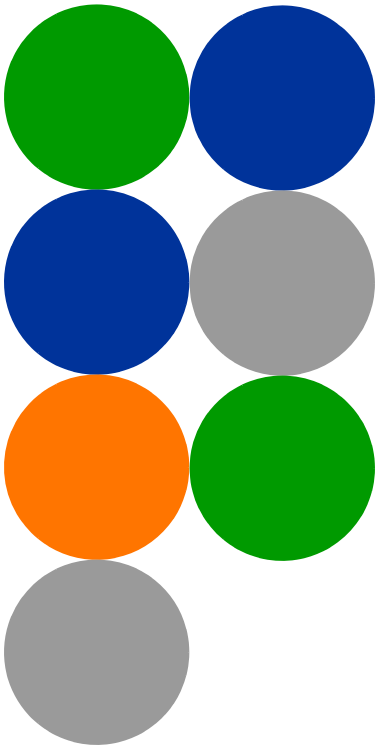

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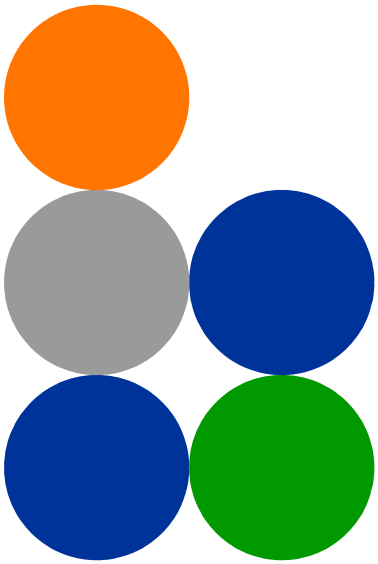

User Manual

Software Version: 3.1, Revision B
July 2011
P/N 215879

Document History

Changed Item	Description	Date
This is the first release	Version 1.5	May 2009
General	Added 5 reports: ■ Detailed Antenna Inventory ■ Detailed CPE Inventory - for 16d and 16e-ready networks ■ Detailed ODU Inventory ■ Detailed Power Feeder Inventory ■ Summary CPE Inventory	Ver.2.0 June 2009
	Added two sections: ■ Users and Groups - Applying Security on Objects and Folders ■ Sending Scheduled Reports by Mail	Ver.2.0 July 2009
Reports	Changed Report Titles Added Services Reports Restructured manual	Ver 2.5 Sept. 2009
Advanced Operations	Updated information according to latest BusineeeObjects version	Ver 2.7 Dec. 2009
Reports	Added BreezeMAX Extreme information in applicable reports.	Ver 2.7 Dec. 2009
Getting Started	■ Deleted "Setting the Database For Reports" ■ Changed "Generating and Viewing..." to Accessing the InfoView Application ■ Added Running Reports ■ Deleted Table 3-1 Report Parameters Prompt Values ■ Deleted Setting Report Display Options ■ Added Generating Reports with 3 examples ■ Replaced Figure 2-18, Figure 2-25	Ver 3.0 March 2010
Installation	Changed Installation procedure	Ver.3.1 Rev. A Dec. 2010

Changed Item	Description	Date
Chapter 4 - "Pre-defined Reports - WIMAX 16d" on page 40	New chapter	Ver.3.1 Rev. A Dec. 2010
Chapter 6 - "Advanced Operations" on page 147	Modified procedure and screen captures to reflect The Central Management Console (CMC) changes	Ver.3.1 Rev. A Dec. 2010
Chapter 4 - "Pre-defined Reports - WIMAX 16d" on page 40	Adde the following reports: ■ "CPEs with the Lowest Average Rate in the Uplink/Downlink" on page 83 ■ "CPEs with the Highest RSSI Average in the Uplink/Downlink" on page 84 ■ "CPEs with the Lowest RSSI in the Uplink/Downlink" on page 85 ■ "CPEs with the Highest SNR Average in the Uplink/Downlink" on page 86 ■ "CPEs with the Lowest SNR in the Uplink/Downlink" on page 87 ■ "CPEs Not Reported for More than 10 Hours" on page 88 ■ "AU Historical Capacity Analysis" on page 89 ■ "CPE Historical Radio Link Quality" on page 94	Ver.3.1 Rev. B July 2011
Chapter 5 - "Predefined Reports - 4Motion" on page 99	New chapter	

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About this Manual

This manual provides information on the StarReport application, used for generating equipment inventory, performance and services configuration reports.

The manual includes instructions for the application installation, and information on how to generate and view the available reports.

The application is based on Web Intelligence reports - the *BusinessObjects Edge Series* product. For more information on the use of Web Intelligence reports, refer to the *Building reports using the Java Report Panel* Manual.

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Chapter 1 - Introduction

In this Chapter

1.1 STAR Management Suite Overview

Alvarion's STAR Management Suite offers complete and comprehensive management solution for ensuring the successful deployment of WiMAX services.

The Alvarion STAR Management Suite offers a set of carrier class management tools, each designed to accomplish a certain management purpose.

The STAR Suite covers the entire WiMAX service life-cycle, from the initial installation through the service provisioning and continuing with the various monitoring, reporting and troubleshooting tasks required for a smooth deployment and efficient network operation.

Alvarion's STAR Management Suite includes:

- **AlvariSTAR** – Carrier-class Management System for managing Alvarion's WiMAX Base Stations.
- **StarACS** - An Automatic Configuration Server (ACS) for managing end-user Fixed and Nomadic devices (CPE) based on TR-69 protocol. StarACS is relevant only for WiMAX 16e Networks.
- **StarQuality** – Performance monitoring system for optimizing the WiMAX network.
- **StarReport** – Powerful report generator for generating network configuration, inventory and services reports.

1.2 StarReport Overview

StarReport enables a quick and efficient way for generating network configuration, inventory, performance and services analysis reports. It offers the ability to quickly generate user reports various Inventory reports with flexibility sorting and filtering capabilities, based on the powerful report generator engine from Business-Object.

StarReport includes an enhanced scheduler for generating daily, weekly or monthly reports. In addition, reports can be exported into several file formats such as: PDF, Excel and CSV.

The system generates hardware inventory reports, performance reports and service reports for the following products:

- BreezeMAX (FDD/TDD) equipments (Macro and Micro Base Stations)
- BreezeMAX Extreme
- BreezeMAX 4Motion (16e TDD) equipment (Indoor and Outdoor Macro and Micro BTSs)
- 16d and 16e-ready CPEs

Chapter 2 - StarReport Installation

In this Chapter

2.1 Installing the BusinessObjects Application

This section describes how to install the BusinessObjects application, and then setting the database by importing data from the StarReport folder.

To install BusinessObjects:

1. Make sure that Oracle basic client has been installed prior to StarReport. The Oracle client must access the AlvariSTAR Oracle database using the Oracle User/Password it was installed with.
2. In SAP BusinessObjects Edge Series 3.1 Installation Wizard, click **Next**.

Figure 2-1: SAP BusinessObjects Edge Series 3.1 Installation Wizard

3. License Agreement: Read the agreement carefully, select if you accept the agreement terms and click **Next**.

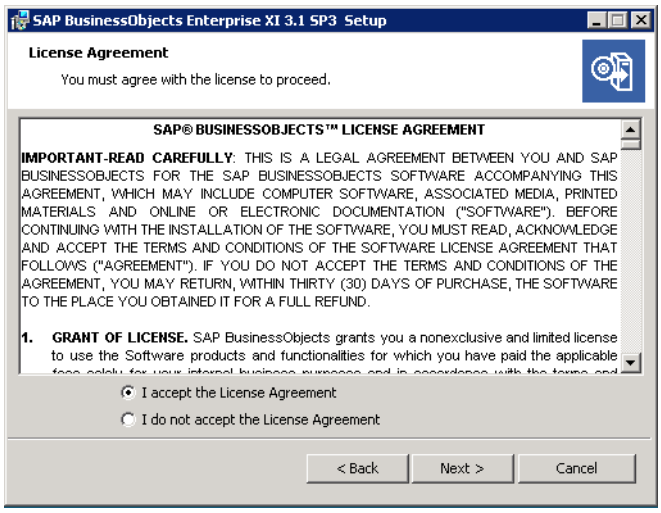


Figure 2-2: License Agreement

4 Select English and select Create log file during installation. Click **OK**.

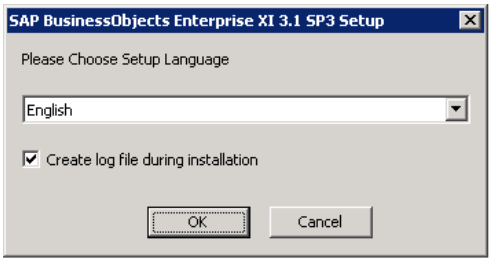


Figure 2-3: Setup Language

5 User Information: Enter a full name and optionally your organization name. For Product Keycode, enter the keycode that was provided prior to installation.

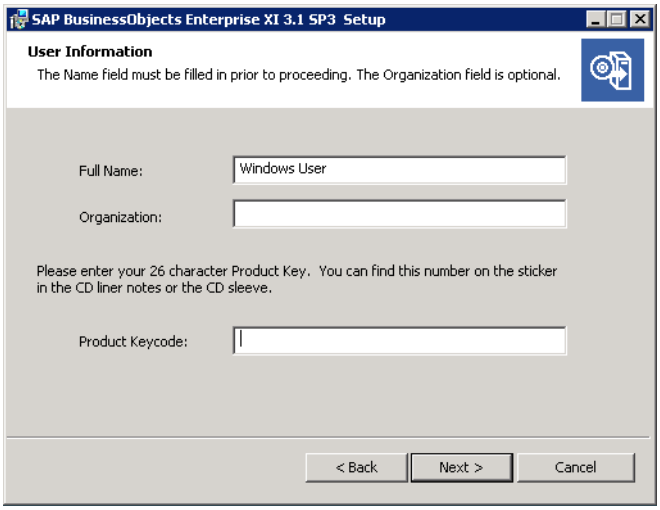


Figure 2-4: User Information

6 Language Packs: Select English only and click **Next**.

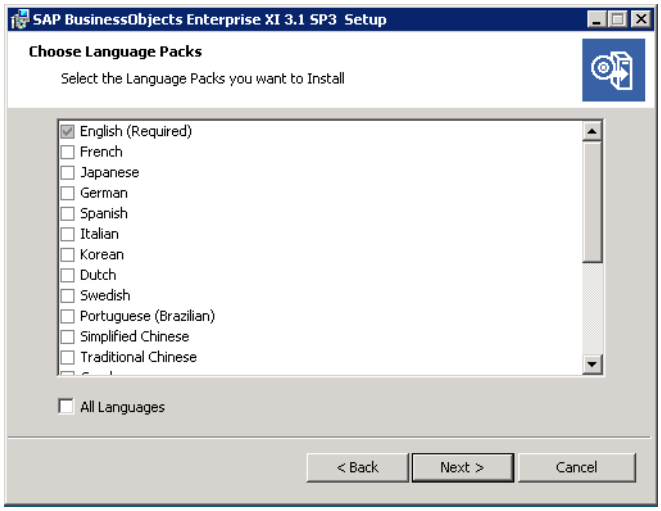


Figure 2-5: Choose Language Packs

7 Install Type: Do not change the selected default option (Custom or Expand Install) for the repository (Figure 2-6). For reference, the options are:

- New - Install a raw SAP BusinessObjects Enterprise system
- Custom or Expand Install - Use this option to choose the features to install. If you choose this option, proceed with Step 9 to select the features.
- Web Tier - Choose this option to install the BusinessObjects Web Services and Tomcat.

