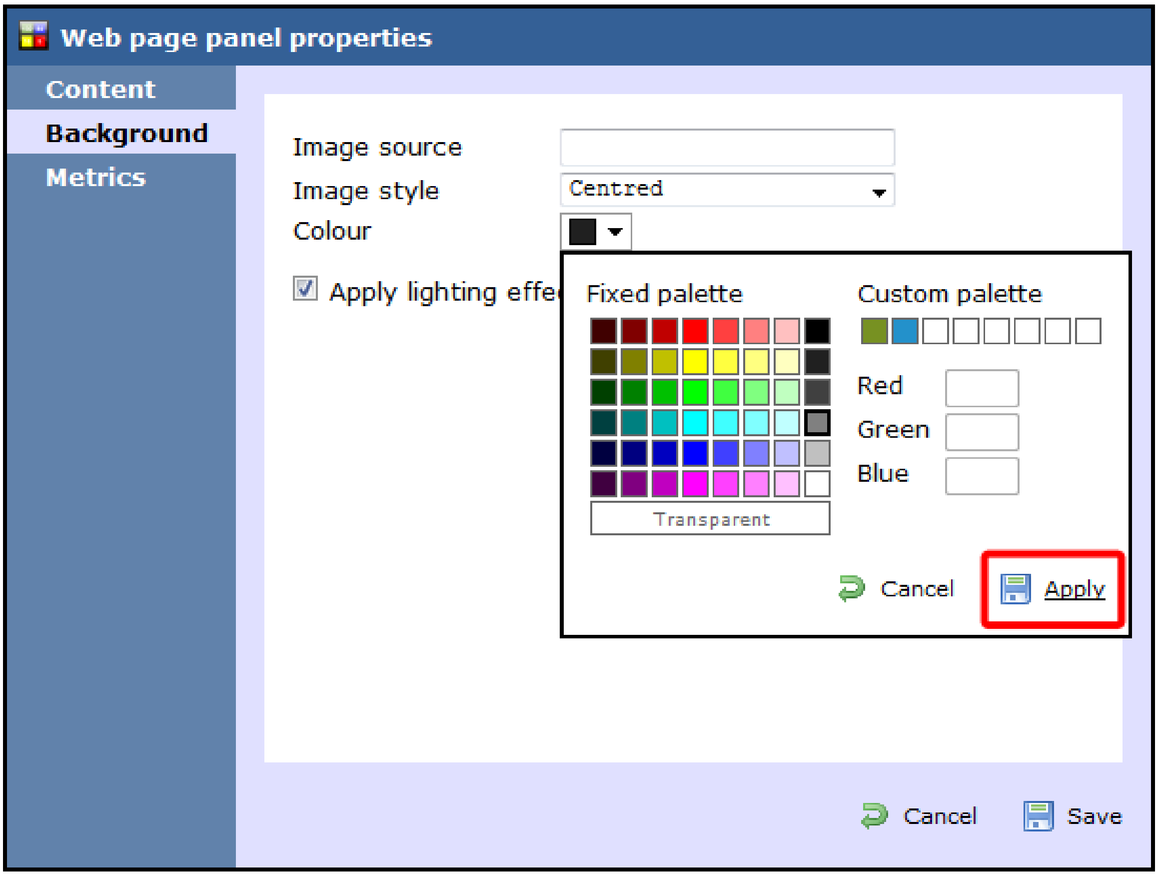
Content

The Content tab allows you to add the URL and title of the web page you want to display. Click on the Add button to add the web page to the panel, as shown below:



Background

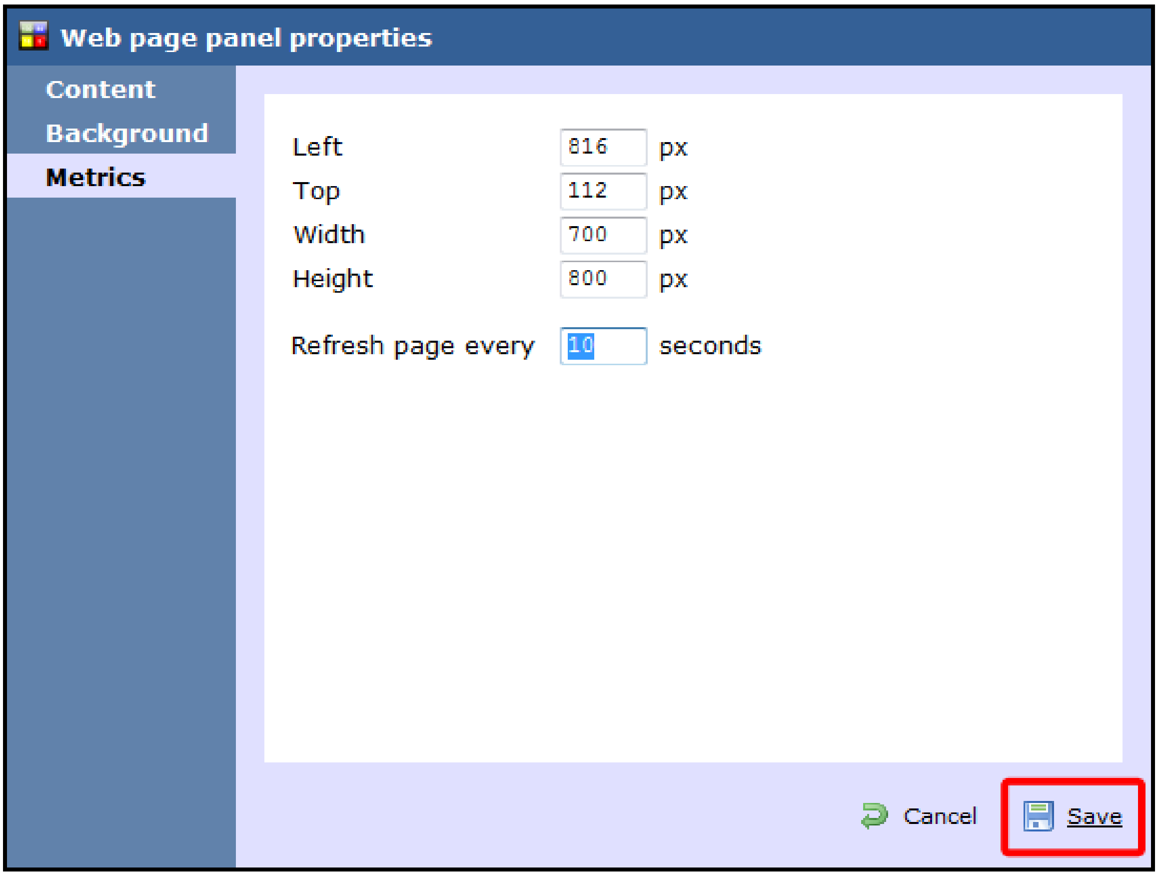
The Background tab allows you to configure the background properties of your web panel.



Field	Description
Image source	If you want your panel to display an image, type its source here. Remember, the path is relative to the folder on disk from which the web content is served and is different for each class of web user
Image style	Choose how the image should be displayed
Colour	Choose the background colour of the panel; if you are adding an image, you may want to select `Transparent` so that this does not interfere with your image
Apply lighting effects to this panel	Tick this option to apply a shine effect to the entire panel; if you are using the panel to display an image, this may adversely affect how it appears

Metrics

The Metrics tab allows you to define the shape of the panel, by entering values for its position and size. You are also given the option to determine the refresh frequency of the page, by entering a value in the `Refresh page` box, as shown below:



When you have finished configuring the properties of your Web panel, click on the Save button to apply the changes.

Web panel - overview video

For a live demonstration of how to design and customise a web panel, watch the video below:

Question

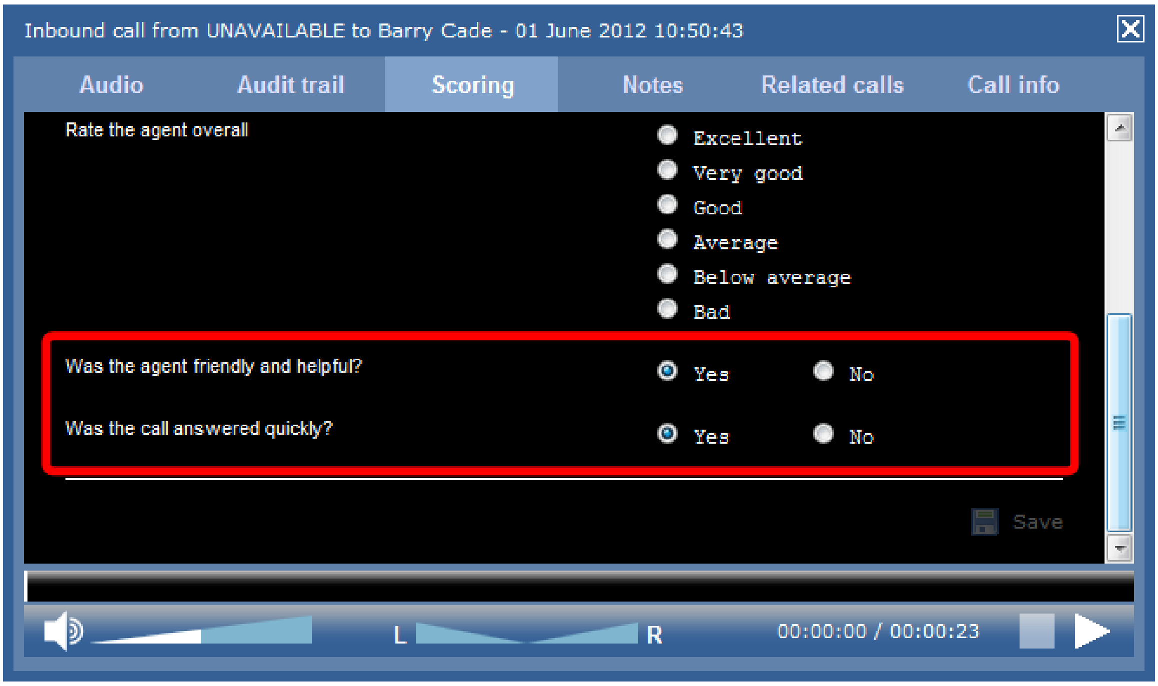
Question

- Overview
- Adding a question
- Editing a question
- Using the score cards

Overview

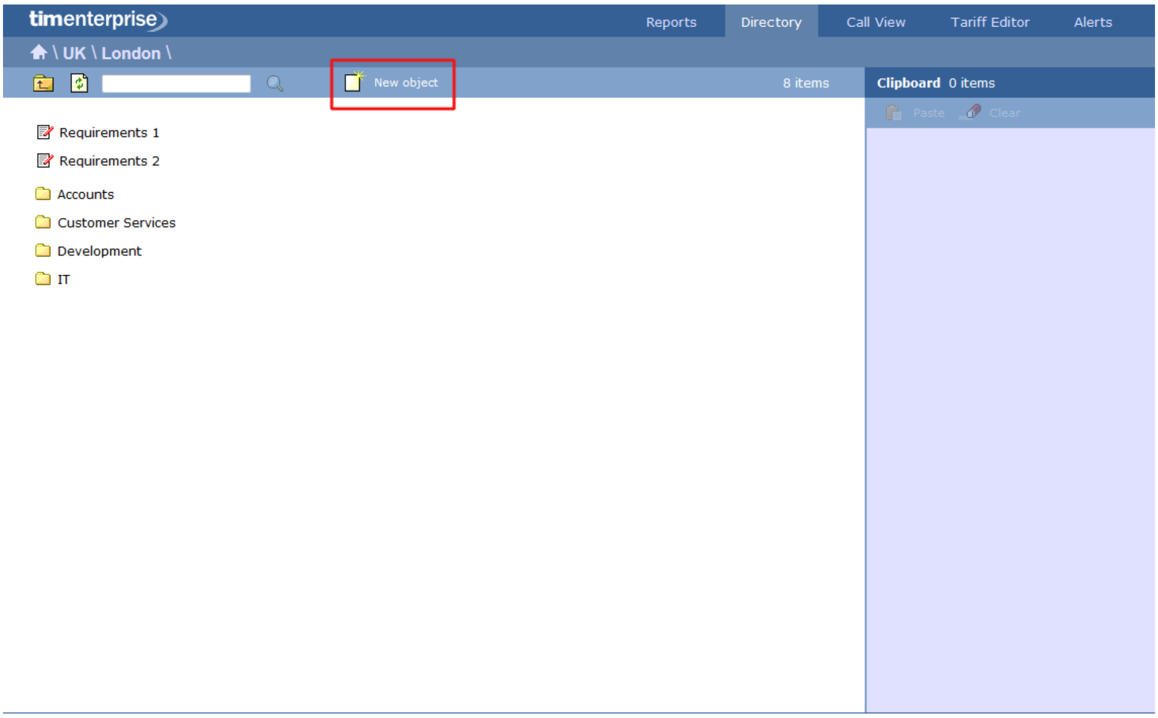
TIM Enterprise allows you to create your own score cards in order to rate calls for evaluation purposes. The score cards are based on a list of questions that you can define in the directory and which must be completed afterwards for each call that you want to score.

A score card containing a list of possible questions is presented below:

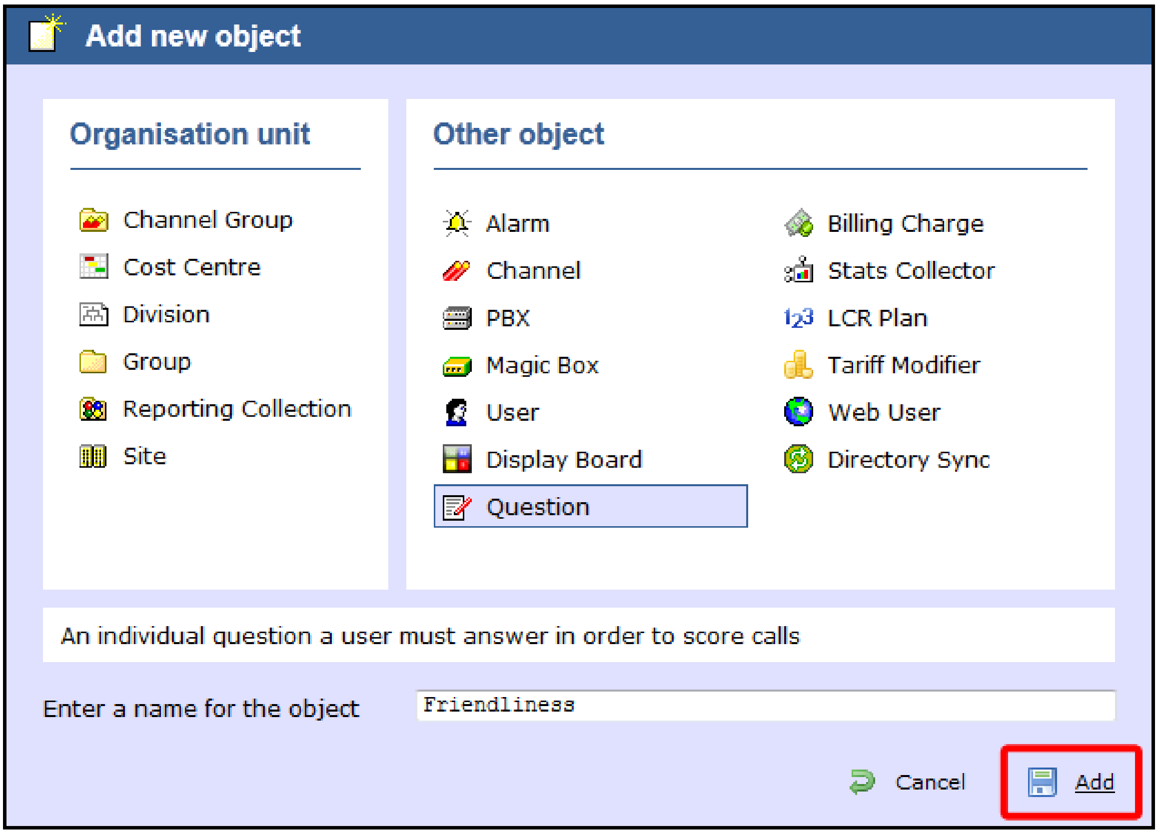


Adding a question

To add a `Question` object to the system, drill-down to the Directory level where you want to add the question and click on the `New object` tab, as shown below:



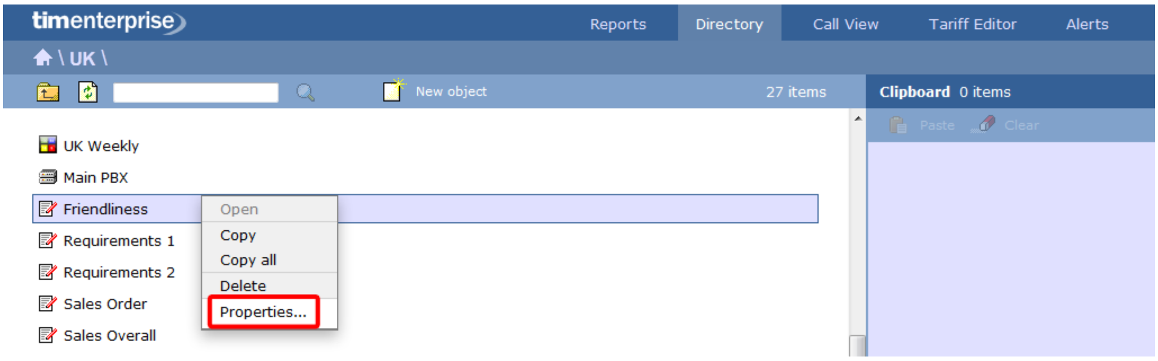
In the new window that opens, select the **Question** object from the **Other object** list, enter a relevant name and click on the Add button, as shown below:



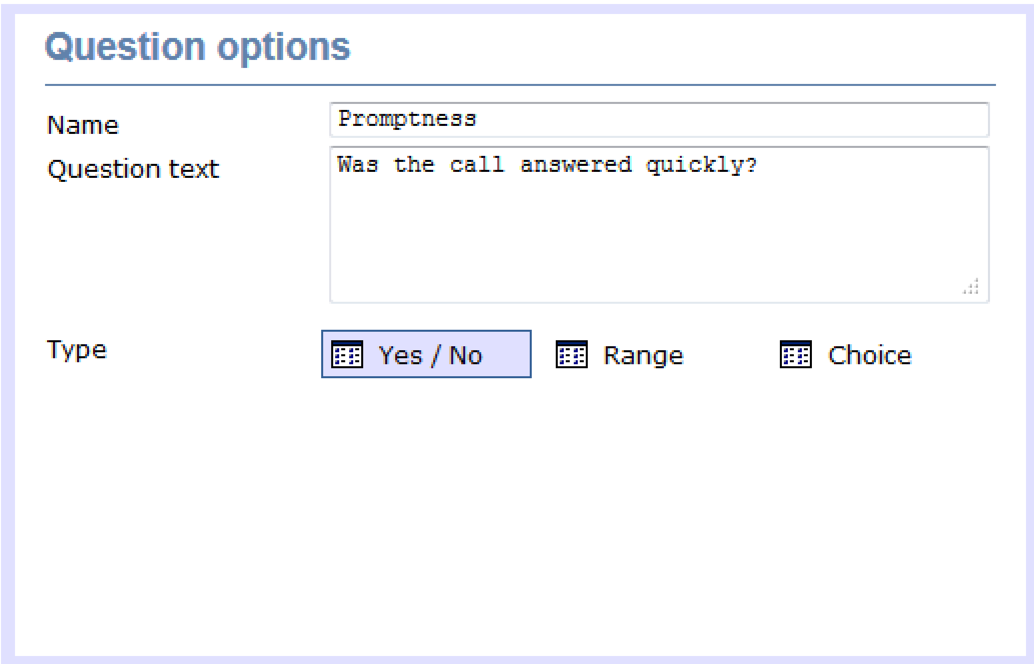
The **Question** object will appear in the Directory as follows:

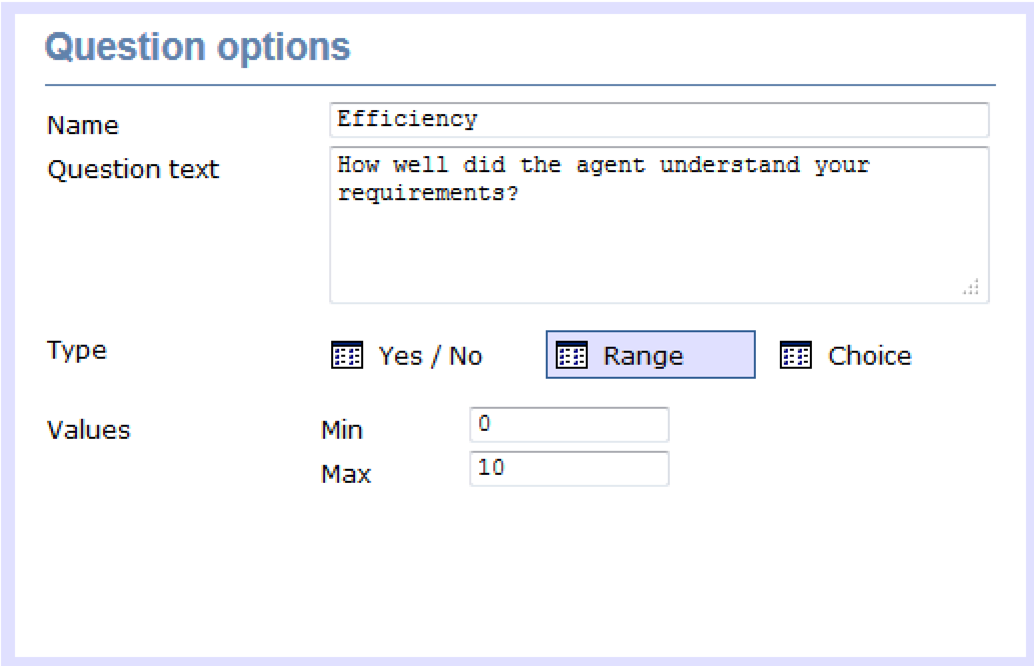
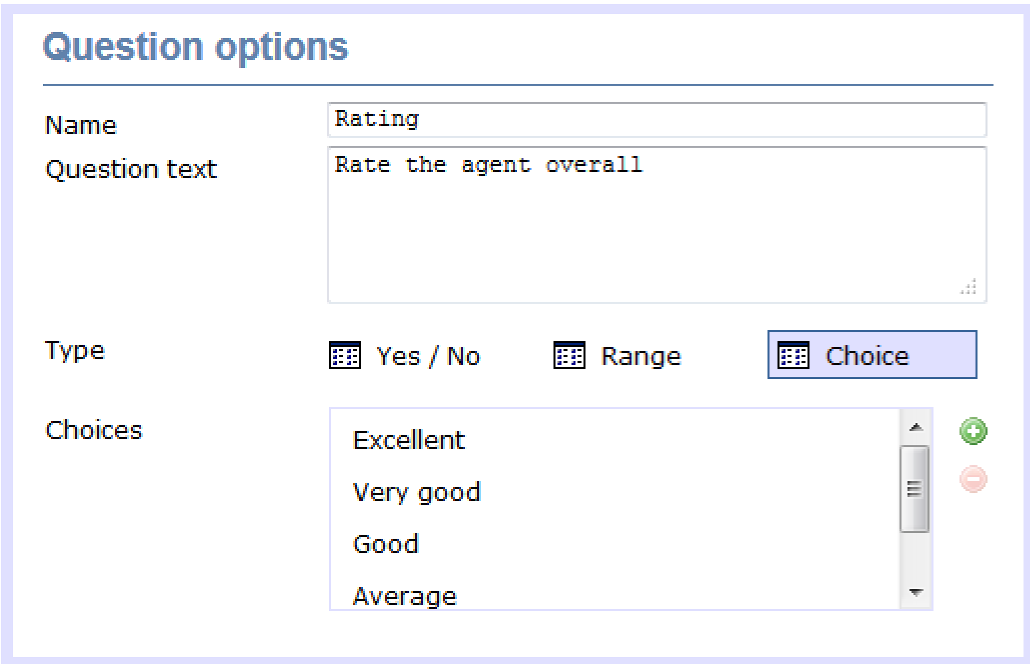
Editing a question

To edit a question, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, where you can edit the properties of the selected question. Each answer type is explained in the table below:

Answer type	Description
Yes/No answer	Calls will be rated based on a yes/no answer, e.g. Was the call answered quickly? 

<table>
<tr>
<td>Range answers</td>
<td>Calls will be rated based on a defined range of values, e.g. How well did the agent understand the caller's requirements, on a scale of 1 to 10?

</td>
</tr>
<tr>
<td>Multiple choice answers</td>
<td>Calls will be rated according to a fixed set of pre-defined answers, e.g. excellent, good, average, below average, bad.


Click on the or icons, to add or remove an answer from the list.</td>
</tr>
</table>

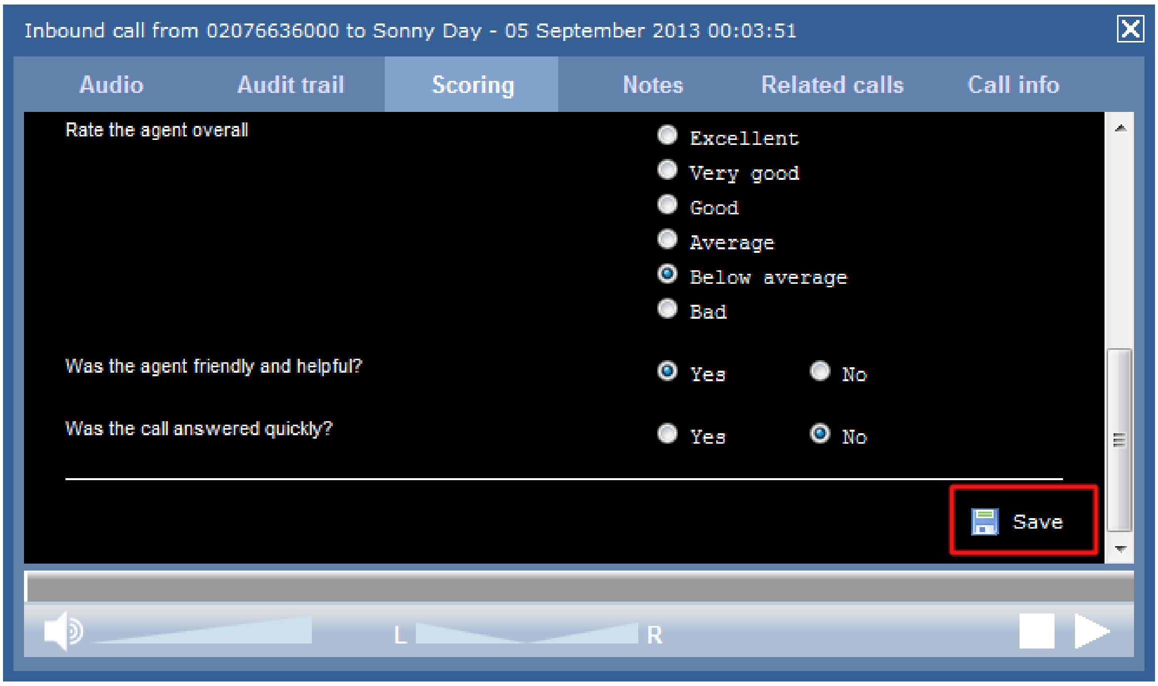
Using the score cards

Once you have created your score cards, you can use them to score any call logged by the system. You can then run reports on these calls, in order to assess the performance of your staff.

Scoring a call

To score a call from the `Call view` screen, click on the icon, as shown below:

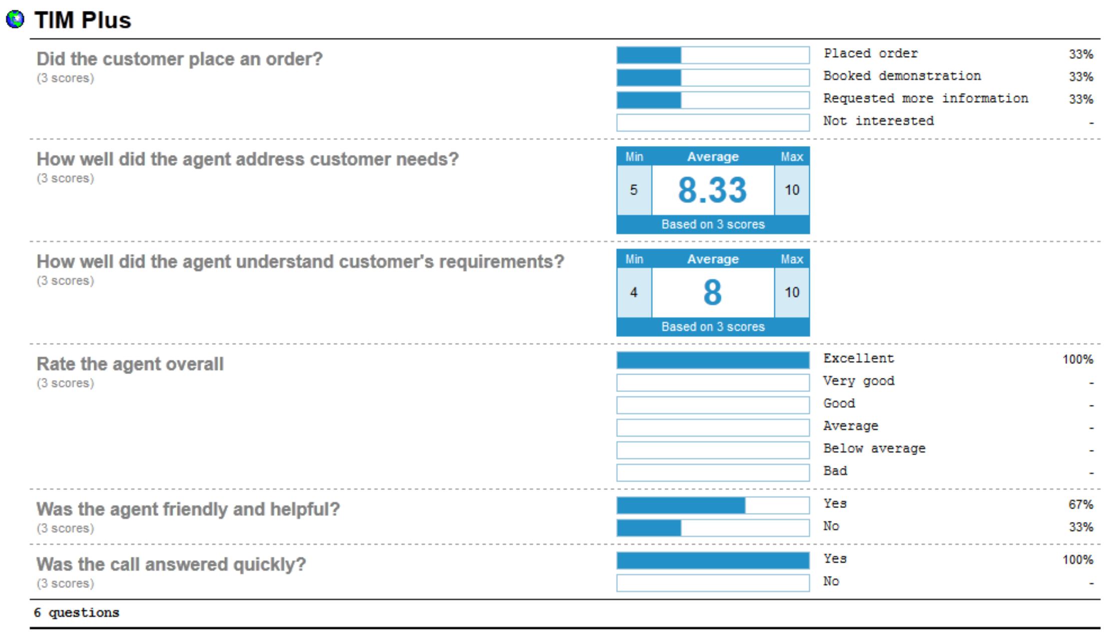
A new window will open, where you can score the call using previously-created score cards. Click on the Save button to apply the changes.



To score a call from an itemised report, click on it to display the `Call detail` window, then select the Scoring tab to score the call.

Reporting on scored calls

Use the `Call scoring` report to obtain a comprehensive analysis of answers to previously-scored calls. All question types are summarised and grouped into their respective category.



Billing Charge

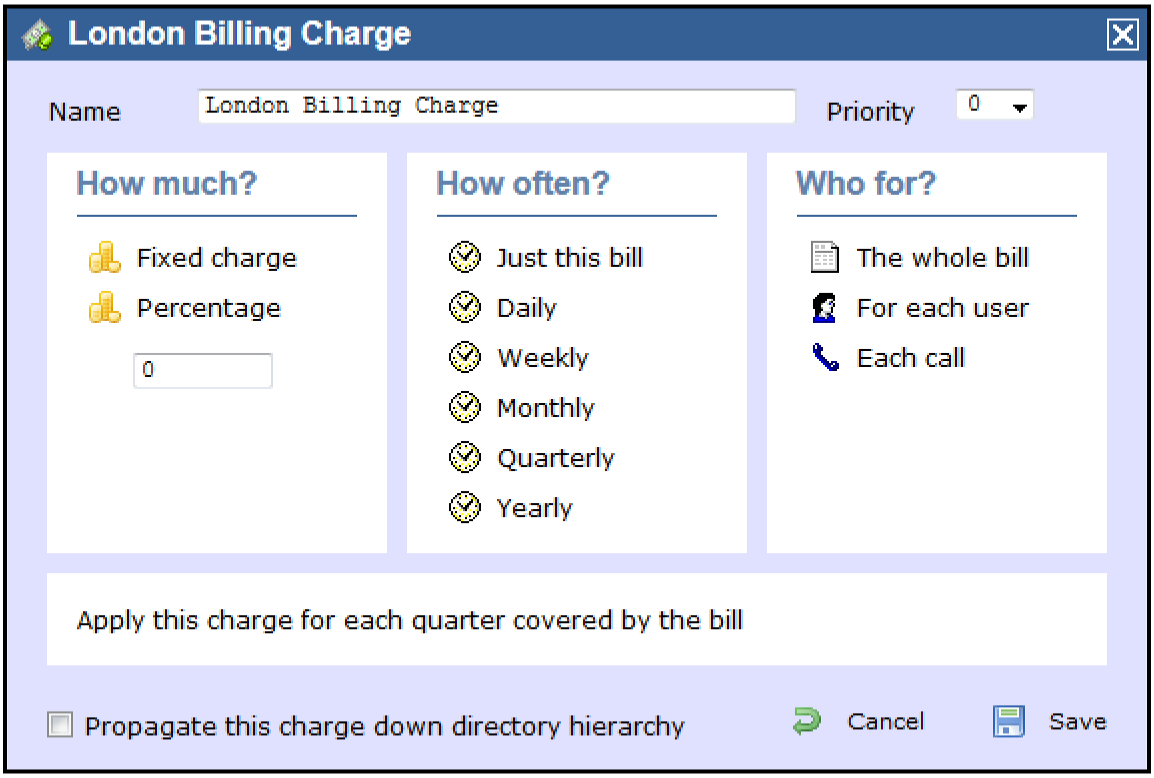
Billing Charge

- What is billing charge?
- Adding a billing charge
- Configuring a billing charge

What is a billing charge?

A `Billing Charge` is a monetary amount that can be appended to a Phone Bill report, in addition to standard call charges and it can be a percentage or a fixed charge. There is no limit to the number of billing charges that can be added to the Directory and the priority of each one can be specified to determine the order in which they appear on the final report.

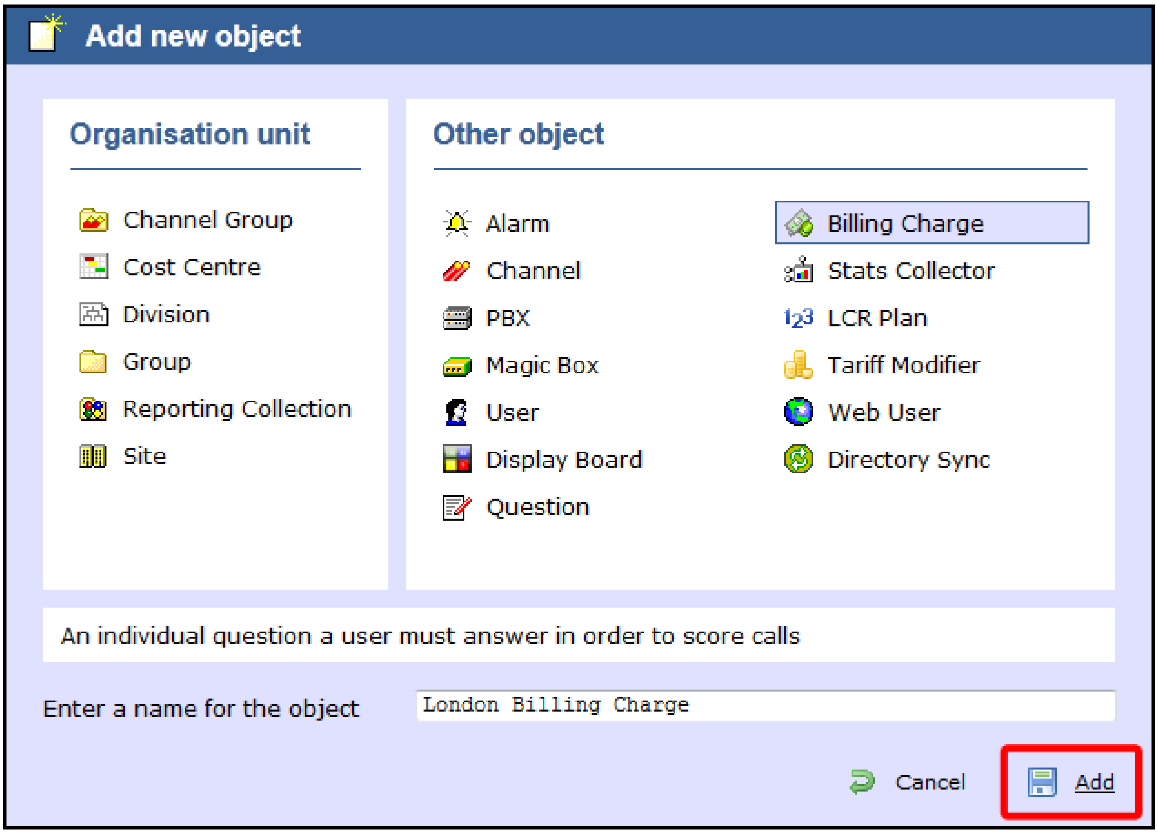
The billing charge can be applied to an entire bill, to each call or to a user's subtotal.



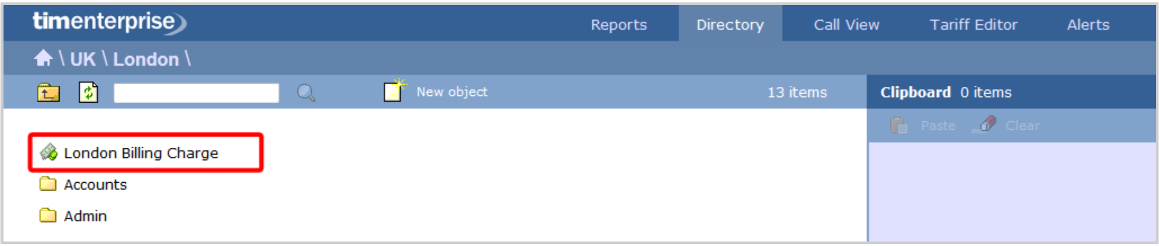
Adding a billing charge

To add a billing charge object to the system, drill-down to the Directory level where you want to place the charge and click on the `New object` tab, as shown below:

In the new window that opens, select the `Billing Charge` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:



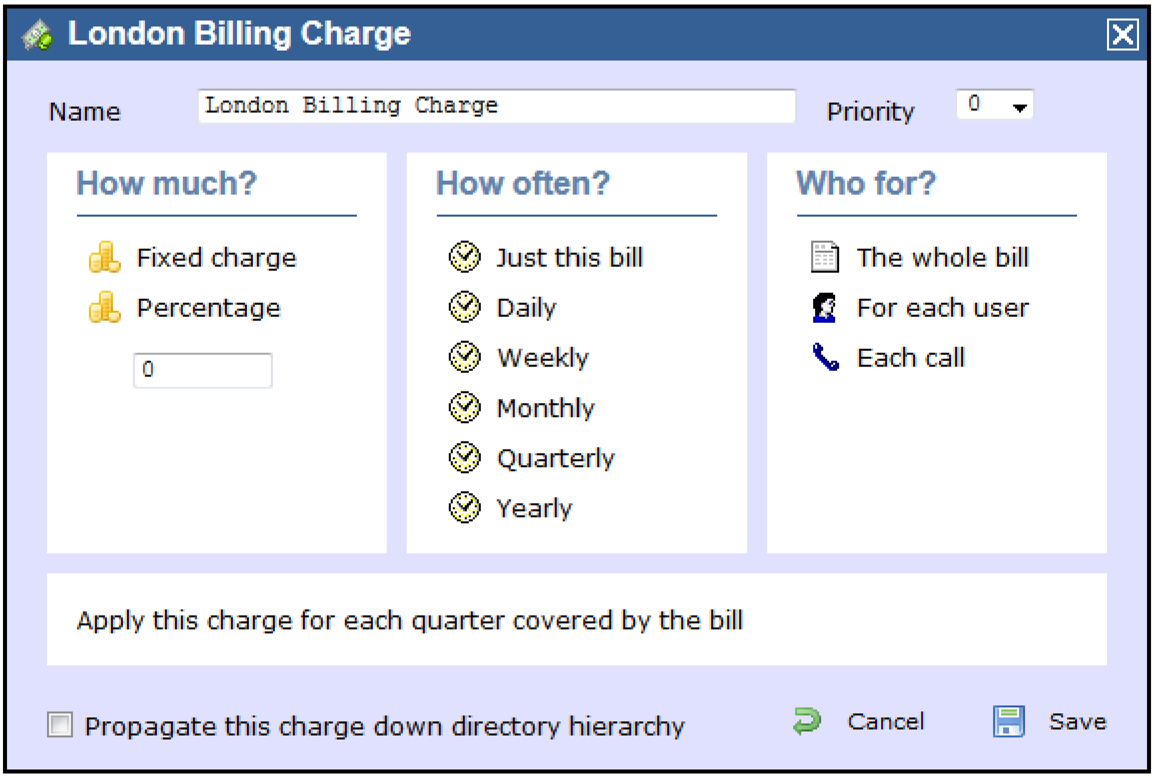
The billing charge object will appear in the Directory, as shown below:



Configuring an billing charge

To configure a billing charge, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:

A new window will open, allowing you to configure the properties of your billing charge object.



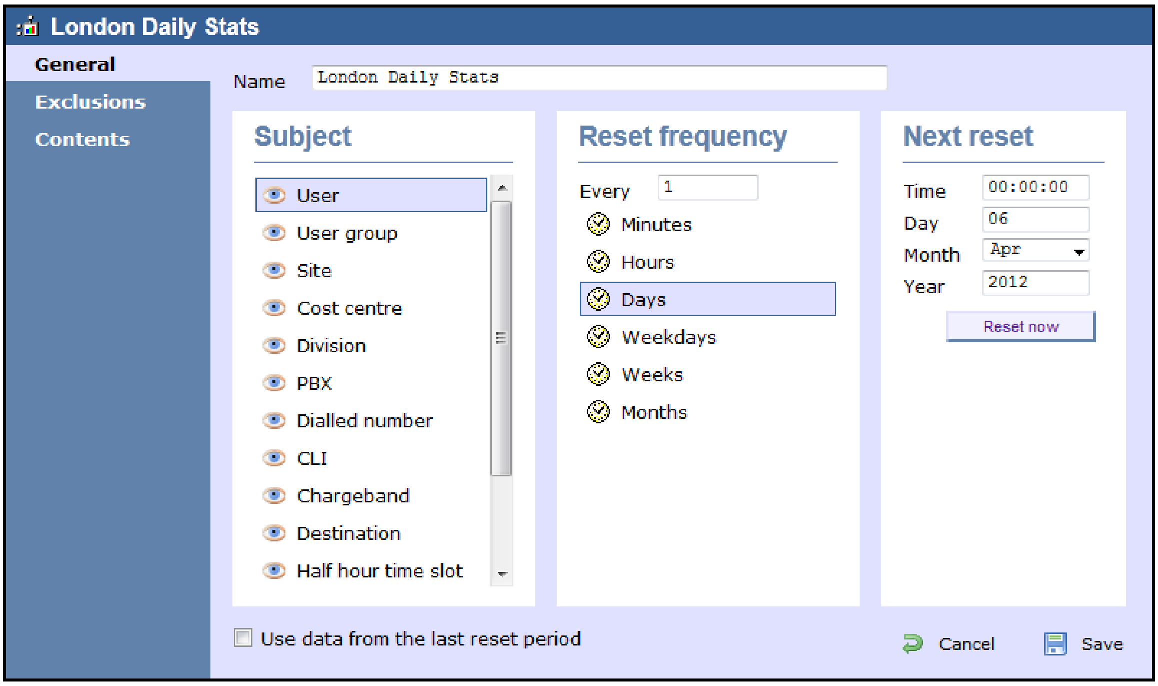
Field	Description
Name	The name of the billing charge object
Priority	This option allows you allocate a priority to each charge you want to add to your bill, in order to determine the order in which each charge will be applied to your bill
How much	This option allows you apply the marked up charge as either a fixed charge or as percentage
How often	This option allows you determine how often the charge should be added to your bill, e.g. daily, monthly etc.
Who for	This option allows you to select the entity you want the charge to be applied to, e.g. the whole bill, an user or each call
Propagate this charge down the directory hierarchy	Enable this option if you want the billing charge to propagate down the directory hierarchy.

Stats Collector

What is a stats collector?

A statistics collection point (stats collector) object is a mathematical "counter" whose scope of data collection is determined by its placement in your directory hierarchy. As calls are made and received, the properties of each one are collated for future consumption by display boards.

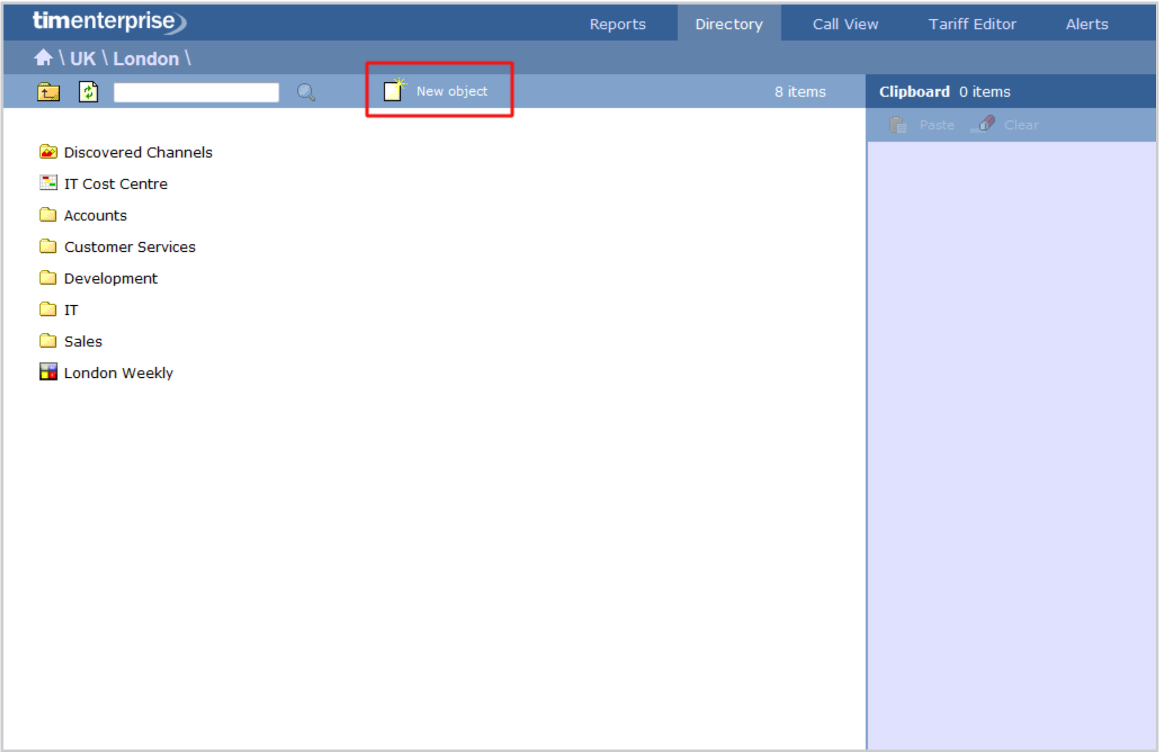
Stats points can be configured to only collect calls of a certain type or calls whose properties match certain criteria. Additionally, when configuring a stats collection point, a subject must be specified, which determines the property of each call whose value will be used when grouping its collated information into distinct sets. For example, specifying a subject of "user" will group its collated call information into sets of data for each distinct user.



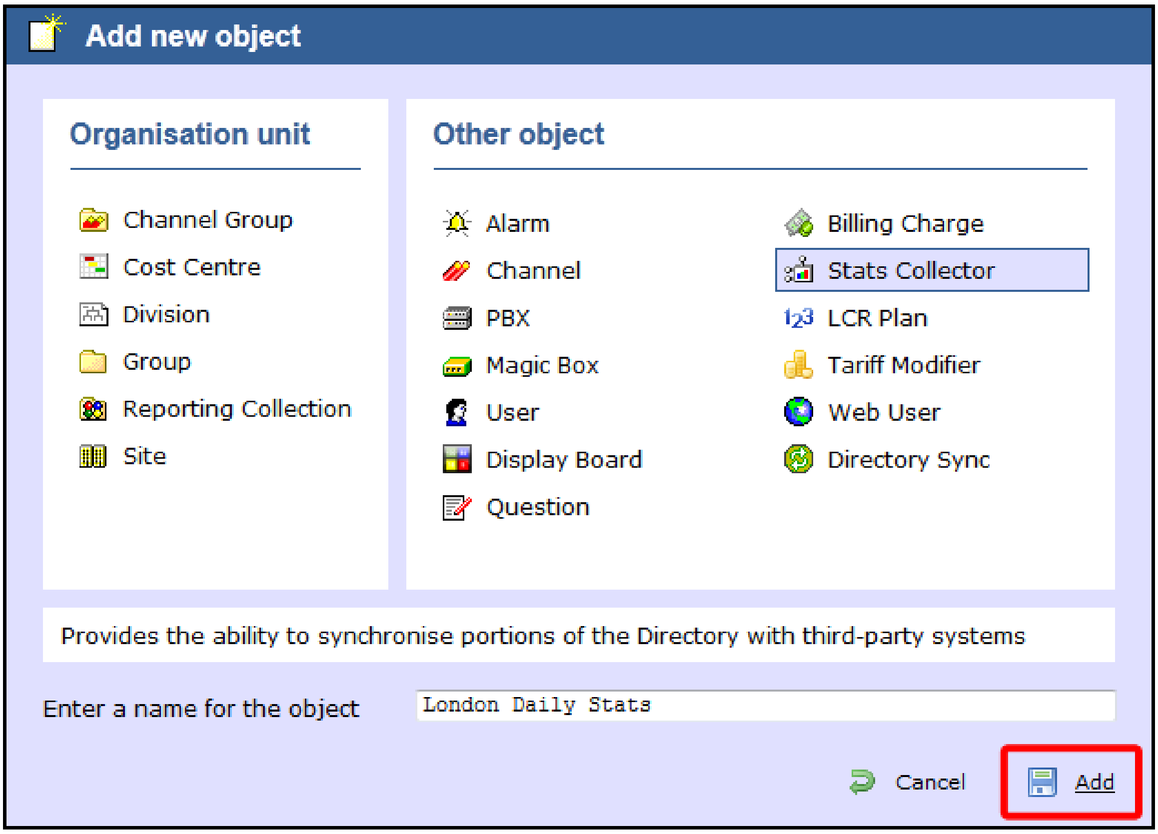
Stats collector - overview video

Adding a stats collector

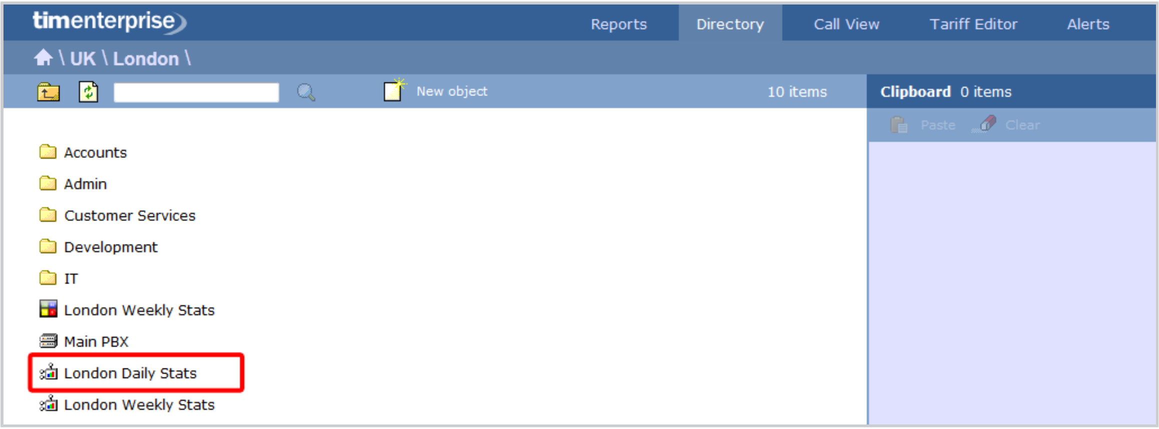
To add a stats collector object to the system, drill-down to the Directory level where you want to add the stats point and click on the `New object` tab, as shown below:



In the new window that opens, select the `Stats Collector` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:



The stats collector object will appear in the Directory as shown below:



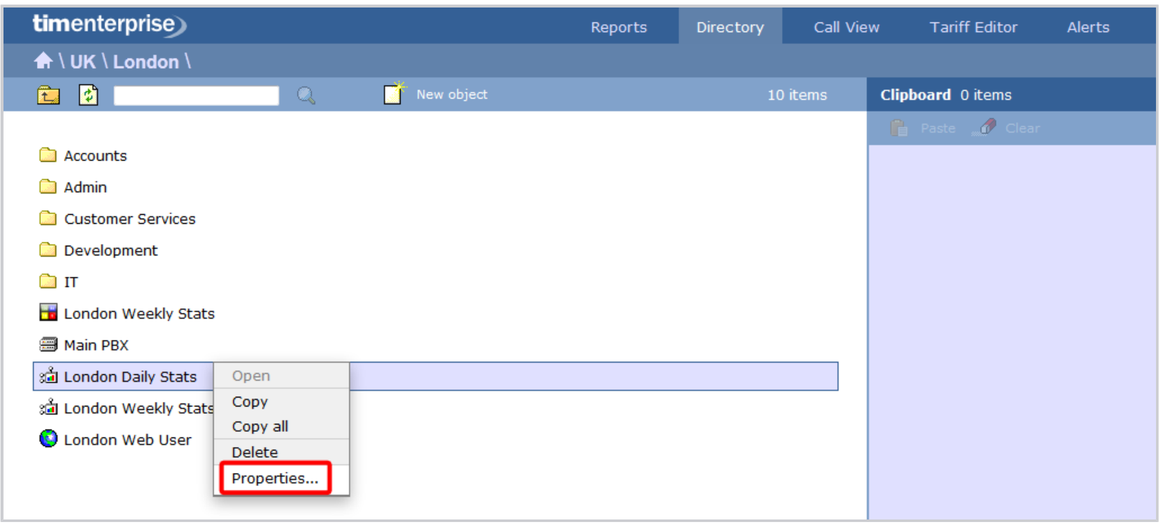
Configuring a stats collector

Configuring a stats collector

- Overview
- General properties
- Exclusions
- Contents

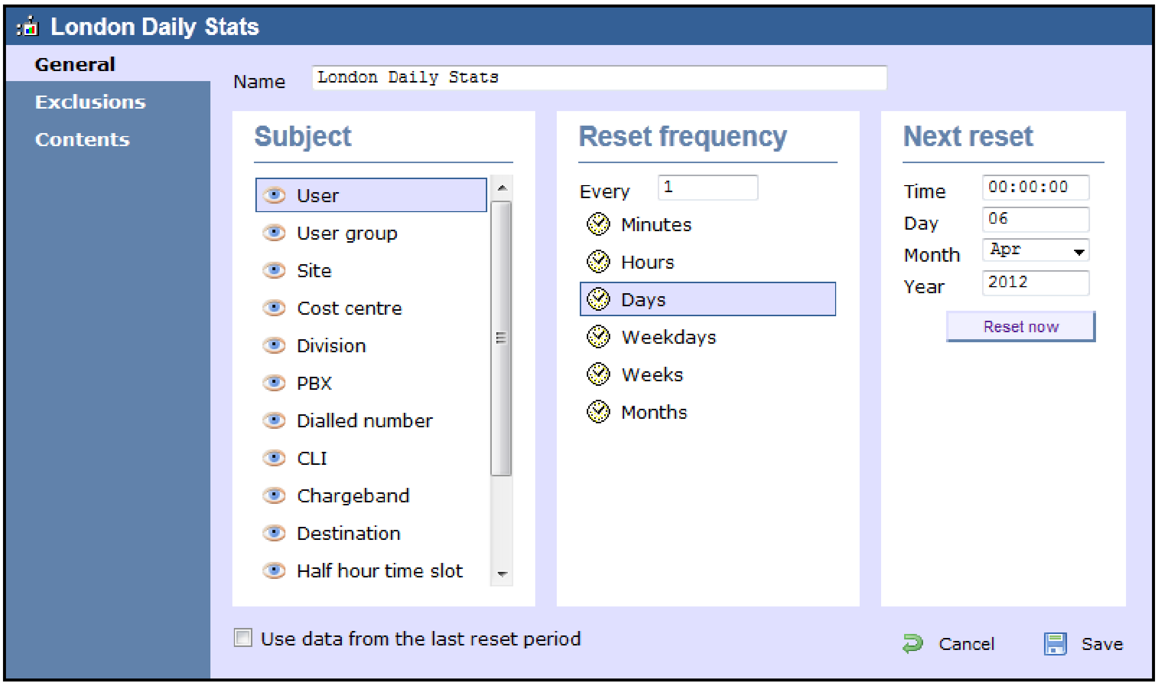
Overview

To configure a stats collector, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of the stats collector object.

General properties



Field	Description

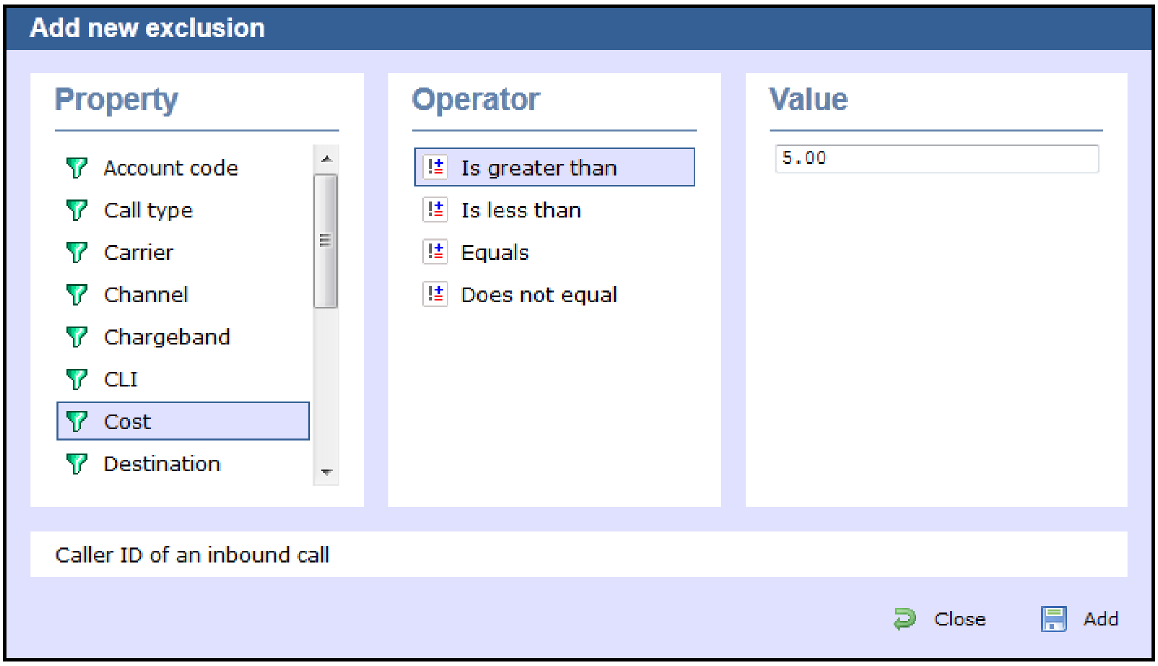
<table>
<tr><td>Subject</td><td>The stats points can be configured to group the collected calls by a particular subject, such as users, channels, dialled number, half-hour time slot etc. The available subjects are described in the table below:
<table>
<tr><th>Subject</th><th>Description</th></tr>
<tr><td><code>User</code></td><td>The stats will group its collated calls by user. Select this option if you want to compare call stats for a number of different users.</td></tr>
<tr><td><code>User group</code></td><td>The stats will group its collated calls by user group. Select this option if you want to compare call stats for different groups of users.</td></tr>
<tr><td><code>Site</code></td><td>The stats will group its collated calls by site. Select this option if you want to compare the call traffic between two or more sites.</td></tr>
<tr><td><code>Cost centre</code></td><td>The stats will group its collated calls by cost centre. Select this option if you want to compare the call traffic between two or more cost centres.</td></tr>
<tr><td><code>Division</code></td><td>The stats will group its collated calls by division. Select this option if you want to compare the call traffic between two or more divisions.</td></tr>
<tr><td><code>PBX</code></td><td>The stats will group its collated calls by PBX. Select this option if you want to compare the call traffic between two or more PBXs.</td></tr>
<tr><td><code>Dialled number</code></td><td>The stats will group its collated calls by dialled number. Select this option if you want to monitor the most frequent dialled numbers.</td></tr>
<tr><td><code>CLI</code></td><td>The stats will group its collated calls by CLI. Select this option if you want to monitor the most frequent CLI numbers.</td></tr>
<tr><td><code>Chargeband</code></td><td>The stats will group its collated calls by chargeband. Select this option if you want to identify the most frequently used chargebands.</td></tr>
<tr><td><code>Destination</code></td><td>The stats will group its collated calls by destination. Select this option if you want to identify the most frequently dialled destinations.</td></tr>
<tr><td><code>Half hour time slot</code></td><td>The stats will group its collated calls by half hour time slot. Select this option if you want to identify peak times during the day.</td></tr>
<tr><td><code>Account code</code></td><td>The stats will group its collated calls by account code. Select this option if you want to identify the most frequently used account codes.</td></tr>
<tr><td><code>Channel</code></td><td>The stats will group its collated calls by channel. Select this option if you want to compare the call traffic between two or more channels.</td></tr>
<tr><td><code>Channel group</code></td><td>The stats will group its collated calls by channel group. Select this option if you want to compare the call traffic between two or more channel groups.</td></tr>
</table></td></tr>
<tr><td>Reset frequency</td><td>Choose the reset frequency of the stats point, by selecting a predefined period from the drop-down list.</td></tr>
</table>

Next reset	Choose the next reset period, by entering a date and time.

Exclusions

TIM Enterprise allows you to exclude certain calls from your live stats, giving you the option to define the criteria the calls should meet in order to be excluded. To add your criteria, click on the button, as shown below:

The `Add new exclusion` window will appear, allowing you to define which calls you want to exclude from the stats, by chosing a call property, an operator and a relevant value.



Account code

To set up an exclusion based on account codes, enter the relevant code in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose account code is **4518**.

Call type

To set up an exclusion based on the call type, select the relevant type of call from the list provided and choose the appropriate operator. In the example below, the stats collector will exclude all types of calls, except internal calls.

Call type	Does not equal	Internal

Carrier

To set up an exclusion based on the carrier (tariff table) used to cost the calls, choose a carrier from the list provided and select the appropriate operator. In the example below, the stats collector will exclude all calls that are not routed over a **`BT`** carrier.

Carrier	Does not equal	BT

Channel

To set up an exclusion based on the call traffic going over your telephone lines, click on the icon to locate the relevant channel in the Directory; select the channel and choose the appropriate operator. In the example below, the stats collector will collate only calls going through **`T234`** channel.

Channel	Equals	T234

Chargeband

To set up an exclusion based on the chargeband used to cost calls, enter the name of the chargeband in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose chargeband's name contains the characters **`Mob`**.

Chargeband	Contains	Mob

CLI

To set up an exclusion based on CLI of the caller, enter the relevant CLI in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose CLI contains the digits **`2652626`**.

CLI	Does not contain	2652626

Cost

To set up an exclusion based on the cost of calls, enter the relevant value in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose cost is greater than **`10`**.

Cost	Is greater than	10

Destination

To set up an exclusion based on the destination of the call, enter the name of the destination in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose the destination is **`France`**.

Destination	Equals	France

Dialled number

To set up an exclusion based on the number that was dialled, enter the dialled number in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose dialled number begins with **`074`**.

Dialled number	Begins with	074

Duration

To set up an exclusion based on the duration of a cal, enter the relevant value in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose duration is greater than **3600** seconds.

Duration	Is greater than	3600

LCR code

To set up an exclusion based on Least Cost Routing (LCR) codes, enter the relevant code in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose LCR code ends with **680**.

LCR code	Ends with	680

Response time

To set up an exclusion based on response time, enter the the relevant value in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose response time is less than **5** seconds.

Response time	Is less than	5

Start time

To set up an exclusion based on the time a call started, enter the start time in **hh:mm:ss** format in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls who started before **09:00:00**.

Start time	Is less than	09:00:00

Trunk access code

If your telephone system uses trunk access codes to connect calls using specific channels, you can set up an exclusion based on calls made using these codes. To set up an exclusion, enter the trunk access code in the box provided and select the appropriate operator. In the example below, the stats collector will exclude calls whose trunk access code is **5480**.

Trunk access code	Equals	5480

User

To exclude a particular user from the stats collection point, click on the icon to locate the user in the Directory; select the user and choose the appropriate operator. In the example below, the stats collector will exclude calls for **John Smith**.

User	Equals	John Smith

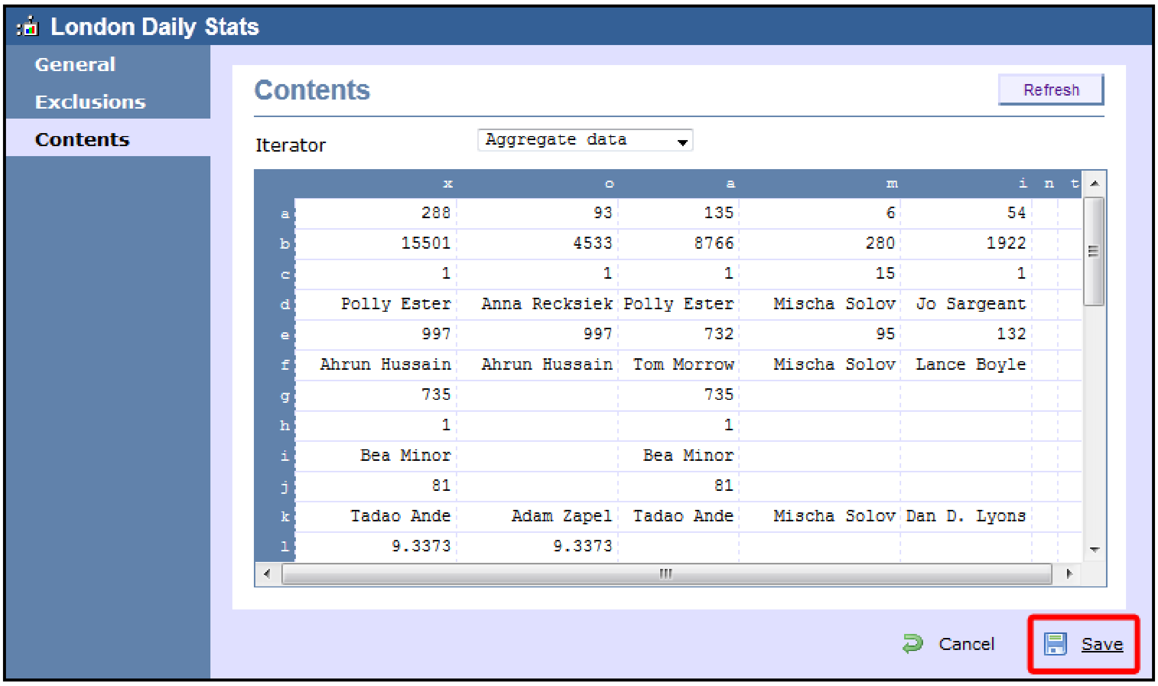
Weekday

To exclude calls for a particular day of the week from the stats collection point, choose the relevant weekday from the list provided and select the appropriate operator. In the example below, the stats collector will exclude calls made on a Sunday.

Weekday	Equals	Sunday

Contents

The Contents tab allows you to check whether call stats are being collected by TIM Enterprise and it is generally used for troubleshooting purposes.



Click on the Refresh button to refresh the statistics on that page and verify that the stats point is collecting data. If you click on the Reset button, you can clear the statistics and reload them for the period that they cover, e.g. last week.

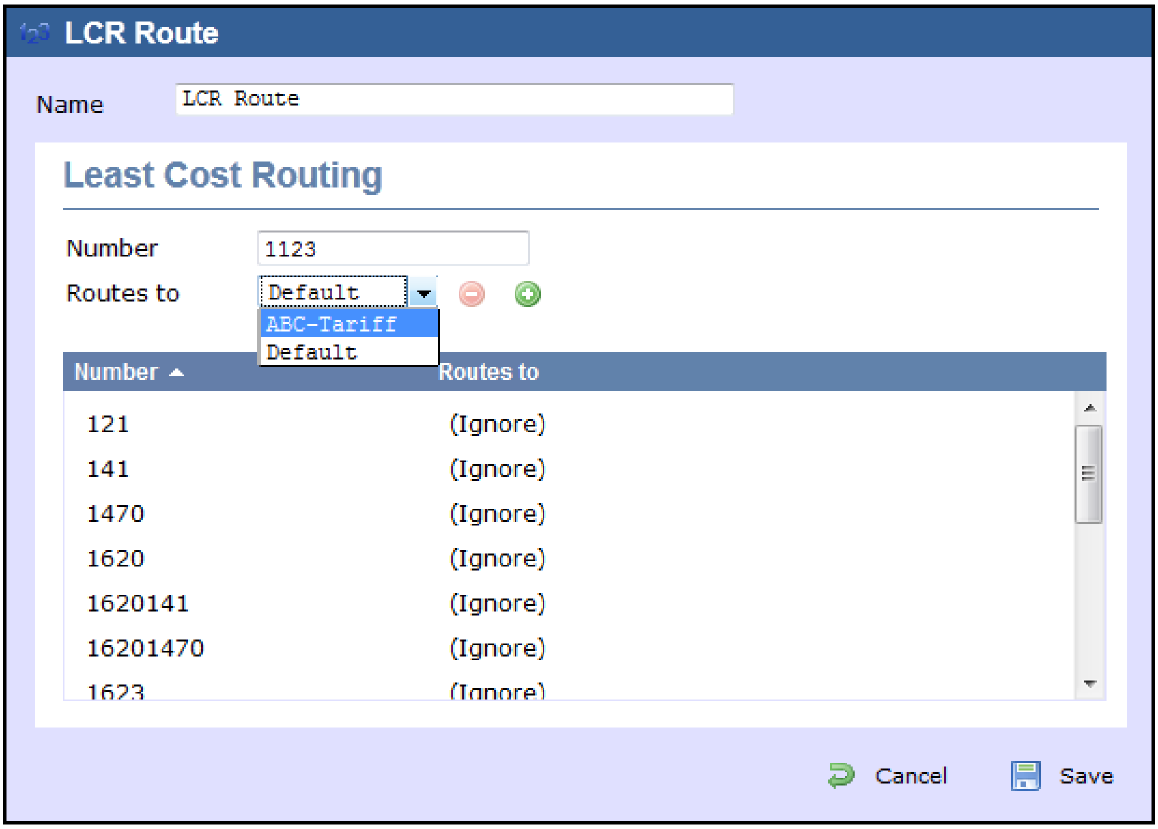
LCR Plan

LCR Plan

- What is an LCR plan?
- Adding an LCR plan
- Configuring an LCR plan

What is an LCR plan?

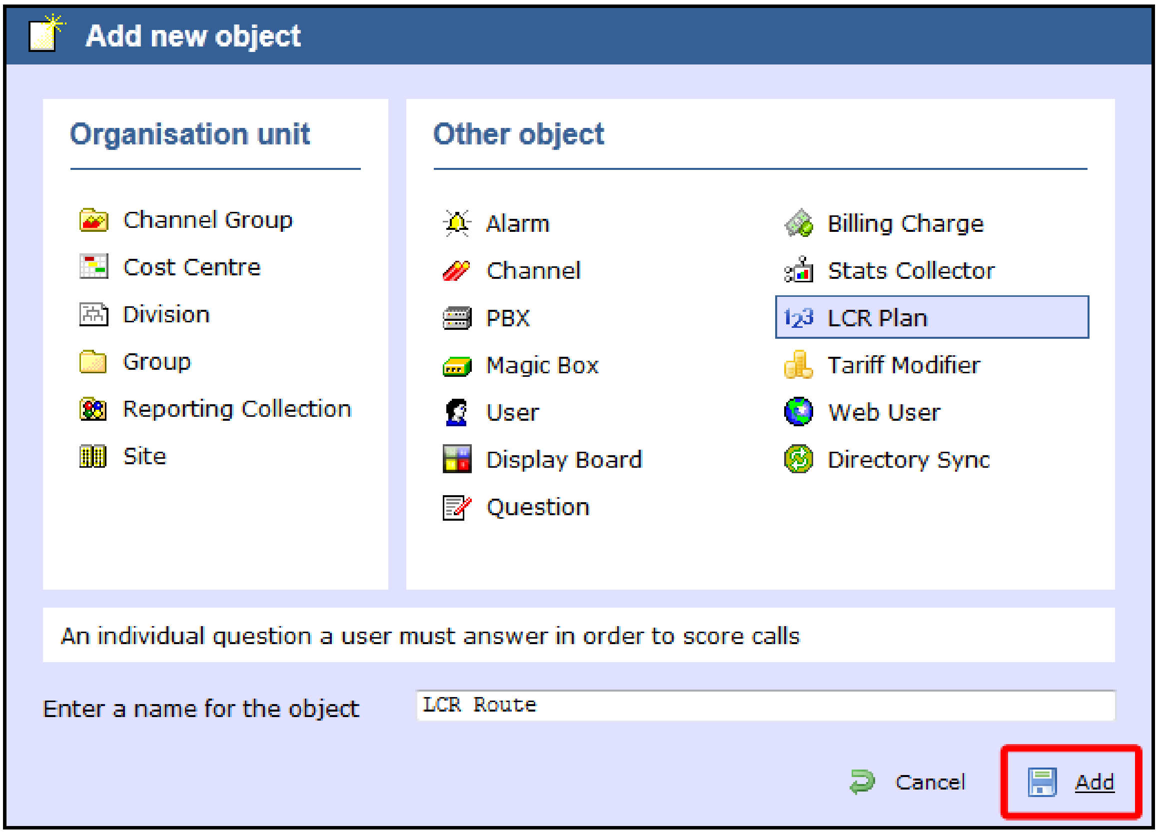
The **`LCR Plan`** object allows you to administer any least cost routing (LCR) codes you may use to route calls via different carriers.



Adding an LCR plan

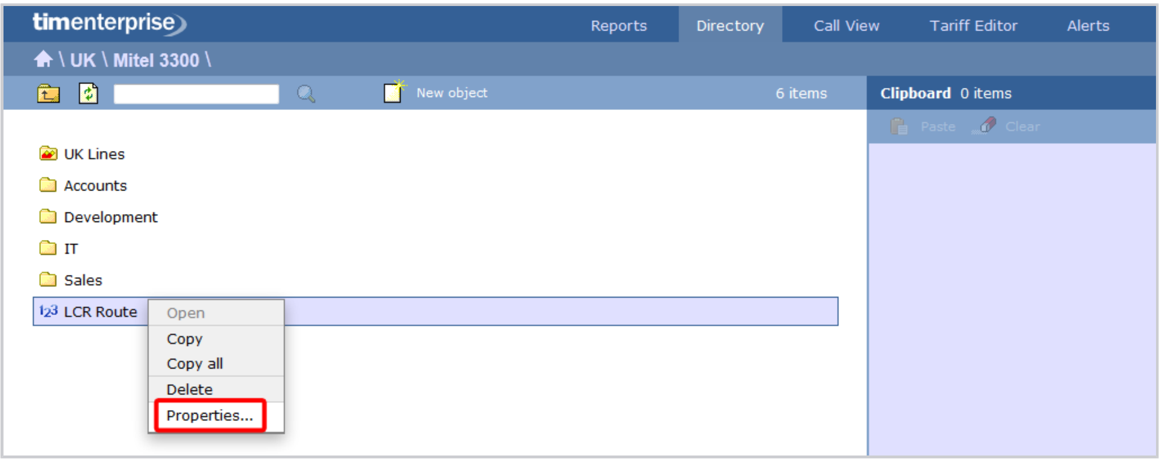
To add an LCR object to the system, drill-down to the Directory level where you want to add the LCR plan and click on the `New object` tab, as shown below:

In the new window that opens, select the `LCR plan` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:

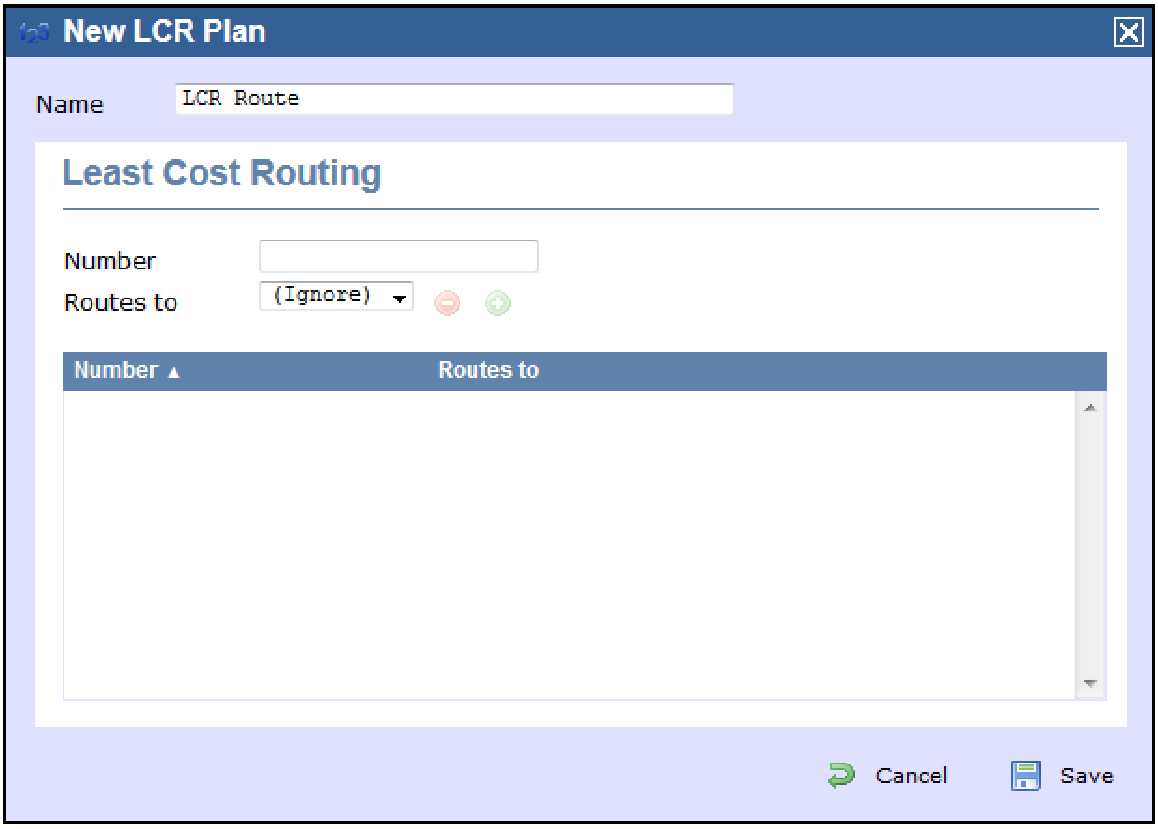


Configuring an LCR plan

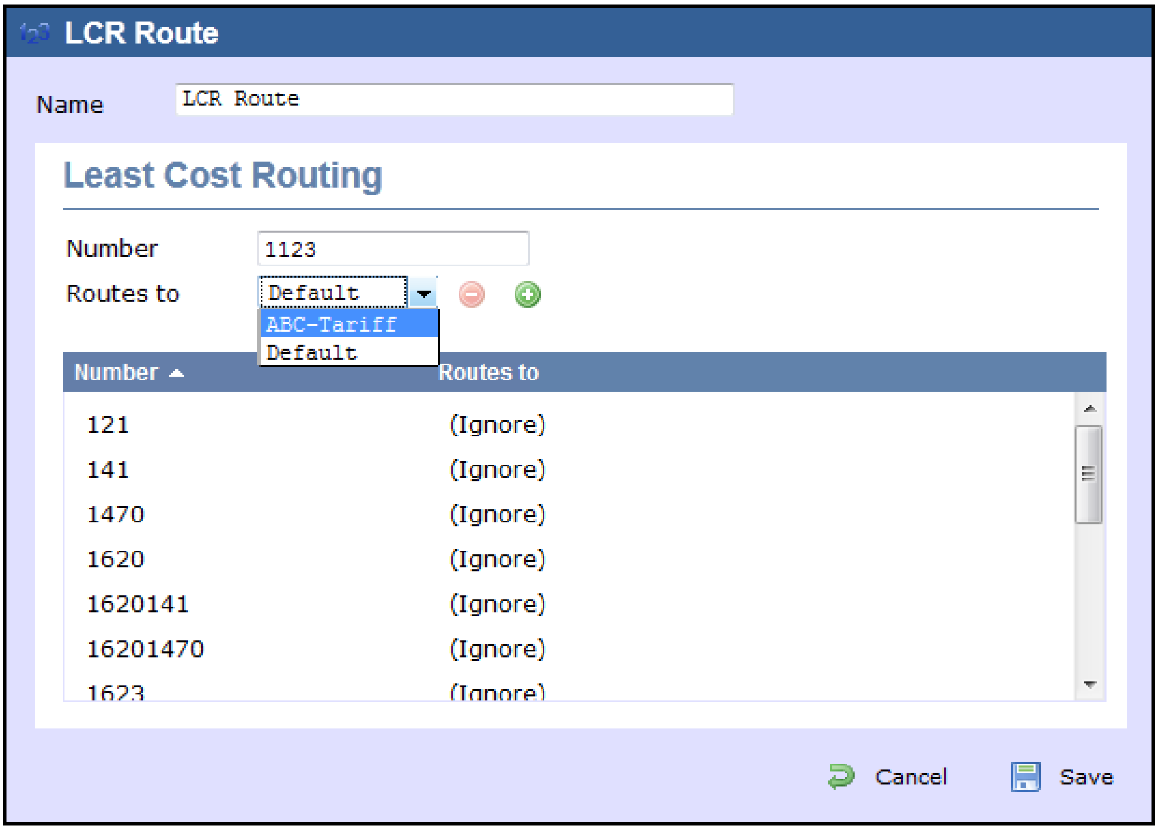
To configure an LCR plan, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your LCR plan object, as shown below:



To add an LCR code, enter the code in the `Number` field and select its associated tariff table from the drop-down list, as shown below:



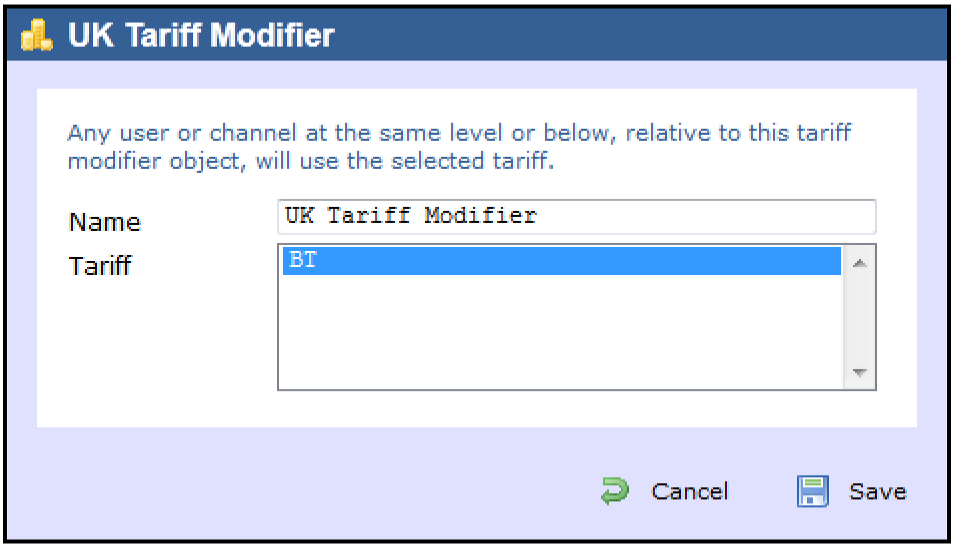
Tariff Modifier

Tariff Modifier

- What is a tariff modifier?
- Adding a tariff modifier
- Configuring a tariff modifier

What is a tariff modifier?

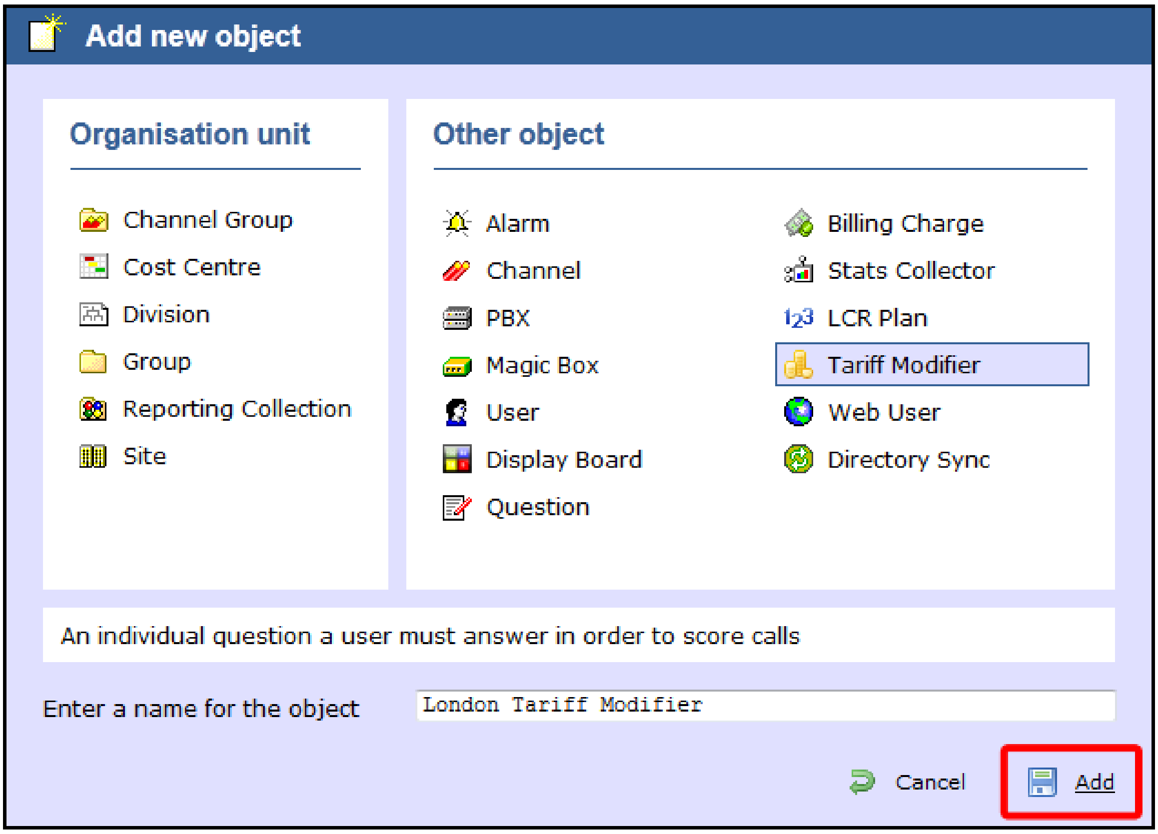
The `Tariff modifier` object allows you to apply different rates to any particular section of your Directory, e.g. site, group, user etc. This feature can be useful if you have several sites spanning multiple countries that use different currencies.