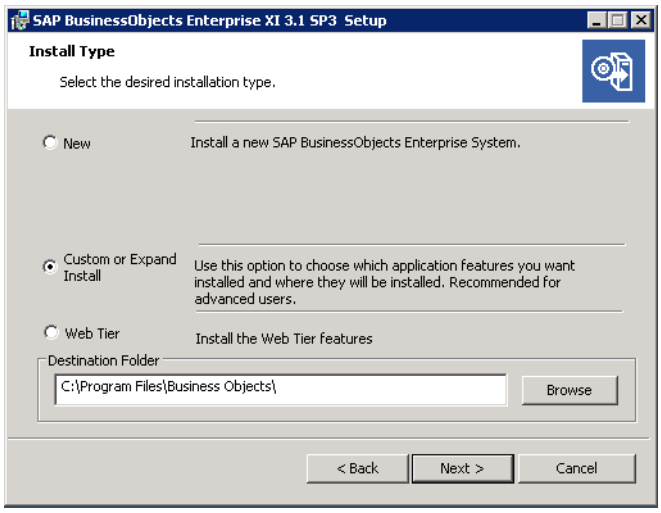


Figure 2-6: Install Types

8 Select the destination for installation and click **Next**:

9 Select Features: If you chose Custom or Expand Install in the previous step, expand the SAP BusinessObjects Enterprise feature list and select the features to install (see Figure 2-7). If the is no special requirement, leave the default components as selected. Use the following options:

» **Enable servers upon installation** - Select this check-box to enable all system components, so that upon installation completion, no manual configuration is required.

» **Disk Cost** - Click this button to view the disk space required for each feature selection.

Click **Next**.

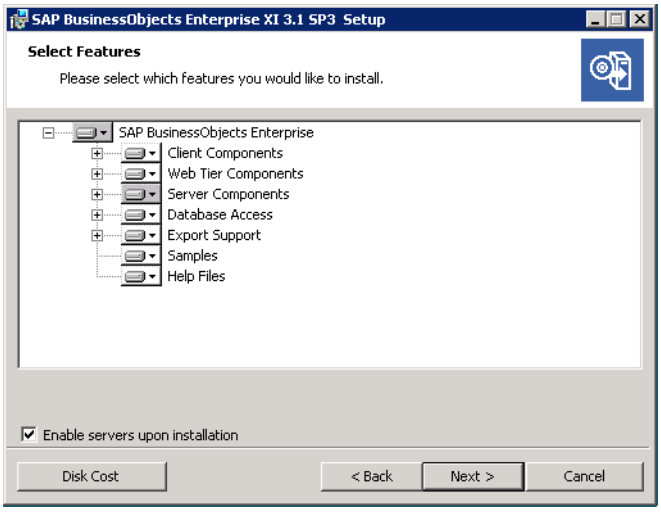


Figure 2-7: Select Features

10 Server Components Configuration: Specify the port numbers and the password for the server administrator. Click **Next**.

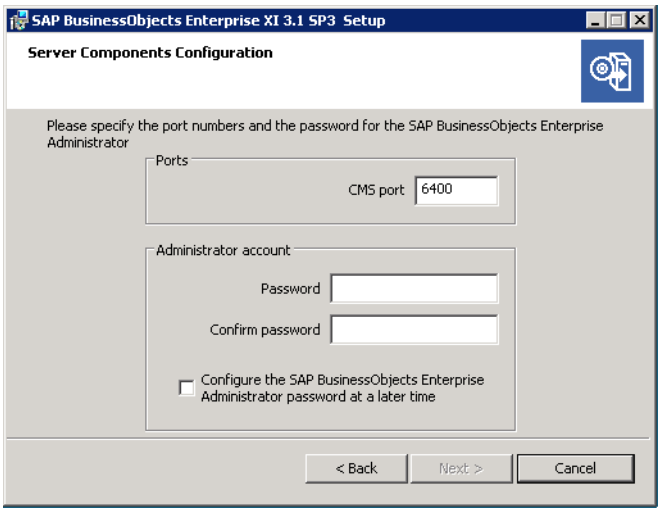


Figure 2-8: Server Components Configuration

11 Server Intelligence Agent: leave the default and click **Next**.

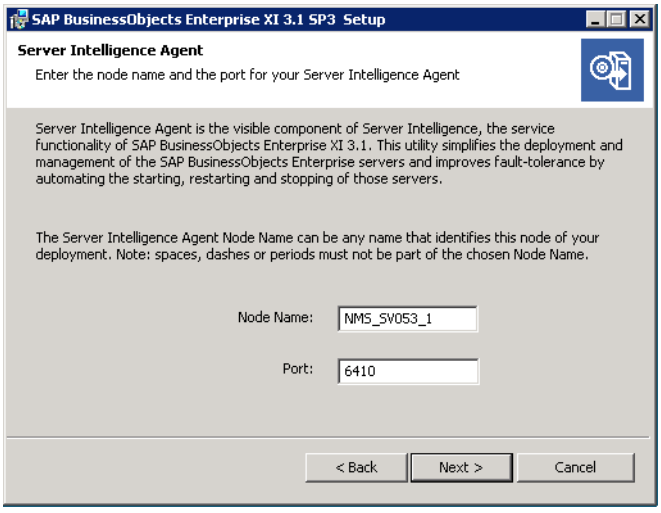


Figure 2-9: Server Intelligence Agent

12 MySQL Database Server Configuration: Specify the port numbers and passwords for the Root and CMS User accounts of the MySQL DB Server. Click **Next**.

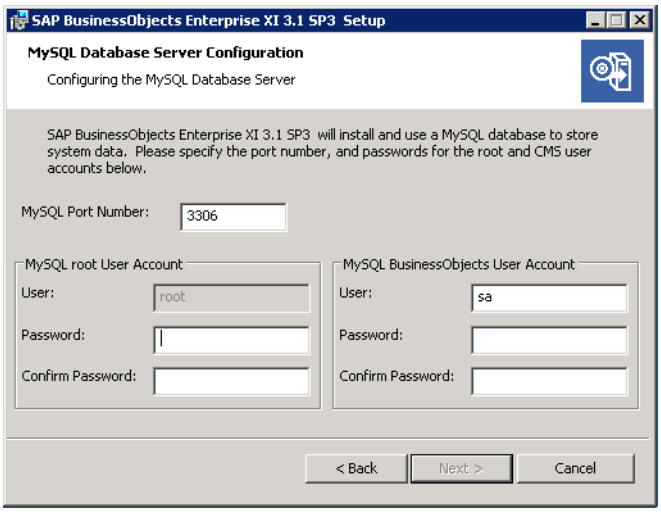


Figure 2-10: MySQL Database Server Configuration

13 Select Web Application Server: Select the following options to deploy SAP BusinessObjects applications:

- Java Web Application Server: Install Tomcat application server and deploy to it.
- IIS Web Application Server: Leave the Default Web Site to deploy to.

Click **Next**.

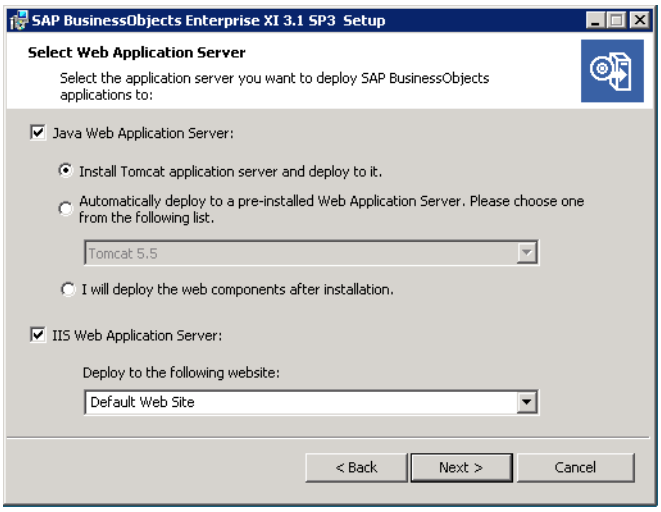


Figure 2-11: Select Web Application Server

14 Configure Tomcat: Leave the default ports. Click **Next**.

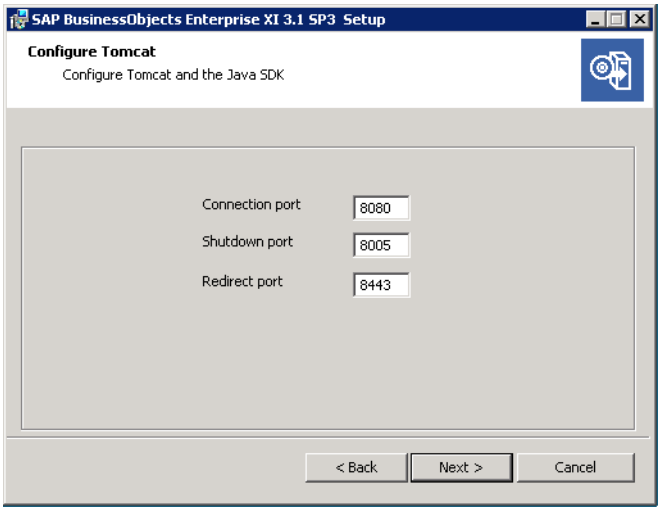


Figure 2-12: Configure Tomcat

15 Start Installation: Click **Next** to initiate the installation.

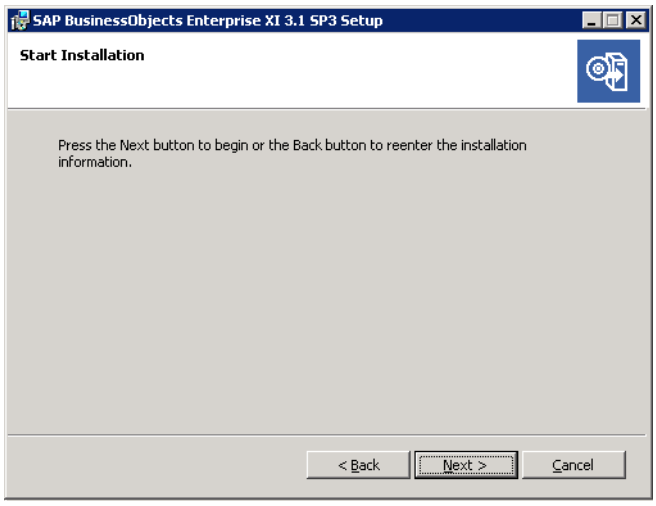


Figure 2-13: Start Installation

The installation process is displayed in a process bar (Figure 2-14).