Adding a tariff modifier

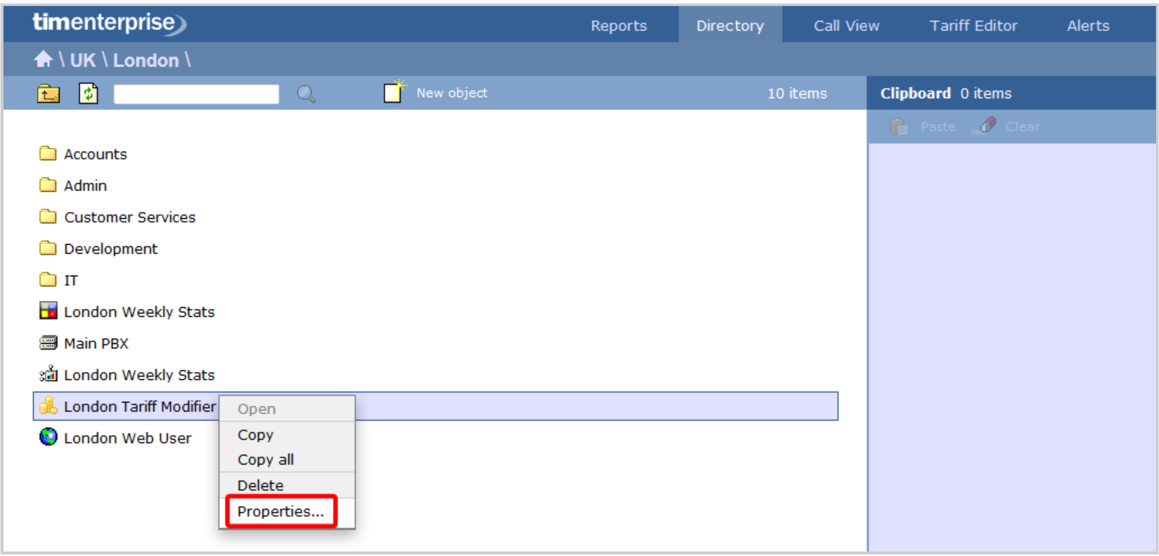
To add a tariff modifier to the system, drill-down to the Directory level where you want to add the object and click on the `New object` tab, as shown below:

In the new window that opens, select the `Tariff Modifier` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:

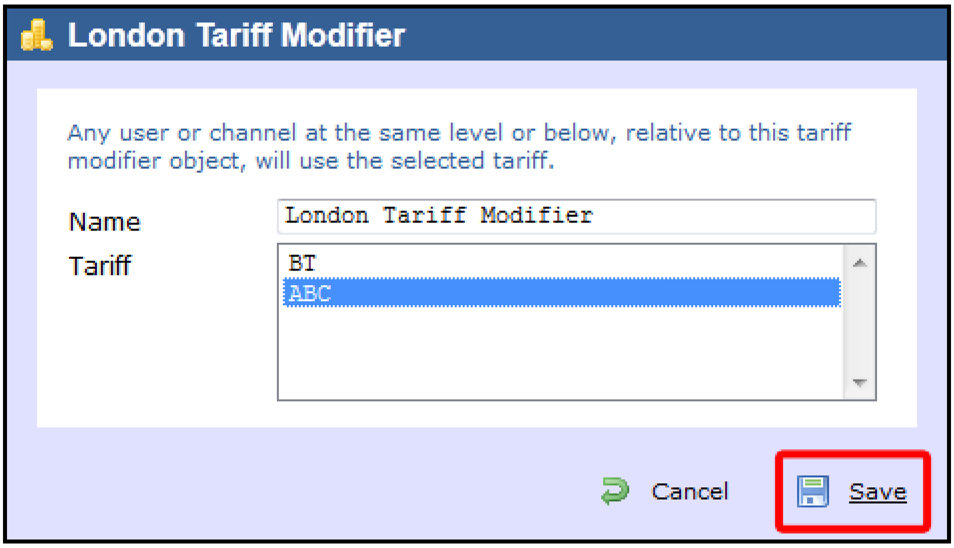


Configuring a tariff modifier

To configure a tariff modifier, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



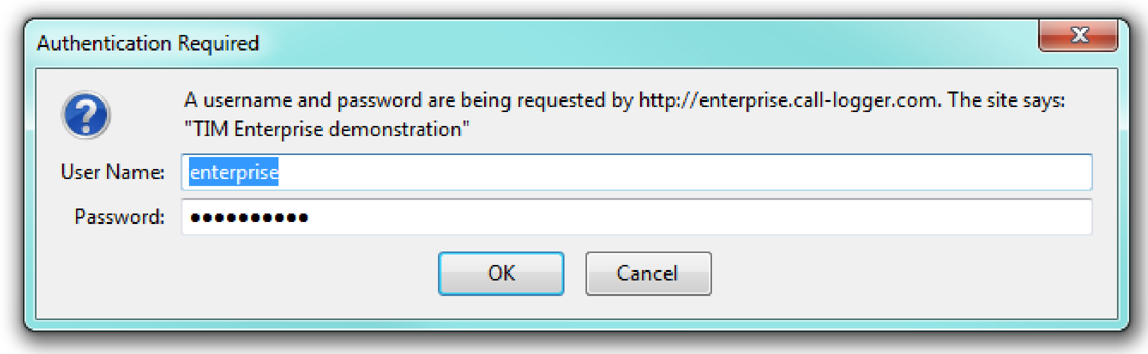
A new window will open, allowing you to name the object and select the relevant tariff from the drop-down list. After you have made your selection, click on the Save button, as shown below:



Web User

What is a web user?

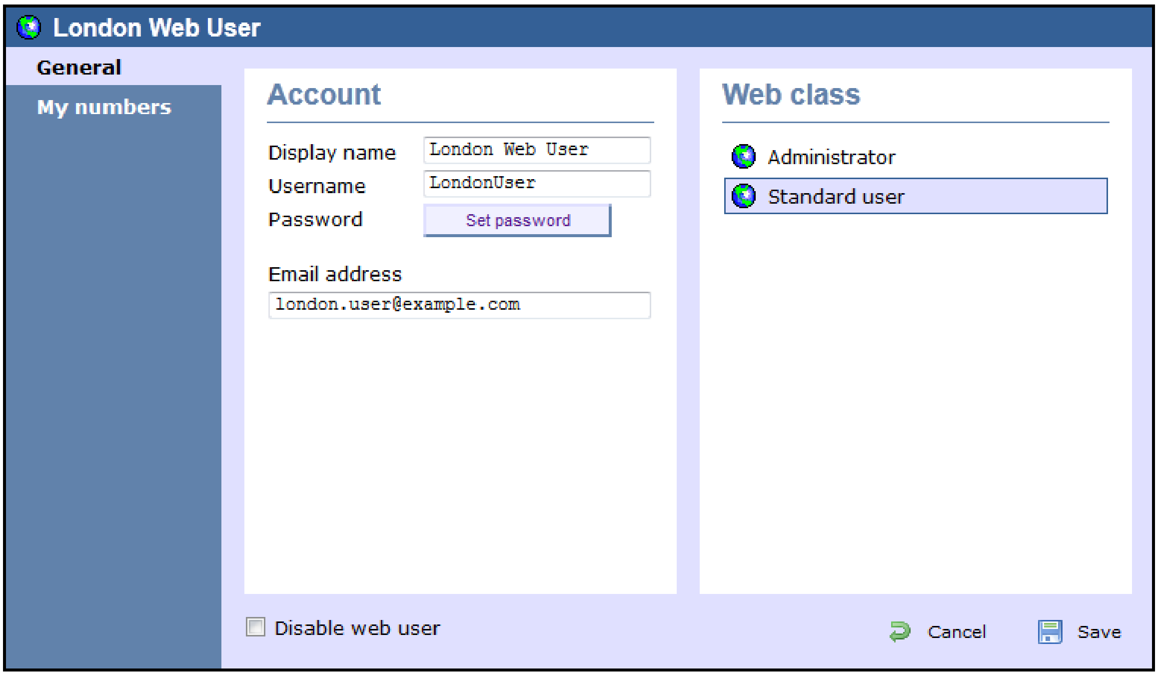
When accessing TIM Enterprise you are required to enter a username and password in the web browser, which form a login credential known as `Web User`.



The placement in the directory structure of the web user object will determine the part of the Directory they are allowed to access. Virtual groups can also be set up to allow web users to report across the directory structure.

A web user is given a `Web class` to determine which features they can access. By default, there are two web classes:

Web class	Function
Administrator	An administrator can make changes to the Directory and access all of the system's functions.
Standard User	A standard users can only consume information from the system, e.g. run reports, show display boards, etc.

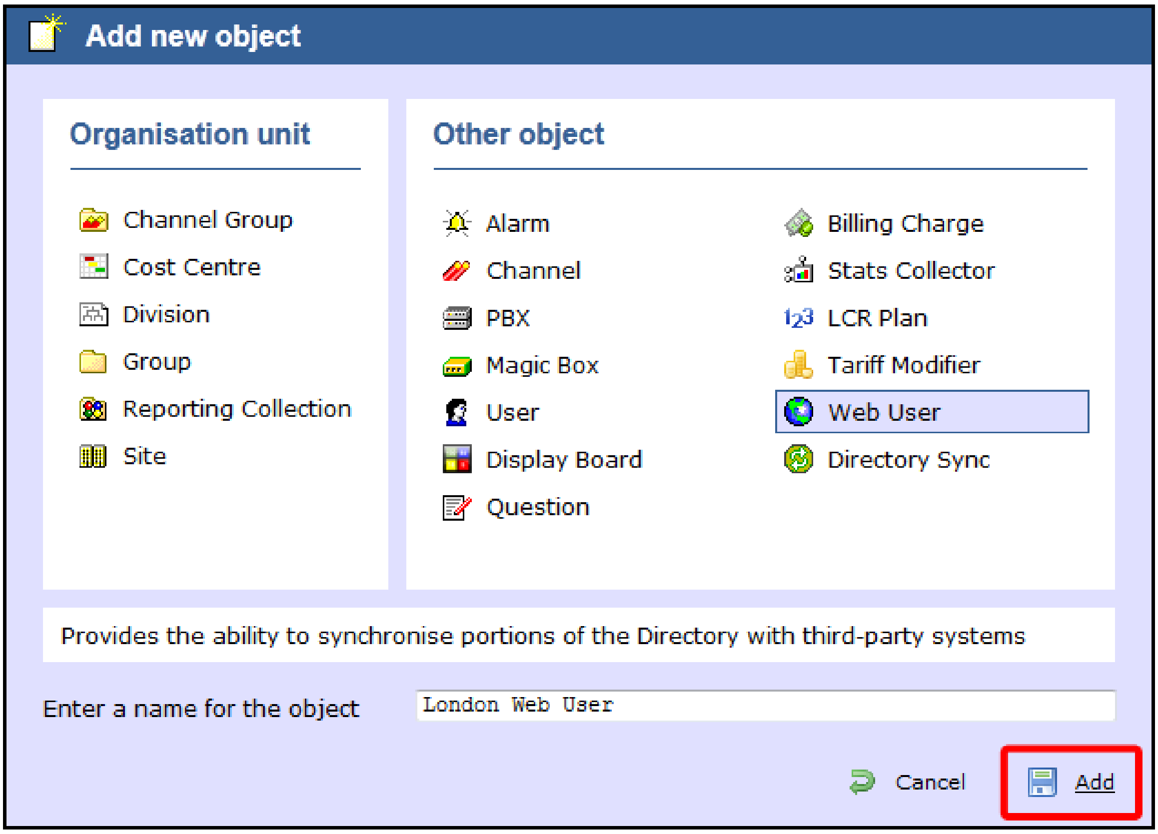


There are no limits to the number of web users you can add to the Directory.

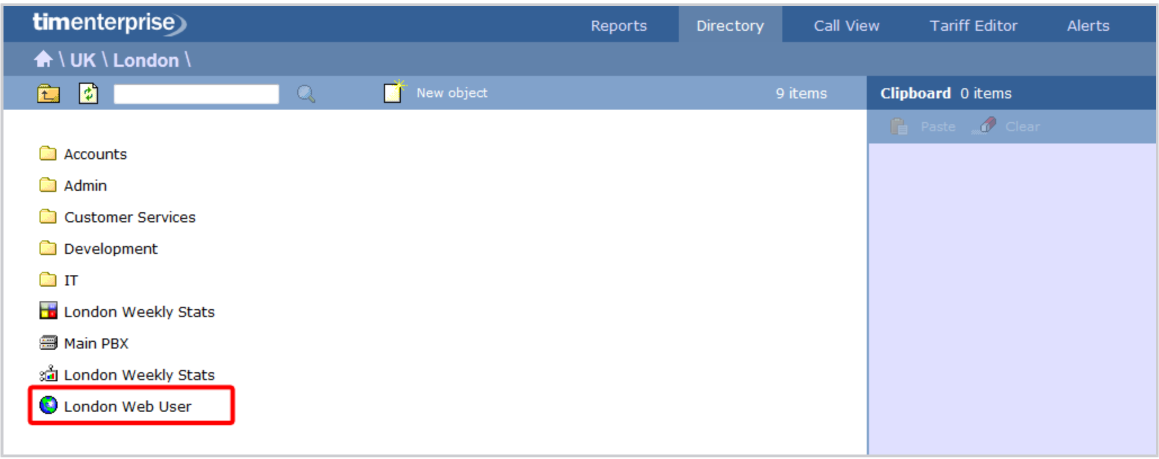
Adding a web user

To add a **`Web User`** object to the system, drill-down to the Directory level where you want to add the user and click on the **`New object`** tab, as shown below:

In the new window that opens, select the **`Web User`** object from the **`Other object`** list, enter a relevant name and click on the Add button, as shown below:



The web user will appear in the Directory as follows:



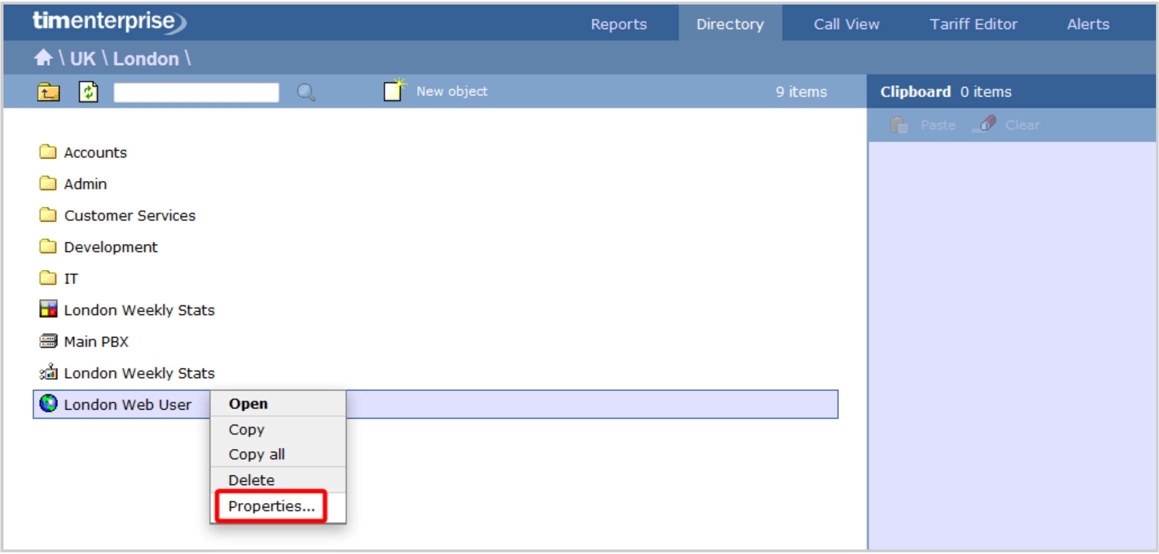
Configuring a web user

Configuring a web user

- Overview
- General properties
- Adding contacts manually
- Importing contacts

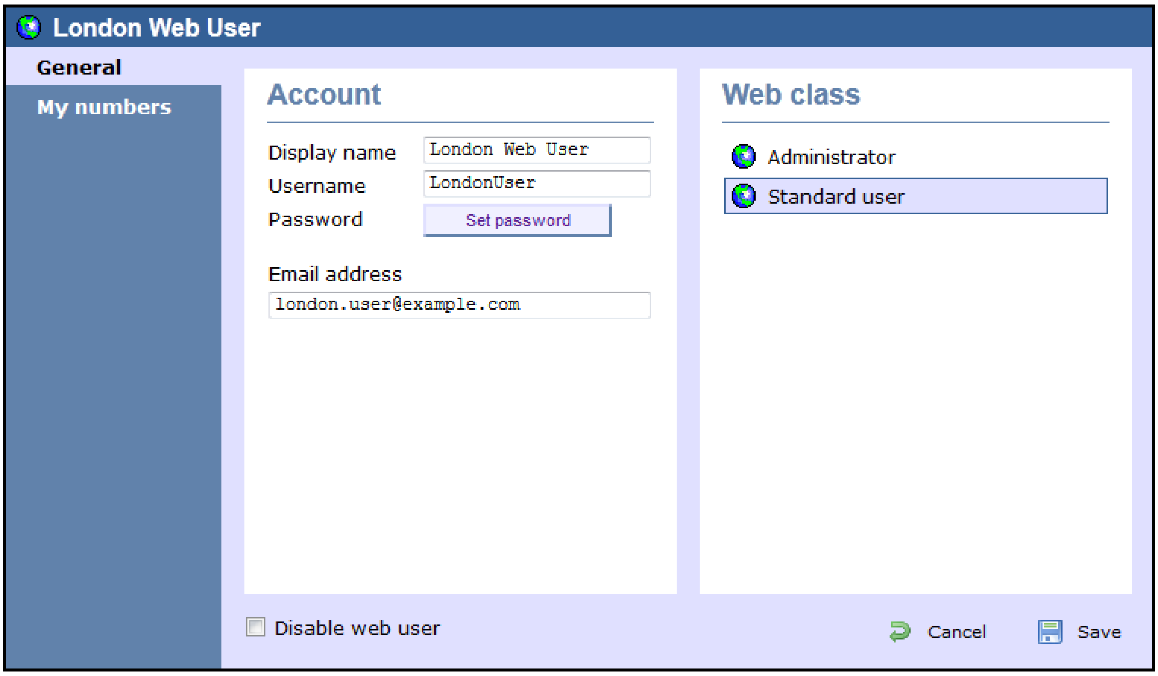
Overview

To configure a web user, locate the object in the Directory, click on it and select `Properties` from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your web user.

General properties



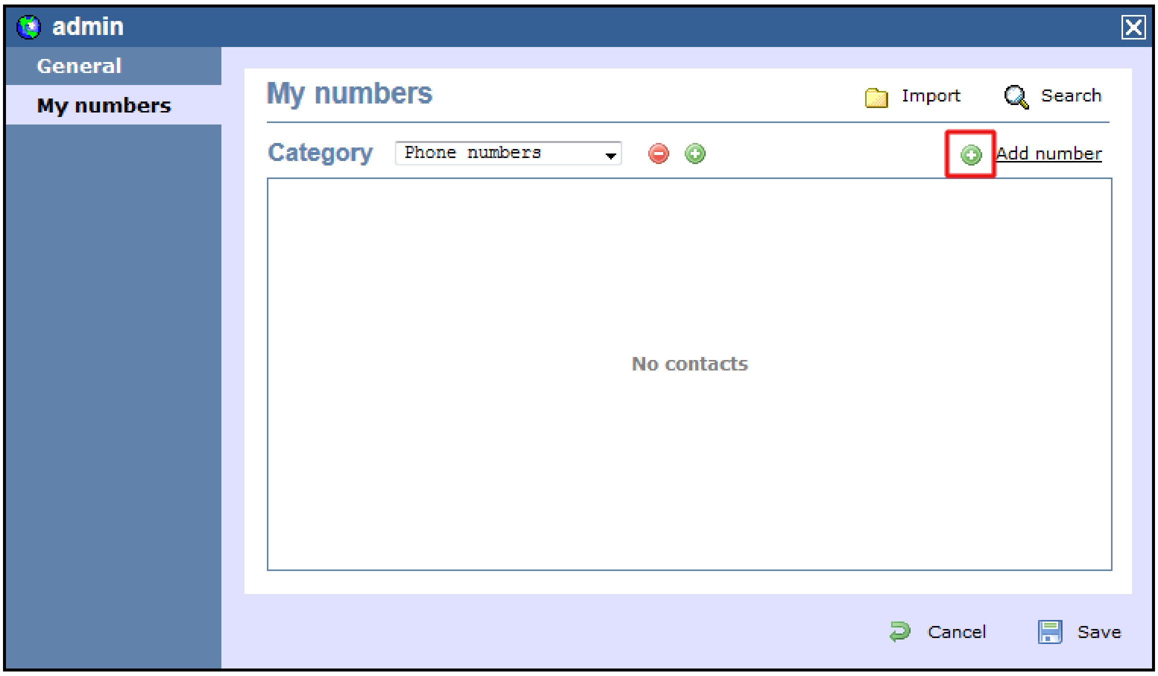
Field	Description
Display name	The name you want the web user to be identified in the reports
Username	The username the web user will use to log in with
Password	The password the web user will use to log in with
Email address	The email address of the web user; this can also be used when scheduling reports
Web class	Select the administrative privileges of the web user

My numbers

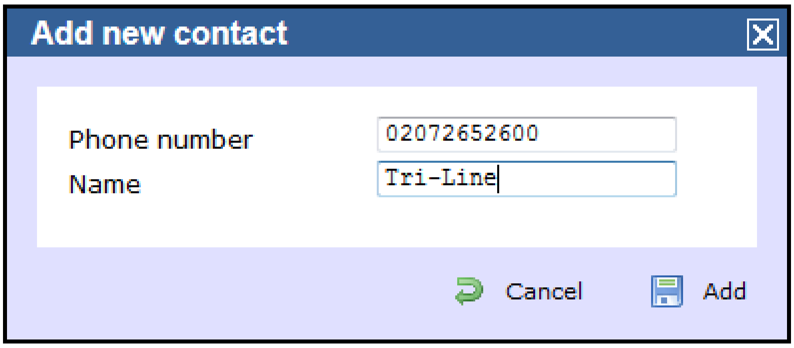
The `My numbers` tab allows you to manually add or import a list of contacts to the current web user, replacing phone numbers or account codes with friendly names wherever they feature throughout the system, e.g. in reports, display boards, etc.

Adding contacts manually

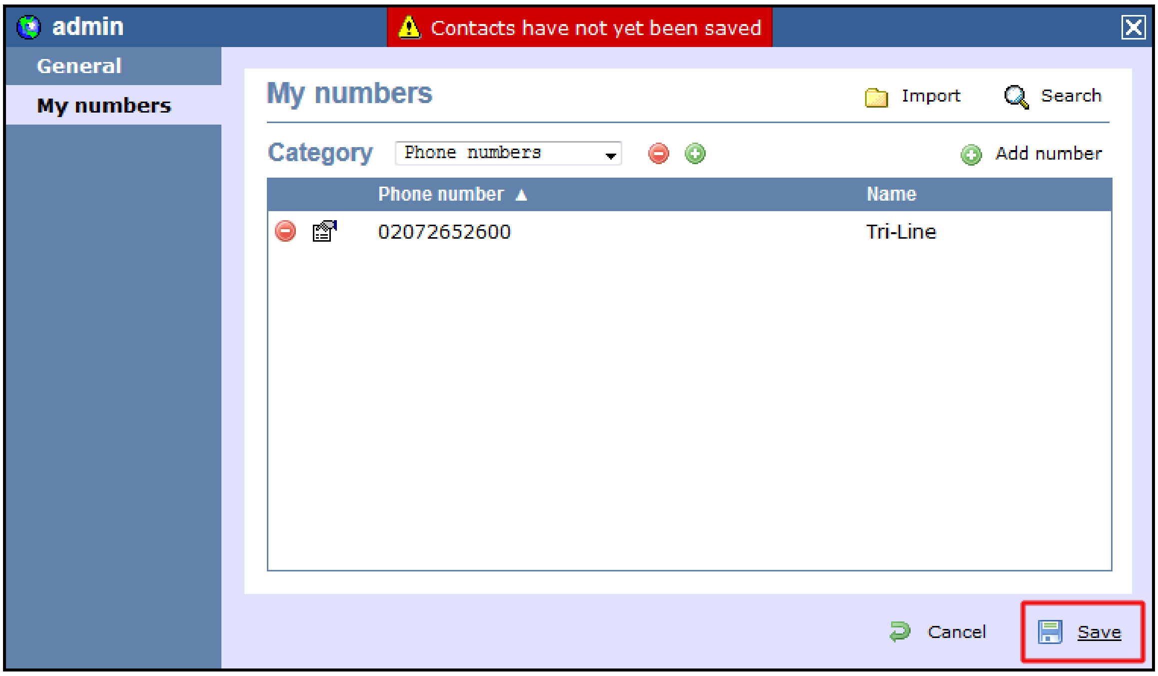
To manually add a contact to the currently-selected web user, choose the type of contact you want to add from the `Category` drop-down list and click on the icon, as shown below:



A new window will open, allowing you to enter the telephone number and the name you want to associate with it.



To add another number, follow the same procedure, then click on the Save button to apply the changes.

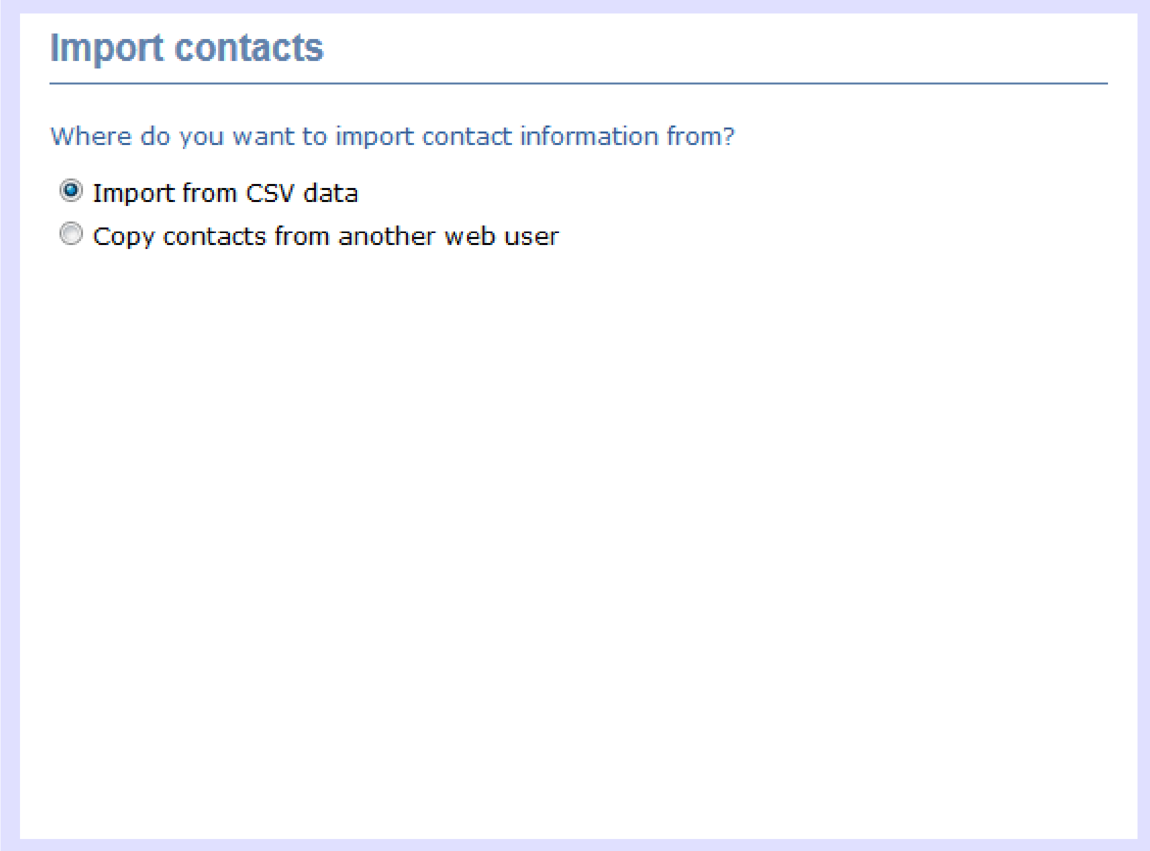


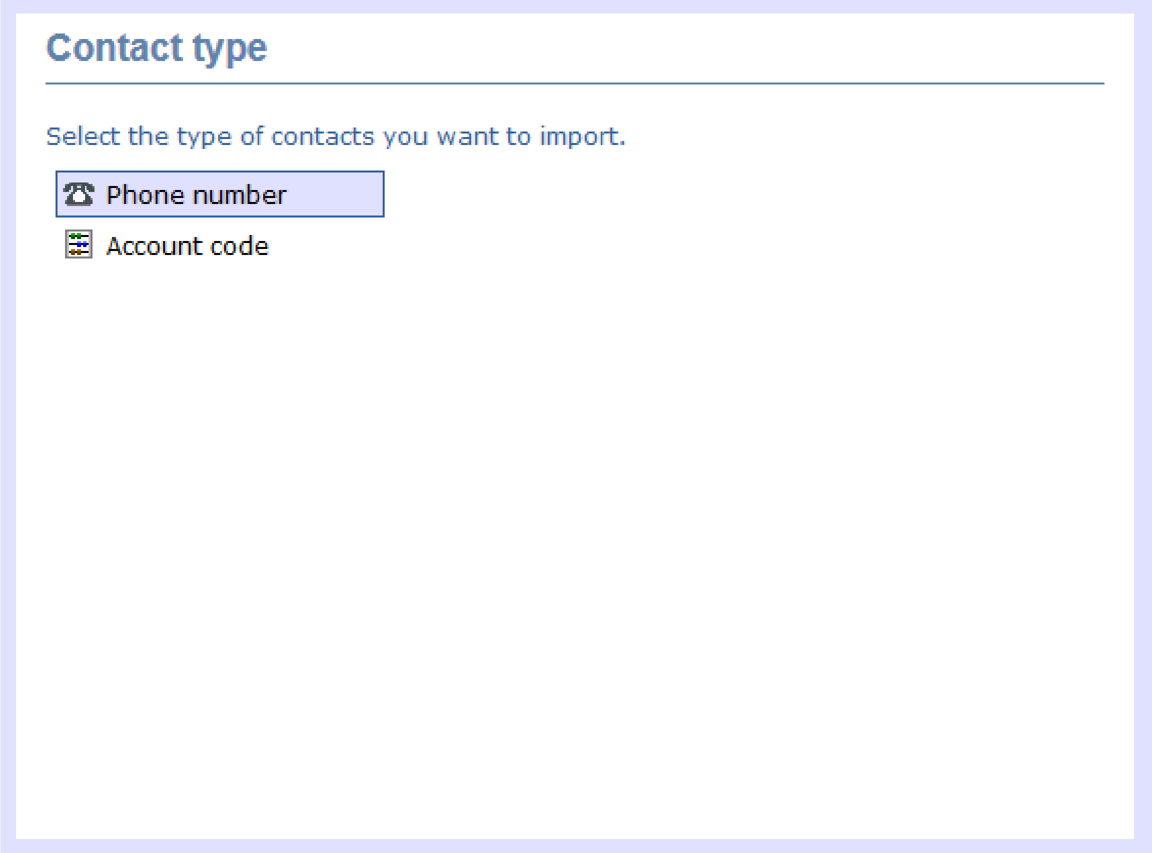
Importing contacts

TIM Enterprise allows you to automatically import contacts in the system from an existing CSV list. The columns in the list should be separated using a common delimiter, such as comma, dash, semicolon, tab or space.

To import a list of contacts, click on the Import button. A new window will open, allowing you to configure the contact list for the selected web user. Each step of the process is presented in the table below:

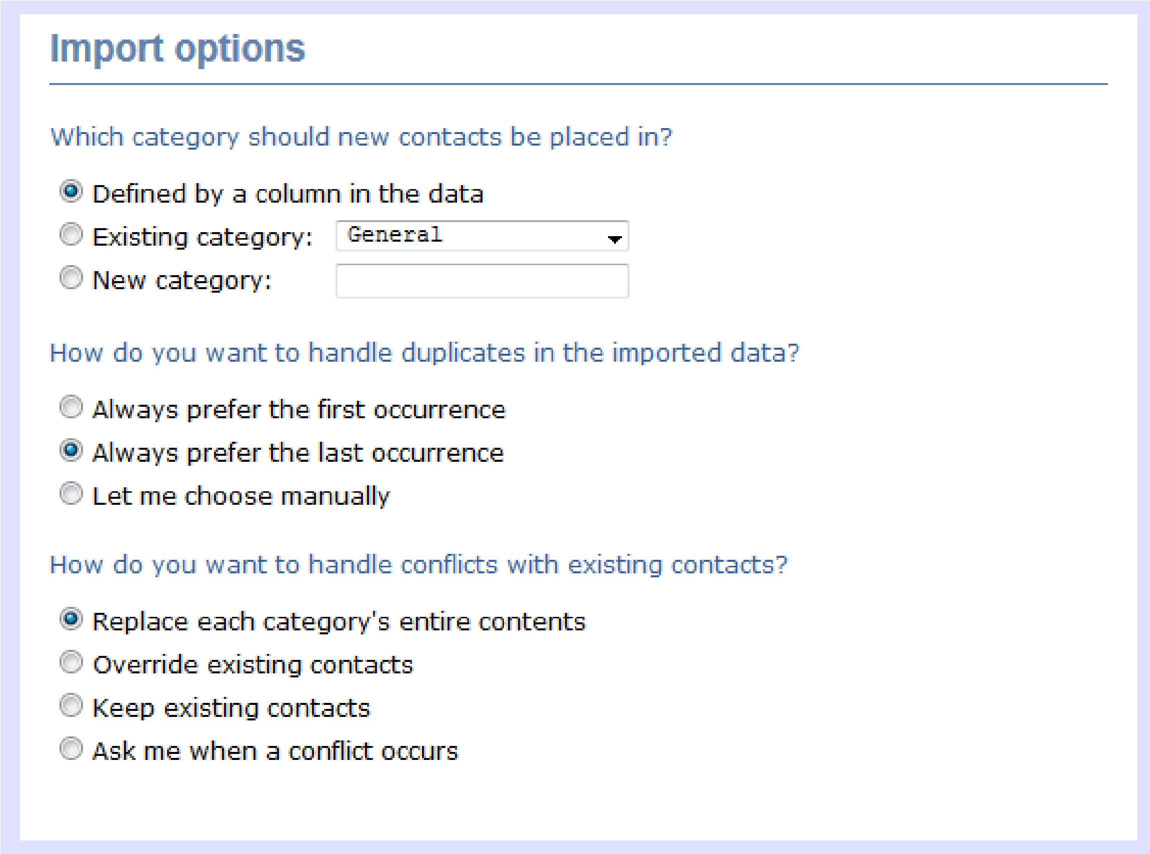
Option	Description

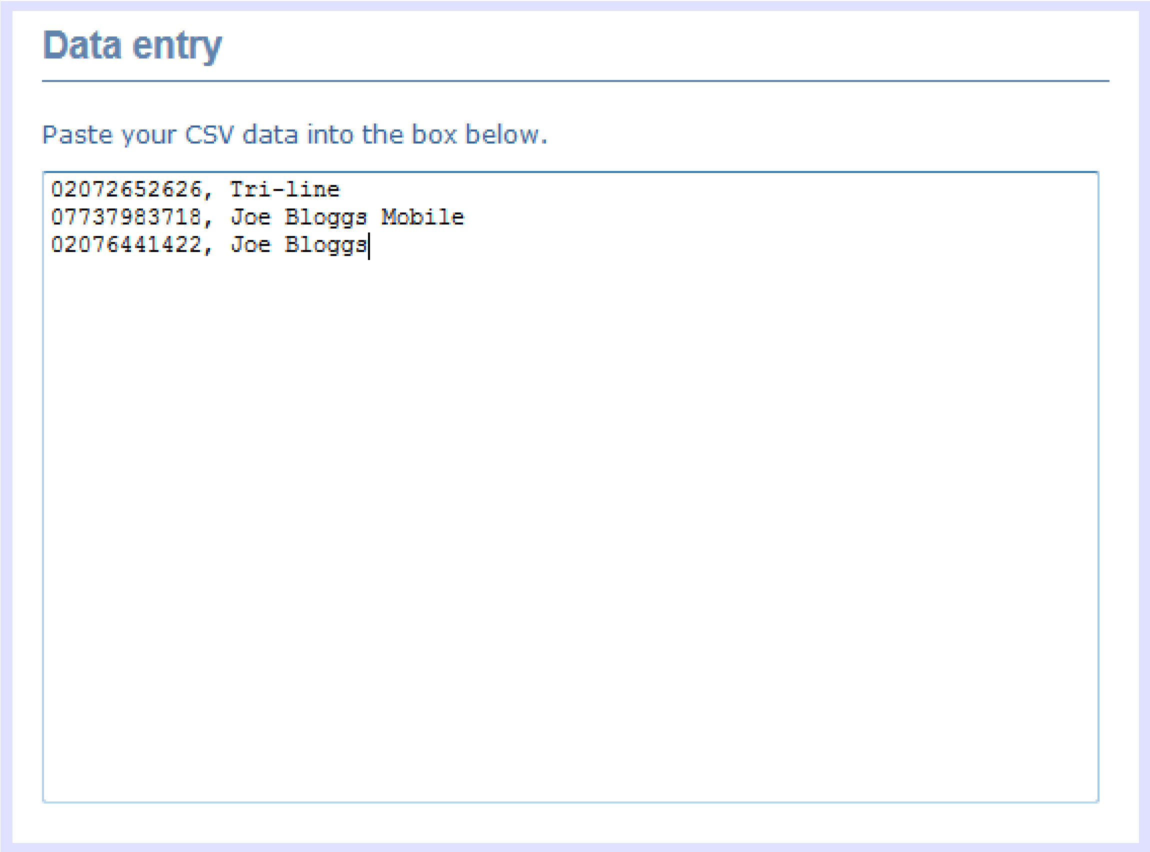
Import contacts	This section allows to choose the source you want to import the contacts from, e.g. a CSV list, another web user account; 

Contact type	This section allows you to select the type of contact you want to import, e.g. account code, phone number. 

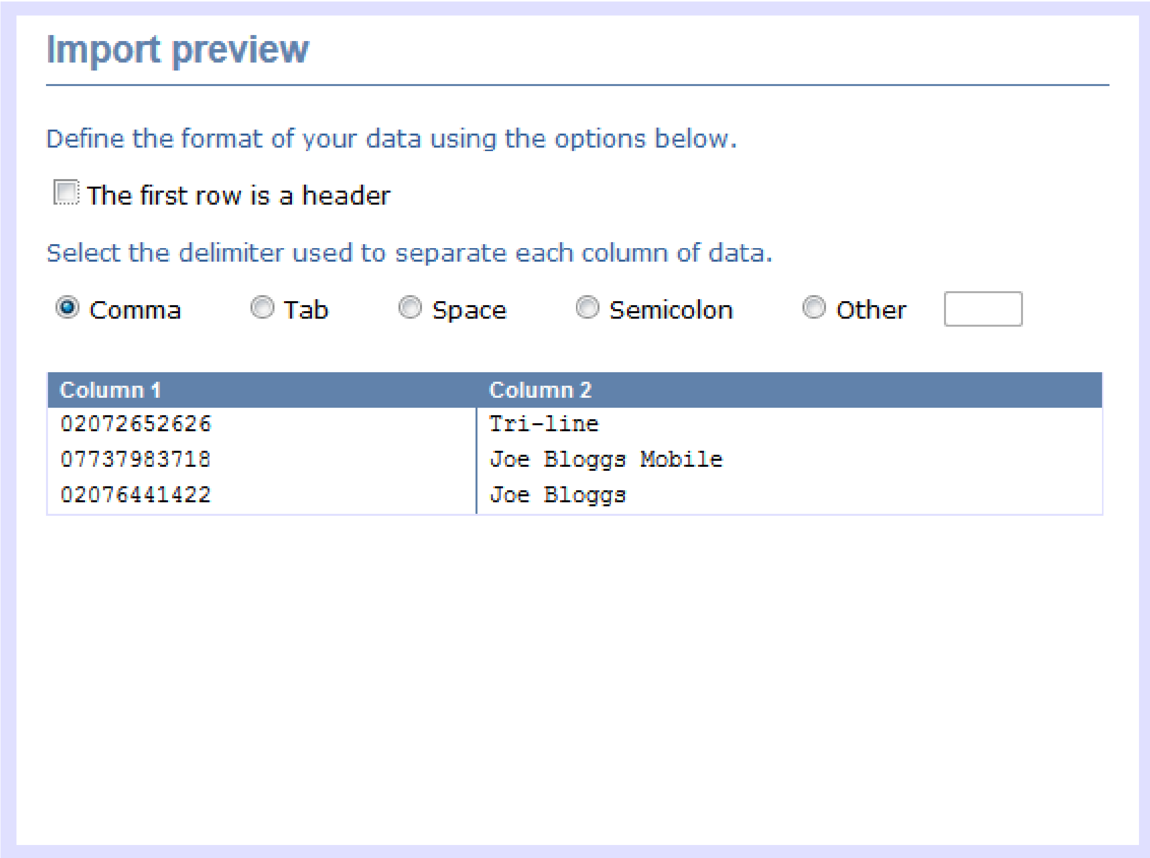
Import options

This section allows you to select in which category you want the contacts to be included and how to handle duplicated entries or other conflicts with the existing contacts.



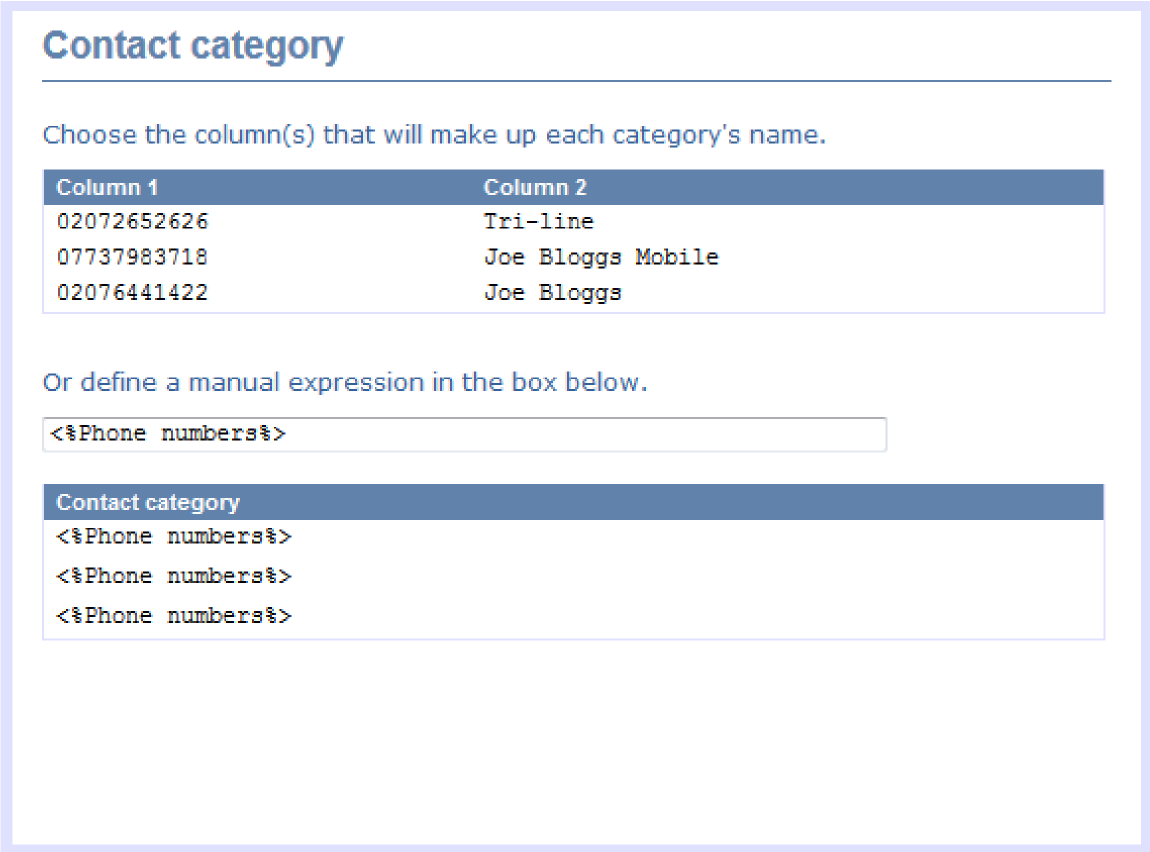
Data entry	This section allows you to paste the CSV list in the box provided. 

Import preview	This section gives you a preview of the imported contacts and allows you to select the delimiter you want to use to separate the two columns.



Contact category

This section allows you to select or define the column(s) that will make up each category.



Contact phone number

This section allows you to select or define the column(s) that will make up each phone number.

Contact phone number

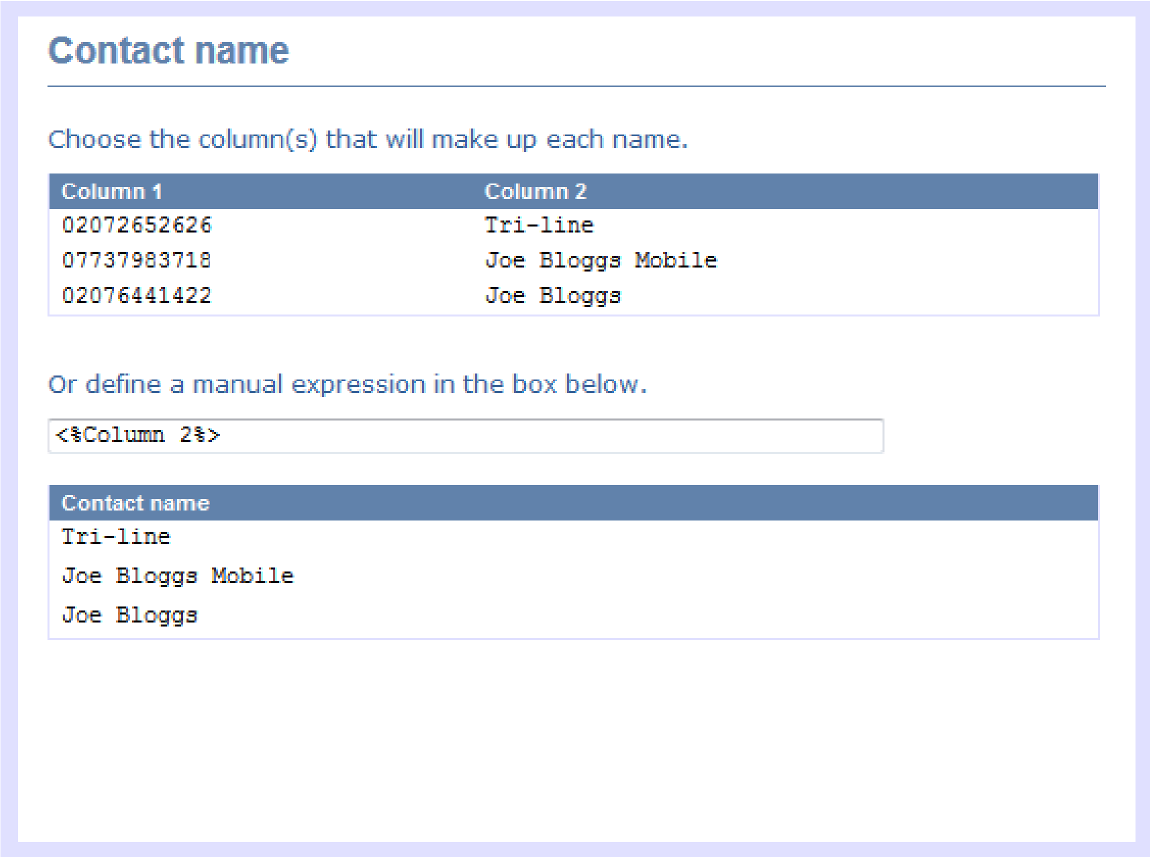
Choose the column(s) that will make up each phone number.

Column 1	Column 2
02072652626	Tri-line
07737983718	Joe Bloggs Mobile
02076441422	Joe Bloggs

Or define a manual expression in the box below.

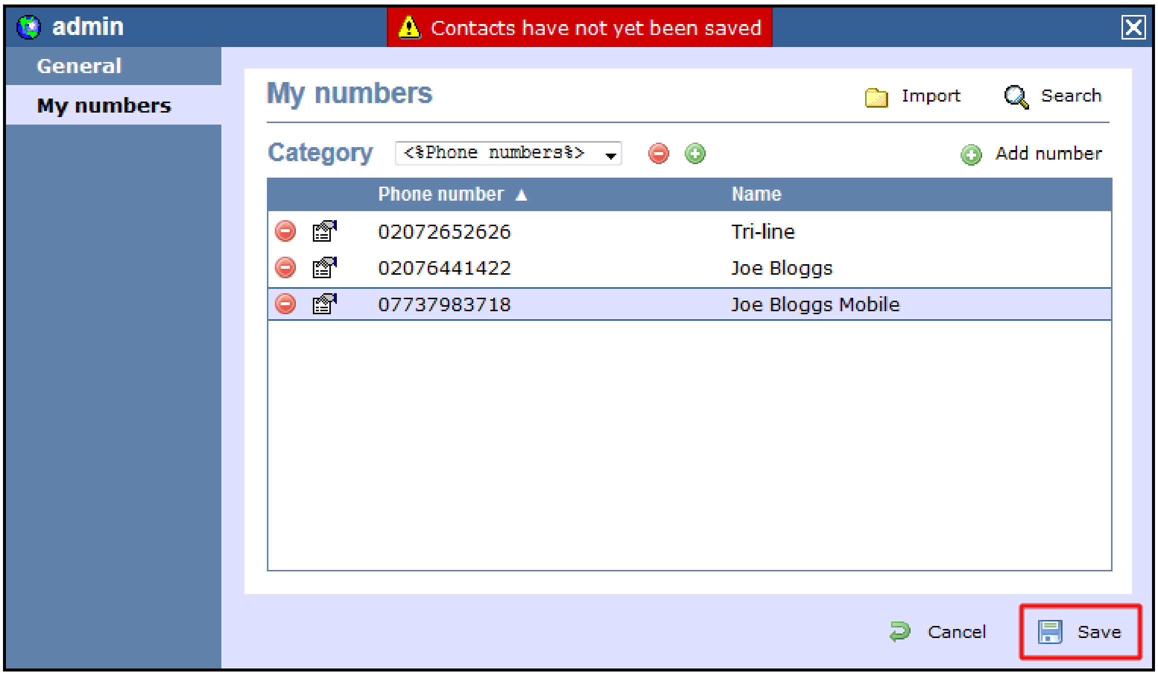
<%Column 1%>

Contact phone number
02072652626
07737983718
02076441422

Contact name	This section allows you to select or define the column(s) that will make up each name. 

Ready to import	This section notifies you how many records are valid and ready to be imported.

The contacts will be added to the list, as shown in the screenshot below. Click on the Save button to apply the changes.



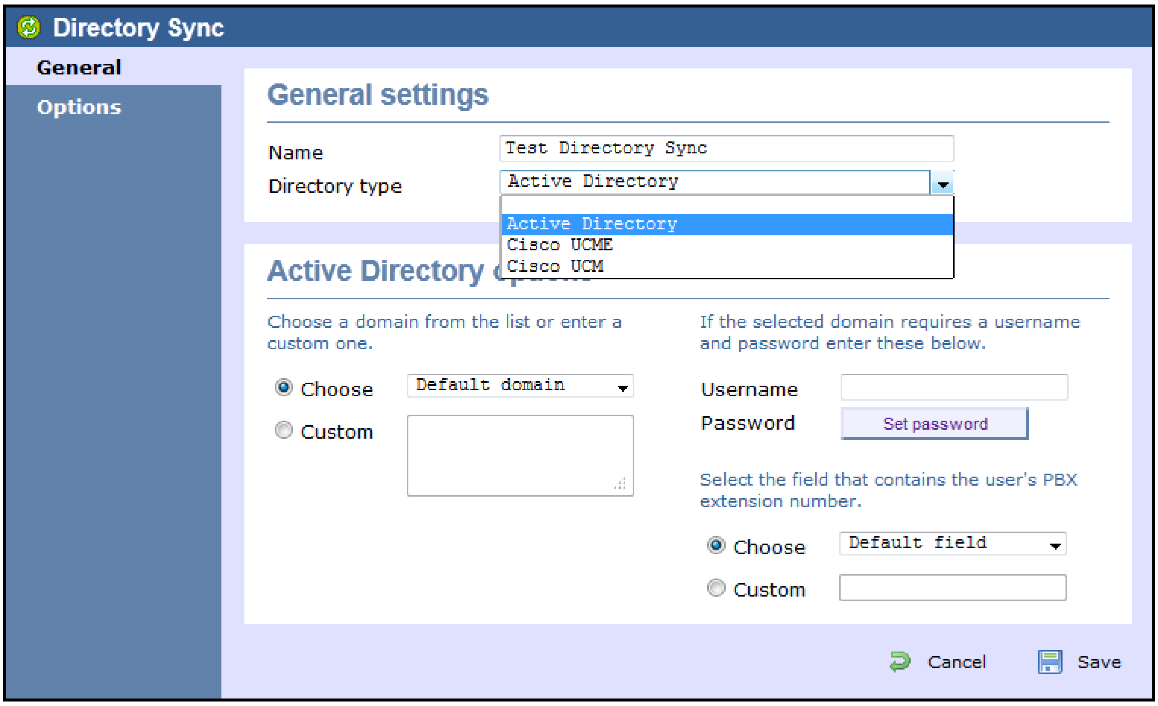
Directory Sync

Directory Sync

- What is directory sync?
- Adding directory sync
- Configuring directory sync

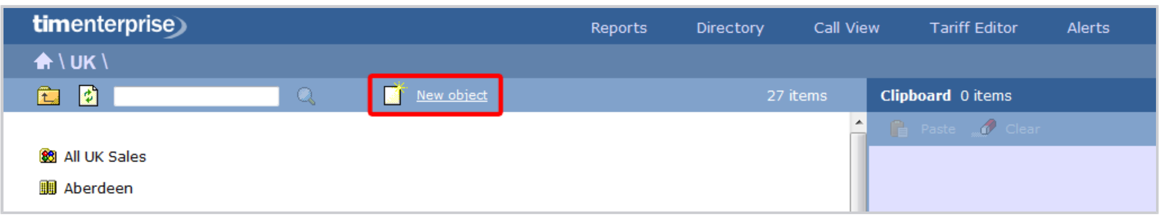
What is directory sync?

The `Directory Sync` object in TIM Enterprise allows you to sync any partition of TIM Enterprise with a third-party directory, such as Active Directory or Cisco AXL.

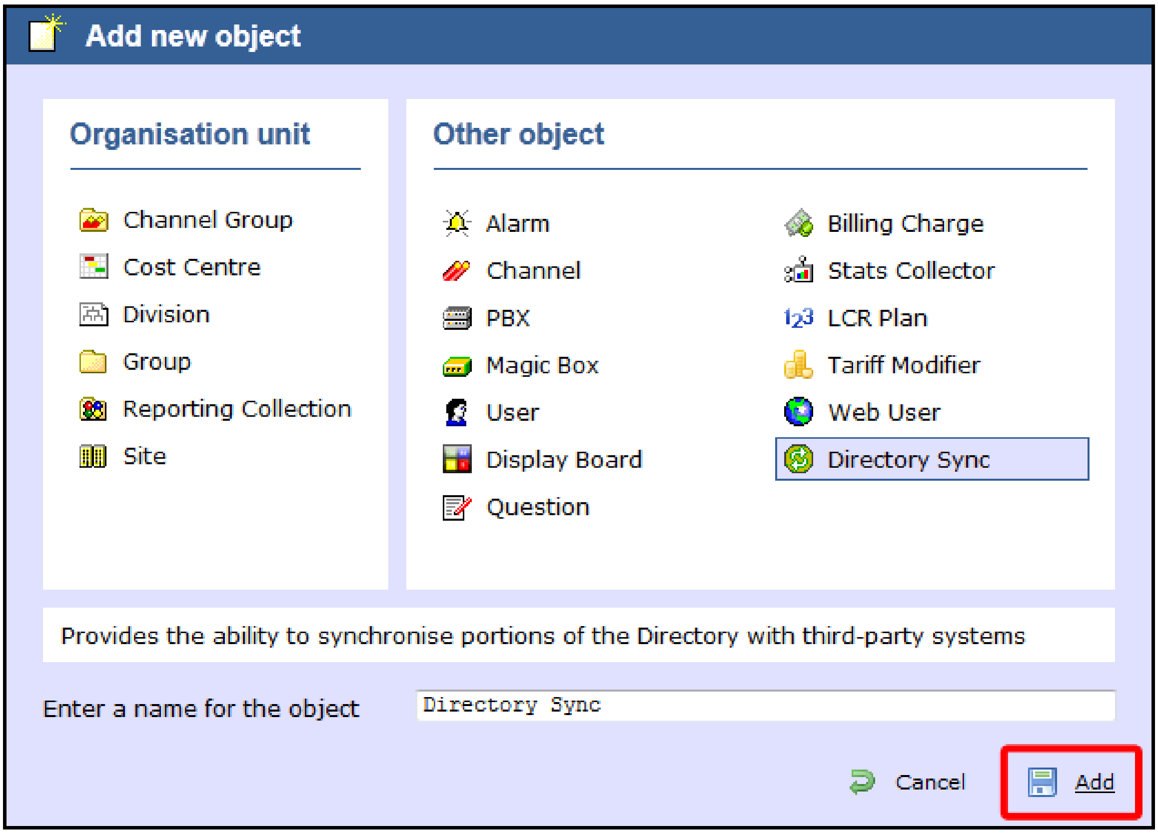


Adding directory sync

To add a directory sync object to the system, drill-down to the Directory level where you want to perform the synchronisation and click on the `New object` tab, as shown below:

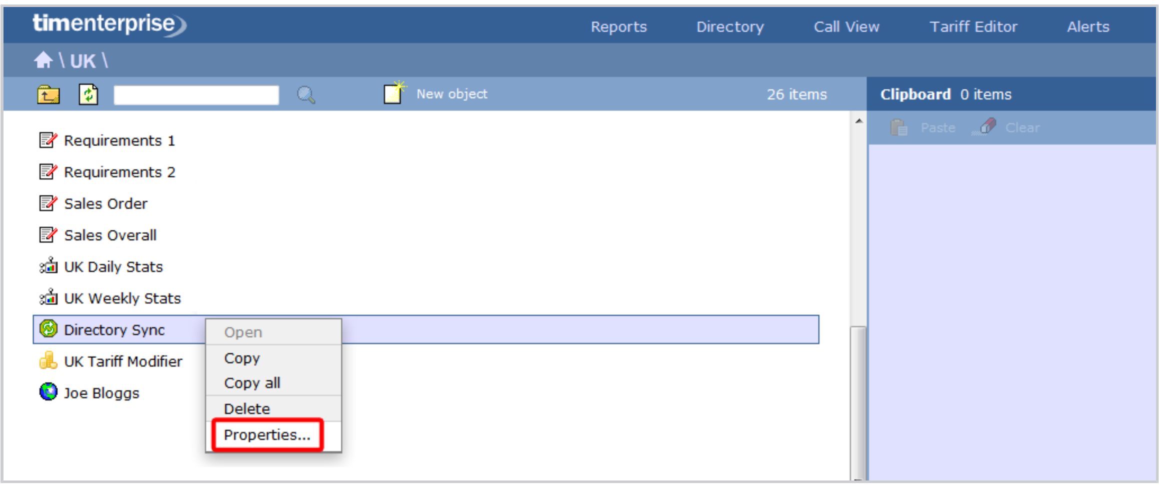


In the new window that opens, select the `Directory Sync` object from the `Other object` list, enter a relevant name and click on the Add button, as shown below:

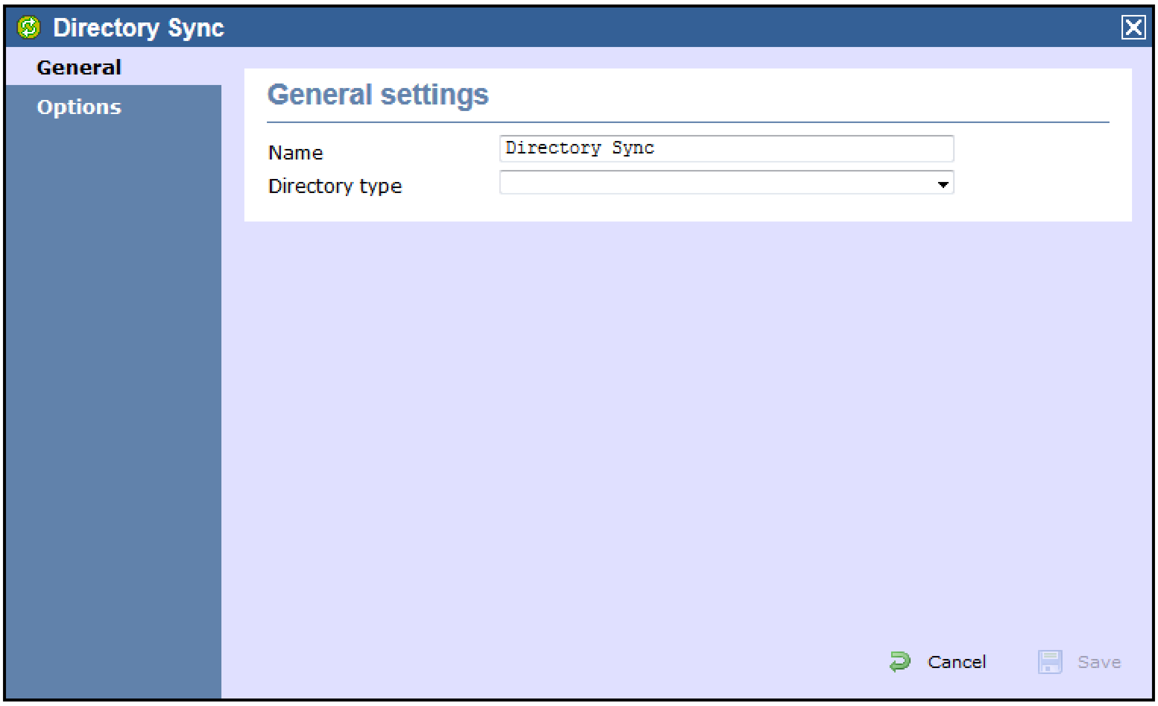


Configuring directory sync

To configure the directory sync, locate the object in the Directory, click on it and select **`Properties`** from the drop-down list, as shown below:



A new window will open, allowing you to configure the properties of your **`Directory Sync`** object, as shown below:

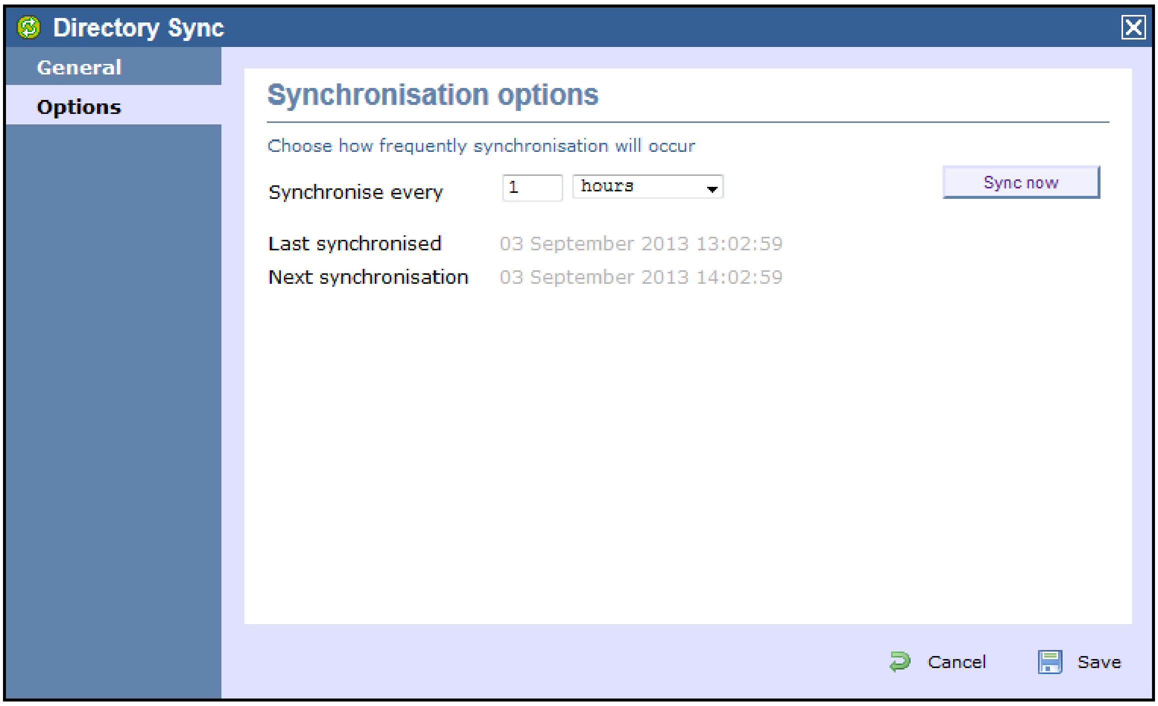


General settings

Field	Description
Name	The name of the directory sync object.
Directory type	Select the type of sync you want to perform, e.g. Active directory, UCME or UCM, and enter the required details for each type of directory.

Options

The Options tab allows you to determine how often the synchronisation process should be performed. To set up the frequency, select a preset period from the available drop-down list, as shown below:



To perform a manual directory sync, click on the Sync now button.

Call View

The `Call view` screen displays a live list of calls, showing each call the moment it is received from your telephone system(s) and successfully processed by TIM Enterprise. The call list is arranged so that the most recent calls are at the top of the list.

Date	Time	Source	Route	Destination	Response	Duration	Cost	Datasource
29 June 2011	20:35:43	London	02075848185	Lee Brinwood	3	00:00:26	0.00	Main PBX
29 June 2011	20:35:13	London	02088525205	Ella Vader	1	00:00:36	0.00	Main PBX
29 June 2011	20:29:18	London	02072087208	Rose Bush	2	00:00:53	0.00	Main PBX
29 June 2011	20:25:16	Miranda Rogers	3026	Mica Balik	1	00:00:14	0.00	Main PBX
29 June 2011	20:23:23	Orange	07980546959	Brandon Cattel	25	00:02:02	0.00	Main PBX
29 June 2011	20:22:43	Anna Sasin	07782026551	Hutchison 3G	35	00:00:03	0.03	Main PBX
29 June 2011	20:21:41	O2	07720811726	Constance Noring	10	00:00:26	0.00	Main PBX
29 June 2011	20:21:16	Vodafone	07747688610	Craig Cade	22	00:01:29	0.00	Main PBX
29 June 2011	20:20:01	120022	UNAVAILABLE	Martin Pagnell	2	00:00:09	0.00	Main PBX
29 June 2011	20:19:56	Vodafone	07775852163	Brandon Cattel	3	00:00:09	0.00	Main PBX
29 June 2011	20:19:46	Anna Sasin	07877751586	Hutchison 3G	8	00:00:11	0.03	Main PBX
29 June 2011	20:18:46	Vodafone	07990555295	Earl E. Riser	3	00:01:27	0.00	Main PBX
29 June 2011	20:18:41	120002	UNAVAILABLE	Dinah Soares	5	00:00:02	0.00	Main PBX
29 June 2011	20:18:11	Vodafone	07768054946	Craig Cade	4	00:00:17	0.00	Main PBX
29 June 2011	20:16:18	20001	UNAVAILABLE	Craig Cade	2	00:00:16	0.00	Main PBX
29 June 2011	20:15:03	T-Mobile	07940574922	Ajith Tarasinghe	8	00:04:46	0.00	Main PBX

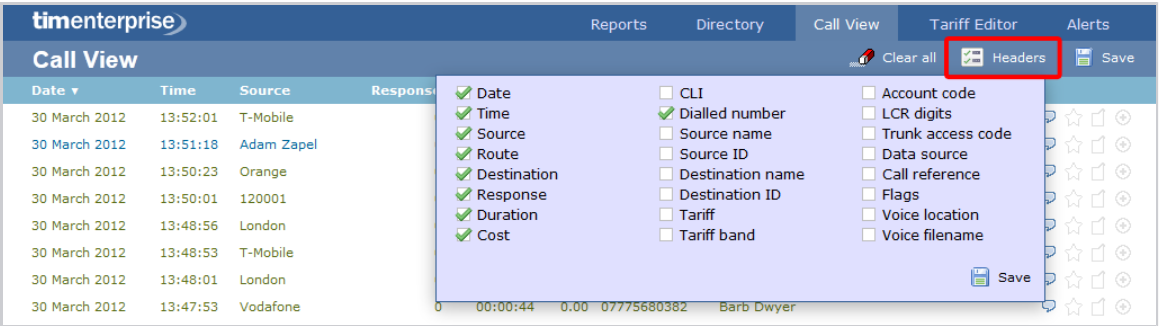
Each call type is colour-coded using a system-wide colour scheme, as follows:

- **Green**: Incoming calls
- **Light green**: Answered transferred calls
- **Blue**: Outgoing calls
- **Light blue**: Outgoing non-connected calls
- **Grey**: Internal calls
- **Mauve**: Internal non-connected calls
- **Red**: Abandoned DDI (Direct Dialled In) calls
- **Pink**: Tandem calls

> The calls you see in the `Call view` screen pertain only to the area to which the logged-in user has been granted access; administrators see calls from all sites.

Column headers

The `Call View` screen can be customised by each web user to show only the columns they are interested in. To add or remove columns, click on the Headers tab, which will display the following panel:



Include a column header in the list by ticking the box alongside each one. Click on the Save button to apply your changes.

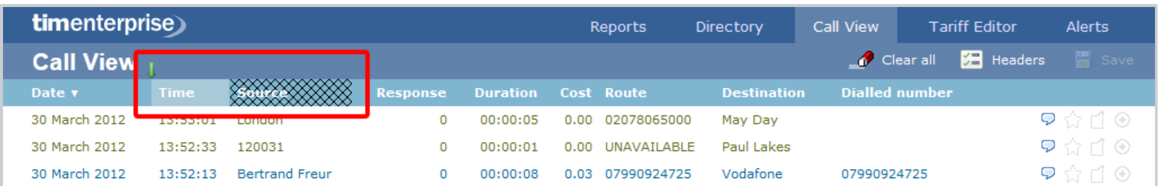
Each column header displayed in the `Call view` screen is described in the table below:

Field name	Description
Date	The date the call started
Time	The time the call started
Source	The place from where the call originated
Route	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the CLI of the caller ▪ for incoming internal calls, this shows either the caller's username or extension number ▪ for outgoing calls, this shows the dialled number
Destination	The information displayed in this field is determined by the type of call: ▪ for incoming calls, this shows the name of the user whose extension answered the call, or the extension number if not available ▪ for outgoing calls, this shows the geographical location that was dialled, or an alias if defined in your contacts list ▪ for internal calls, this shows the extension that was dialled, enclosed in square brackets [ ]
Response	The time it took for the call to be answered (in seconds)
Duration	The duration of the call (in hours, minutes and seconds)
Cost	The cost of the call
CLI	The telephone number of the remote caller for inbound calls
Dialled number	The number that was dialled in order to reach a particular destination
Source name	The name of the person who made the call
Source ID	The ID of the person who made the call
Destination name	The name of the destination called, e.g. Manchester, Tri-Line, London
Destination ID	The ID of the destination called
Tariff	The name of the tariff table that was used to cost the call, e.g. BT

Tariff band	The specific tariff band that was used to cost the call, e.g. International, National, Mobile etc.
Account code	The account code associated with the call
LCR Digits	The Least Cost Routing (LCR) digits used to route the call
Trunk access code	The trunk access code used to access a group of channels
Data source	The location where the call originated
Call reference	Any call reference number associated with the call
Flags	Any flags associated with a call, as described below: ▪ The call has no associated voice recording ▪ The call has an associated voice recording; click on the icon to listen to the call ▪ The call has not been scored; click on the icon to score the call ▪ The call has been scored; click on the icon to review scoring information for the call ▪ The call has not been annotated; click on the icon to add a note to the call ▪ The call has one or more associated notes; click on the icon to review the note(s) ▪ The call has no related transfer legs ▪ The call has related transfer legs; click on the icon to view all transfers associated with the call
Voice location	The unique ID of the call recording device that captured audio for the call
Voice filename	The unique call reference identifying any voice recording associated with the call

Reordering column headers

Each column header can be reordered by clicking and dragging it to the new location, as shown below:



Columns can be sorted by clicking the relevant column header, with each click toggling between ascending and descending order. A small triangle is displayed alongside the column header to indicate the current sorting order.

> Any layout changes you make to the `Live calls` panel are saved only for the current web user and do not affect other web users.

Tariff Editor

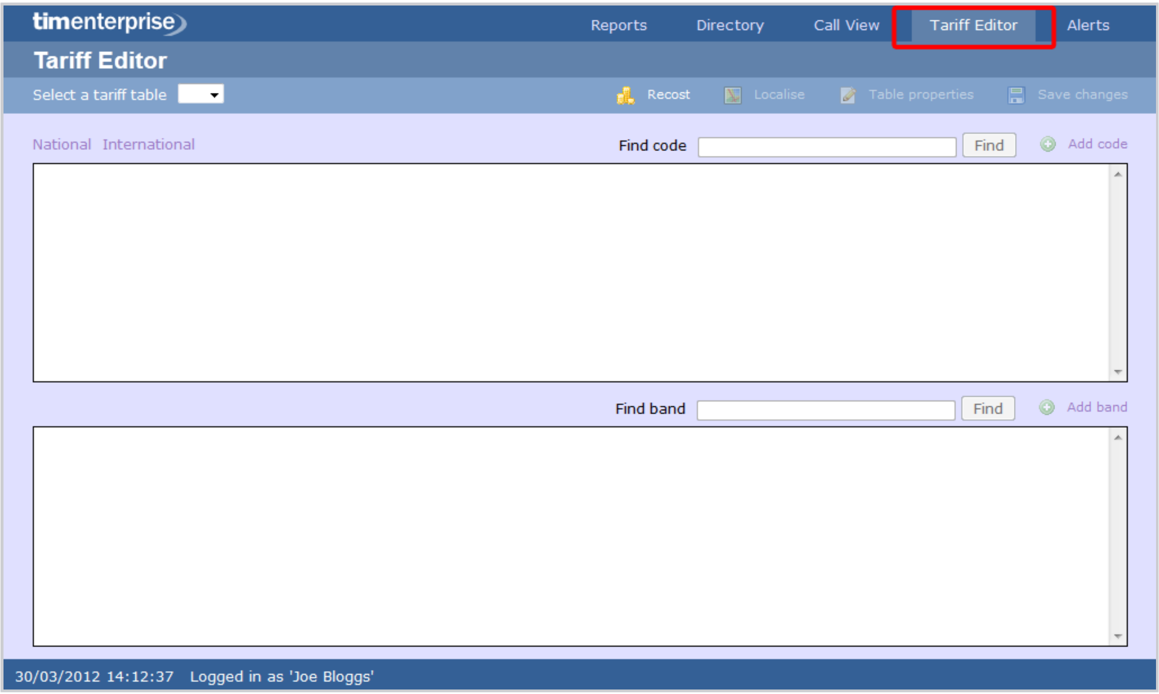
Configuring a tariff table

Configuring a tariff table

- Accessing the tariff editor
- Selecting a tariff table
- Recosting calls
- Localising the tariff table
- Table properties
- Save changes

Accessing the tariff editor

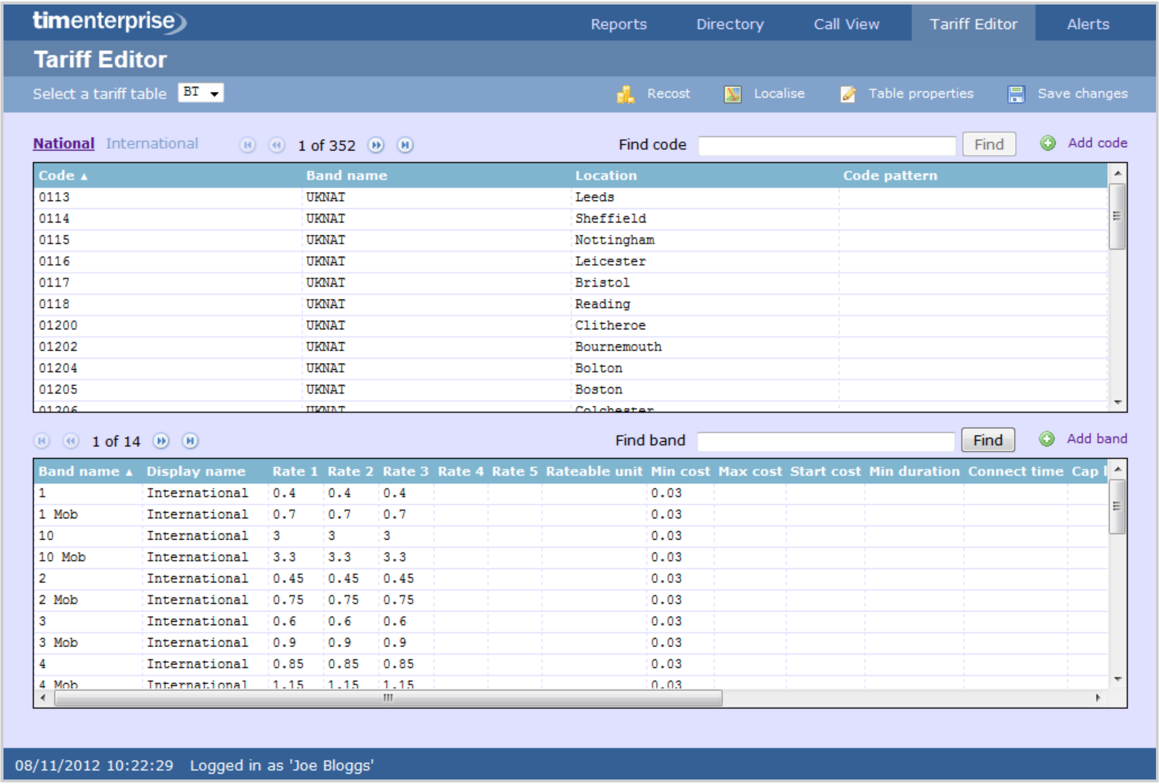
To access the tariff table, click on the Tariff editor tab from the menu bar, as shown below:



Selecting a tariff table

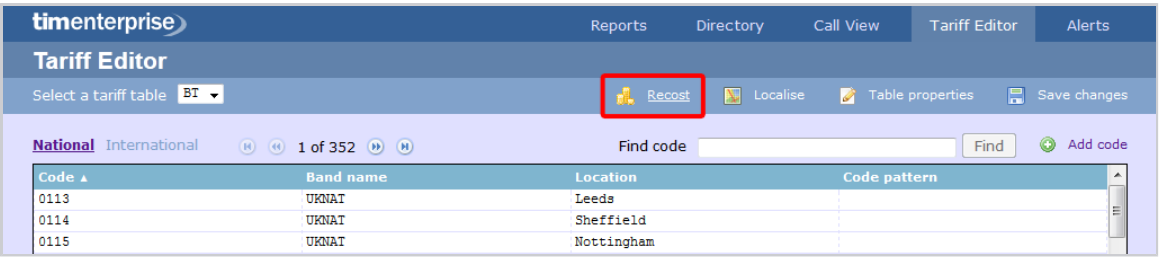
To select a tariff table, expand the drop-down list on the left-hand side of the screen and choose from the available options, as shown below:

Once a tariff has been selected, the following screen will be displayed:

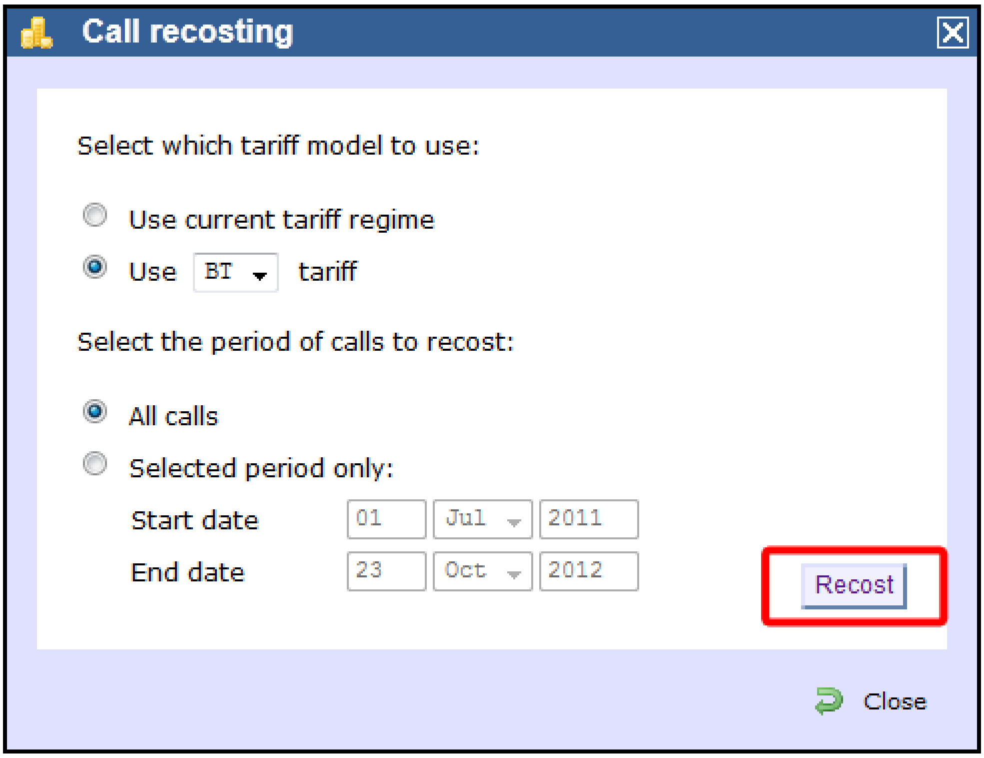


Recosting calls

TIM Enterprise allows you to apply different rates to your already-logged calls, by re-running your data using a different tariff table. To recost calls, click on the Recost button, as shown below:



A new window will open, allowing you to select the tariff table and the period you want to recost calls for. If you want to recost all calls currently in the database, select the `All calls` option.



The **Recost** procedure entails removing the selected calls from the database before applying the new rates. If this procedure is interrupted, you may loose calls.

Localising the tariff table

To inform TIM Enterprise which calls should be treated as local by your tariff table, click on the Localise tab, as shown below:

A new window will open, where you can enter your local dial code. Click on the Check button and the surrounding area codes will be listed automatically. Click on the Localise button at the bottom-right corner of the window to localise your tariff.