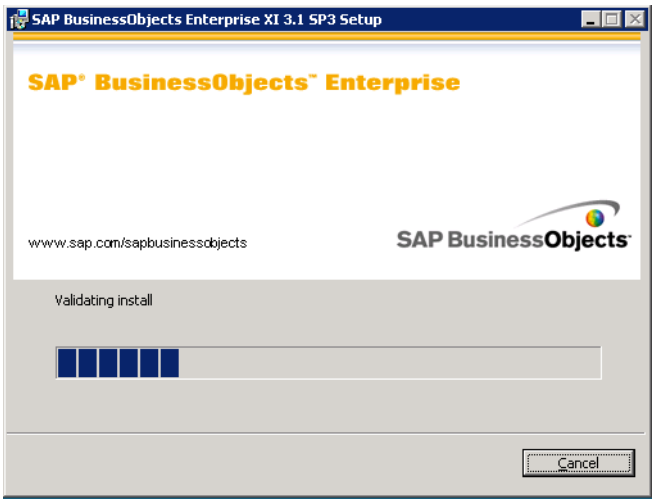


Figure 2-14: Installation Process

16 Wait (approximately. 30 minutes, depending on the computer capabilities) for the installation completion message (See Figure 2-15).

17 If you want to start the BusinessObjects application, select Launch BusinessObjects Administration Console and click **Finish**.

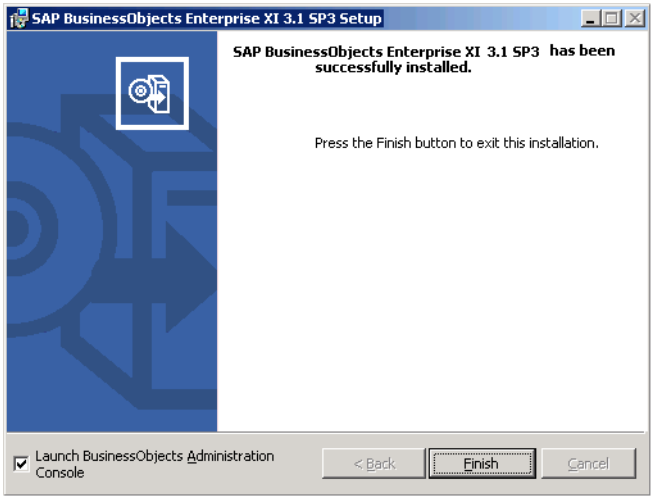


Figure 2-15: Successfully Installed SAP BusinessObjects 3.1

2.2 Importing and Building Database Objects

The Import Wizard guides administrators through the process of importing predefined reports, users, groups, and folders in the newly installed BO platform.

For detailed information refer to the BusinessObject documentation.

To start importing Database Objects:

1. Run the Import Wizard from Start > Programs > BusinessObjects > Import Wizard; the Import Wizard Installation window is displayed (Figure 2-16).
2. Source Environment: Select Source - Business Intelligence Archive Resource (BIAR) File, and click the browsing button (...) to browse for a file.

   The BIAR files are automatically copied by the StarReport installer under *C:\Program Files\Business Objects\StarReport*. Select a file and click **Next**.

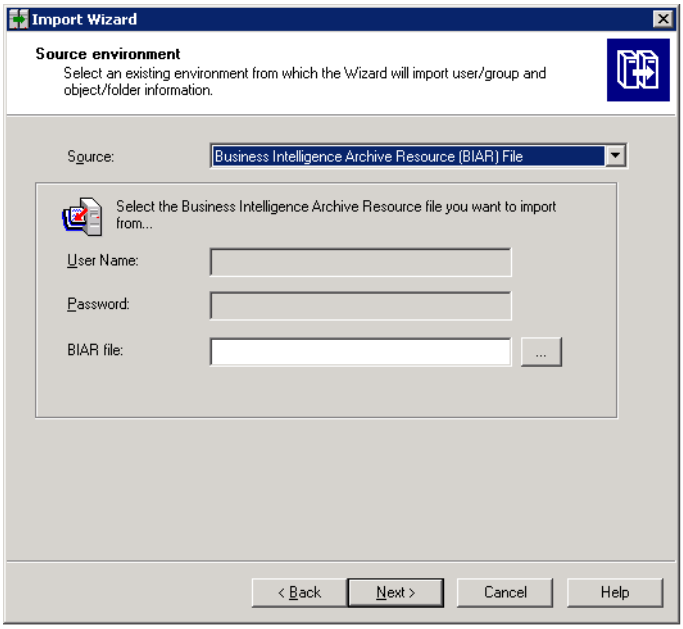


Figure 2-16: Import Wizard Installation Window

3. Destination Environment: Enter the BusinessObjects Enterprise destination CMS, user name (administrator) and password, and select the Enterprise Authentication. Click **Next**.

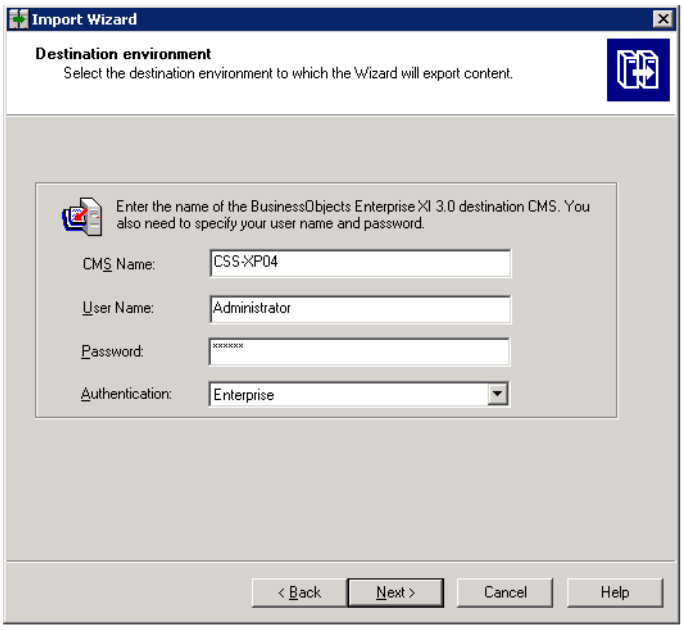


Figure 2-17: Destination Environment

4 Select Objects to Import: Select all except for:

- » Restore full cluster server configuration
- » Import node(s) from a different cluster

Click **Next**.