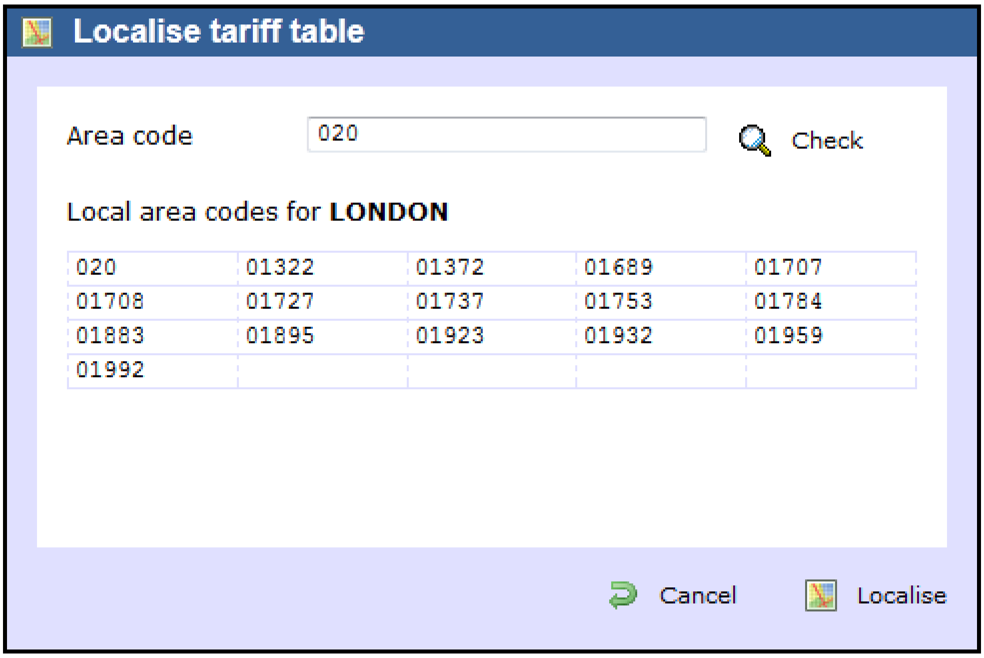
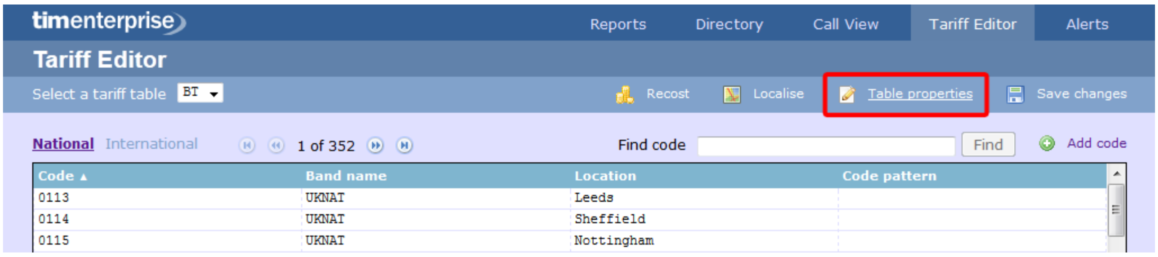
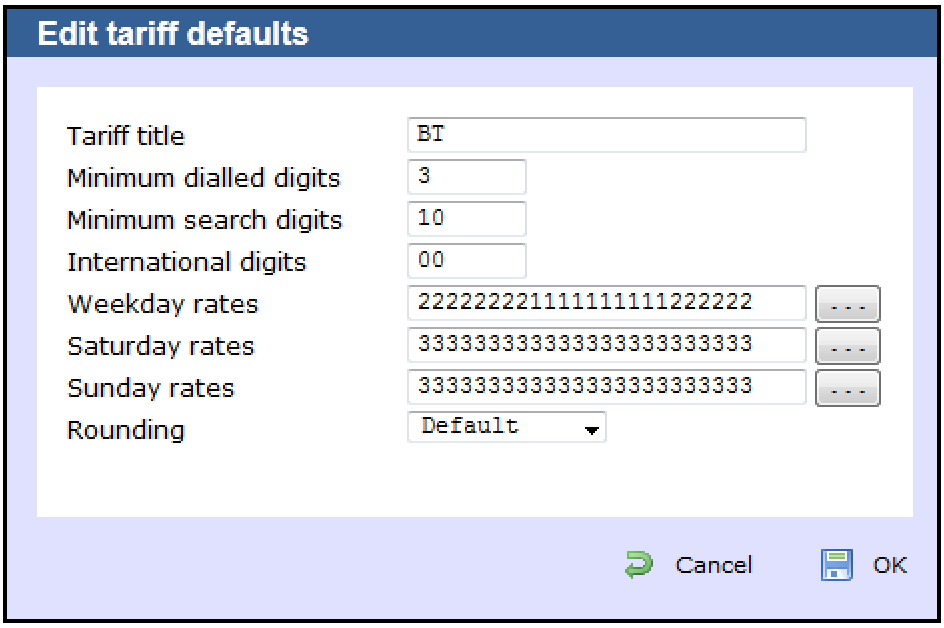


Table properties

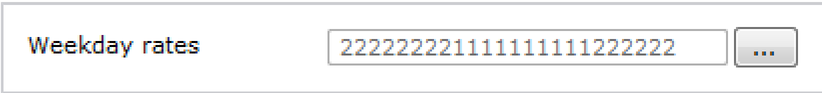
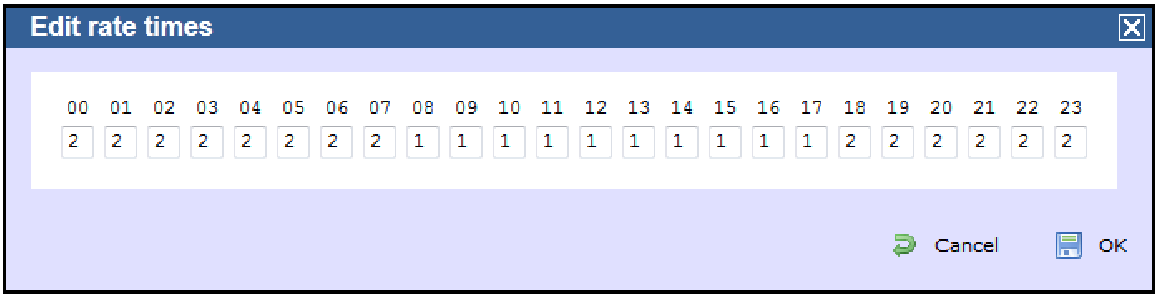
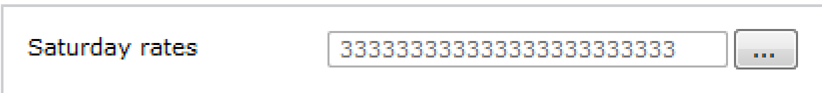
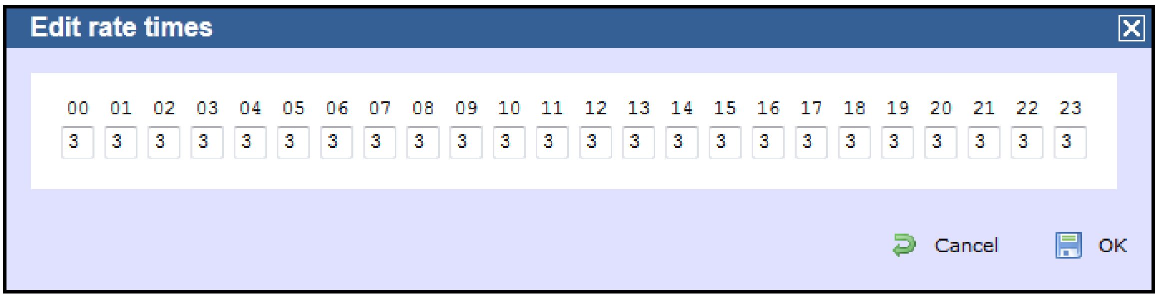
To configure the general properties of the tariff table, click on the Table properties button, as shown below:

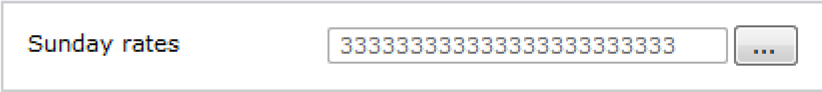
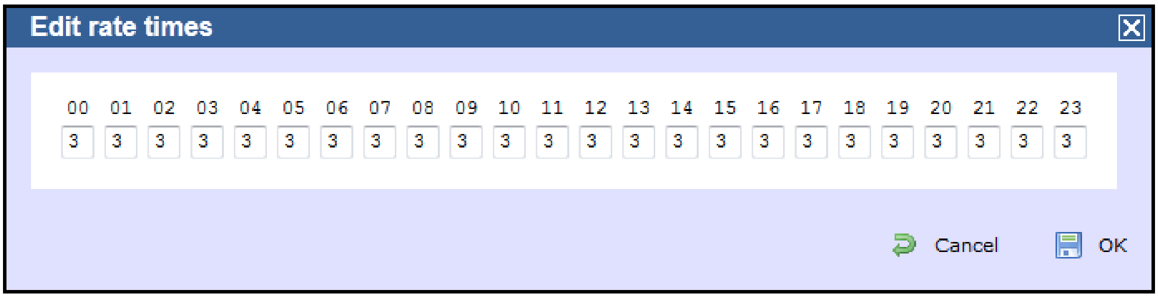
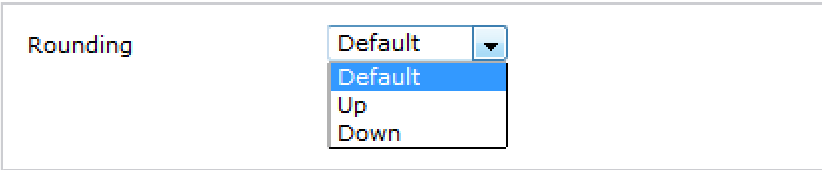


A new window will open where you can configure the properties of your tariff table. Each field in this window is described in the table below:



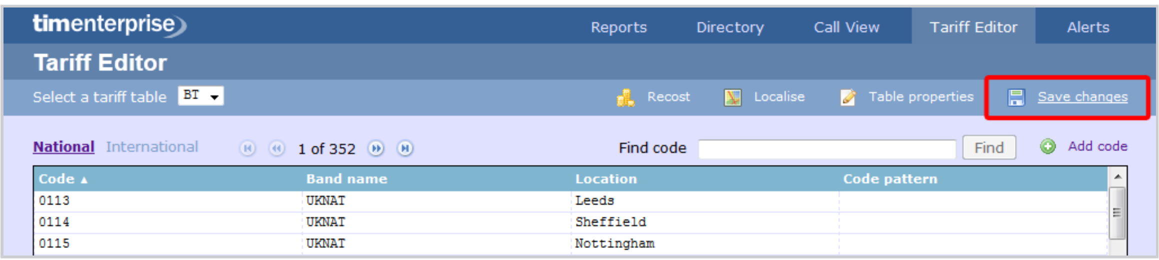
Field name	Description
Tariff title	The name of the tariff table

Minimum dialled digits	The minimum number of dialled digits required for the call to be logged
Minimum search digits	The minimum number of search digits required to start allocating a charge to a call. TIM Enterprise starts from 10 digits and works backwards in order to find the closest tariff match
International digits	The digits used to dial internationally, e.g. all international calls made from UK begin with 00
Weekday rates	The weekday rates you want to apply to calls for each hour of the day. For example, in the table below rate **2** applies from midnight to 7:59 and from 18:00 to 23:59, and rate **1** applies from 8:00 to 17:59  To see the rates in more detail, click on the ... button to expand, as shown below: 
Saturday rates	The Saturday rates you want to apply to calls for each hour of the day. For example, in the table below rate **3** applies at all times  To see the rates in more detail, click on the ... button to expand, as shown below: 

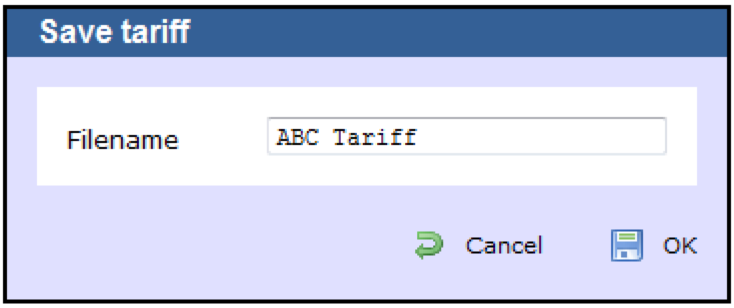
Sunday rates	The Sunday rates you want to apply to calls for each hour of the day. For example, in the table below rate **3** applies at all times  To see the rates in more detail, click on the ... button to expand, as shown below: 
Rounding	This option allows you to select whether you want to round decimal places up or down 

Save changes

To save any changes made to the tariff table, click on the Save changes button, as shown below:

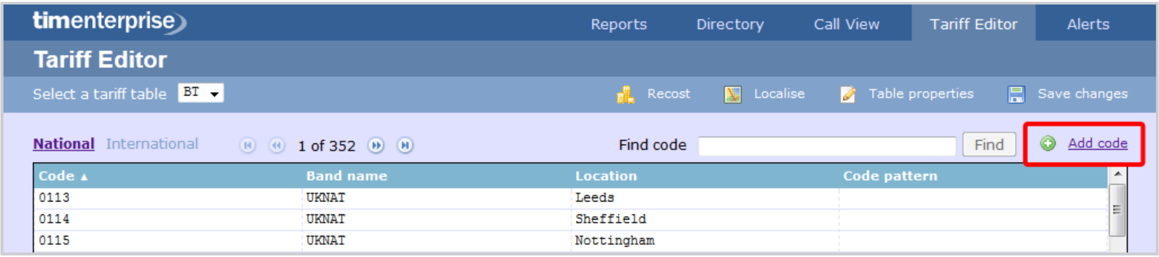


A new window will open allowing you to save the changes to a new tariff table, or overwrite the current one.

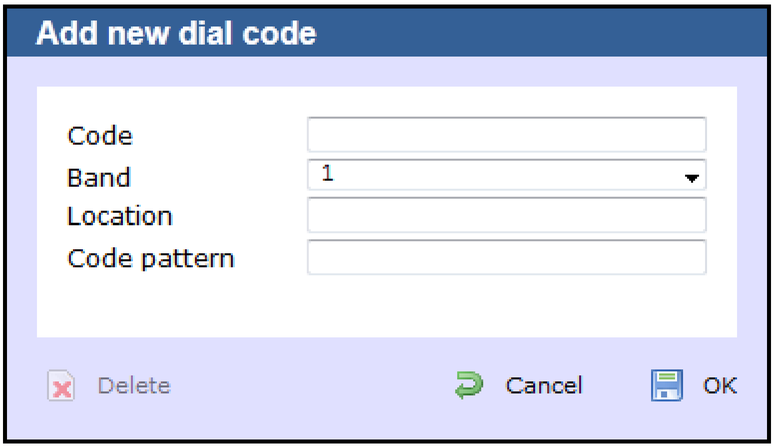


Adding a code

To add a code to your tariff table, click on the Add code button at the top-right corner of the screen, as shown below:

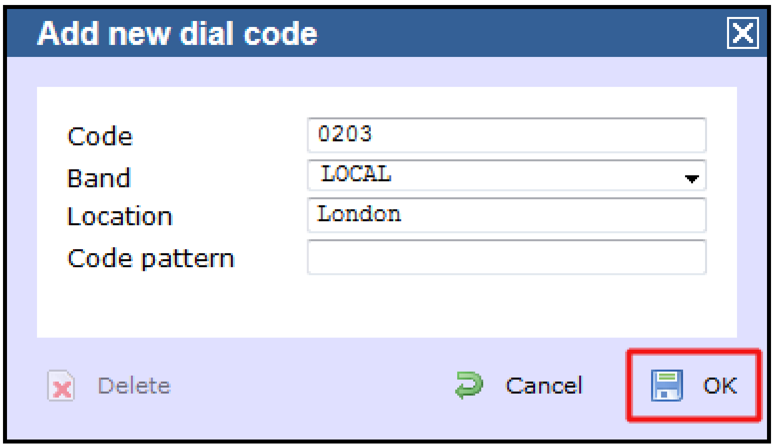


A new window will appear, where you can edit the properties of your dial code:



Field	Description
Code	The new code you want to add to the tariff table.
Band	The charge band you want to apply to the current dial code.
Location	The geographical location you want to associate with the current dial code.
Code pattern	If your code needs to match a specific digit pattern, use the # symbol to construct the pattern and mask the necessary digits. For example, enter `020########*` for a London phone number, which indicates that the number must start with 020 and to be followed by at least eight digits in order to be valid.

When you have finished configuring these properties, click on the OK button to apply the changes.

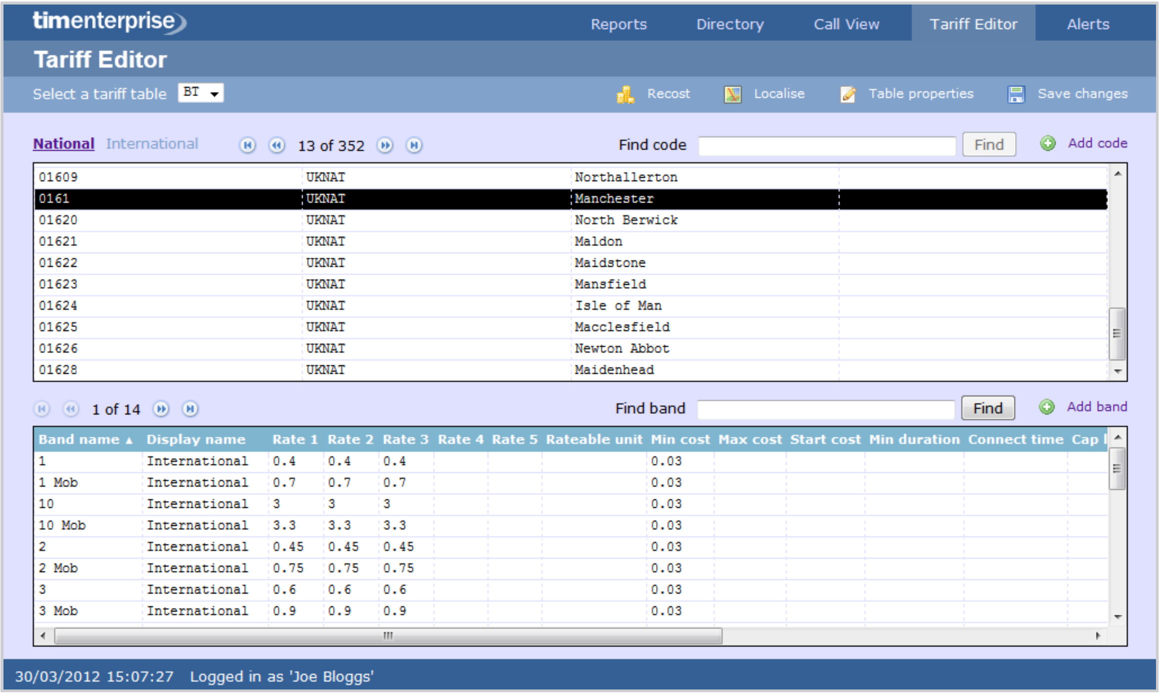


Finding a code

Search for a dial code

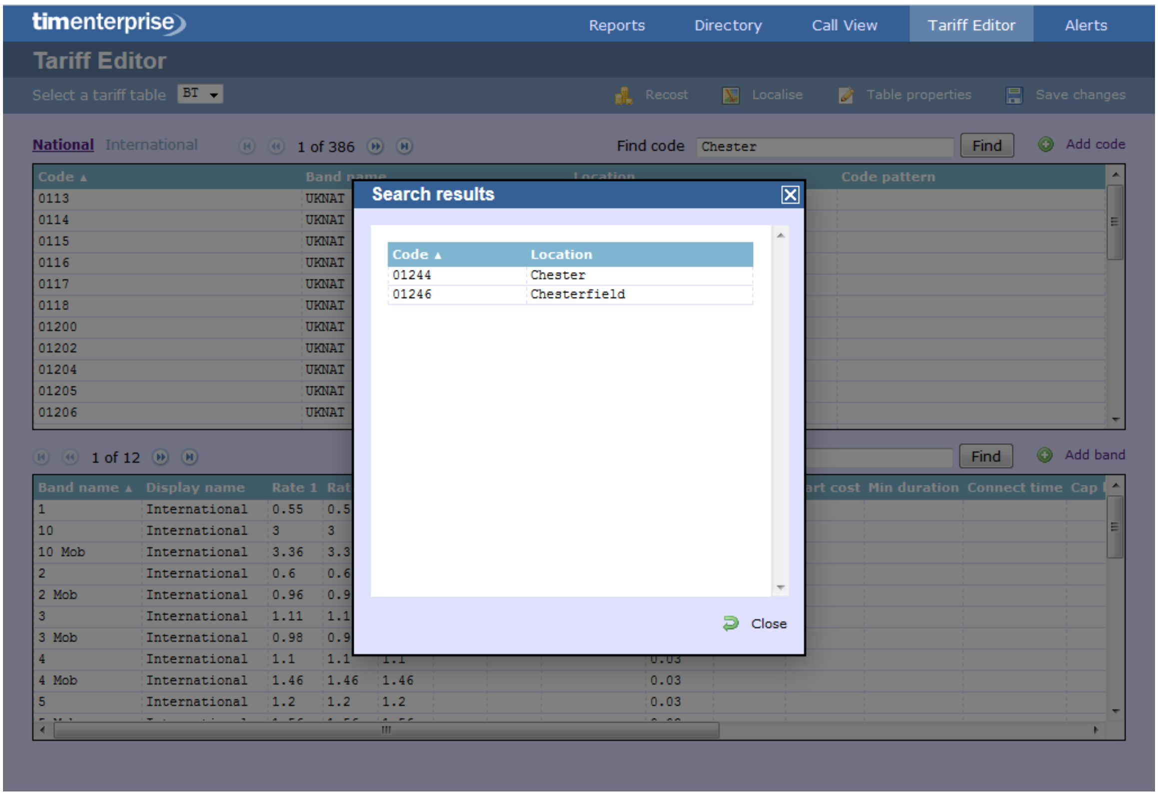
To locate a dial code in the tariff table, enter it in the search box provided, as shown below:

The dial code and its matching destination will appear highlighted in the list, as shown below:



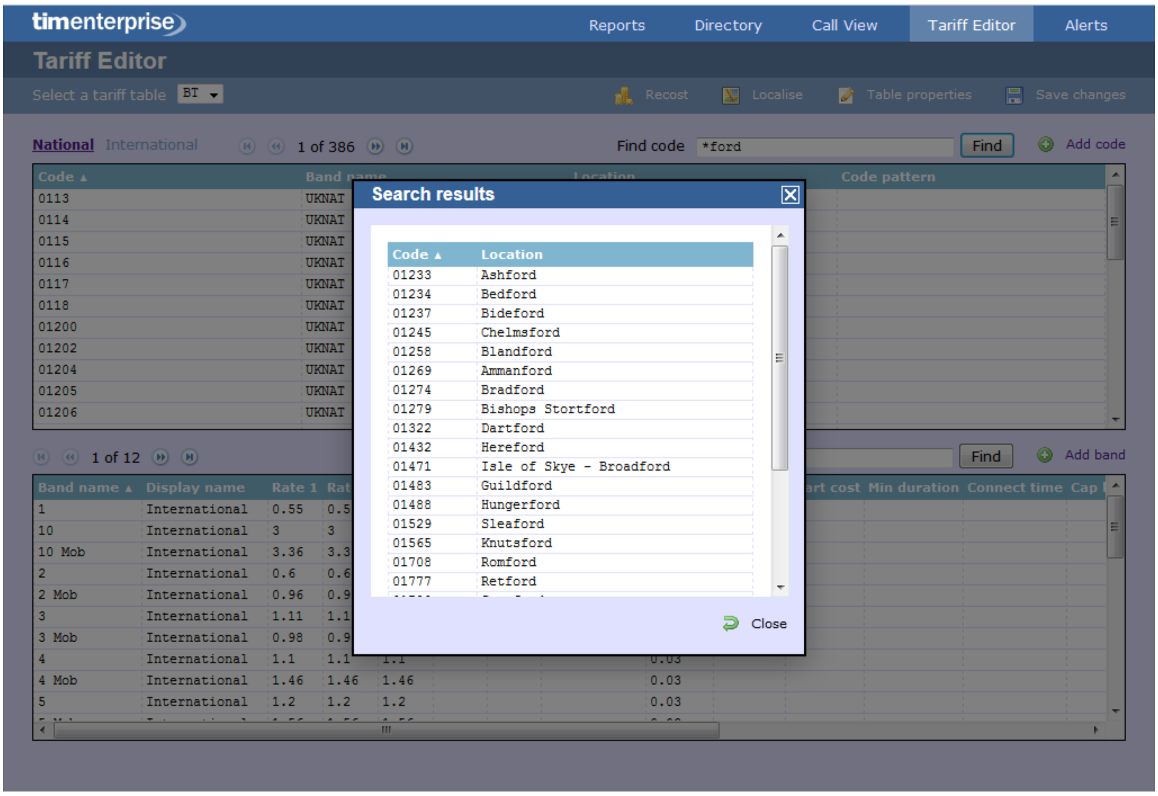
Search for a location

To search for a location in the tariff table, enter its name in the search box. The results will show all locations containing that name. In the example below, we searched for the word `Chester`.



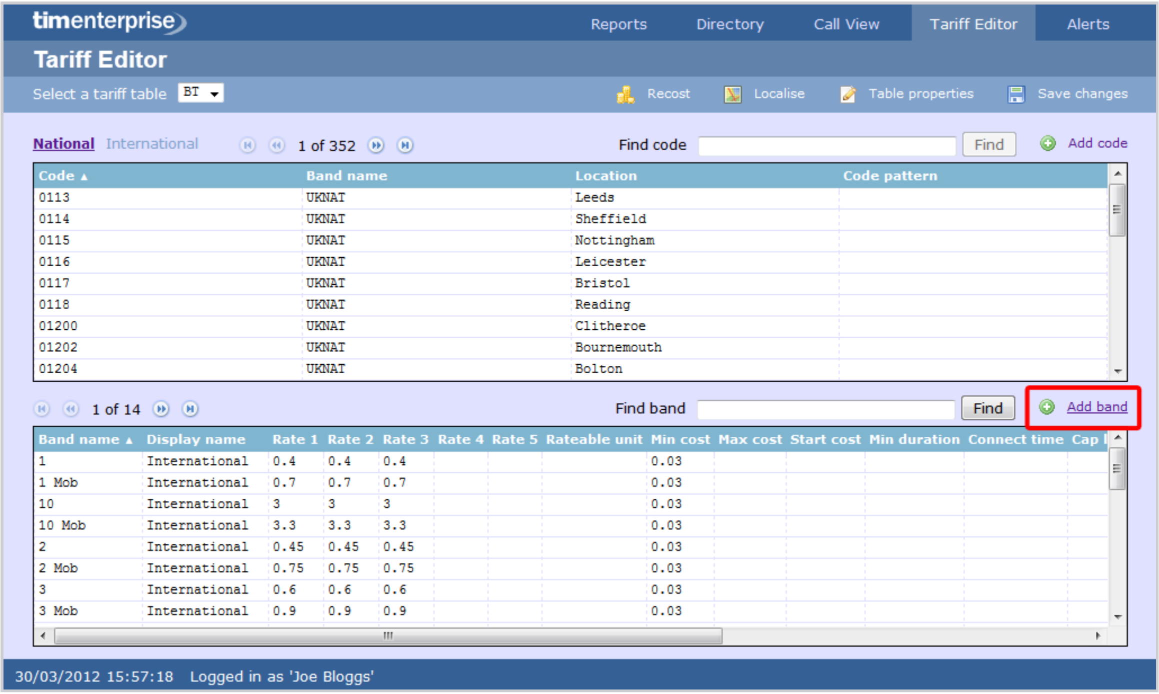
Search for a partial code or location

To search for a name or number that is contained in a string, use * character before or after the number or name you have entered. In the example below, the string *ford was entered:

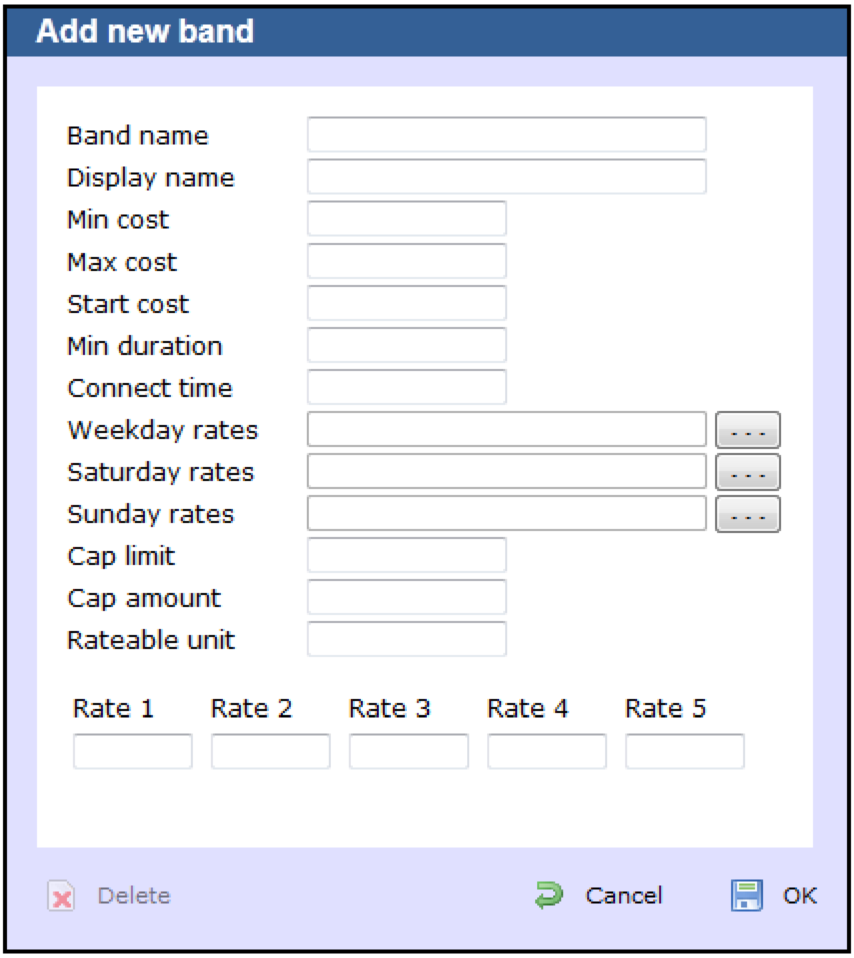


Adding a band

To add a new band to the tariff table, click on the Add band tab, as shown below:



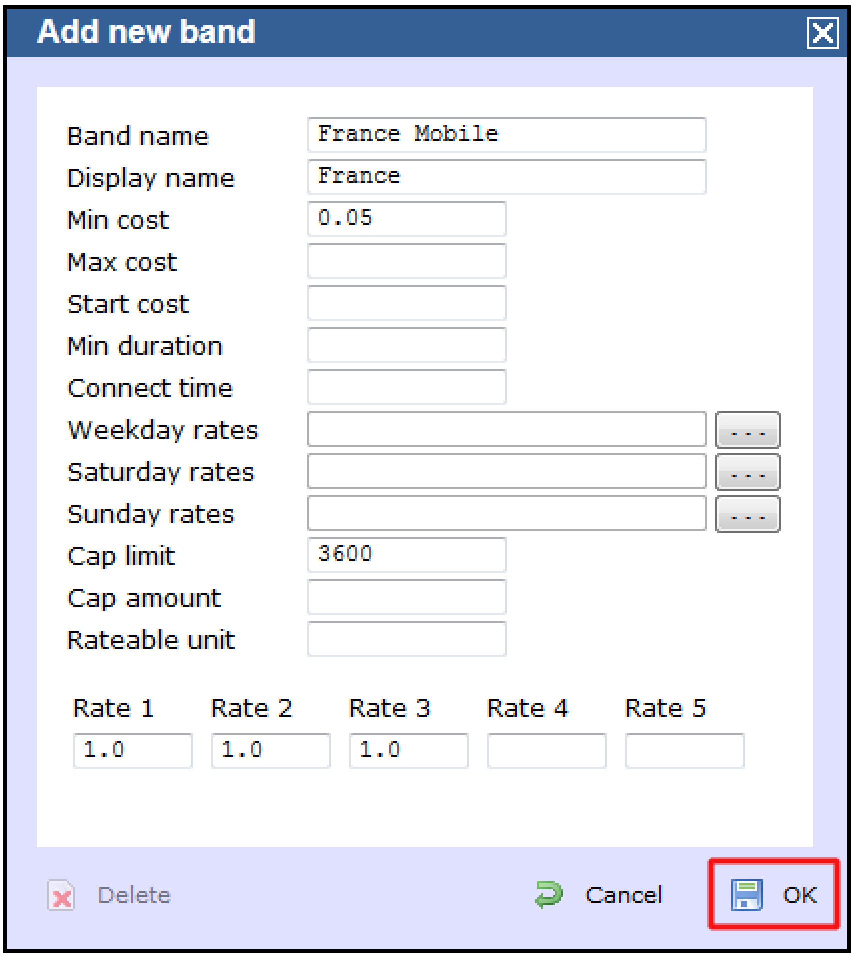
The **Add new band** window will appear, where you can edit the properties of you band. Each field in this window is described below:



Field	Description
Band name	The name of the band

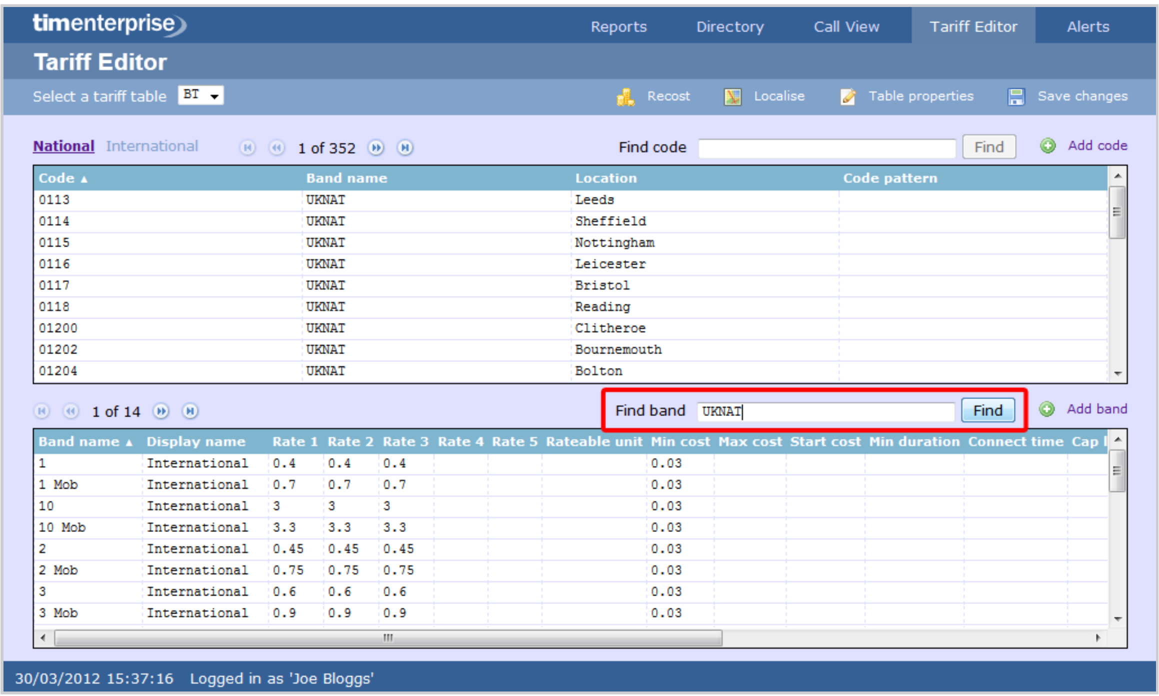
Display name	The band name displayed in the call view or reports
Min cost	The minimum cost of a call, regardless of whether the call totals less at the defined rate
Max cost	The maximum cost a call can reach, regardless of whether the call totals more at the defined rate
Start cost	The starting cost of a call, regardless of its duration
Min duration	The number of seconds a call must last in order to be chargeable
Connect time	A fixed period of time that is added to each call's duration
Weekday rates	The call rates during weekdays
Saturday rates	The call rates during Saturdays
Sunday rates	The call rates during Sundays
Cap limit	The maximum duration (in seconds) you want to restrict certain calls to
Cap amount	The maximum charge for a call to a particular number
Rateable unit	The unit of time (in seconds) that a call's duration is divided into, when used as a multiplier to determine the cost of a call. By default, the rateable unit in TIM Plus is 1 - per second - but could be changed to 60 to enable per minute billing, for example.

When you have finished configuring these properties, click on the OK button to apply the changes.

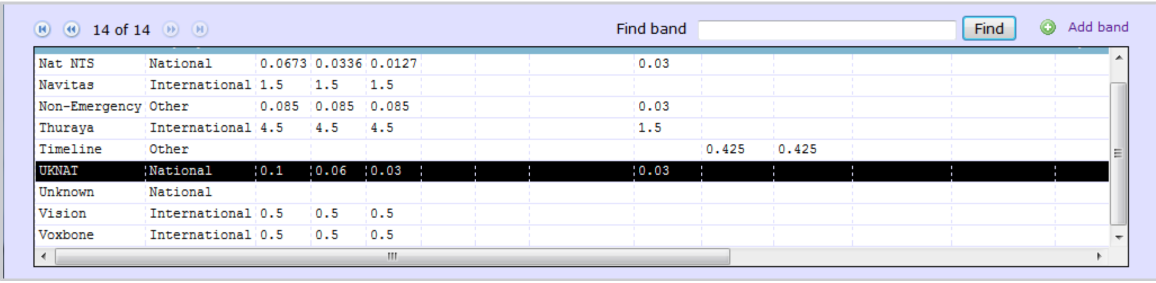


Finding a band

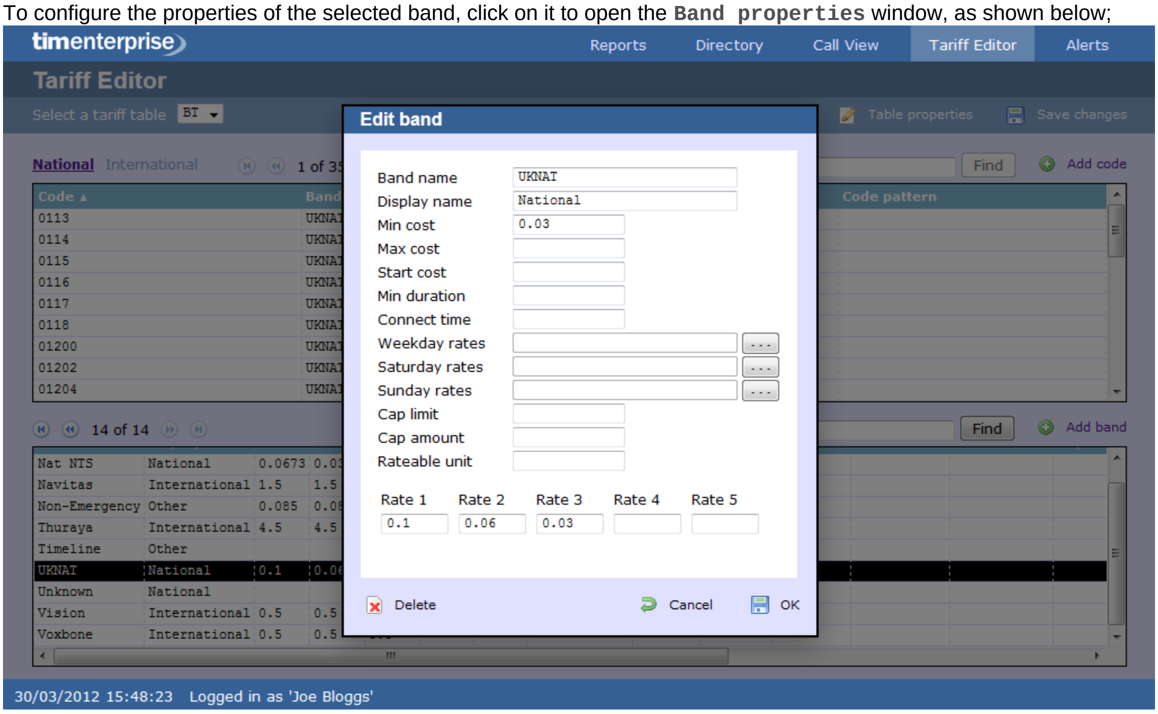
To locate a band in the tariff table, enter its name in the search box and click on the Find button, as shown below:



The matching band will appear highlighted in the list, as shown below:

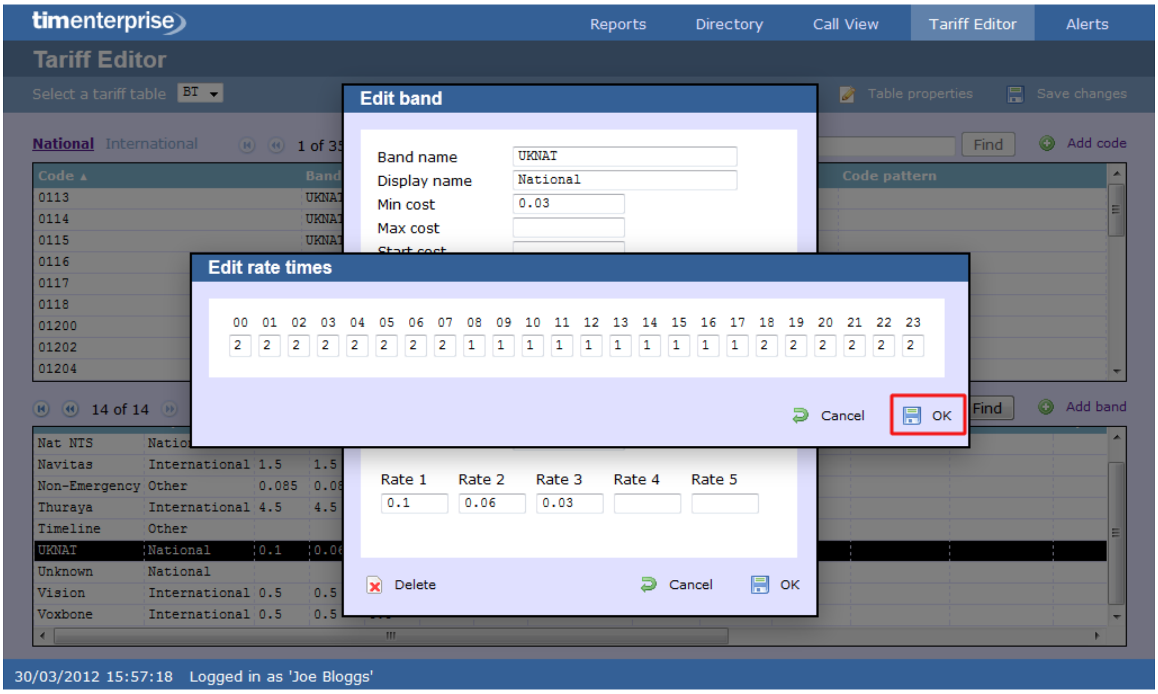


To configure the properties of the selected band, click on it to open the **Band properties** window, as shown below;



To see the applied rates, click on the ... button, as shown below:

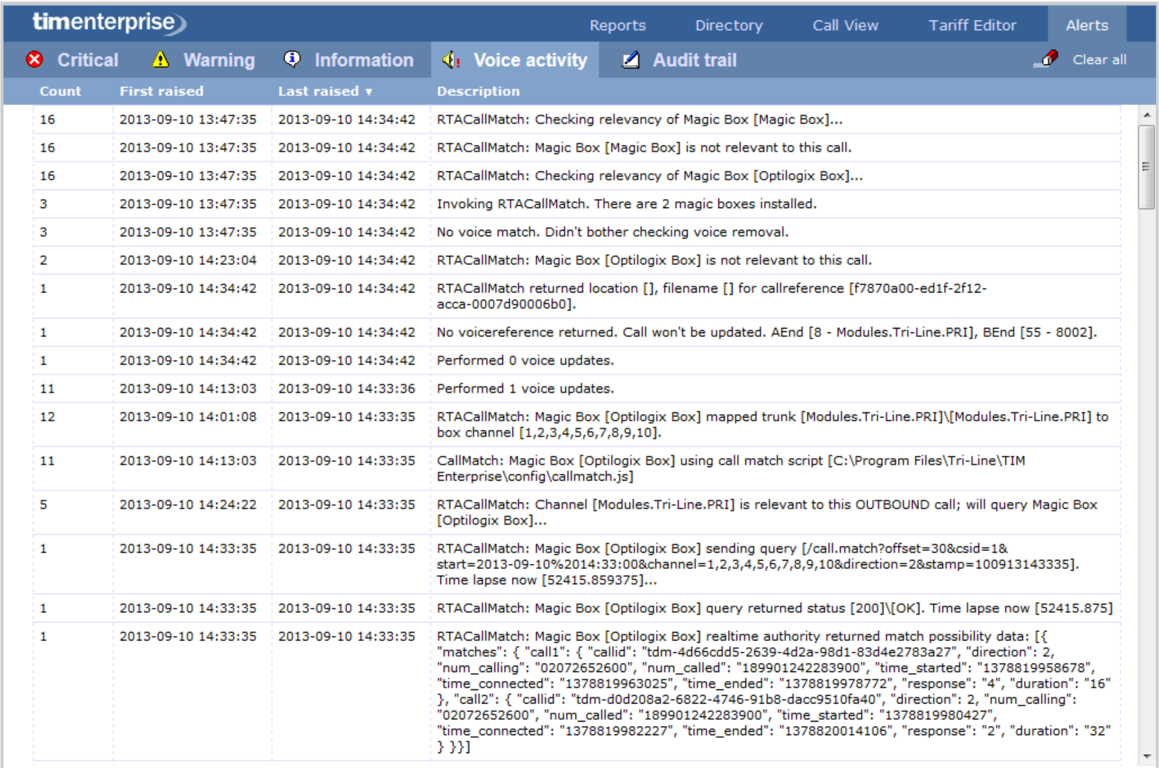
A new window will open, where you can update the current rates. To apply any changes, click on the OK button, as shown below:



Alerts

The **Alerts** section notifies you when particular events occur on the system. The table below describes the type of alerts emitted from TIM Enterprise:

Alert	Description
Critical	Notifies you of any events that are detrimental to the system, e.g. database failure
Warning	Notifies you of any non-critical events that have occurred on the system, e.g. you have exceeded your license limit
Information	Notifies you of any general events that have occurred on the system, e.g. if the application service has been restarted
Voice activity	Provides details about the progress of call recording operations
Audit trail	Provides very detailed information about ongoing system events, primarily used for fault-finding



Count	First raised	Last raised ▾	Description
16	2013-09-10 13:47:35	2013-09-10 14:34:42	RTACallMatch: Checking relevancy of Magic Box [Magic Box]...
16	2013-09-10 13:47:35	2013-09-10 14:34:42	RTACallMatch: Magic Box [Magic Box] is not relevant to this call.
16	2013-09-10 13:47:35	2013-09-10 14:34:42	RTACallMatch: Checking relevancy of Magic Box [Optilogix Box]...
3	2013-09-10 13:47:35	2013-09-10 14:34:42	Invoking RTACallMatch. There are 2 magic boxes installed.
3	2013-09-10 13:47:35	2013-09-10 14:34:42	No voice match. Didn't bother checking voice removal.
2	2013-09-10 14:23:04	2013-09-10 14:34:42	RTACallMatch: Magic Box [Optilogix Box] is not relevant to this call.
1	2013-09-10 14:34:42	2013-09-10 14:34:42	RTACallMatch returned location [], filename [] for callreference [f7870a00-ed1f-2f12-acca-0007d90006b0].
1	2013-09-10 14:34:42	2013-09-10 14:34:42	No voicereference returned. Call won't be updated. AEnd [8 - Modules.Tri-Line.PRI], BEnd [55 - 8002].
1	2013-09-10 14:34:42	2013-09-10 14:34:42	Performed 0 voice updates.
11	2013-09-10 14:13:03	2013-09-10 14:33:36	Performed 1 voice updates.
12	2013-09-10 14:01:08	2013-09-10 14:33:35	RTACallMatch: Magic Box [Optilogix Box] mapped trunk [Modules.Tri-Line.PRI]\[Modules.Tri-Line.PRI] to box channel [1,2,3,4,5,6,7,8,9,10].
11	2013-09-10 14:13:03	2013-09-10 14:33:35	CallMatch: Magic Box [Optilogix Box] using call match script [C:\Program Files\Tri-Line\TIM Enterprise\config\callmatch.js]
5	2013-09-10 14:24:22	2013-09-10 14:33:35	RTACallMatch: Channel [Modules.Tri-Line.PRI] is relevant to this OUTBOUND call; will query Magic Box [Optilogix Box]...
1	2013-09-10 14:33:35	2013-09-10 14:33:35	RTACallMatch: Magic Box [Optilogix Box] sending query [/call.match?offset=30&csid=1&start=2013-09-10%2014:33:00&channel=1,2,3,4,5,6,7,8,9,10&direction=2&stamp=100913143335]. Time lapse now [52415.859375]...
1	2013-09-10 14:33:35	2013-09-10 14:33:35	RTACallMatch: Magic Box [Optilogix Box] query returned status [200]\[OK]. Time lapse now [52415.875]
1	2013-09-10 14:33:35	2013-09-10 14:33:35	RTACallMatch: Magic Box [Optilogix Box] realtime authority returned match possibility data: [{ "matches": { "call1": { "callid": "tdm-4d66cdd5-2639-4d2a-98d1-83d4e2783a27", "direction": 2, "num_calling": "02072652600", "num_called": "189901242283900", "time_started": "1378819958678", "time_connected": "1378819963025", "time_ended": "1378819978772", "response": "4", "duration": "16" }, "call2": { "callid": "tdm-d0d208a2-6822-4746-91b8-dacc9510fa40", "direction": 2, "num_calling": "02072652600", "num_called": "189901242283900", "time_started": "1378819980427", "time_connected": "1378819982227", "time_ended": "1378820014106", "response": "2", "duration": "32" } }}]

Integration

Call audio masking

Overview

TIM Enterprise offers the ability to obfuscate (mask out) one or more sections of the audio of a telephone call with an audible tone, preventing the listener from hearing the original speech.

This is normally required for compliance in certain industries where regulations dictate that certain spoken information be masked out, e.g. the Payment Card Industry - Data Security Standard (PCI-DSS).

Throughout this guide, we'll adopt the **PCI-DSS** example above, where telephone calls that contain spoken credit card information need to be masked out by an audible tone, but only during those parts of the call when the card details are being spoken, leaving intact the rest of the call audio.

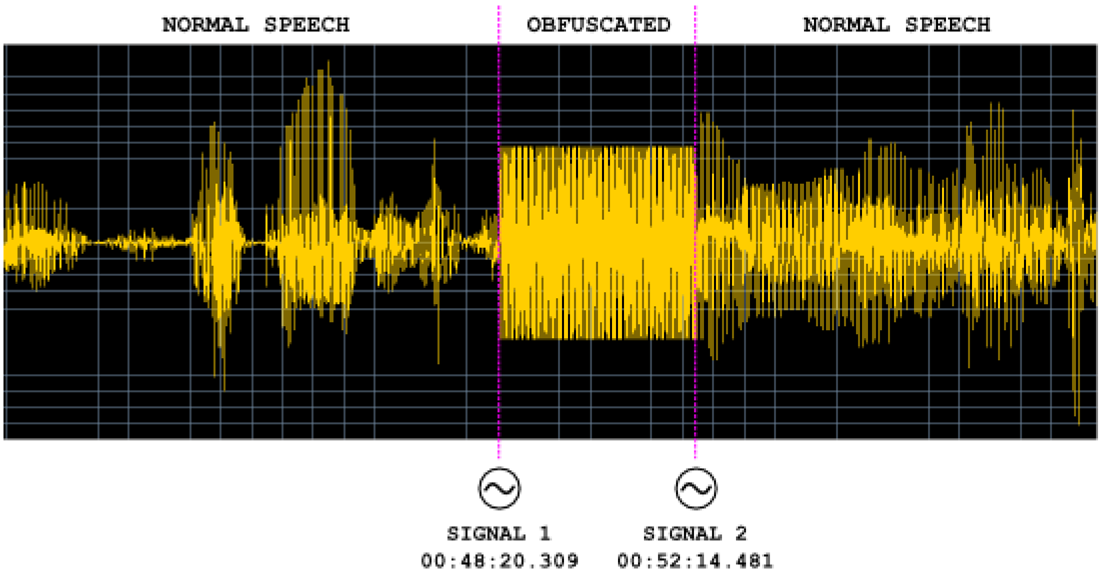
In this scenario, we'll assume that agents (employees that make or receive telephone calls) utilise an in-house or third-party data entry system into which credit card detailed are entered using a computer.

How it works

Because TIM Enterprise (in conjunction with one or more `Magic Boxes`) records the call audio at strategic boundaries in your telecom infrastructure - usually your organisation's telephone lines, rather than each user's telephone handset - some reconciliation is normally required between those boundaries and the actual agent that handled the call.

By default, this reconcilliation occurs automatically by TIM Enterprise, which is how the agent-centric calls that you see in call reports are able to be associated (matched) with each call as seen from the point of view of a telephone line, which delivers calls to many agents.

During obfuscation, it is necessary that a user or device sends at least two signals to TIM Enterprise. Together, these two signals allow TIM Enterprise to mask out the audio between the two points in time that each signal was received.



At the point in time during an agent's call when obfuscation is necessary, e.g. *"Can I have your CVV number please?"* is spoken by the agent, a signal is sent by the agent to TIM Enterprise, which records the event along with the exact time it was sent.

Similarly, when the sensitive part of the call has completed, a further signal is sent by the agent to TIM Enterprise, which records that event too.

A single telephone call can contain more than one obfuscation; the number of signals required is always exactly twice the amount of obfuscations in a call.

Assumptions

This guide assumes the following statements are true:

- You have a licensed copy of TIM Enterprise that includes voice recording
- Your installation is at least version 3.0.0.55
- You have one or more `Magic Boxes` installed, each with their governing `RTA Service`

Common solutions

Taking the example of masking out some digits of a phone call when a credit card number is being quoted, most solution providers modify the data entry system that an agent uses.

Implementation

HTTP request

To send a start or stop signal, a simple `HTTP GET` request must be sent to the TIM Enterprise web server.

Every request to the web server requires authentication, so ensure that the relevant HTTP authentication headers are sent with your request and that the username and password combination match an existing web user object in the Directory.

The response status code will indicate success or failure.

Request format

The request should be a `GET` request and take the following URL- encoded parameters, as per the following example:

```
http://192.168.0.1/signal.js?cmd=set&cat=4&type=1&objtype....
```

Valid parameters are described in the table below:

Parameter	Description
`cat`	Signal category. For audio masking, this value is always `0x04`
`type`	The type of signal. Valid values for `0x04-category`signals are: ▪ `0x01 Mute On` ▪ `0x02 Mute Off`
`objtype`	The type of object that this signal relates to. This can be one of two values: ▪ `user` (a user object) ▪ `channel` (a channel object)
`objid`	The unique ID of the object type as specified by the `objtype`parameter (above). This is used to locate the object in the Directory The region of the Directory to search in is specified by the `key` parameter (below) and governed by the access implied by the placement of the web user whose credentials are used to effect the web request
`key`	Specifies the key relating to a container object in the directory (or blank, implying the whole directory) whereby a search on the object specified by `objtype` and `objid` is performed below

Return values are specified as `HTTP` response status code. Although the body of some responses may contain informational text, you should not rely on this text to make any decisions as to whether the request was successful or not.

Valid status codes are as follows:

Parameter	Description
`200`	The signal was received and stored successfully
`400`	The request was not acceptable for one of the following reasons: ▪ An invalid `type` parameter was specified. The `type` parameter is specific to the category specified by the `cat` parameter. Further, the `type` value (e.g. 0x01) can be used in multiple categories ▪ The `objid` was missing. Specify the ID of the object you want the signal to relate to ▪ The `cat` and `type` parameters - category and signal type, respectively - must be specified and cannot be zero ▪ The version of TIM Enterprise you are running does not understand the `signal.js` script
`404`	The object specified by the combination of the `objtype` and `objid` parameters - and optionally the `key` parameter - could not be found
`500`	`Internal Server Error` prevented the signal from being stored successfully. This may be due to a badly-configured database, or the lack of a `signals` table in the TIM Enterprise database

Programmatic Audio Retrieval

Overview

Normally, to retrieve call audio recordings from TIM Enterprise, an authenticated web user must log in to the web interface, navigate to the desired call using the `Call View` screen or by running a report, click on the call, then play it using the built-in web-based call player.

It is also possible to programmatically retrieve call recordings using a two-step authenticated request process. This works in the following way:

- Obtain the **datasource**, **voicelocation** and **voicefilename** values from the **calls** table in the TIM Enterprise database for the call you want to retrieve.
- Request a security token from TIM Enterprise, by authenticating using an authorised web user's login credentials
- Request the call from the **RTA Service**, using the security token obtained above
- Receive the call audio in WAV format, forcibly obfuscated if any such events apply to the requested call

Below is an example code showing how to retrieve a voice recording from TIM Enterprise.

C# Example Source

This is a very simple example of some **C#** code to request a call's voice recording from TIM Enterprise. A more complex example would describe passing parameters in the class's constructor, for instance, but this should demonstrate the logic behind the procedure.

Use the following code to request a security token from TIM Enterprise, plugging in the appropriate values for **_datasource**, **_voicefilename**, and **_voicelocation** for the call you want to retrieve. These values are obtained directly from the calls database table.

A security token in this context is a URL which is used to obtain the actual voice recording from the **RTA Service**.

Simple call retrieval example

```
using System;
using System.Net;
using System.Text;

private class GetAudioFile
{
    string dataSource = "\\3\\";
    string voiceFilename =
"NCS00000000EA39883596CC41E799B4630006CF2D56";
    string voiceLocation = "4";
    string rtaUrl = "";
    using (WebClient client = new WebClient())
    {
        client.Headers["User-Agent"] = "3rd-Party-Agent";
        client.Credentials = new NetworkCredential("username",
"password");

        byte[] responseBody =
client.DownloadData("http://enterprise.example.com/voice.wav?cmd=getvmsg
&datasource=" + System.Uri.EscapeDataString(dataSource) +
                              "recordingid=" +
System.Uri.EscapeDataString(voiceFilename) +
                              "voicelocation=" +
System.Uri.EscapeDataString(voiceLocation) +
                              "salt=" + System.DateTime.Now.Ticks);

        rtaUrl = Encoding.UTF8.GetString(responseBody);
    }

 if (!string.IsNullOrEmpty(rtaUrl))
 {
  // Use another WebClient object to query the URL provided in "rtaUrl"
to retrieve the actual call recording...
 }
}
```

Assuming the request was successful (and the response status was a `200 OK`), the variable `rtaUrl` will now contain a full URL which you must request in a similar way, using another `System.Net.WebClient` object.

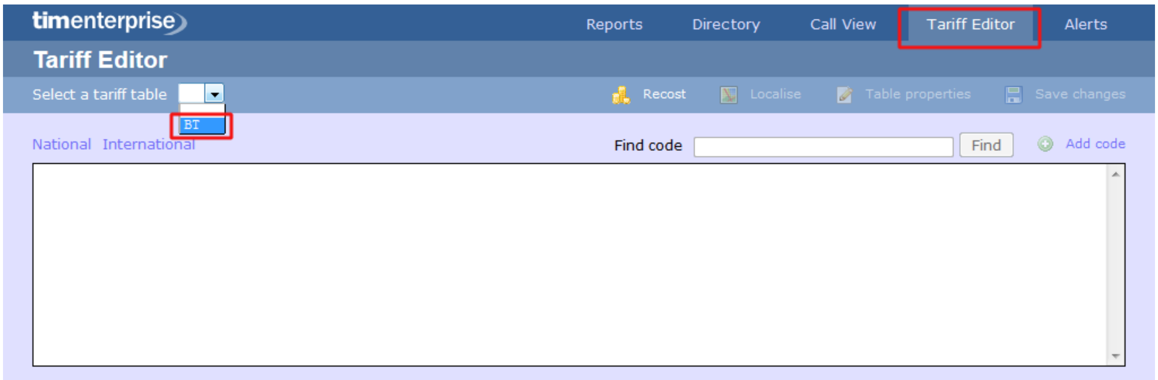
The security token URL is valid for one minute (60 seconds).

Knowledgebase

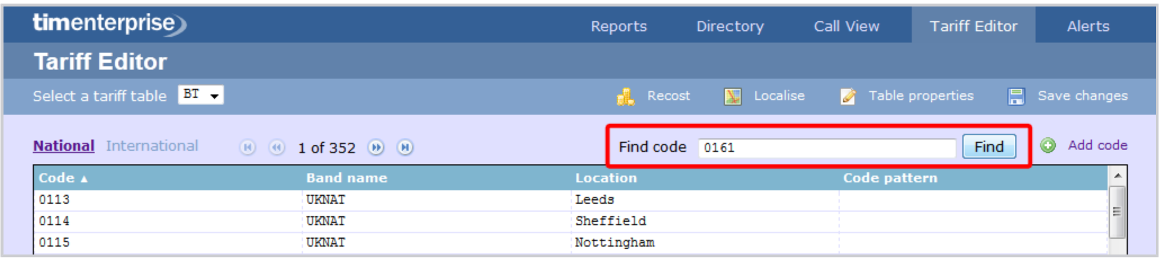
Amending call charges

To modify call charges for a specific dial code or destination, follow the steps below:

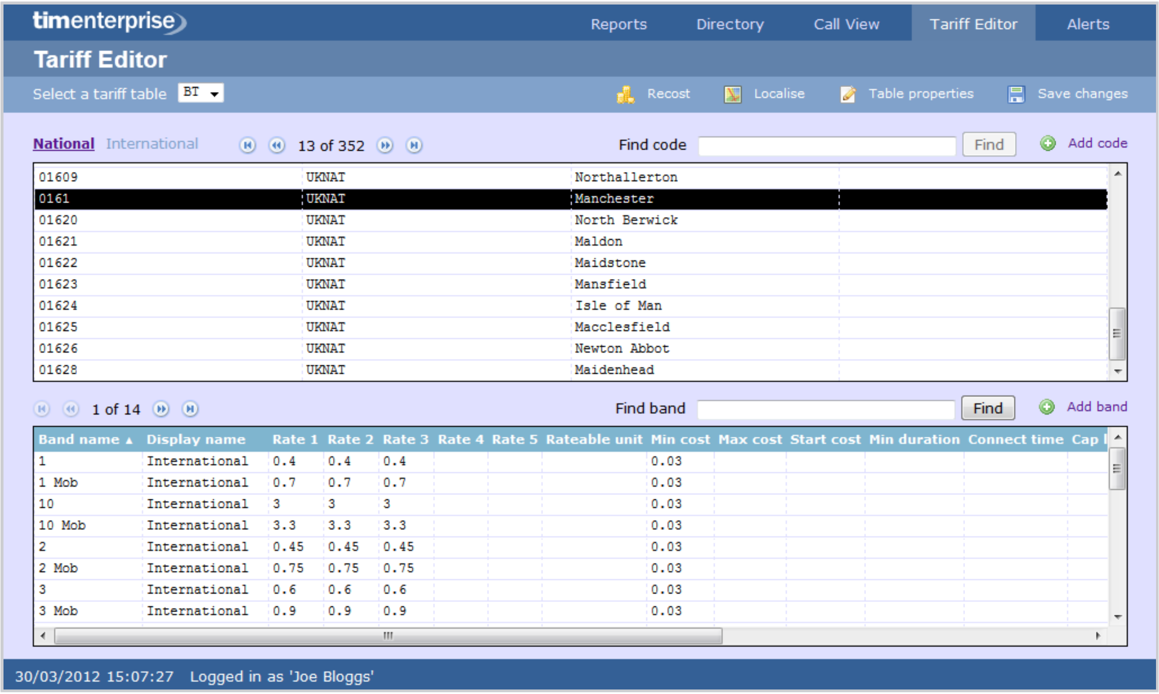
1. Log in to TIM Enterprise, click on the Tariff editor tab and select the tariff you want to amend from the drop-down list, as shown below:



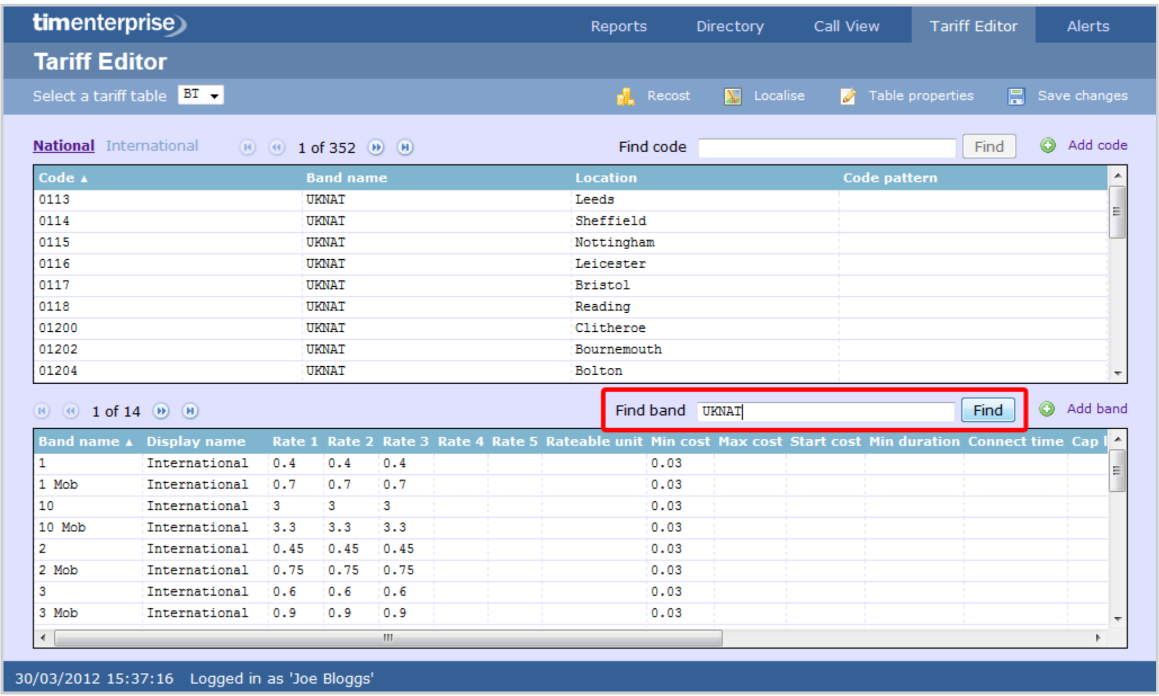
2. Locate the dial code for which you want to amend the charges, by entering the code in the search box provided.



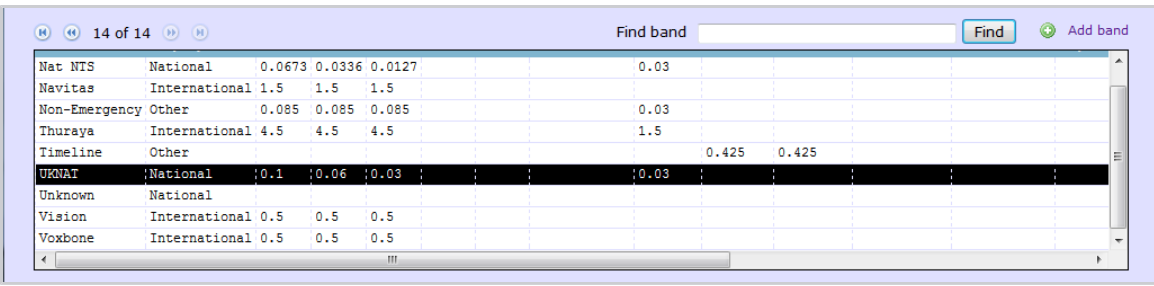
3. The matching dial code will be highlighted in the list, showing its associated charge band and destination name.



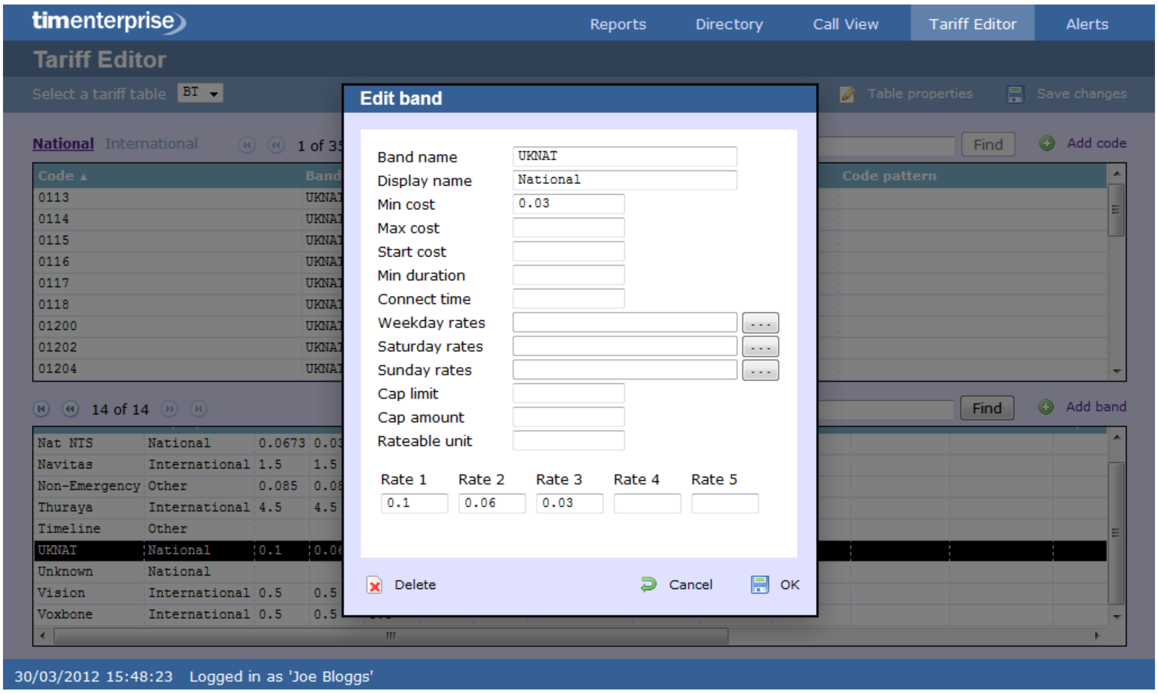
4. Enter the name of the charge band in the `Find band` search box, as shown below:



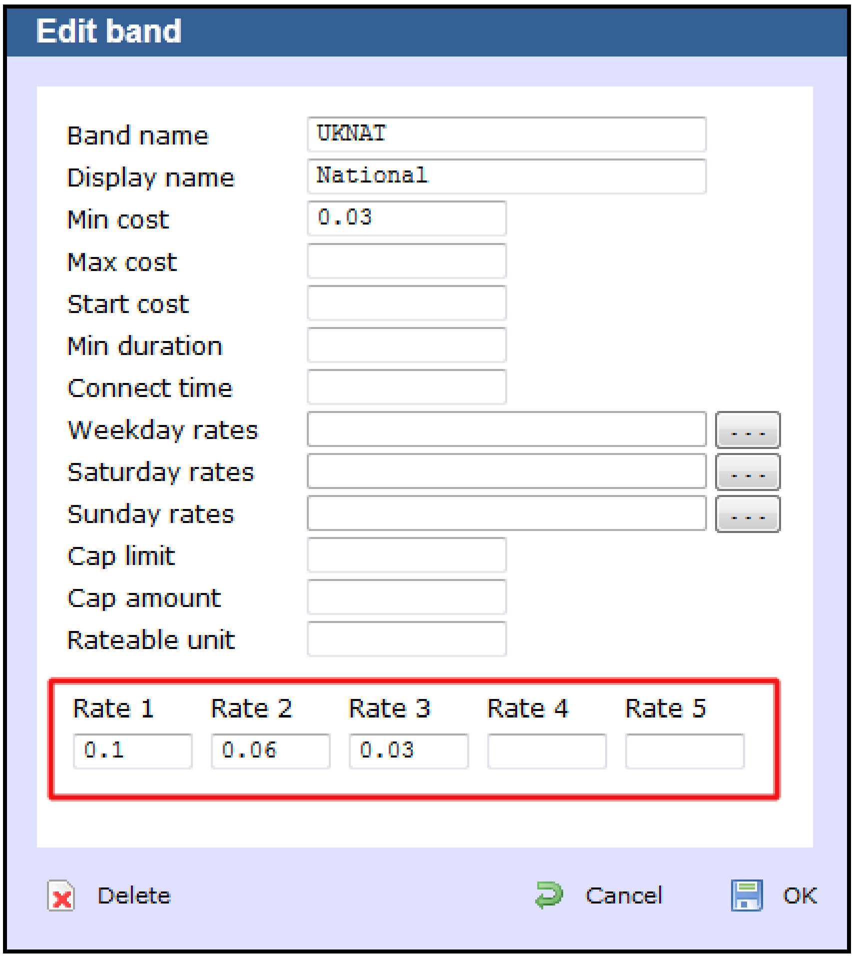
5. The matching band will show highlighted in the list, as shown below:



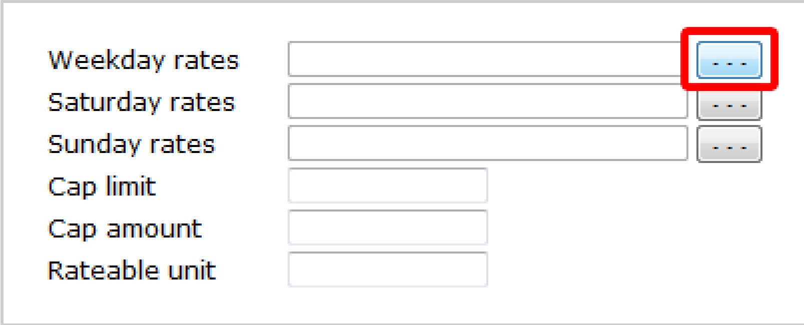
6. To configure the properties of the selected band, click on it to open the `Edit band` window.



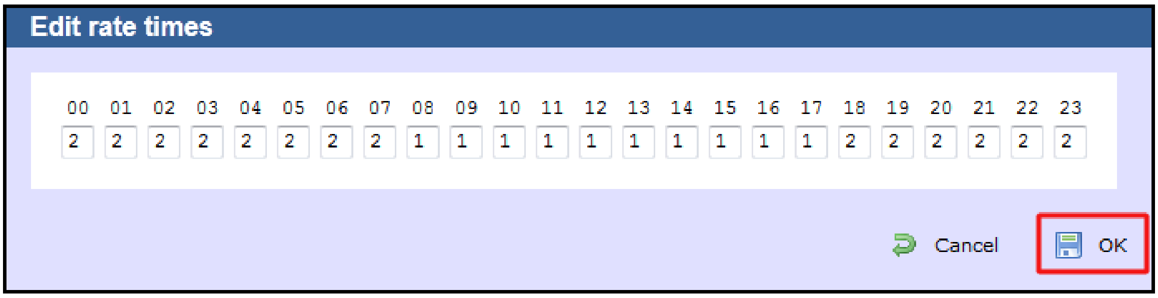
7. To change the existing charges for any of the rates, e.g. **`Rate 1`**, **`Rate 2`**, etc, enter the preferred values in the field provided.



8. To see how each rate is applied, click on the ... button.



9. A new window will open, where you can edit the rate times. To apply any changes, click on the OK button.



Automatic web login

Background

All of the web pages and scripts that TIM Enterprise serves are protected by a login that is provided by a user when entering their username and password into a pop-up dialog presented by the web browser.

In some situations, it is desirable to suppress this dialog box demanding the username and password. An example might be the deployment of a stand-alone computer displaying a pre-defined wallboard on a large screen - it would become tedious having to log in to the web page every time that computer is restarted.

Different web browsers behave differently when asked to automatically log in to web sites. Variously, they range from complete prohibition of the practice to permitting it only if certain system parameters are configured.

Specifics

In this article, details of how to allow automatic logging-in to a web page concerns the Microsoft Internet Explorer (version 6 and above) browsers only. Please consult your browser documentation for a solution related to your own choice of browser.

The solution involves creating a specially-crafted URL in the following form:

```
http://username:password@serverhost/
```

Solution

Although including the username and password in a URL is disabled by default on Windows Internet Explorer, since it is considered a security risk, you can override this restriction by making the following changes to the Windows Registry.

> Since you'll be exposing a username and password as part of a URL, it is recommended that you create a dedicated `Web User` object inside the TIM Enterprise directory that will be used solely for this purpose. Refer to the Web user page for details of how to set up a web user.

Open Windows Registry Editor, **REGEDIT.EXE**, from the Windows **Start Menu** and locate the following registry key:

- for a **32-bit** system:

```
HKEY_LOCAL_MACHINE\Software\Microsoft\Internet
Explorer\Main\FeatureControl\FEATURE_HTTP_USERNAME_PASSWORD_DISABLE
```

- for a **64-bit** system:

```
HKEY_LOCAL_MACHINE\Software\Wow6432Node\Microsoft\Internet
Explorer\Main\FeatureControl\FEATURE_HTTP_USERNAME_PASSWORD_DISABLE
```

Inside this registry key, add the following **DWORD** entries:

```
IEXPLORE.EXE  (Set DWORD value to 0, zero)
EXPLORER.EXE  (Set DWORD value to 0, zero)
```

Close the Registry Editor and create a bookmark in Internet Explorer, specifying the URL as per the following example:

```
http://USERNAME:PASSWORD@HOSTNAME/display/?suiv=12345
```

Replace the following entries:

- **USERNAME** replace with the username of the web user you use to access the page
- **PASSWORD** replace with the password of the web user you use to access the page
- **HOSTNAME** replace with the host name or IP address of the machine running TIM Enterprise

References

This information is available in more detail at the Microsoft Support site:

http://support.microsoft.com/kb/834489

Blacklisted users

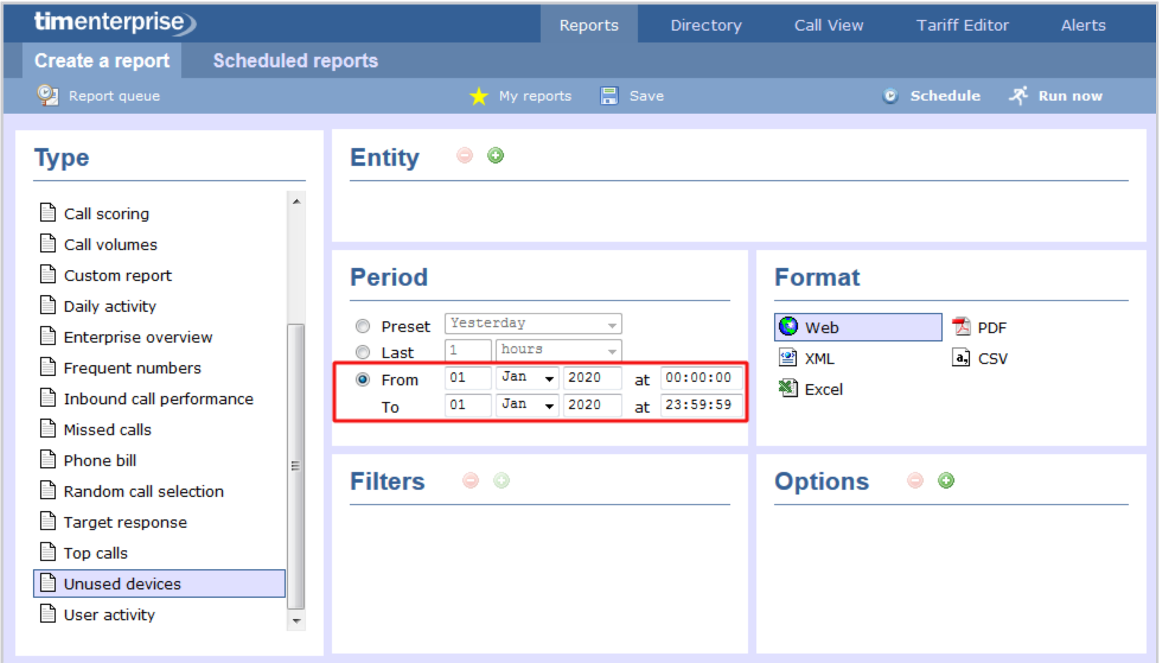
Blacklisted users

- What are blacklisted users?
- Setting users to not log calls
- Merging a DDI with its extension

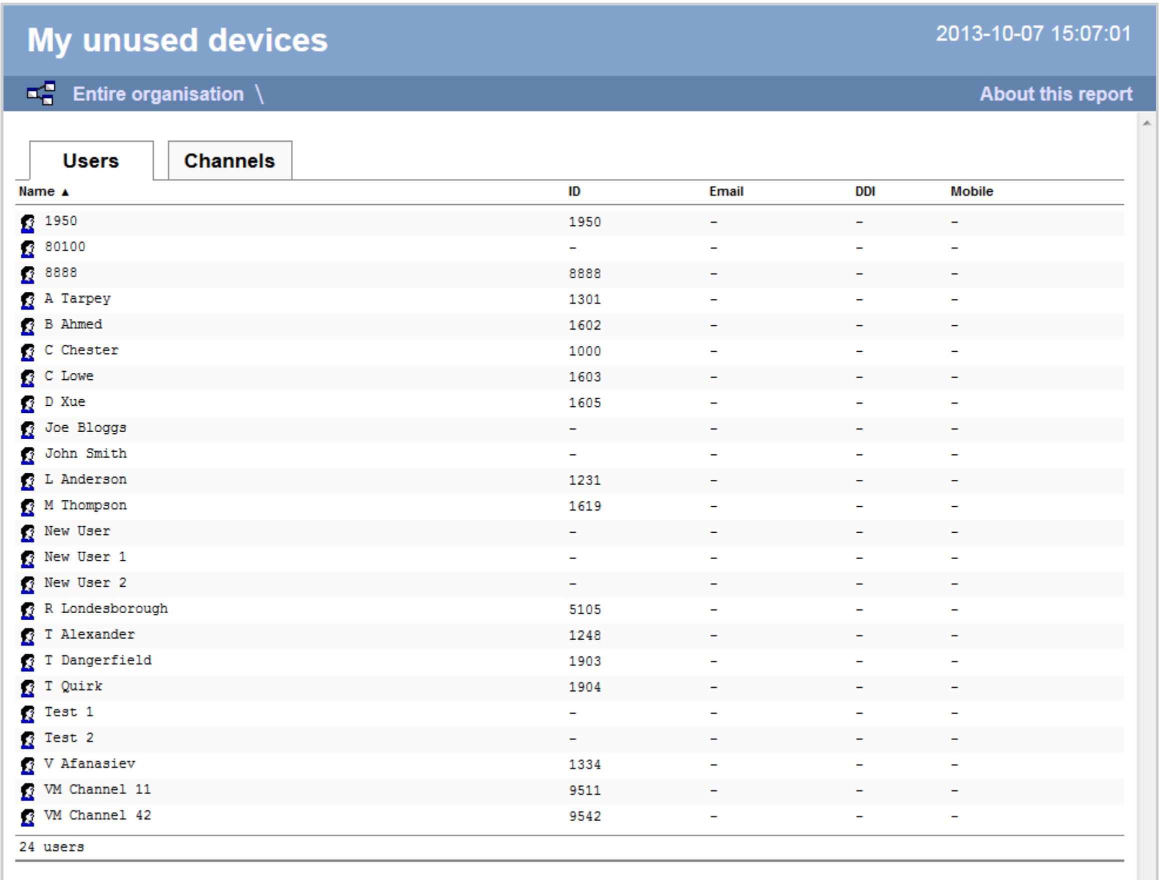
What are blacklisted users?

Blacklisted users are created in the system when your software license is insufficient for the number of users picked up in the Directory. The users will be blacklisted at random and they will not be logging calls.

To identify the total number of users currently logged in the system, you can run a **Unused devices** report for a period of time when no calls were made or received. The best option is to select a date in the future, e.g. `01-01-2020`.



The report will display the total number of users picked up in the system.



Name ▲	ID	Email	DDI	Mobile
1950	1950	-	-	-
80100	-	-	-	-
8888	8888	-	-	-
A Tarpey	1301	-	-	-
B Ahmed	1602	-	-	-
C Chester	1000	-	-	-
C Lowe	1603	-	-	-
D Xue	1605	-	-	-
Joe Bloggs	-	-	-	-
John Smith	-	-	-	-
L Anderson	1231	-	-	-
M Thompson	1619	-	-	-
New User	-	-	-	-
New User 1	-	-	-	-
New User 2	-	-	-	-
R Londesborough	5105	-	-	-
T Alexander	1248	-	-	-
T Dangerfield	1903	-	-	-
T Quirk	1904	-	-	-
Test 1	-	-	-	-
Test 2	-	-	-	-
V Afanasiev	1334	-	-	-
VM Channel 11	9511	-	-	-
VM Channel 42	9542	-	-	-

24 users

If the total number of users exceeds your license count, you can contact our Sales team to purchase more licenses for your users, alternatively you can check if any of the following applies:

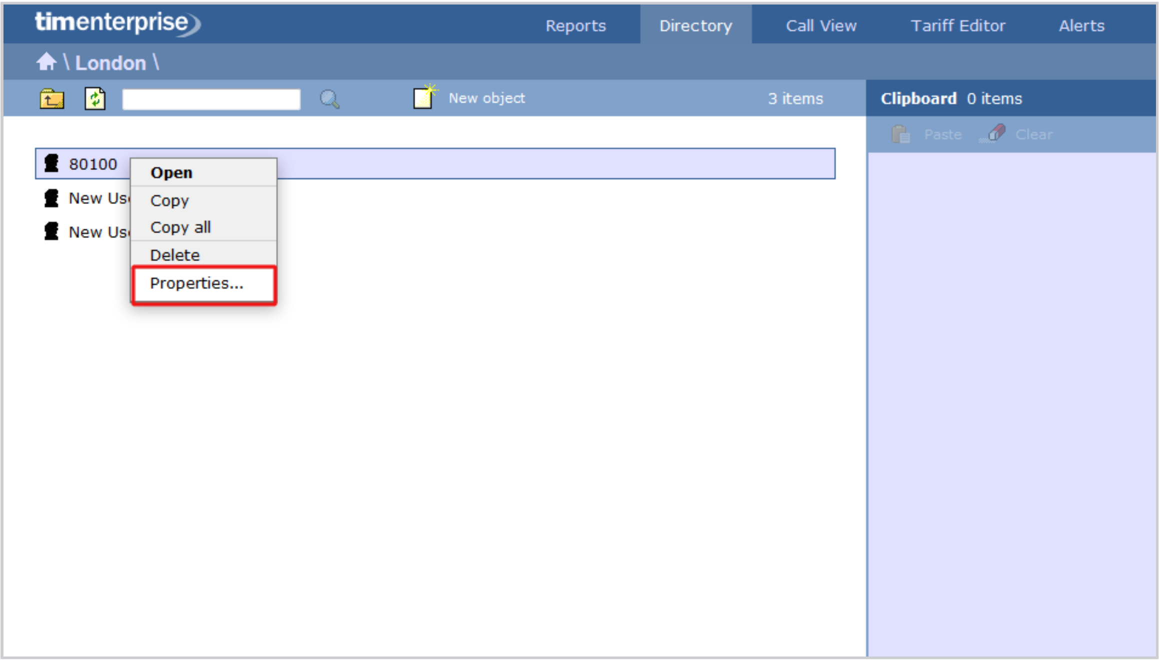
- DDI numbers are picked up as extensions, in which case you can merge the DDIs with their extension number or set them to not log calls

- you have old extensions that you don't wish to monitor, in which case you can set them to not log calls

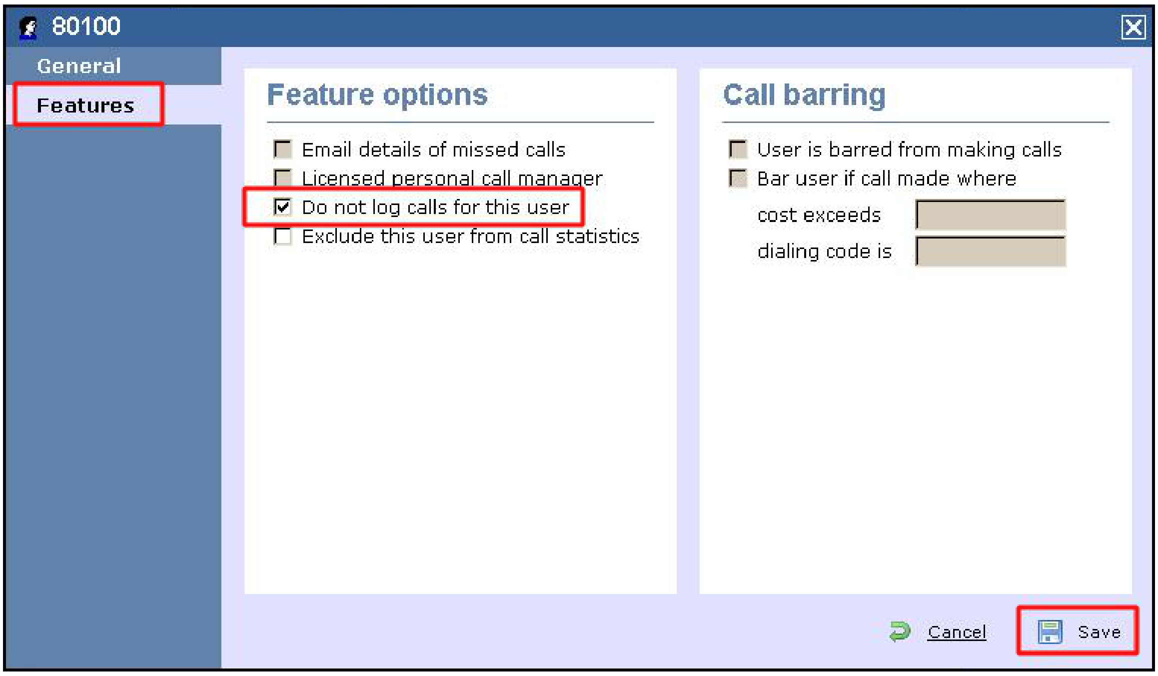
Setting users to not log calls

Follow the steps below to set a user to not log calls:

1. Locate the extension you want to set to `Do not log` in the Directory, click on it and select `Properties`.



2. Click on the Features tab and tick the box `Do not log calls for this user`, as shown below:

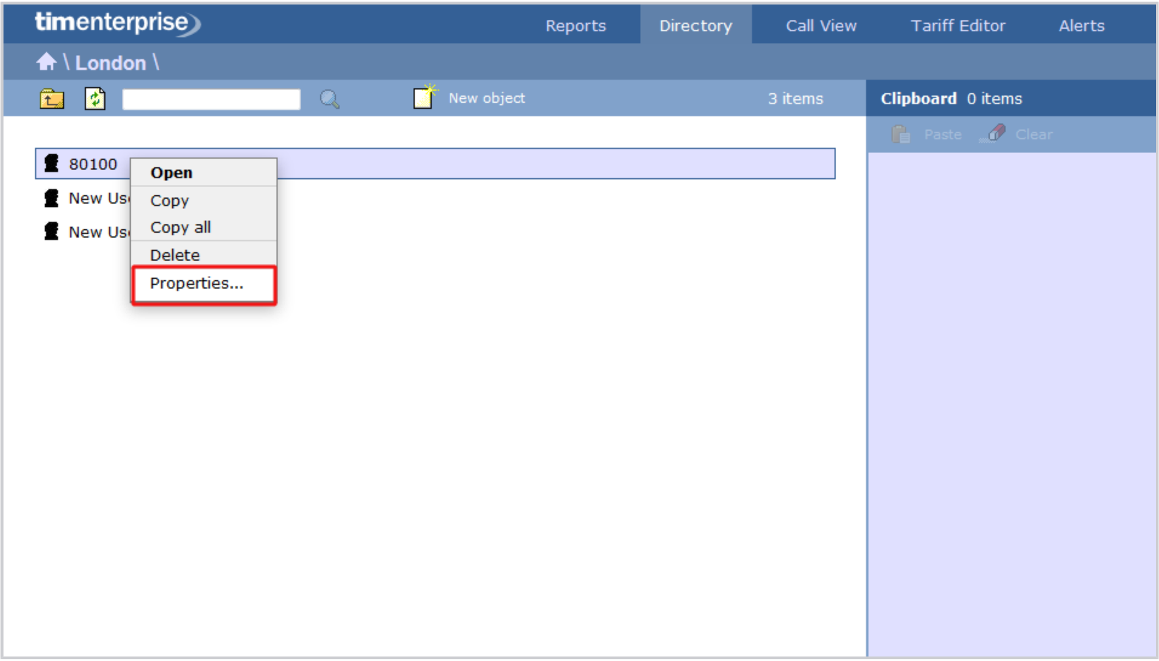


For the changes to take effect, you need to restart the TIM Enterprise service.

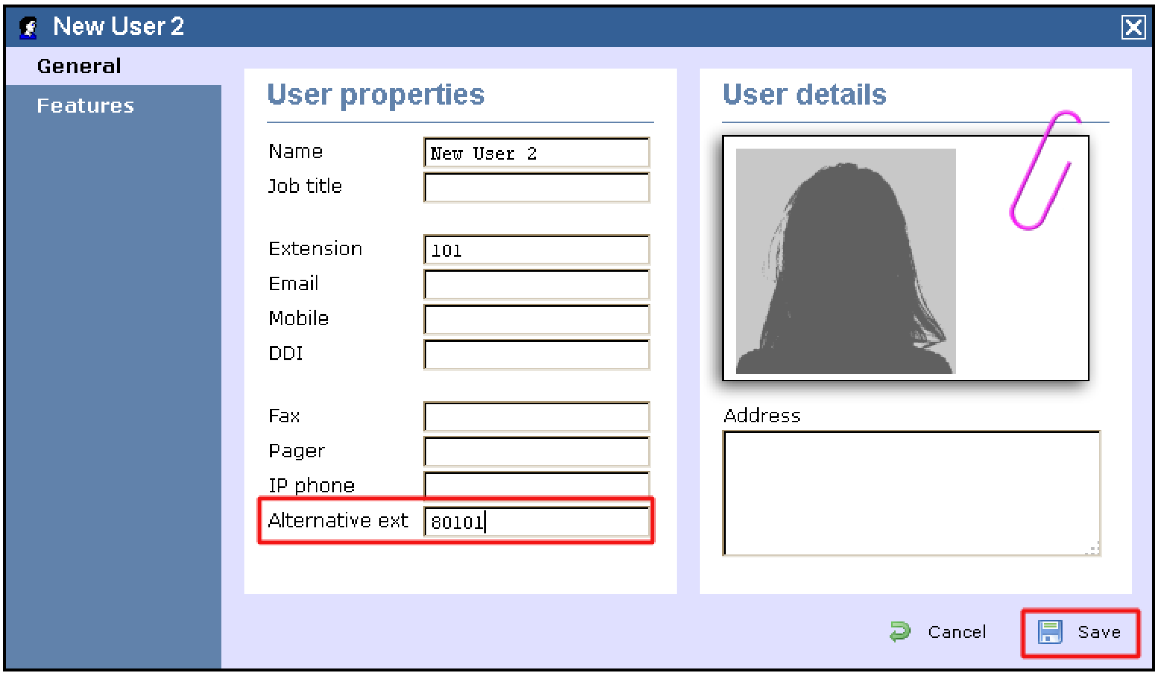
Merging a DDI with its extension

Follow the steps below merge a DDI with its extension in TIM Enterprise:

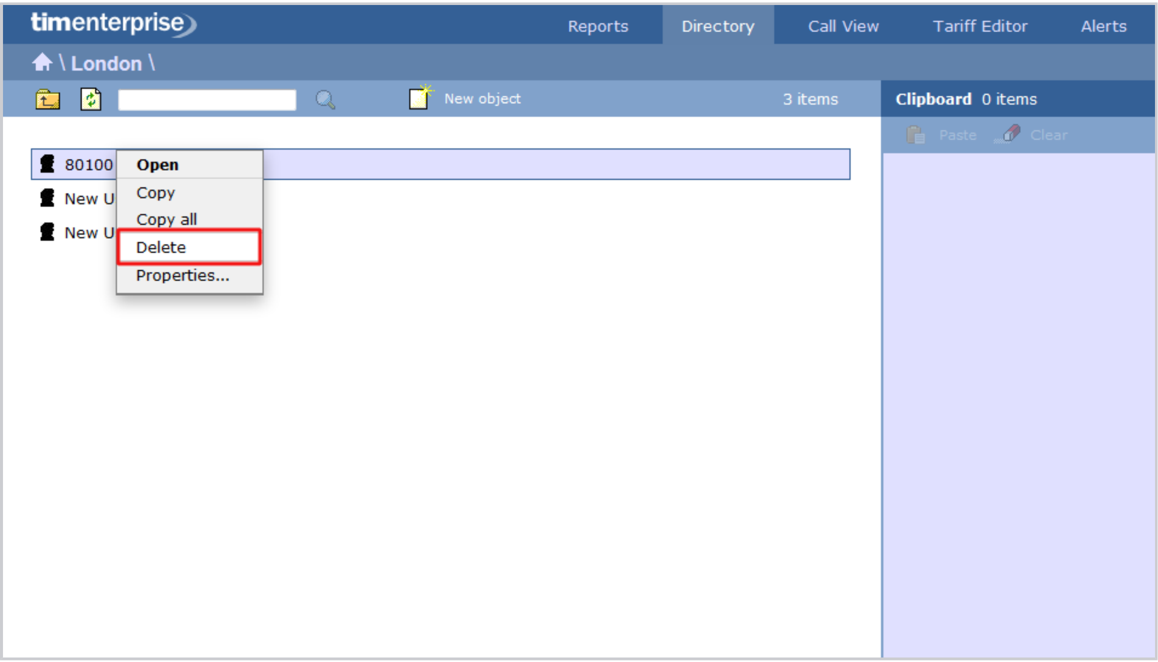
1. Locate in the Directory the extension number whose DDI you want to merge, click on it and select `Properties`.



2. A new window will open, displaying the general properties of the selected object. In the `Alternative ext` field, enter its DDI number and click on the Save button, as shown below:



3. Locate the user object created for the DDI number in the Directory, click on it and select `Delete` to remove the object from the Directory, as shown below:



For the changes to take effect, you need to restart the TIM Enterprise service.

Cisco specific

CDRs were being sent but have now stopped

If you stopped receiving data from your Cisco UCM, you need to restart the CDR services on the Publisher node.

DO NOT delete the `Call Accounting` and `Billing` server, as this will remove any CDRs that have not been sent.

To restart the CDR services, login to the `Cisco Unified Serviceability` screen and select **`Tools -> Control Center -> Network Services`** from the main menu. Locate the `CDR services` section in the list and restart the following services in the order specified below;

1. **`Cisco Database Layer Monitor`** (Depending on Cisco UCM version, you may not have this service)
2. **`Cisco CDR Repository Manager`**
3. **`Cisco CDR Agent`**
4. **`Cisco CAR Scheduler`** (if sending CMRs)

	Service Name	Status	Start Time	Up Time
○	Cisco Change Credential Application	Running	Wed Apr 3 14:30:07 2013	42 days 06:13:15
CDR Services				
○	Cisco CDR Repository Manager	Running	Wed May 15 19:42:05 2013	0 days 00:01:17
○	Cisco CDR Agent	Running	Wed May 15 19:42:49 2013	0 days 00:00:33
○	Cisco CAR Scheduler	Starting		
◉	Cisco SOAP - CallRecord Service	Running	Wed Apr 3 14:26:51 2013	42 days 06:16:31
○	Cisco CAR DB	Running	Thu Oct 11 03:32:17 2012	216 days 17:11:05
Security Services				
	Service Name	**Status**	**Start Time**	**Up Time**
○	Cisco Trust Verification Service	Running	Thu Oct 11 03:31:35 2012	216 days 17:11:47

CDRs should now be sent to the configured `Call Accounting and Billing` server, e.g. the machine running TIM Enterprise.

Importing historic data from Cisco UCM

Exporting CDR/CMR records

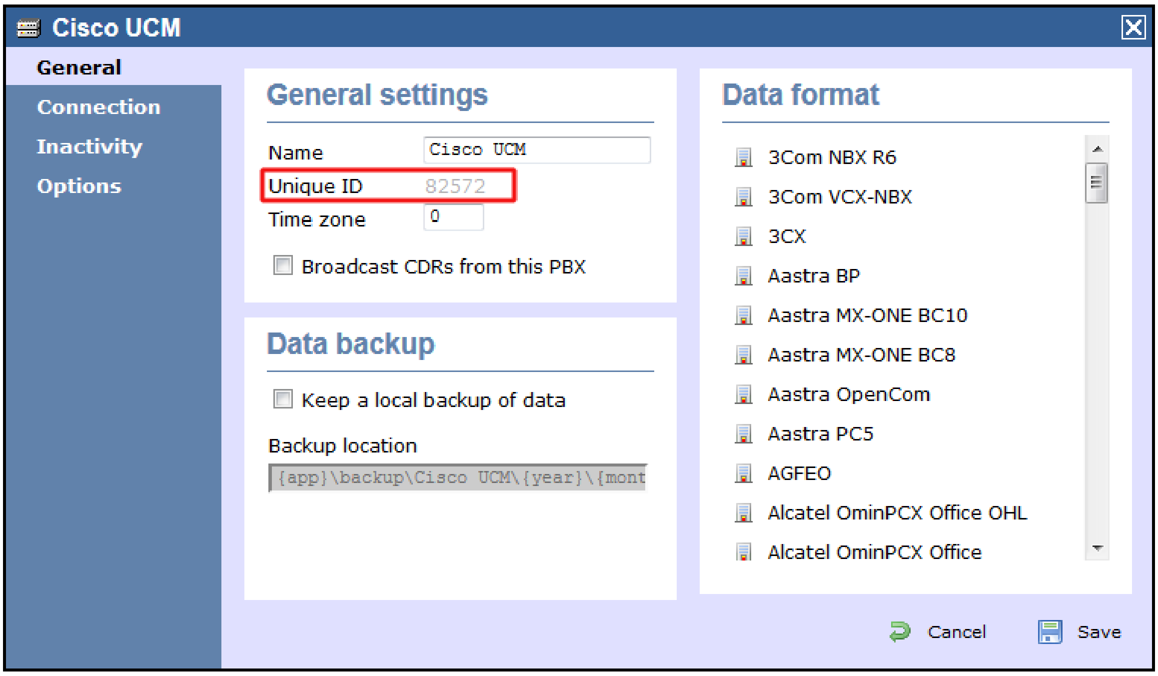
The following procedure describes how to export CDR/CMR into a dump file. This information was taken from Export CDR/CMR Records Configuration section of Cisco's documentation.

1. Go to the `CDR Analysis and Reporting` section and select **`CDR -> Export CDR/CMR`** option.The Export CDR/CMR records window will display.
2. In the `From` and `To` date drop-down list boxes, choose a date range for the CDR/CMR **`dump.TXT`** file.
3. In `Select` records, check the `CDR` and/or `CMR` check box.
4. Click Export to File .

Re-running the data

To re-run the CDRs in TIM Enterprise, you need to rename the dump file extension from **`.TXT`** to the unique identifier of your PBX object in TIM Enterprise. To obtain the ID of your PBX, follow the steps below:

1. Log in to TIM Enterprise and locate the PBX object that collects the data from your UCM.
2. Click on the PBX object and select `Properties` from the drop-down list.
3. A new window will open, displaying the general properties of your PBX. The site ID is displayed in the `Unique ID` field, as shown below:



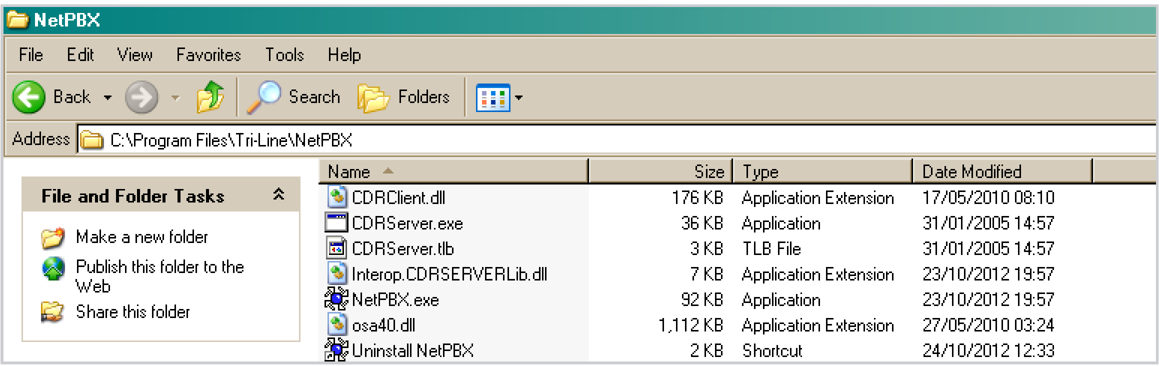
After renaming the file extension, copy it into the following location on the computer running TIM Enterprise: `C:\Program Files\Tri-Line\TIM Enterprise\spool\`.

TIM Enterprise will now process the data and it should be visible on the `Call view` screen.

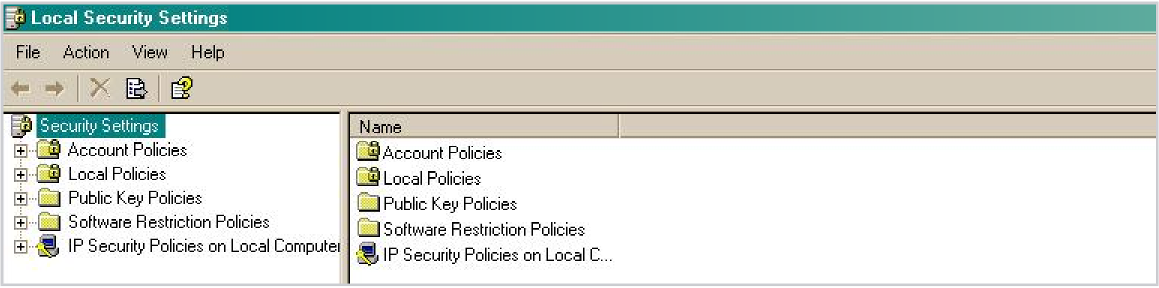
Connect BCM v3.7 or below with NetPBX

Follow the instructions below to connect a BCM v3.7 or below with NetPBX:

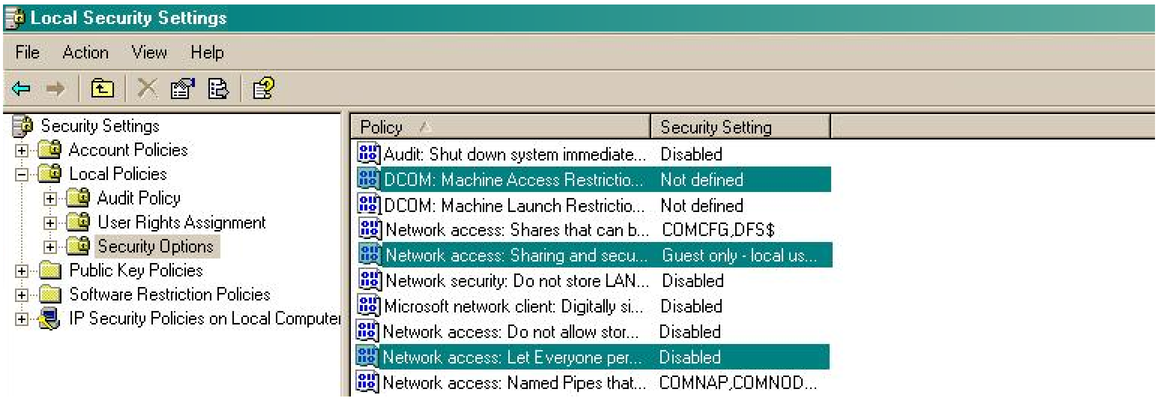
1. Make sure the `CDRServer.EXE` and `Interop.CDRSERVERLib.dll` files are placed in the same folder as `NetPBX.EXE`, usually located in `{pf}\Tri-Line\NetPBX`.



2. Register `CDRServer.EXE` by running the command line with administrator privileges and typing the following command under the directory path of the NetPBX folder: `CDRServer.EXE/regserver`.
3. Open the computer's local security policies: `Start -> Control Panel -> Administrative Tools -> Local Security Policy.`



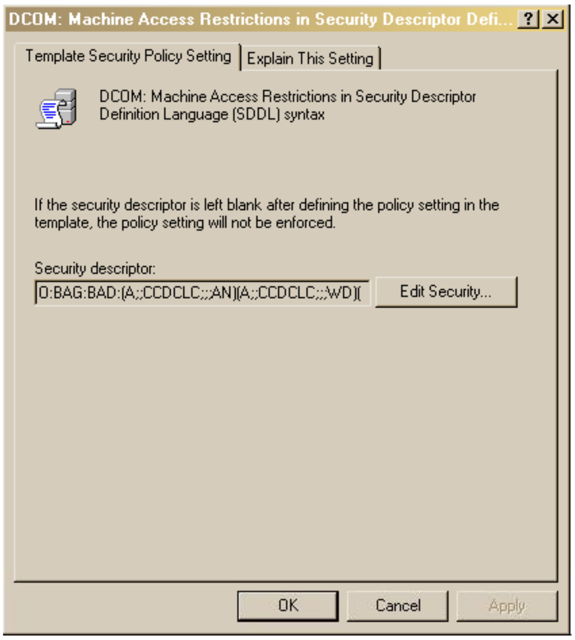
4. Within the `Security Settings\Local Policies\Security Options` tree, change the following items as highlighted in the screenshot below:

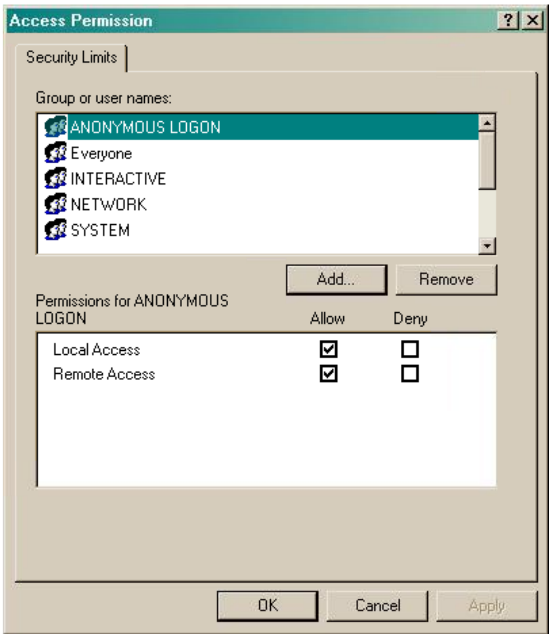


a. `Network Access: Let Everyone permissions apply to anonymous users`. Set this to **`Enabled`**.

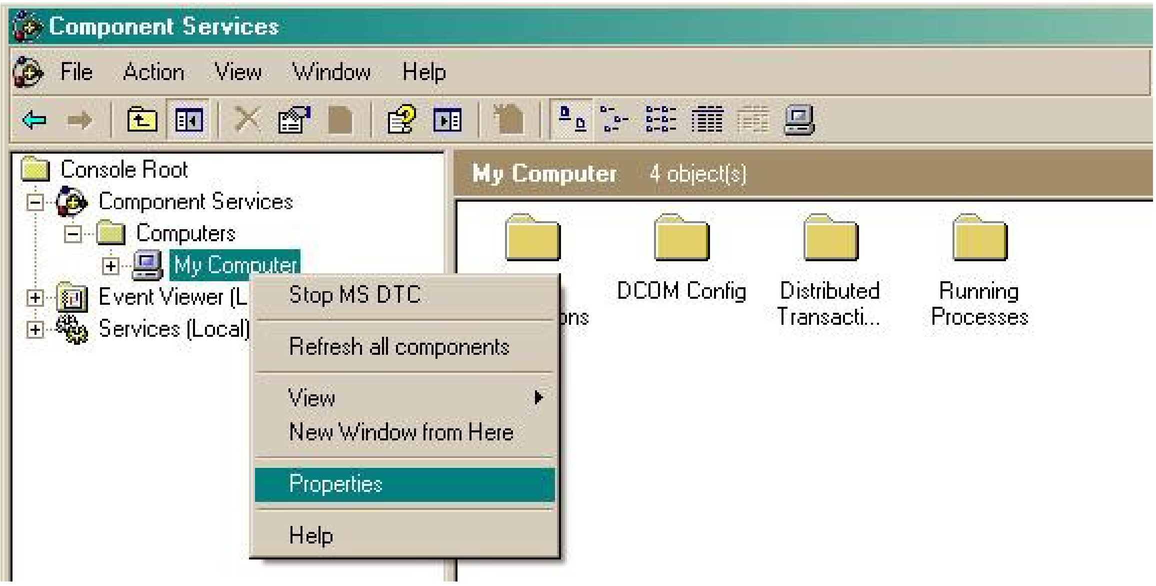
b. `Network Access: Sharing security model for local accounts`. Set this to **`Classic`**.

c. `DCOM: Machine Access Restrictions`: Click on Edit Security and add the following user accounts: `Anonymous, Everyone, Interactive, Network, System`. Set each one to have full access rights.





5. Next step is to modify the way DCOM behaves on the computer by executing the DCOM configuration program: `Start` -> `Run ->` **`DCOMCNFG [enter]`**. Browse the tree to the following location: `Console Root -> Component Services -> Computers -> My Computer`. Righ-click on `My Computer` for Properties and amend or update the following options:

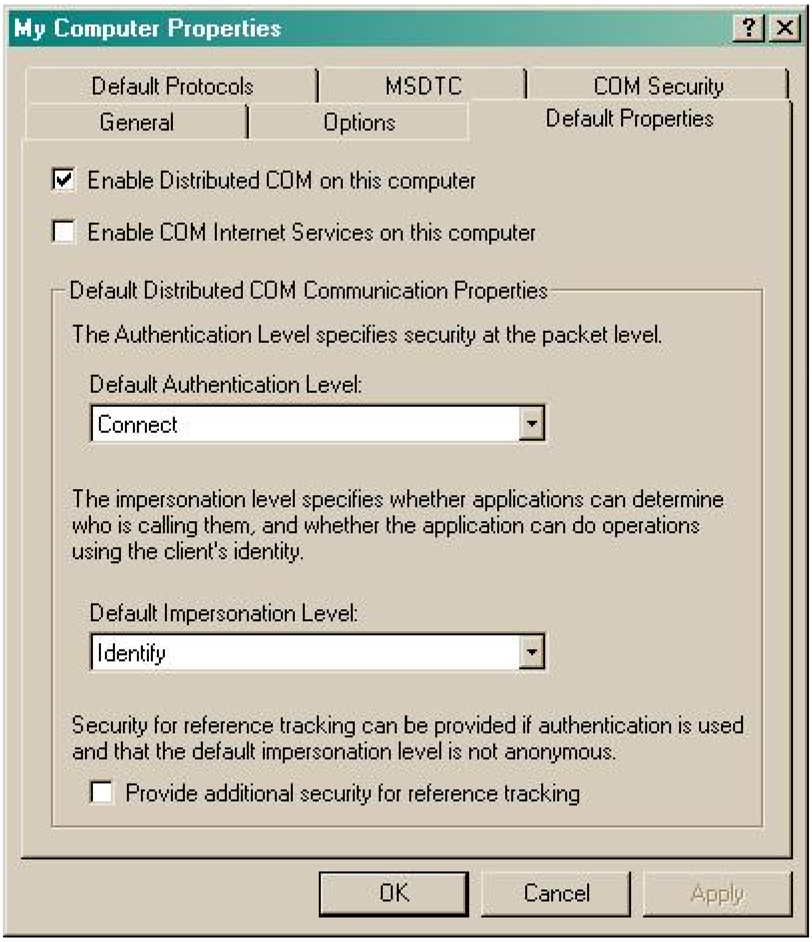


a. On the Default Properties tab:

Enable Distributed COM on this computer: tick the box for his option

Default Authentication Level: set this to **Connect**

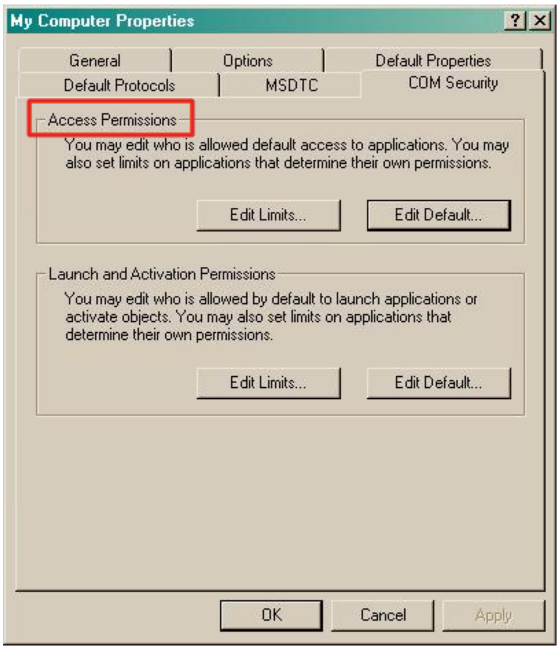
Default Impersonation Level: set this to **Identify**

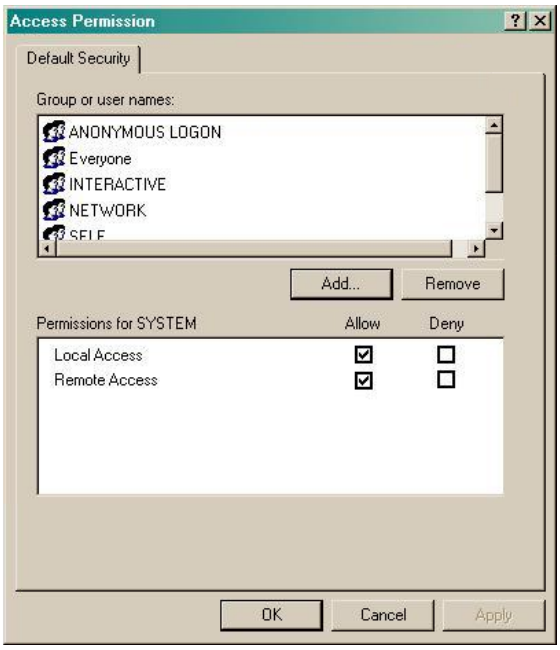


b. On the COM Security tab:

Go to the **Access Permissions** section and select Edit default .

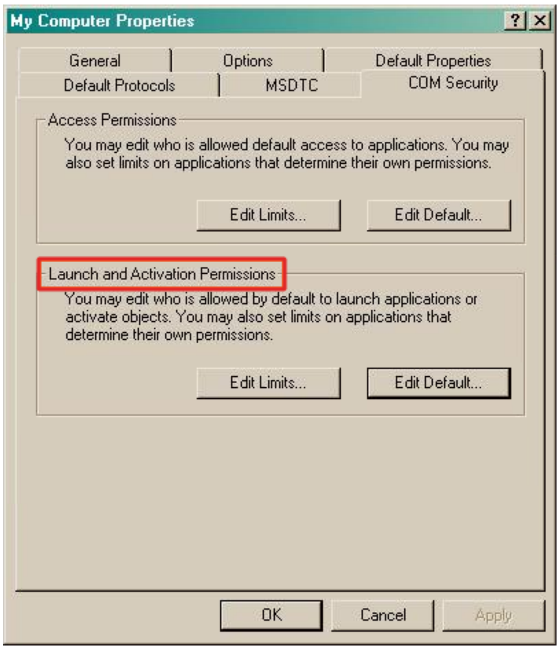
Add the following accounts and set both local and remote access permissions: **Anonymous, Everyone, Interactive,** `Network, Local Service` and `System`.

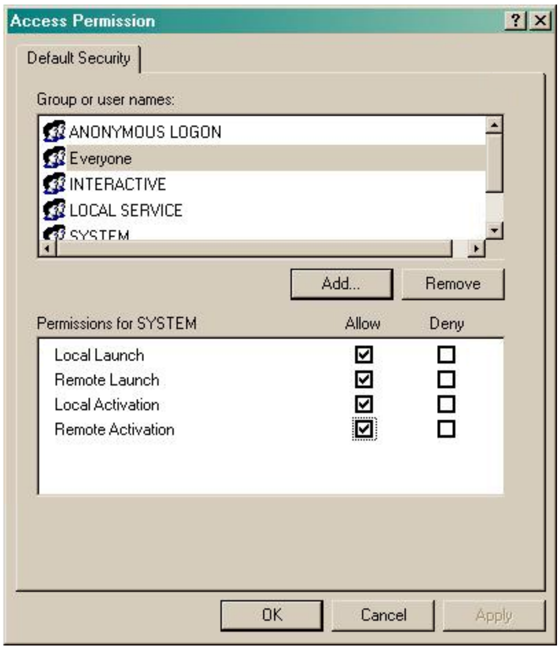




Go to the `Launch and Activation Permissions` section and click on Edit default tab.

Add or update the following accounts to give them all local and remote access permissions: `Anonymous, Everyone, Interactive, Network, Local Service` and `System`.





Directory context menu doesn't work with Firefox 8

Directory context menu doesn't work with Firefox 8

- The problem
- The solution
- More information

The problem

Firefox 8, released in November 2011, has decided to make `contextMenu` a reserved word when creating HTML5-style context-sensitive menus. Unfortunately, TIM Enterprise already used this identifier before Firefox was changed, such that the Directory's pop-up menu no longer appears as expected. Therefore, we have changed the identifier in the product's content to use `dirContextMenu` instead of `contextMenu`. If you are using a version of TIM Enterprise earlier than 3.0.0.77 you will need to make some changes to your web content, located in the `{Program Files}\Tri-Line\TIM Enterprise\ssldata\` folder.

The solution

Upgrade to at least version 3.0.0.77 where this change has already been made to the default content. If you are unable to upgrade to TIM Enterprise 3.0.0.77 (for example, you have no maintenance contract) then it is recommended that you either temporarily use an alternative browser or change the following code within the `directory.js` files.

The `directory.js` files are located by default in the following locations:

- `C:\Program Files\Tri-Line\TIM Enterprise\ssldata\_admin\furniture\js\directory.js`
- `C:\Program Files\Tri-Line\TIM Enterprise\ssldata\_root\furniture\js\directory.js`

The following changes need to be made to these files:

```
Search for:
    function contextMenu(strID, evt, fromFind) {

Replace with:
    function dirContextMenu(strID, evt, fromFind) {
```

```
Search for:
    strOut.append("' onclick=\"contextMenu('");

Replace with:
    strOut.append("' onclick=\"dirContextMenu('");
```

```
Search for:
    strOut.append("', event)\" oncontextmenu=\"contextMenu('");

Replace with:
    strOut.append("', event)\" oncontextmenu=\"dirContextMenu('");
```

```
Search for:
    strOut.append("' onclick=\"highLight = this.id;contextMenu('");

Replace with:
    strOut.append("' onclick=\"highLight = this.id;dirContextMenu('");
```

```
Search for:
    strOut.append("', event, true);\" oncontextmenu=\"highLight =
this.id;contextMenu('");

Replace with:
    strOut.append("', event, true);\" oncontextmenu=\"highLight =
this.id;dirContextMenu('");
```

More information

Firefox 8 was publicly released on 8th November 2011. A new feature was introduced for integration with the browser's HTML5 context menu.

The related release note from Mozilla's documents is **`Added support for HTML5 context menus`**. Full release notes for Firefox 8 are available here.

Migrating TIM Enterprise

Migrating TIM Enterprise to a new machine involves the following actions:

On the old machine

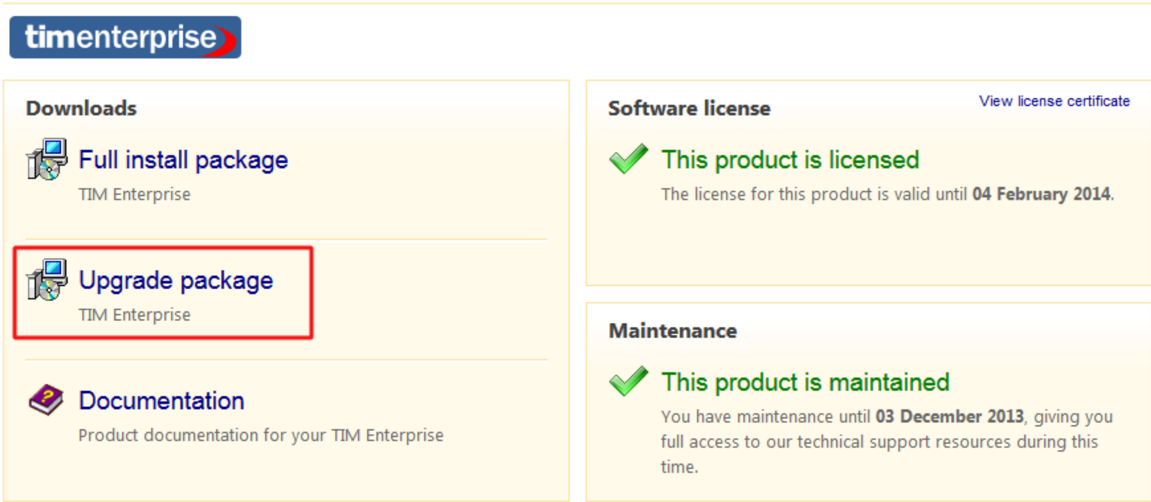
- Upgrading the old system to our latest version of software
- Back up the TIM Enterprise database

On the new machine

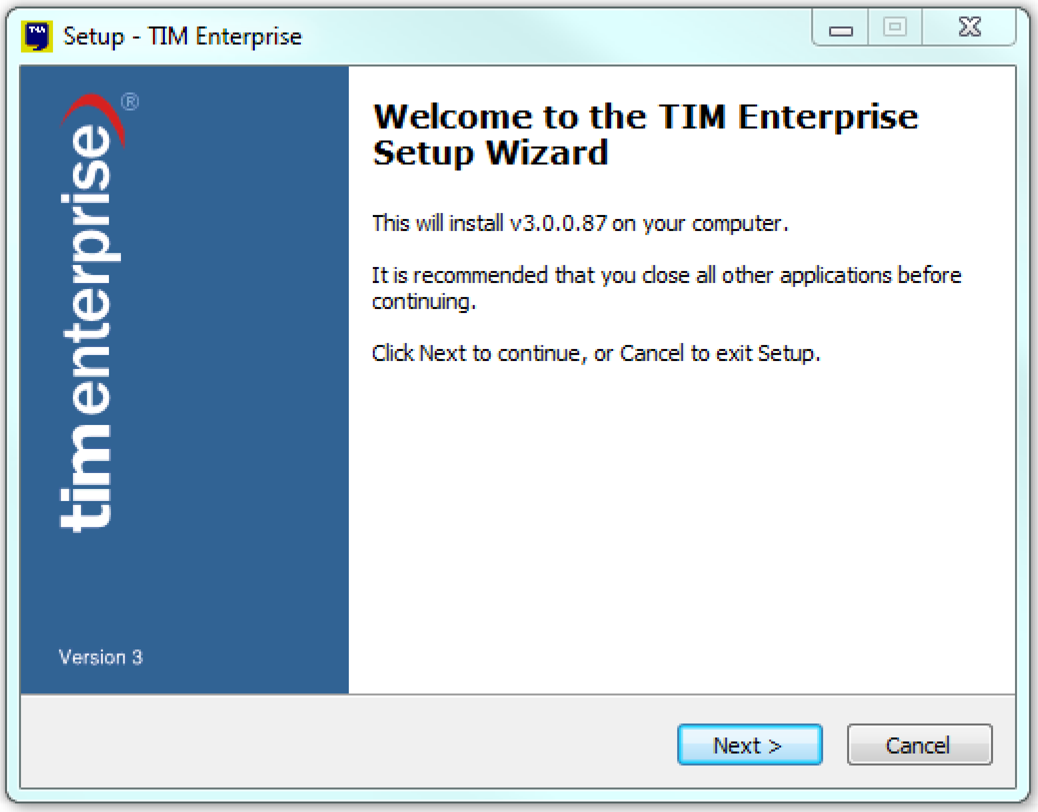
- Reinstall MySQL and restore the old database on the new system
- Reinstall TIM Enterprise on the new machine

Upgrading the TIM Enterprise to the latest version of software

Log in to our Gateway and click on the TIM Enterprise product. Select the **`Upgrade package`** from the **`Downloads`** area and save the file on your computer.