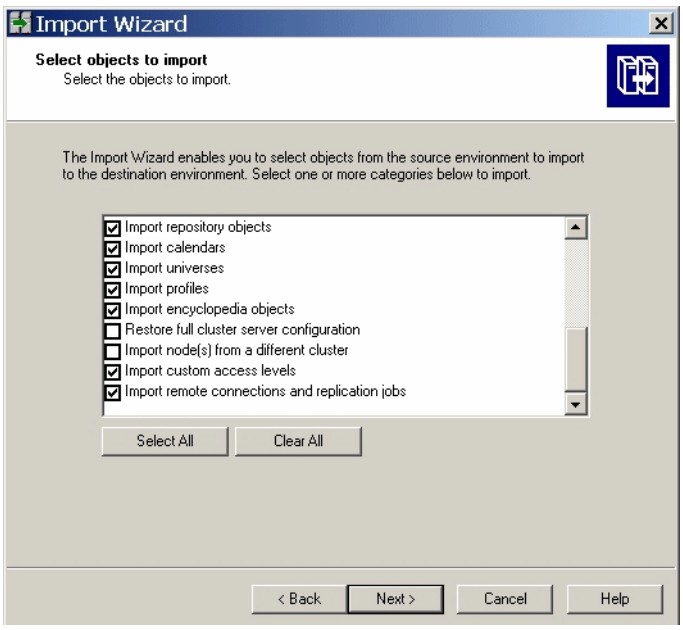


Figure 2-18: Select Objects to Import

5 Import Scenarios: Leave the default selected options as in Figure 2-19. Click **Next**.

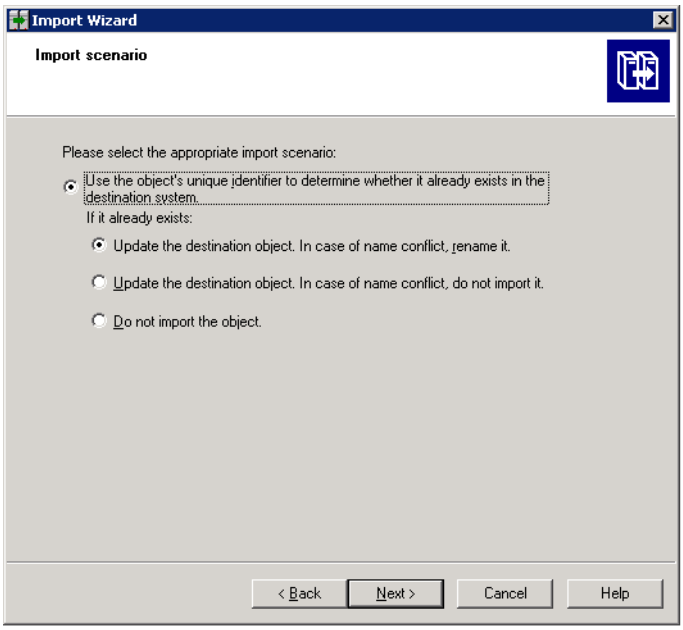


Figure 2-19: Import Scenarios

6 Incremental Import: Select all options and click **Next**.

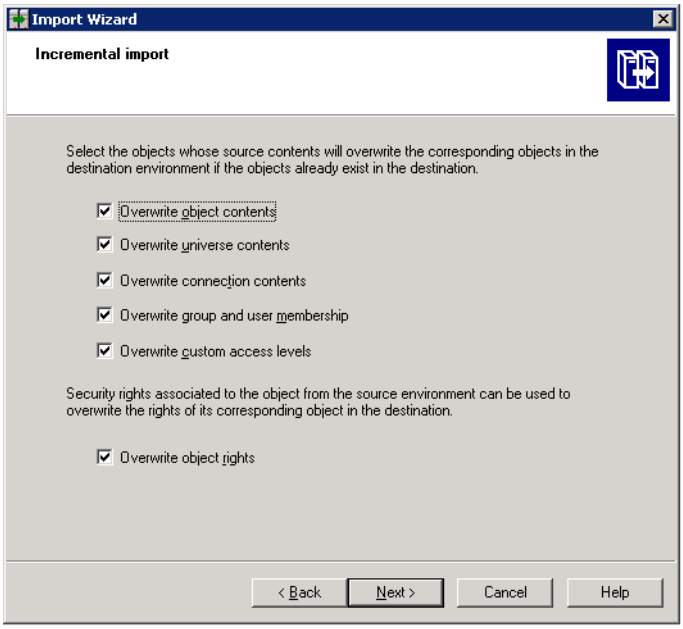


Figure 2-20: Incremental Import

7 Note on importing server groups: Click **Next**.

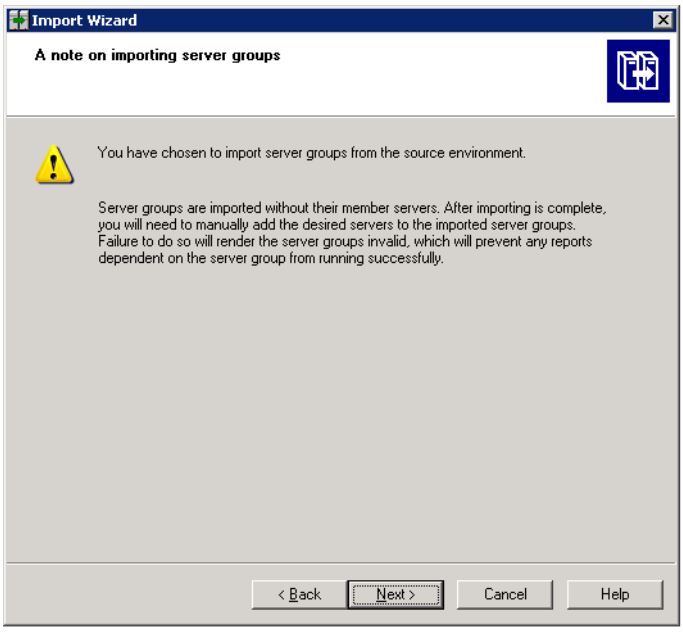


Figure 2-21: A Note on Importing Server Groups

8 Users and Groups: Click **Select All**, and select the two option check-boxes. Click **Next**.

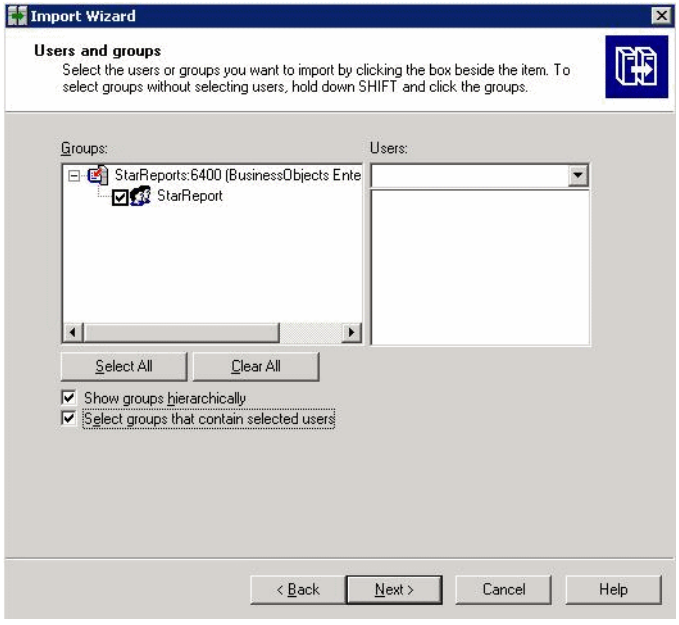


Figure 2-22: Users and Groups

9 Custom Access Levels: Click **Select All** and **Next**.

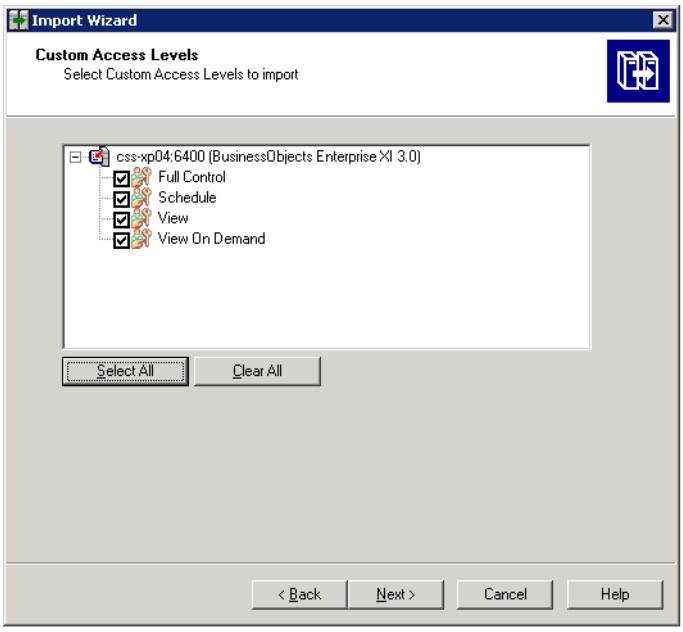


Figure 2-23: Custom Access Levels

10 Categories: Click **Select All** and select the "Import all objects..." option check-box. Click **Next**.

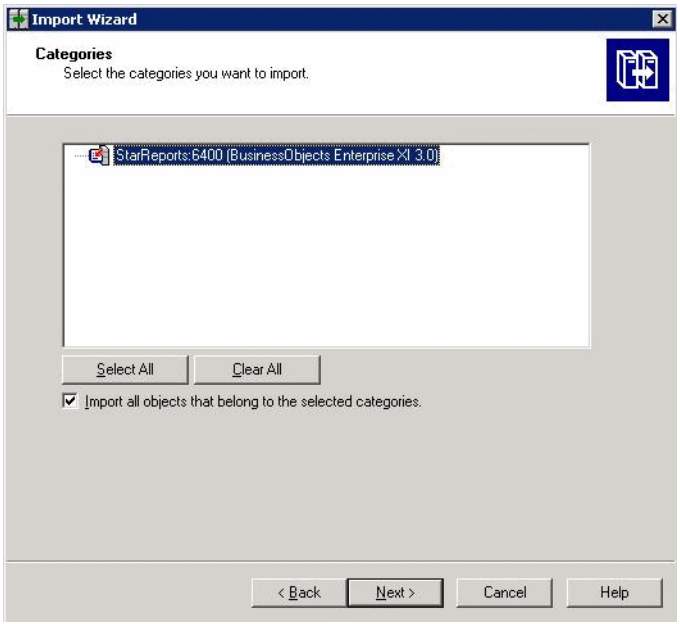


Figure 2-24: Categories

11 Folders and Objects: Click **Select All** and select the "Import all instances..." option check-box. Click **Next**.

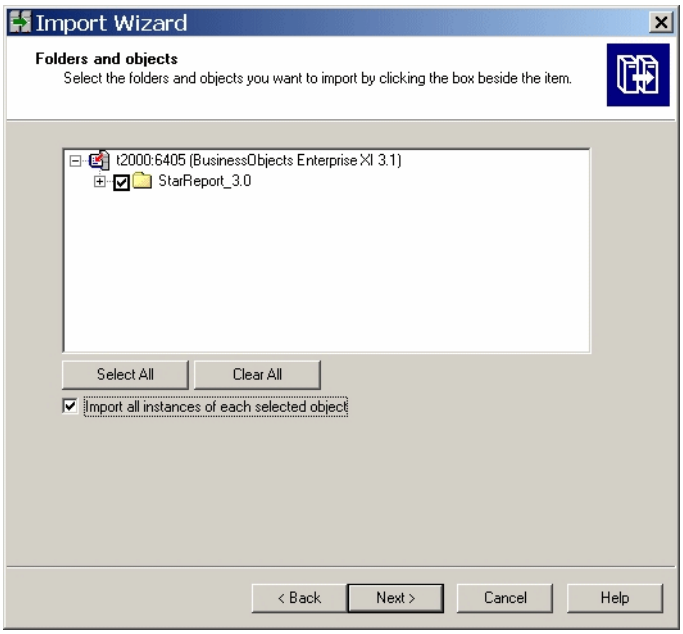


Figure 2-25: Folders and Objects

12 Select Application Folders and Objects: Click **Select All** and click **Next**.

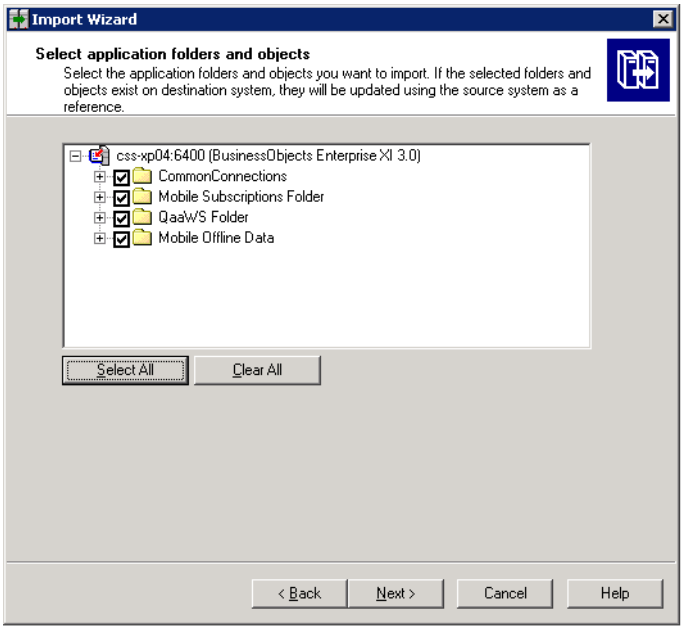


Figure 2-26: Select Application Folders and Objects

13 Import Options for Universes and Connections: Select the Import all universes and all connection objects option, and select the Keep universe overloads for imported users and groups check-box. Click **Next**.

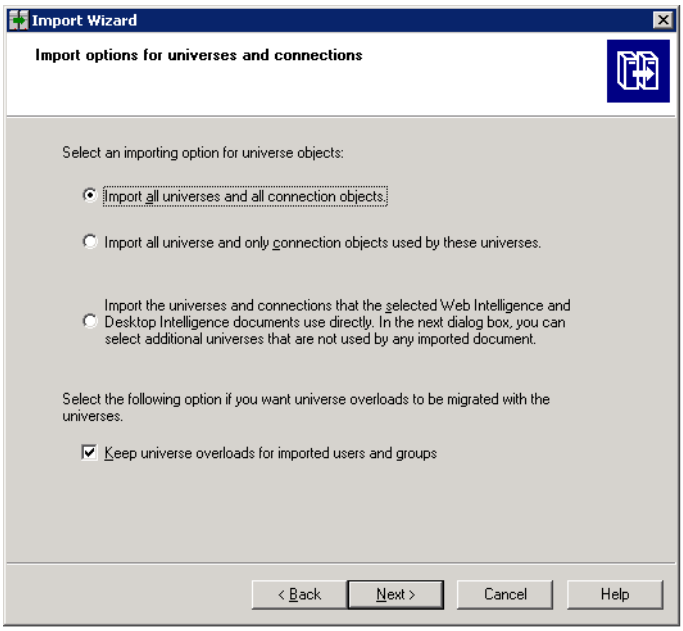


Figure 2-27: Import Options for Universes and Connections

14 Import Options for Publications: Select the following options:

- Import all profiles
- Import recipients used by selected publications

Click **Next**.

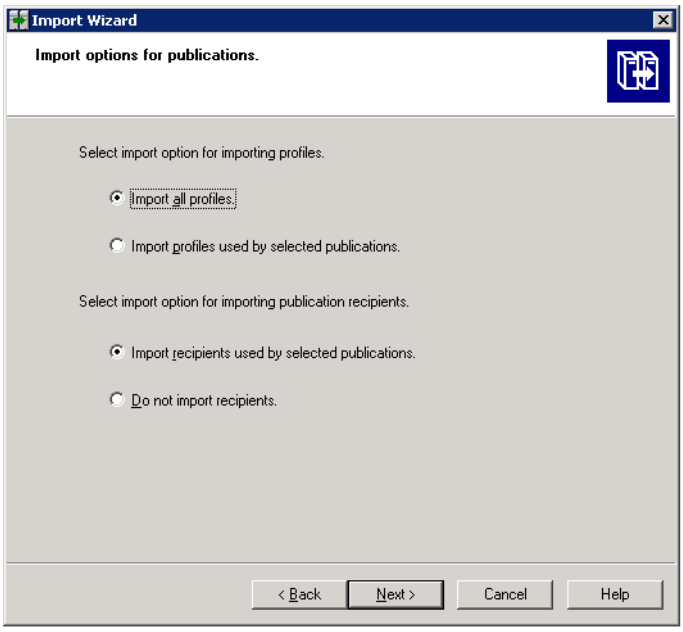


Figure 2-28: Import Options for Publications

15 Remote Connections and Replication Jobs: Click **Select All** and **Next**.

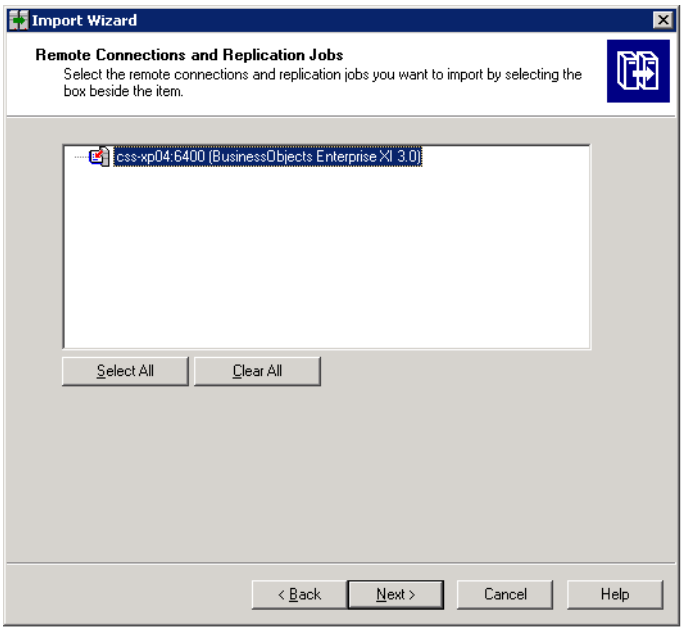


Figure 2-29: Remote Connections and Replication Jobs

16 Ready to Import: Click **Finish**; the system starts importing the information to the destination environment. The progress is displayed in the wizard window (Figure 2-31)

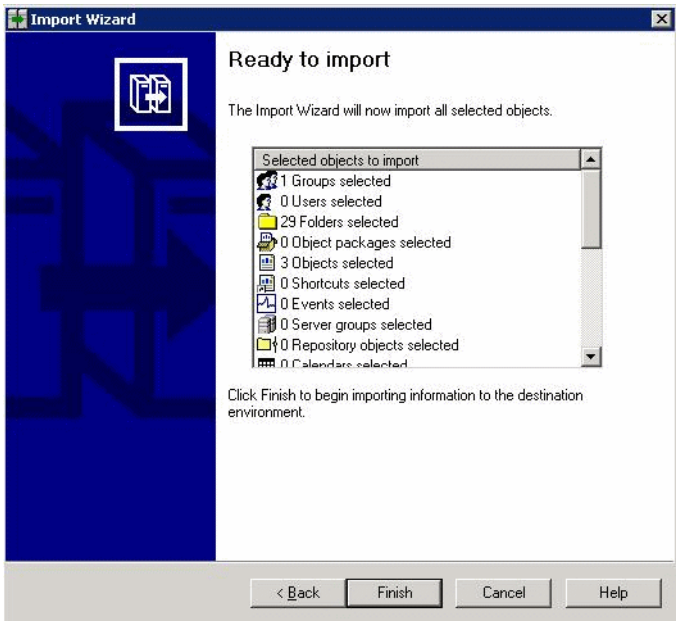


Figure 2-30: Ready to Import

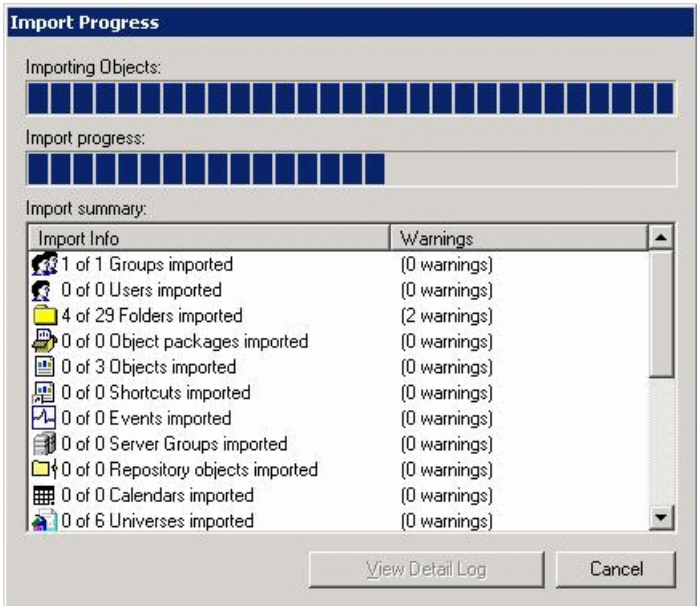


Figure 2-31: Import Progress

Chapter 3 - Getting Started

In this Chapter:

3.1 Setting the Database for Universe

INFORMATION

This section is intended for the Administrator only.

Before generating reports, the administrator configures the database settings and the connection to the database from BusinessObjects. This is a connection to the AlvariSTAR oracle database

Use the Designer application in BusinessObjects for the setup. Use the Username and password that were used during AlvariSTAR installation.

To configure the database connectivity for BusinessObjects:

1 Click **Start** and select Programs > BusinessObjects IX 3.1 > BusinessObjects Edge Series > Designer; the Designer Login window is displayed.

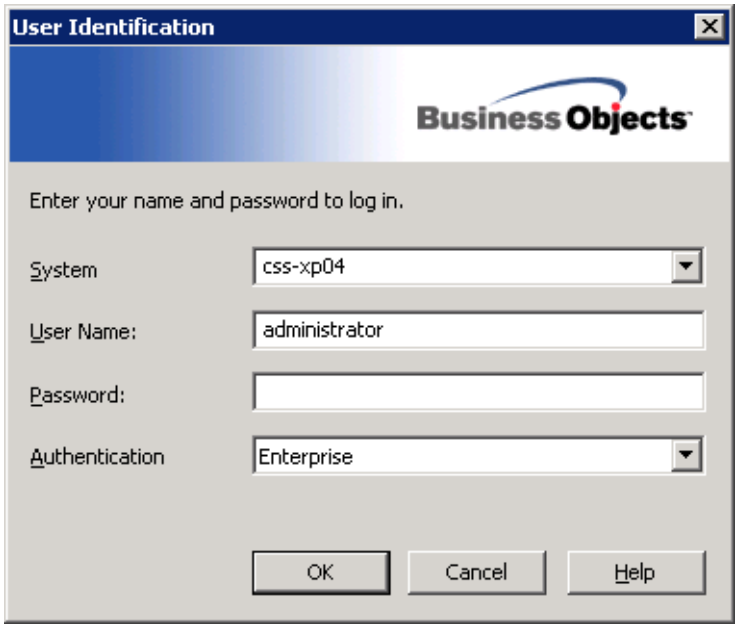


Figure 3-1: BusinessObjects Designer Login Window

2 Enter the username (administrator) and password (q1w2e3) and click **OK**; the Universe Designer main window is displayed (empty).