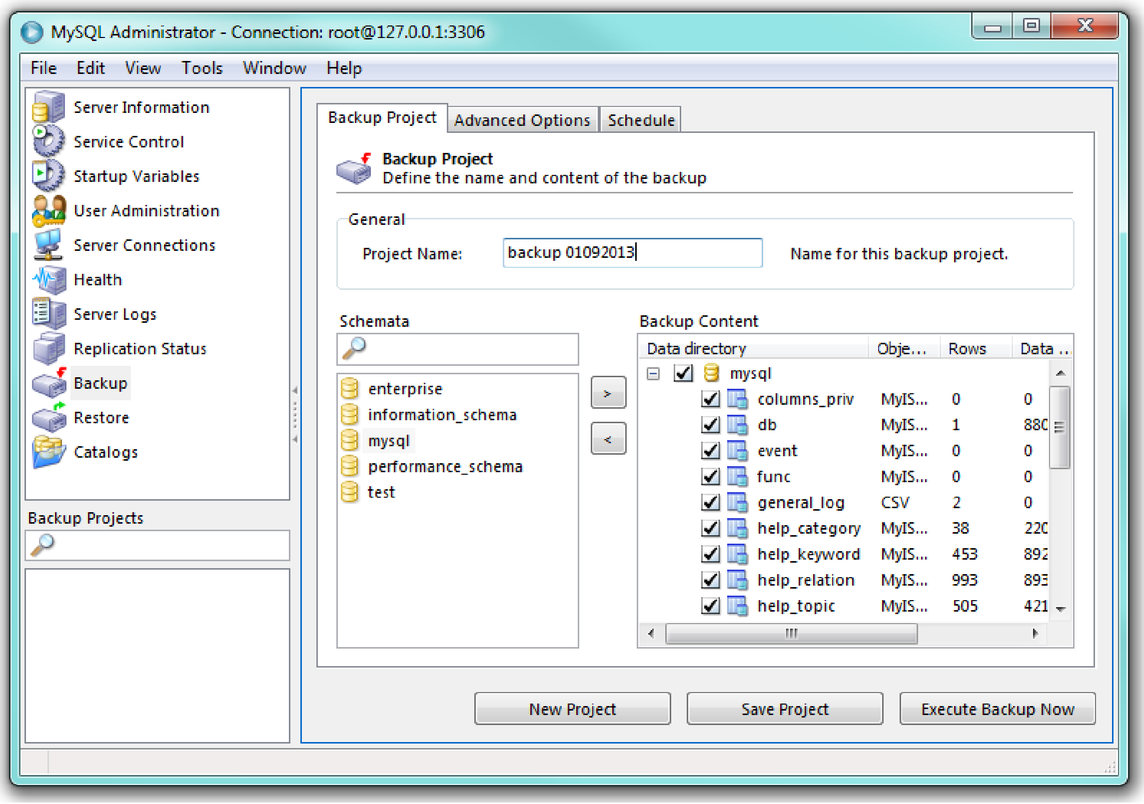


When you have downloaded the setup package, double-click on it and follow the setup wizard in order to complete the installation.



Backing up the TIM Enterprise database

Log in to `MySQL Administrator` and backup the TIM Enterprise database following the on-screen instructions.



When the backup procedure is completed, transfer the file on the machine you want to migrate the software.

Reinstall MySQL and restore the old database on the new system

MySQL installation

Visit http://www.mysql.com and download the following packages:

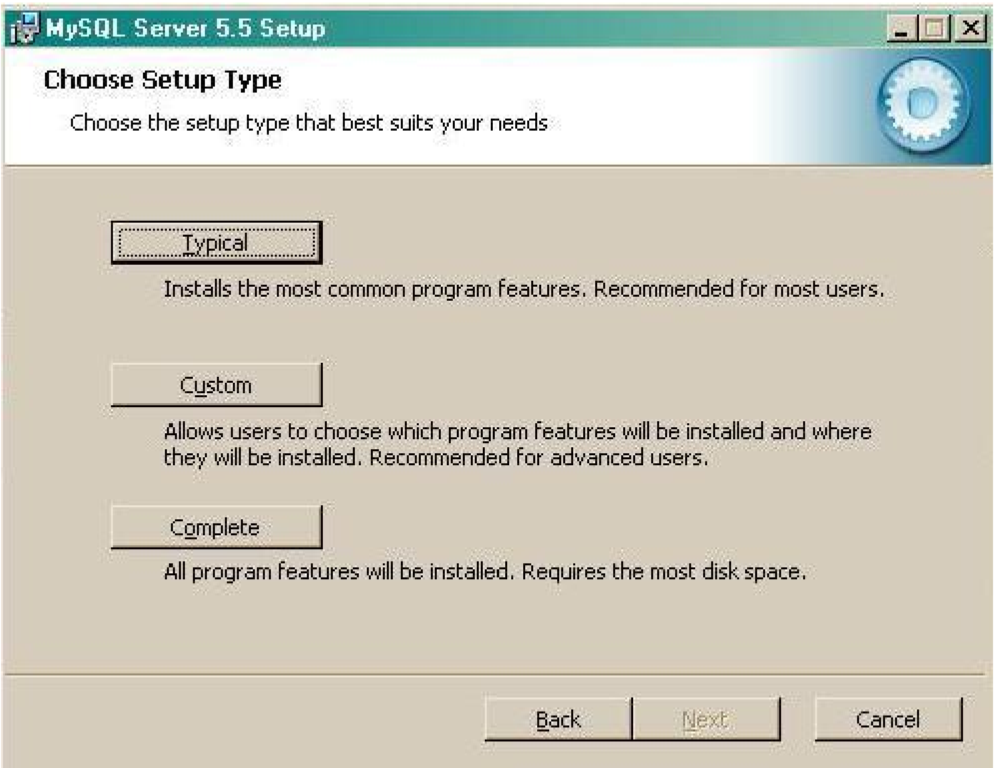
- `mysql-5.5.16-win32.msi`
- `mysql-connector-odbc-3.51.29-win32.msi`
- `mysql-gui-tools-5.0-r17-win32.msi`

Follow the setup instruction to install MySQL ODBC connector and MySQL GUI tools.

For the MySQL server installation, perform the steps below:

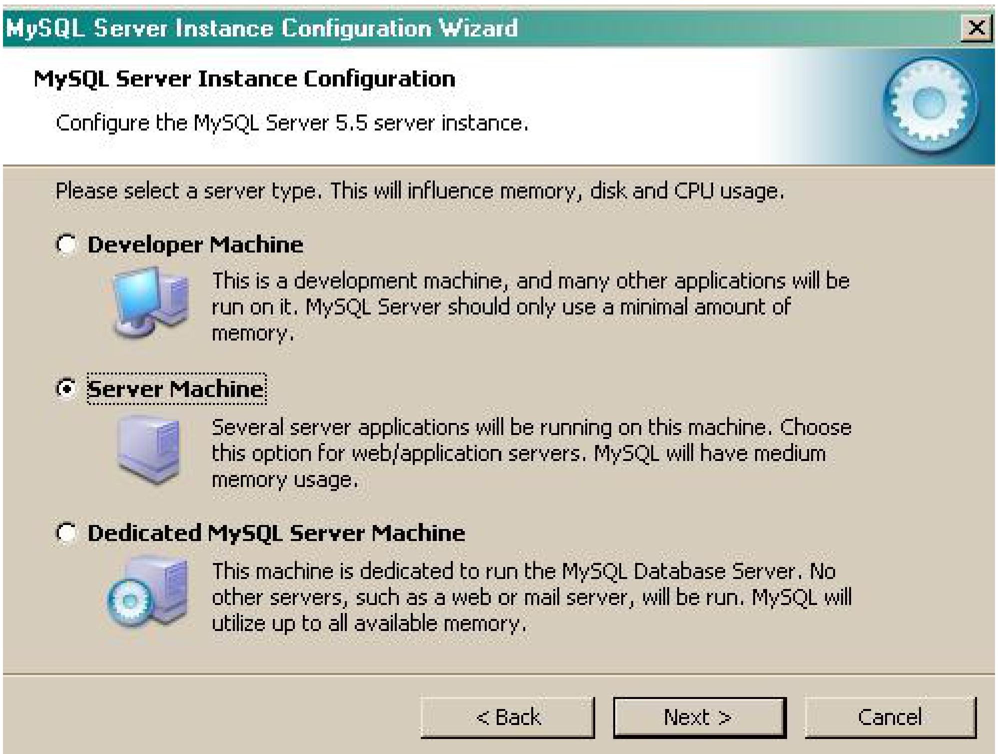
1. Click on the setup package and follow the on-screen instructions. When prompted to choose the type of setup, click on the

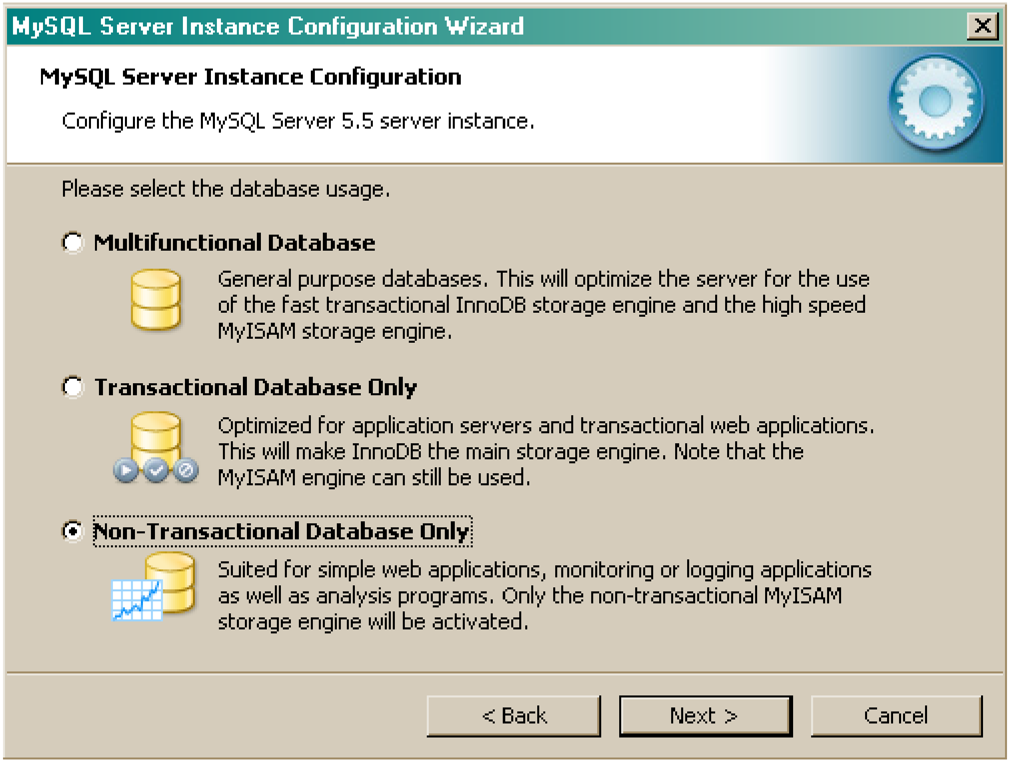
   Typical button, as shown below:



2. Continue to follow the wizard's steps and, when prompted, tick the **`Launch the MySQL Instance Configuration Wizard`** box. Click on the Finish button, as shown below;

3. The **`MySQL configuration`** setup wizard will start automatically. Configure the instance to run as a server machine and the database usage type must be set to **`Non-Transactional Database only`**.



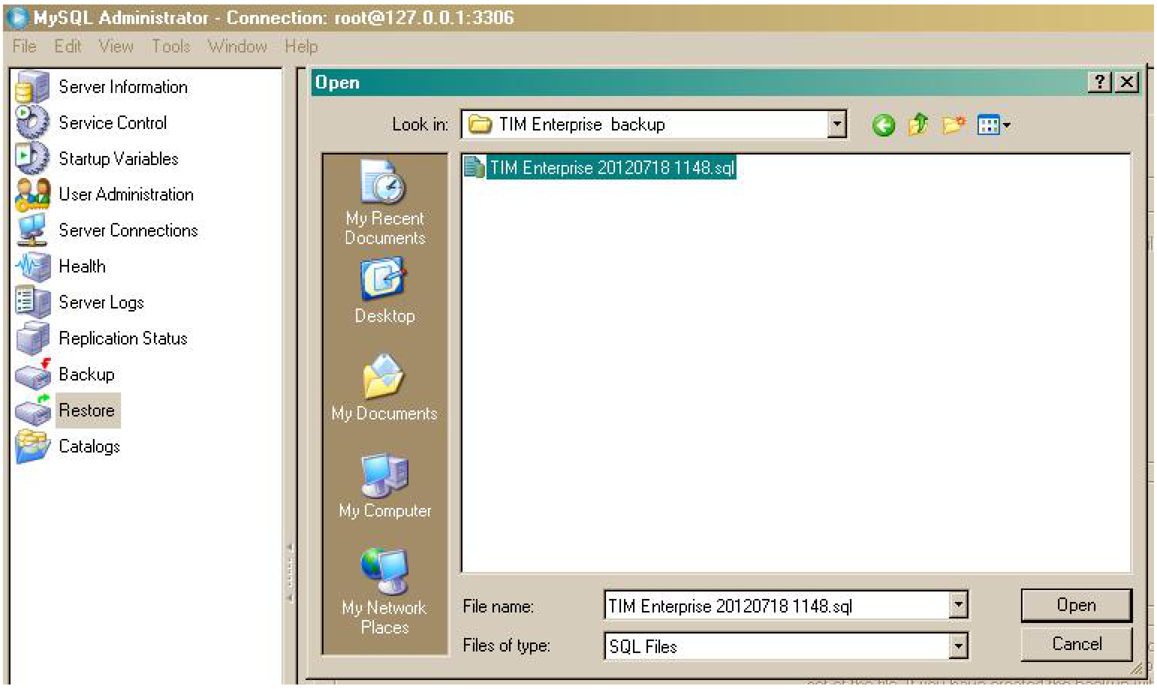


4. When prompted to create a password for the root account, enter `tntnet`.

5. Click on the Next button and follow the rest of the steps in order to finish the configuration setup.
6. Once the installation process is complete, log in to the `MySql Administrator` application and create a new database user for the TIM Enterprise system.

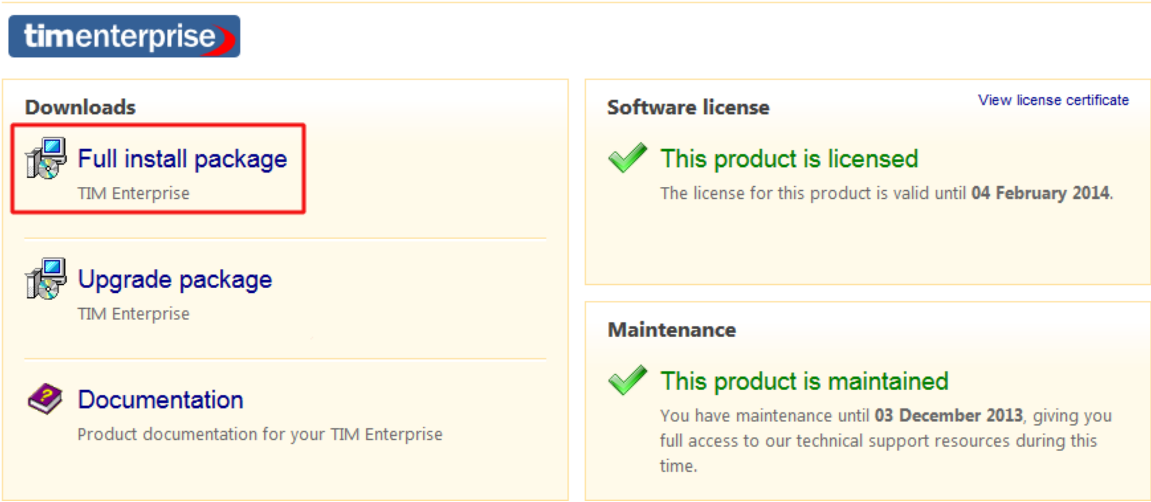
Restore the old database on the new system

To restore the old database, log in to `MySQL Administrator` and click on the Restore tab. Select the backup file you have transferred across from the old computer and follow the on-screen instructions to restore the file.

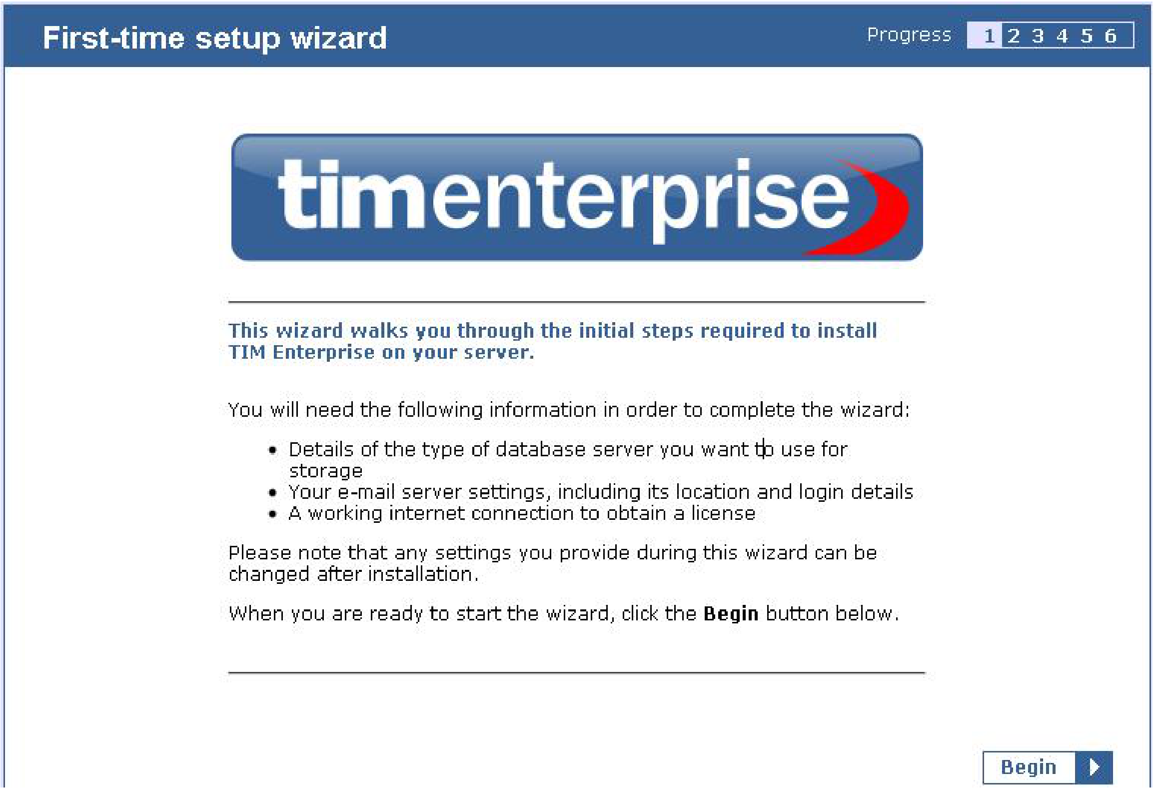


Reinstall TIM Enterprise on the new machine

Log in to our Gateway and click on the TIM Enterprise product. Select the **`Full install package`** from the `Downloads` area and save the file on your computer.

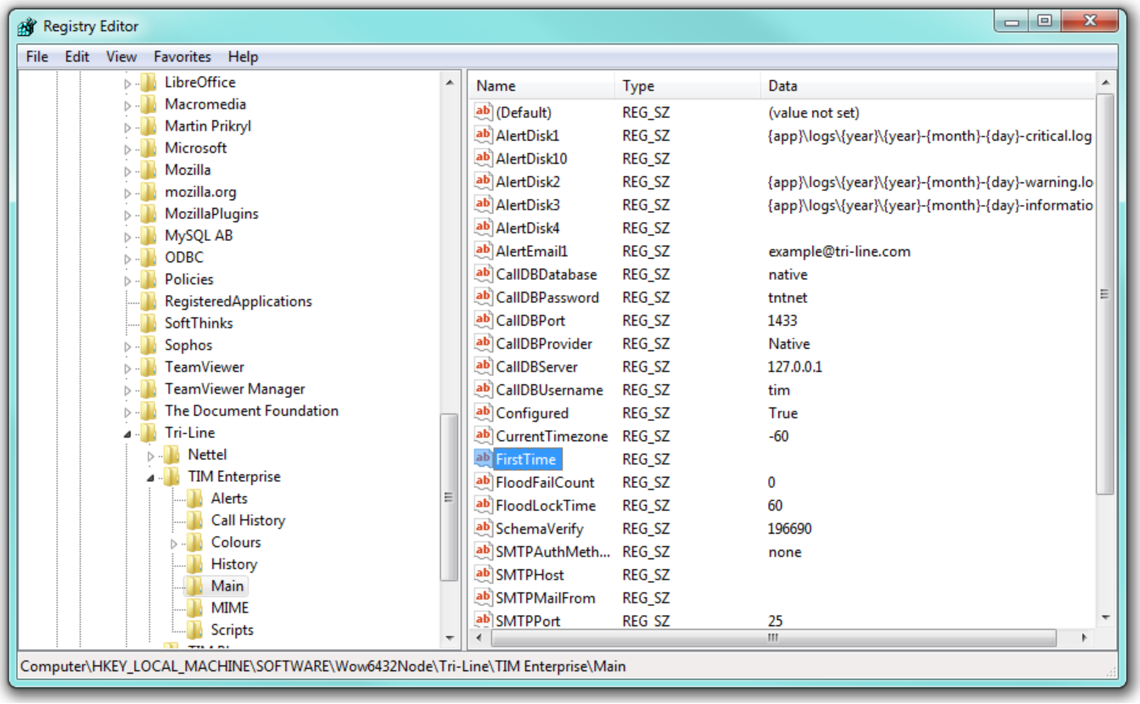


To install TIM Enterprise, double-click on the setup package and follow the on-screen instructions. After installation, the **First-time setup wizard** screen will open automatically in a new web browser window.



Close the web page, access the Windows Services and restart the TIM Enterprise service. Using Windows Registry Editor (**Start -> Run -> regedit.exe**) remove the **FirstTime** value from the following Registry key:

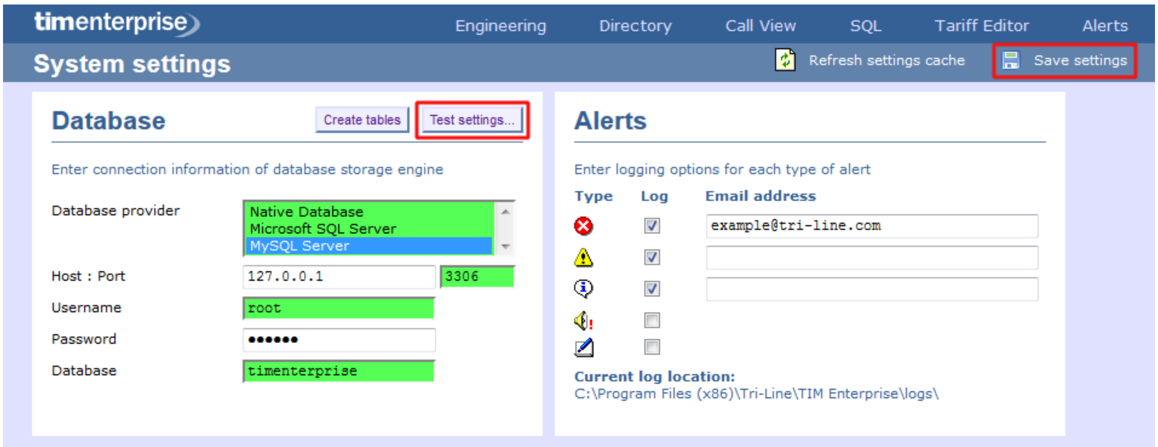
```
HKEY_LOCALMACHINE\Software\Tri-Line\TIM Enterprise\Main
```



Start the TIM Enterprise service and log in to its web interface as a `root` user.

> At this stage of the process you will be asked to provide a license key for the new installation. Copy the product key into a text file and email it to our Technical Support team.

When the license has been updated successfully, click on the TIM Enterprise logo to access the system settings and connect TIM Enterprise to the restored database, by entering the required details. Click on the Test settings button to verify the connection.



Click on the Save button to apply the changes.

Re-running data

Follow the steps below to re-run data in TIM Enterprise:

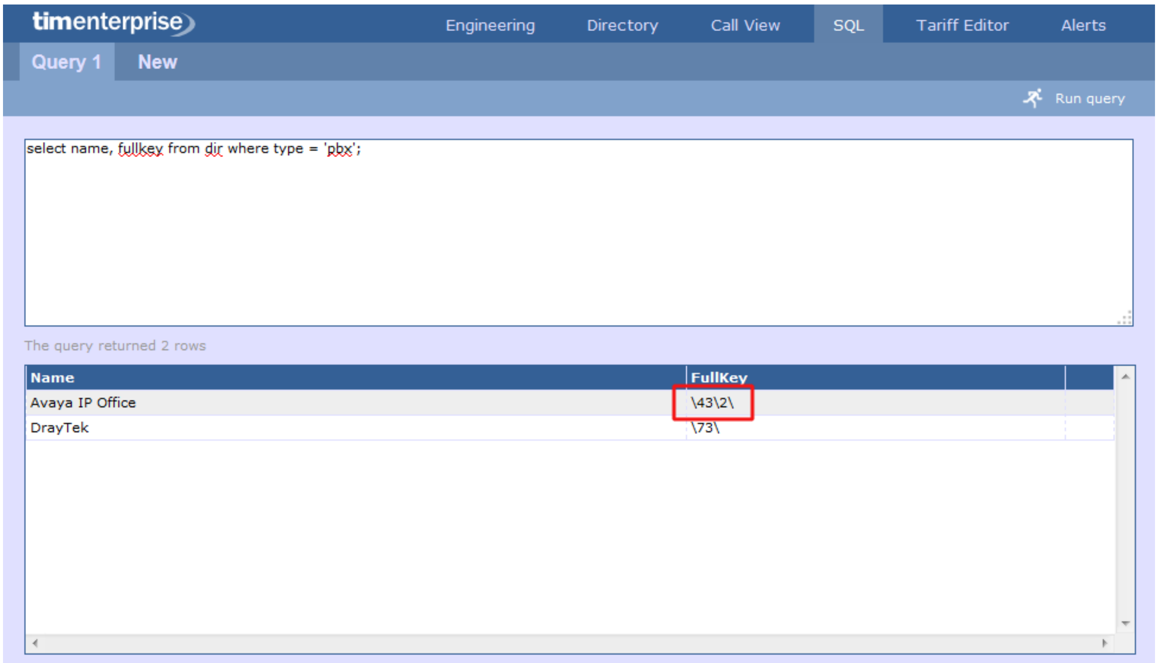
1. Locate the backup files you want to re-run data for and copy them to a separate folder onto the Desktop. By default, the backup files are stored in the following location:

```
{Program Files}\Tri-Line\TIM Enterprise\backup
```

2. Log in to TIM Enterprise as a **`root`** user and click on the **`SQL`** tab.

3. To check the datasource for the PBX object you want to delete calls for, enter the following query:

```
SELECT name, fullkey from dir where type = 'pbx';
```

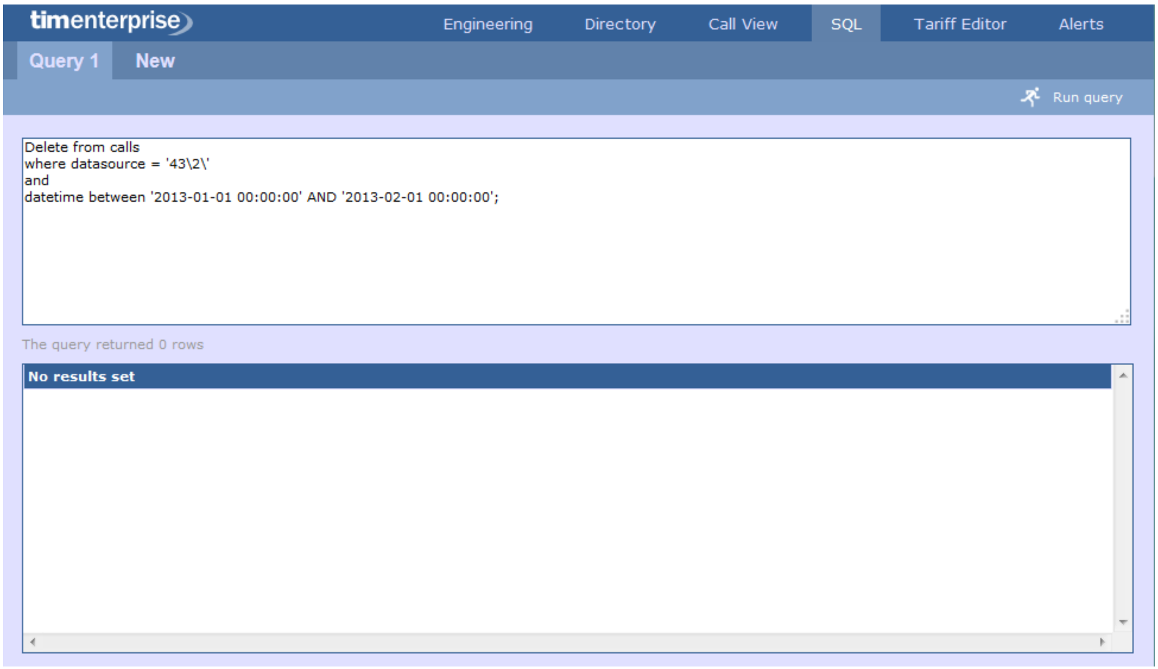


4. To delete calls for a specific PBX object and time period, enter the following query:

```
Delete from calls
where datasource = '43\2\'
and
datetime between '2013-01-01 00:00:00' AND '2013-02-01 00:00:00';
```

The **`datasource`** and **`datetime`** values must be modified accordingly, in order to match your requirements for the time period and the PBX you want to delete calls for.

5. The query should return the message **`No results set`**, confirming the selected calls have been deleted.



6. To re-run the data back in the system, copy the backup files you have previously copied on the Desktop and paste them into the following location:

```
{Program Files}\Tri-Line\TIM Enterprise\spool
```

7. While the system is processing the data, you can monitor the `Call view` screen to see the calls that are being logged.

> The time to re-spool the data will vary, depending on the amount and size of the files your system is processing.

Security hardening

Security hardening

- Introduction
- Blocking invalid login attempts
- Changing the default web server port
- Enabling High Security mode
- Web interface protocols
- Password complexity
- Automatic expiry of web user passwords

Introduction

The default security settings of TIM Enterprise allow for ease of installation and are suitable for the needs of most organisations. However, if your organisation's IT security policy demands it, or you plan to expose the system to an untrusted network such as the Internet, it is recommended you harden the security using the methods described below.

After changing any of the following settings, you will need to restart the TIM Enterprise service for the changes to take effect.

Blocking invalid login attempts

The system can blacklist the source IP address of a would-be attacker if a number of unsuccessful access attempts are made within a specified period of time. The following two Registry entries determine how many invalid login attempts are permissible before the source IP is blacklisted and, if so, for how long the blacklist will remain in place until further attempts are entertained:

Registry String data value	Description
`FloodFailCount = 0`	Number of attempts
`FloodLockTime = 60`	Lockout duration

All Registry keys for TIM Enterprise are located in the following hive:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Tri-Line\TIM Enterprise
```

Changing the default web server port

If you would like to change the default port used for web traffic, you can edit the `WWWServerPort` Registry key.

Registry String data value	Description
`WWWServerPort = port number`	Port address for webserver to listen on (Default is 80, unless changed during setup)

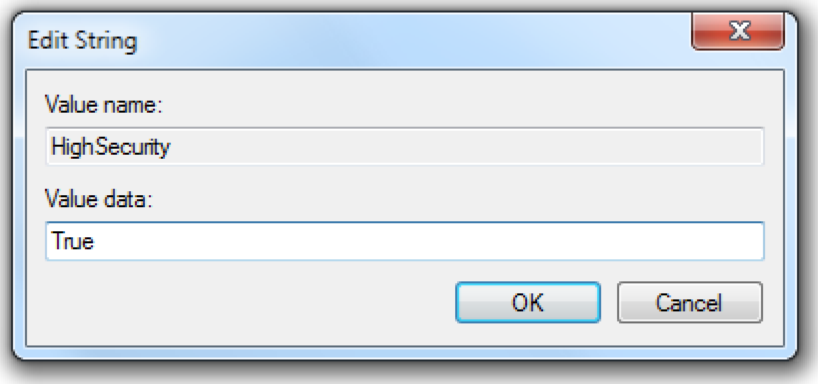
Enabling High Security mode

To enable High Security mode, add the following Registry String value:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Tri-Line\TIM Enterprise\Main\HighSecurity =
"True"
```

Within the Windows Registry, right click and select `New -> String Value` and name it `HighSecurity`.

Next, double-click on it and enter the Value of `True`, as shown below:



When the **`HighSecurity`** Registry value is set to **`True`**, the following restrictions are imposed:

1. Ability to block individual web scripts by including them in a blacklist file:

```
"\ssldata\{class}\blacklist.___"
```

2. Enforce password complexity for web users (additional Registry entries required)
3. Forbid direct SQL queries through web interface
4. System alert messages are silently suppressed
5. System database connection tests forbidden
6. Ability to (re)create system database tables inhibited
7. Cannot change or test web (HTTP) port
8. Cannot send test emails
9. Debug information suppressed if a XSL translation error occurs

Web interface protocols

The default behaviour is to allow all protocols TLS1, SSL2 and SSL3.

You can change the type of connection that TIM will respond to, by adding the Registry String Value **`WWWSSLProtocol`**.

Note that this is a case-insensitive string value with one of the following data values:

Registry String data value	Description
`nossl`	No SSL protocols, behave like a standard HTTP server
`ssl23`	SSL2 and SSL3 protocols only
`ssl2`	SSL2 protocol only
`ssl3`	SSL3 protocol only
`tls1`	TLS1 protocol only

Password complexity

You can configure TIM Enterprise web users with complex passwords to match your organisation's IT password policy.

To enable complex passwords, a Registry String Value **`PasswordComplexity`** must be added.

The use of the following data string values, allows you to configure how complex the passwords are:

```
"A"+{0-9}+"a"+{0-9}+"!"+{0-9}+"#"+{0-9}
```

Each part of the complexity string is defined by a pair of characters, a single character denoting the type of policy, immediately followed by a numeric character (0-9) stipulating how many characters of that type are required to satisfy the password policy.

The Type characters are as follows:

- **A**: Upper- or lower-case characters
- **a**: Lower-case characters
- **!**: Symbol characters
- **#**: Numeric characters

For example, to impose a restriction of at least 6 characters with two numbers, the following Registry entry could be used:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Tri-Line\TIM
Enterprise\Main\PasswordComplexity = "A6a0!0#2"
```

The value of **`PasswordComplexity`** must always be 8 characters, otherwise the policy will not be implemented. The order of each Type pair (Type character and amount character) is not important.

Automatic expiry of web user passwords

You can force Web users to change the password after a predetermined age has been set. Note that this is a system wide setting.

The server running TIM Enterprise will email the web user advising that a password change is required. The web user must have an email address configured, for notification to take place.

If the password is not changed by the expiry date, the account is automatically disabled.

Registry String data value	Description
`PasswordExpiryTimeUnits`	Determines the time units that the related expiry entries (below) will use. Valid values are **`minutes`**, **`hours`**, **`days`**, **`weekdays`**
`PasswordExpiryReminder`	A value, in the units described by the **`PasswordExpiryTimeUnits`** entry, after which an email is sent to the web user to remind them to change their password.
`PasswordExpiryDisable`	A value, in the units described by the **`PasswordExpiryTimeUnits`** entry, which specifies how long after the reminder email (above) is sent, that a web user's account will be disabled if it hasn't been updated.

Default values for the above settings are as follows:

- **`PasswordExpiryTimeUnits`** = "days"
- **`PasswordExpiryReminder`** = "7"
- **`PasswordExpiryDisable`** = "7"

Therefore, using the default settings, a web user will receive an email reminder after 7 days and the account will be disabled after 14 days.

If the **`PasswordExpiryReminder`** value is zero then password reminder functionality is disabled and neither a reminder email will be sent, nor will a web user's account be disabled. Since this value has a default of "7", this value must be explicitly set to zero to disable password reminder functionality.

If the `PasswordExpiryDisable` value is explicitly set to zero, the disabling of a web user's account is skipped.

Registry String data value	Description
`PasswordReminderSubject`	"Password reset notification"
`PasswordReminderMessage`	"Your password to access the [%productname%] service will expire in <%expiryamount%> <%expiryunits%>.\r\n You should log in to the service before <%expirydate%> to reset your password, otherwise your account will be disabled"

The following <%%> variables are permissible in both the subject and the body text of the reminder email message:

<%%> variable	Description
`<%product%>`	The name of the product, e.g. TIM Enterprise
`<%expiryunits%>`	The value of `PasswordExpiryTimeUnits`
`<%expirydate%>`	A computed date of the above values relative to the date that the email was sent at, in local date/time format.

VAT rate adjustment

VAT rate adjustment

- Introduction
- Changing Web format
- Changing PDF format

Introduction

Every report in TIM Enterprise can be fully customised, from how they perform their calculations to the way they appear.

To amend a report, you need to edit its associated XSL or PDF script file, paying attention to the class of web user whose content you want to change, and which report format.

This document details how to change the tax rate in the `Phone Bill` report in both `Web` and `PDF` formats, for any web user with a class of `Administrator`.

Every report has a unique ID number which the system uses to identify the report type (the report ID for a `Phone Bill` report is `2`)

Changing Web format

Open the following file in a plain text editor such as Notepad:

```
{Program Files}\Tri-Line\TIM Enterprise\ssldata\_admin\scripts\web\2.xs
```

Look in the first few lines of code for the VAT amount, then change it to the new amount, respecting the decimal point and number of decimal places:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Tran
<xsl:output media-type="text/html" encoding="UTF-8" method="html" />
<!-- Phone bill -->
    <xsl:variable name="vat">20.0</xsl:variable>
    <xsl:include href="all.xsl" />
    <xsl:template match="report">
        <html>
            <head>
                <title>
                    <xsl:value-of select="properties/name" />
                </title>
                <link rel="stylesheet" type="text/css" href="css/2.css"
                <link rel="stylesheet" type="text/css" href="furniture/c
                <link rel="stylesheet" type="text/css" href="furniture/c
                <link rel="stylesheet" type="text/css" href="furniture/c
                <script type="text/javascript" src="common/js/common.js"
                <script type="text/javascript" src="js/all.js" />
                <script type="text/javascript">
                <xsl:call-template name="definition" />
                </script>
            </head>
            <body onload="FixMozHeight();">
                <xsl:call-template name="load_frame" />
                <xsl:call-template name="optionssection" />
                <xsl:call-template name="filtersection" />
```

Save the file and run a new **Phone Bill** report in **Web** format to verify whether the amount has changed. If it hasn't then you may be running the report as a web user with a different web class than **Administrator**; in which case, modify the file in the path specified above, but choose the appropriate folder other than **_admin**.

Changing PDF format

Again, in a plain text editor such as Notepad, edit the following file:

You'll notice that this is a Javascript file, and that it is located in the **\pdf** folder of the **\scripts** folder.

```
{Program Files}\Tri-Line\TIM Enterprise\ssldata\_admin\scripts\pdf\2.js
```

Search for the following line (the value shown below may be different on your system):

```
var _vat = 20.0;
```

Change the value to the new amount, then save the file.

Run a new **Phone Bill** report in **PDF** format to verify that the amount has changed.

Glossary

Abandoned/missed call

A call in which the call originator disconnects or cancels the call after a connection has been made, but before the call is established.

Conference call

A service feature that allows a call to be established among three or more stations in such a manner that each of the stations is able to communicate with all the other stations.

CLI

Calling Line Identification (CLI) is the telephone number of the remote caller in an incoming call scenario. This feature permits the recipient of an incoming call to determine, even before answering, the number from which the incoming call is being placed.

Dialled number

The dialled number is defined as the number that is dialled (in the case of an outbound call), or the DDI number that the remote party dialled to reach a particular extension or group (in the case of an inbound call).

Destination

The destination of a call specifies where the call terminated. The destination will display different information for each type of call:

Call type	Information displayed
Incoming calls	The name of the user whose extension answered the call, or the extension number if not available;
Outgoing calls	The network or geographical location that was dialled, or an alias if defined in your contacts list;
Internal calls	The extension that was dialled, enclosed in square brackets [ ].

Destination name

The name of the destination called, e.g. Manchester, Tri-Line, London.

Destination ID

The ID of the destination called.

Feature call

A feature call is a special type of call that a user dials in order to obtain a specific PBX feature, such as voicemail enable/disable, group pick up, etc.

Internal call

A call placed within a private branch exchange (PBX) or local switchboard, e.g. not through a central office in a public switched network.

Operators

Operator	Description
`Equals`	The `Property` of a call matches the value entered. In the example below, the filter monitors calls whose destination is `Germany`. Destination | Equals | Germany
`Does not equal`	The `Property` of a call does not match the value entered. In the example below, the filter monitors calls whose LCR is not `1470`. LCR | Does not equal | 1470
`Begins with`	The `Property` of a call begins with a particular combination of characters. In the example below, the filter monitors calls whose dialled number begins with `0207`. Dialled number | Begins with | 0207

`Does not begin with`	The `Property` of a call does not begin with a particular combination of characters In the example below, the filter monitors calls whose CLI does not begin with **`0131`**.	Dialled number	Does not begin with	0131
`Ends with`	The `Property` of a call ends with a particular combination of characters. In the example below, the filter monitors calls whose LCR code ends with **`70`**.	LCR code	Ends with	70
`Does not end with`	The `Property` of a call does not end with a particular combination of characters. In the example below, the filter monitors calls whose trunk access code does not end with **`44`**.	Trunk access code	Does not end with	44
`Contains`	The `Property` of a call contains a particular combination of characters. In the example below, the filter monitors calls whose account code contains the digits **`40`**.	Destination	Contains	Smith
`Does not contain`	The `Property` of a call does not end with a particular combination of characters. In the example below, the filter monitors calls whose chargeband does not contain **`UKNAT`**.	Chargeband	Does not contain	UKNAT
`Is greater than`	The `Property` of a call is greater than a particular value. In the example below, the filter monitors calls whose response time is greater than **`10`** seconds.	Response time	Is greater than	10
`Is less than`	The `Property` of a call is less than a particular value. In the example below, the filter monitors calls whose duration is less than **`30`** seconds.	Duration	Is less than	30

Route

The route is the itinerary of a call from its source to its destination. The information displayed in this field is determined by the type of call:

Call type	Information displayed
Incoming calls	The CLI of the caller
Outgoing calls	The number that was dialled
Incoming internal calls	The caller's username or extension number

Tandem call

A tandem call is a connecting call in a telephone network, coming into a switch through one trunk and transferred out again through another.