3 To open an existing universe select File > Open; a list of available Universes is displayed.

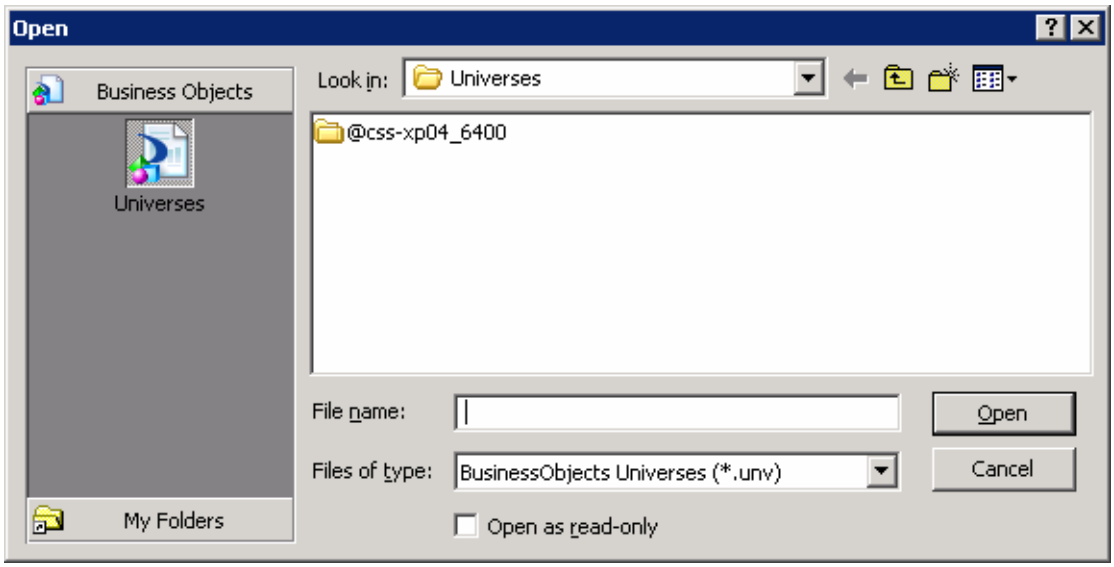


Figure 3-2: Universes Folder

4 Double-click on **@CSS-XP04_6400** to open the list of all Universes under this server.

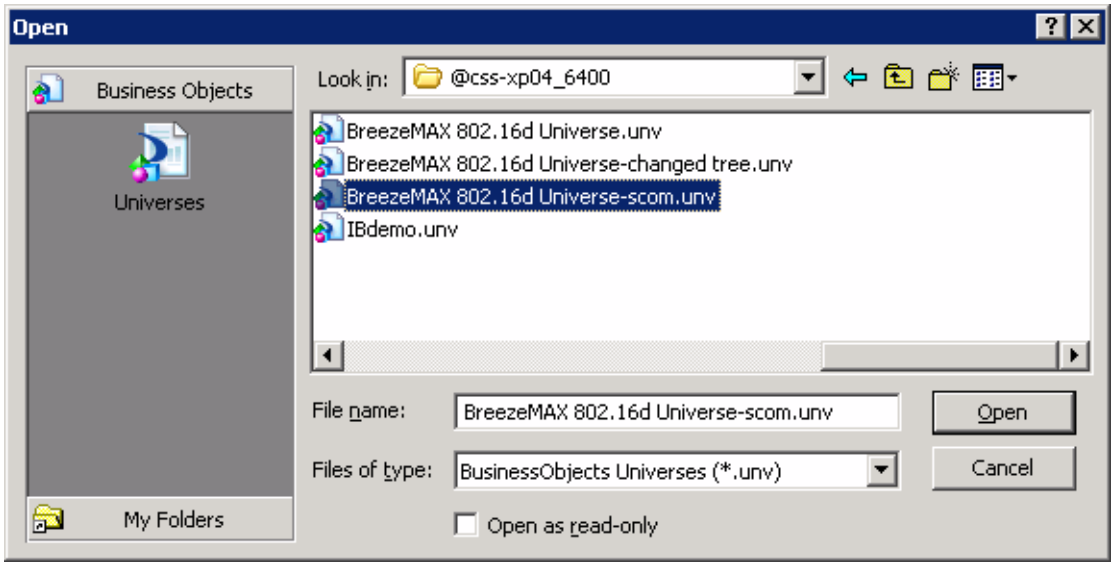


Figure 3-3: List of Universes

5 Select the required Universe and click **Open**; the Universe main window is displayed.

6 Verify that the universe is set to correct defaults as follows:

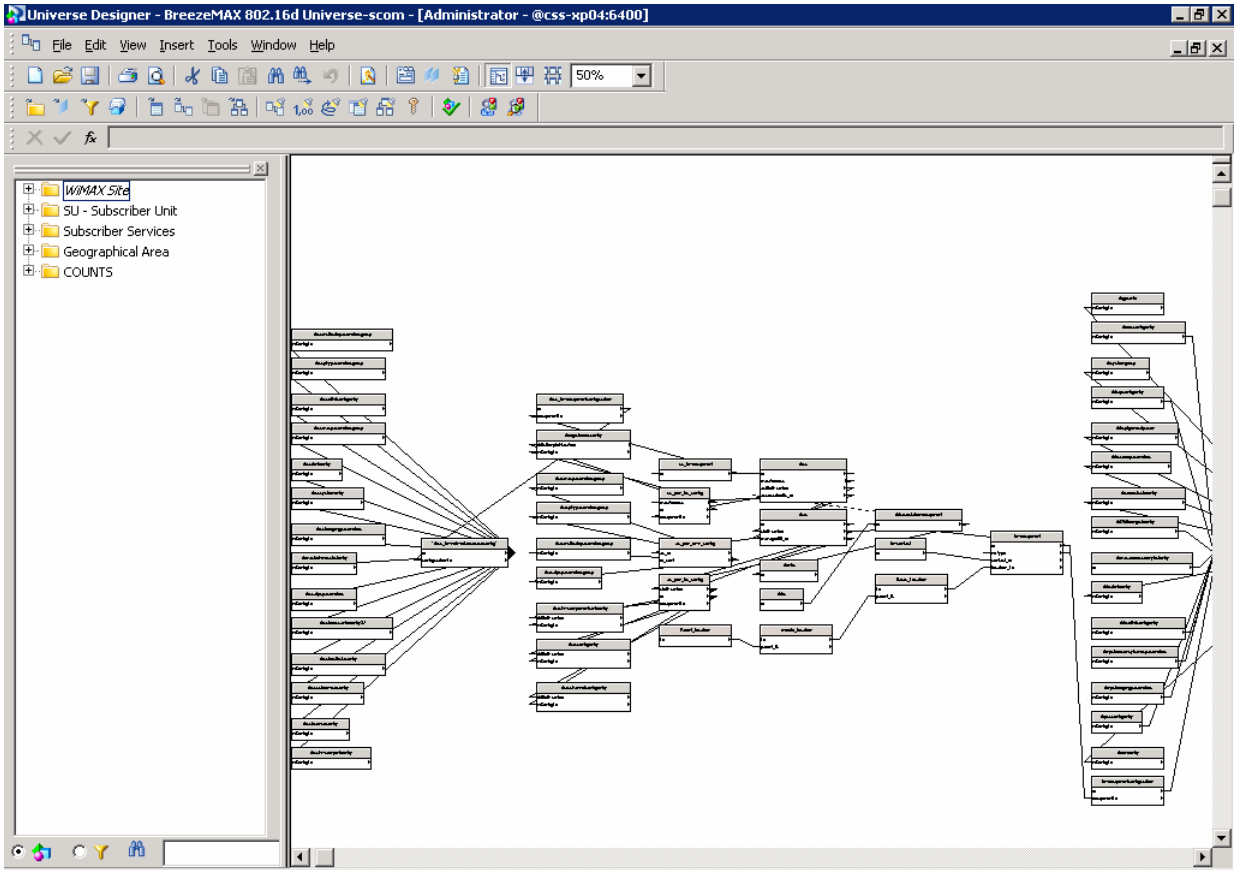


Figure 3-4: Designer Main Window

a Check the login parameters by selecting File > Parameters; the Universe Parameters window is displayed.

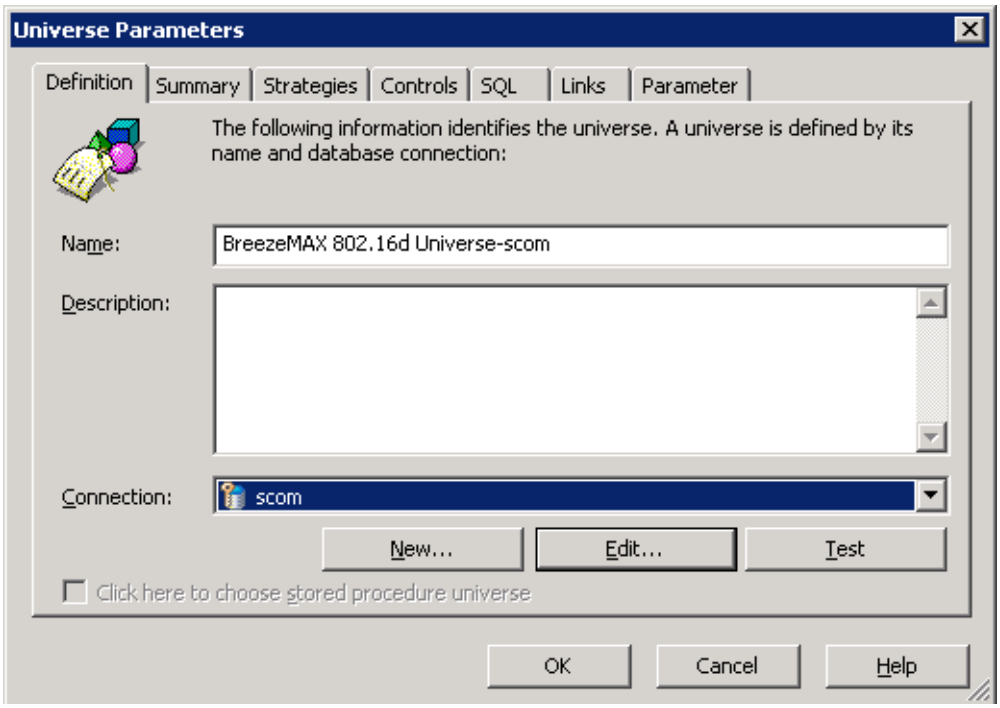


Figure 3-5: Universe Parameters Window

b Click **Edit**. The Edit <universe connection name> Connection window is displayed.

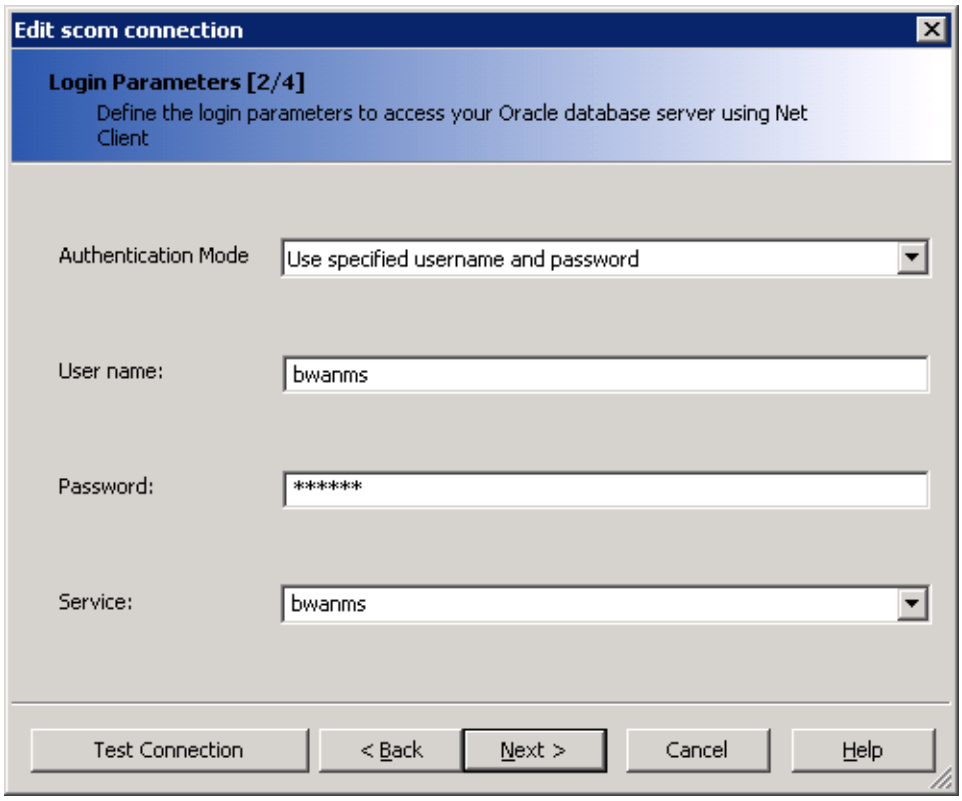


Figure 3-6: Edit Connection Window

c Verify that the Username and Password are `bwanms`. If not, edit them and click **Test Connection**. Verify that the message "The server is responding" is displayed. If not, check the Oracle client file *TNSNAMES*.

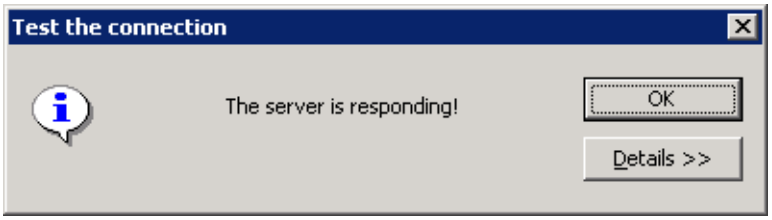


Figure 3-7: Universe Parameters Window

3.2 Accessing the InfoView Application

InfoView can be accessed at the URL: http://server_ip:8080/InfoViewApp/logon.jsp. Logon is required.

For more information on the use of InfoView interface, refer to *BusinessObjects Edge Series Getting Started Guide* and *BusinessObjects Enterprise Administrator's Guide*.

To access InfoView:

1 Access InfoView via *http://server_ip:<x>/InfoViewApp/logon.jsp*. <x> is the connection port of the server where StarReport is installed. The logon window is displayed.

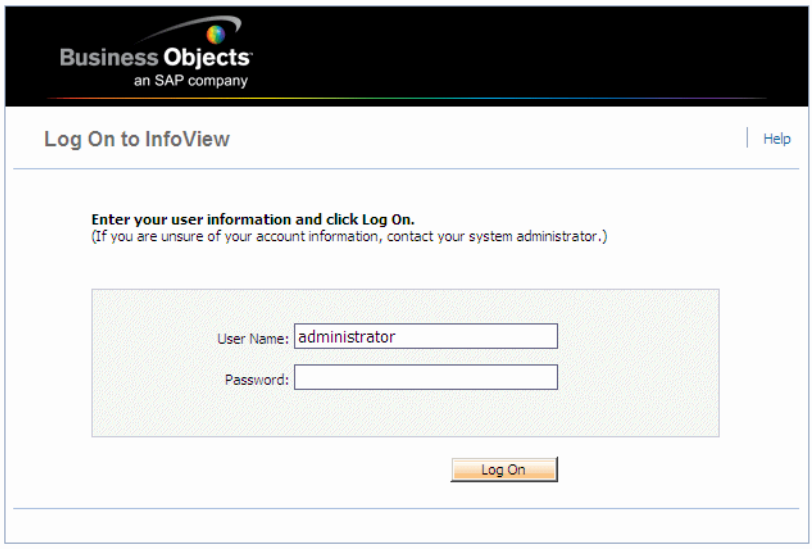


Figure 3-8: BusinessObjects InfoView Logon

INFORMATION

Logon to InfoView can be done with the administrator user that was created during installation or with specific users created by the administrator afterwards.

2 Enter the username and password (for Administrator the password is q1w2e3, unless changed during installation), and click **Logon**; A list of available report categories (for example: Inventory and Performance) is displayed, including information on the last report run, type, owner and number of instances (how many times the report has been generated).

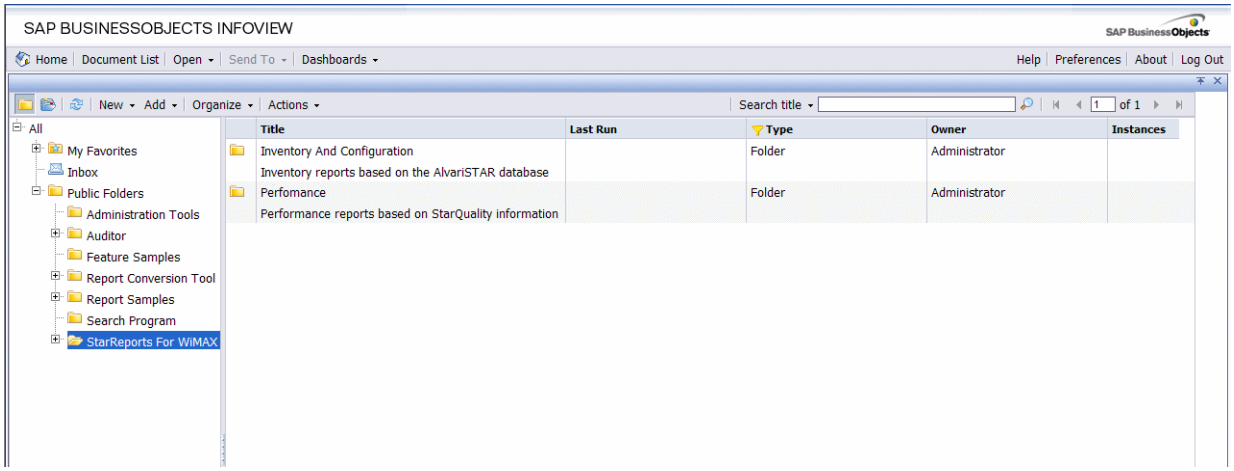


Figure 3-9: Example of Report Categories List

3 Expand the categories folder to view the available reports in each category.

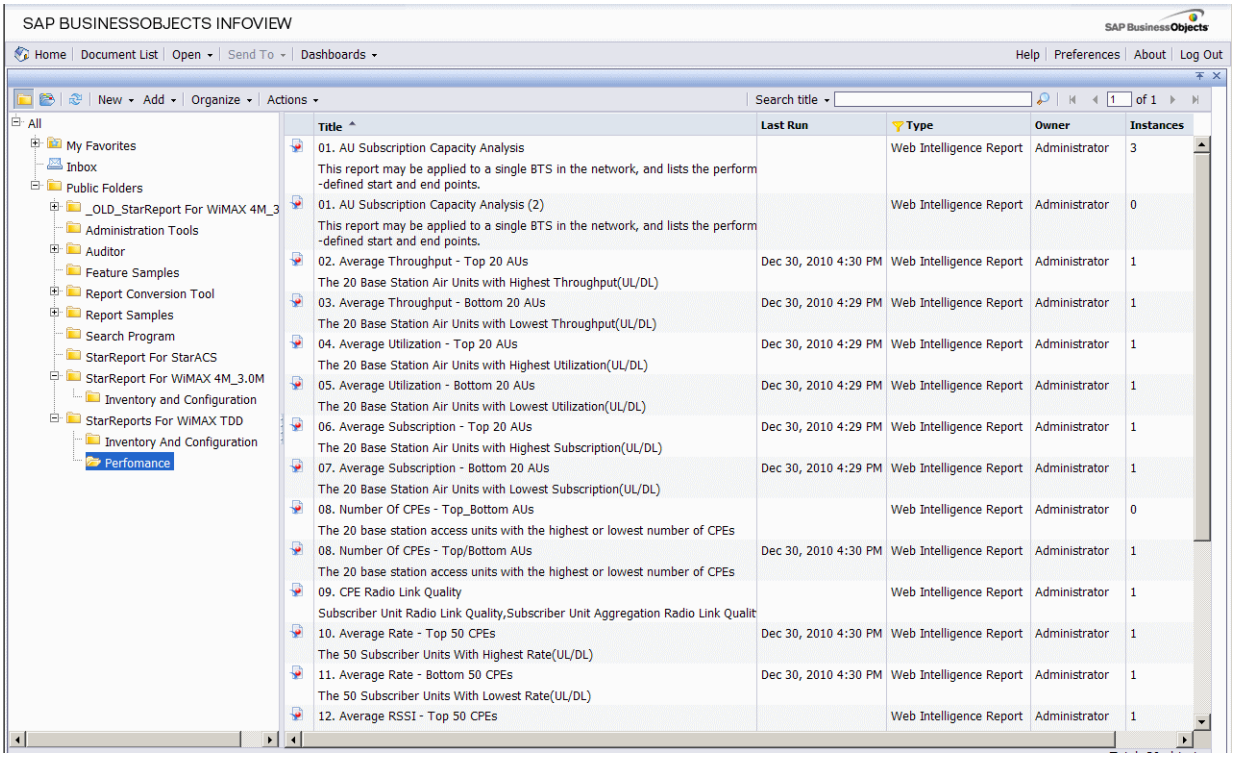


Figure 3-10: Performance Report List

3.3 Viewing Reports

Existing reports can be viewed by running them from the main application window.

To view an existing report:

From the reports list select a report, right-click and select **View** from the menu, or double click on one report (see Figure 3-11).

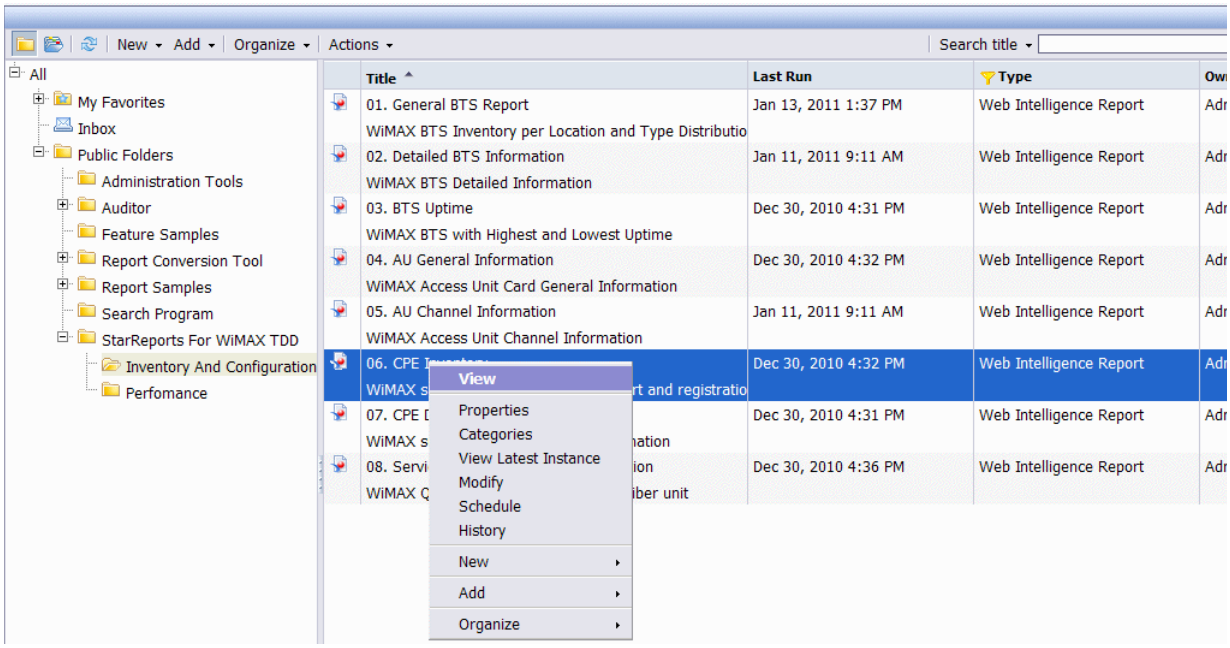
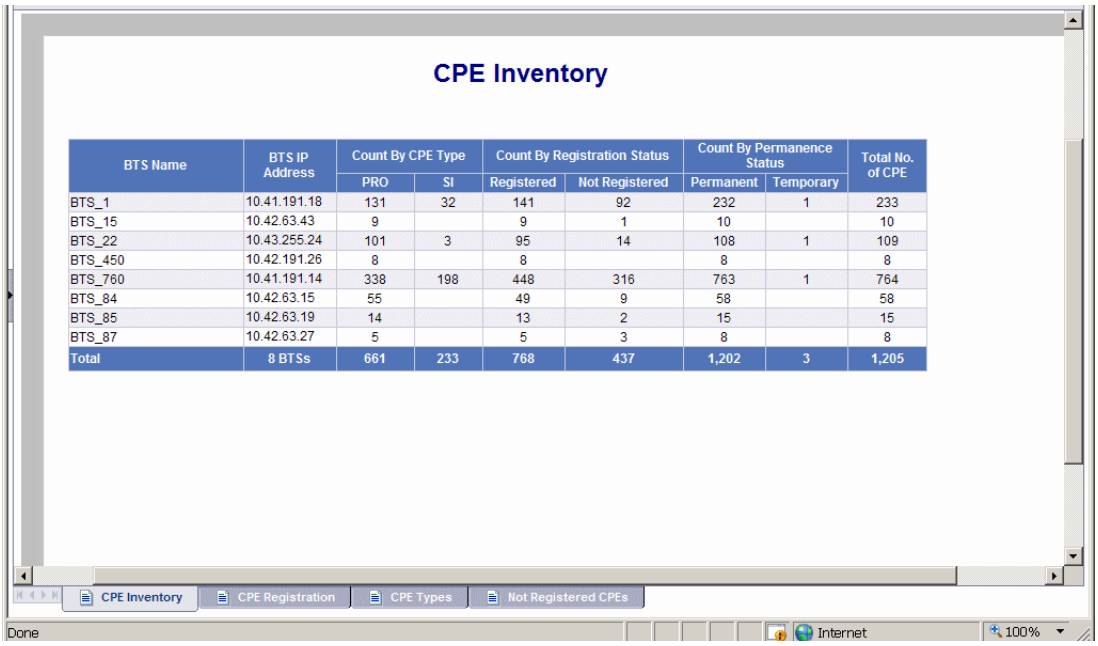


Figure 3-11: Report Right-click Menu

The report is created and displayed in a table or chart format. Figure 3-12 is an example of the CPE Inventory report.



CPE Inventory

BTS Name	BTS IP Address	Count By CPE Type		Count By Registration Status		Count By Permanence Status		Total No. of CPE
		PRO	SI	Registered	Not Registered	Permanent	Temporary	
BTS_1	10.41.191.18	131	32	141	92	232	1	233
BTS_15	10.42.63.43	9		9	1	10		10
BTS_22	10.43.255.24	101	3	95	14	108	1	109
BTS_450	10.42.191.26	8		8		8		8
BTS_760	10.41.191.14	338	198	448	316	763	1	764
BTS_84	10.42.63.15	55		49	9	58		58
BTS_85	10.42.63.19	14		13	2	15		15
BTS_87	10.42.63.27	5		5	3	8		8
Total	8 BTSs	661	233	768	437	1,202	3	1,205

Figure 3-12: Sample of Generated CPE Inventory Report

3.4 Generating or Editing Reports

3.4.1 Overview

You can edit the report to view different information in the columns (parameters).

To generate new reports or modify existing ones, you need to be familiar with BusinessObjects. Please refer to the BusinessObjects documentation, which is provided with the StarReport CDROM.

Alvarion provides the BreezeMAX BusinessObjects "universe" with the StarReport system. The universe is a data entity which includes all information and inter-relations that exist in the management system database. The objects are grouped into classes and subclasses. The classes and their hierarchy is device dependent.

You can display the parameters to be included in your report in two different methods: As objects or as an hierarchic tree.

Objects are grouped into folders called classes. Each class can also contain one or more subclasses. Subclasses contain objects that are a further subcategory of the objects in the upper level of the class.

The role of classes is to organize the objects into logical groups. When you create queries on the universe, classes help you find the objects that represent the information that you want to use in a query.

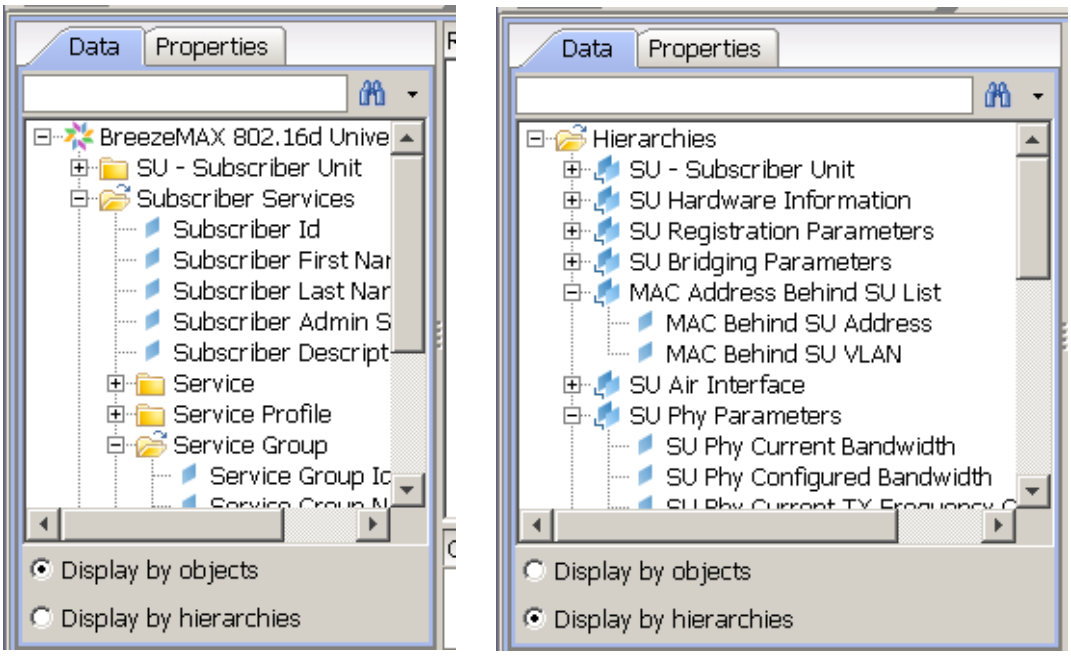


Figure 3-13: Display Options

In general, the objects are listed in the following top-level items. Some objects include second-level objects that also include specific parameters. Hovering with the mouse over a specific object name displays a tooltip with a brief description of the object.

The parameters are divided into their Object hierarchies. The hierarchy is universe driven - each network element has its own hierarchy.

In Hierarchy display, the same parameters are displayed, however they are ordered differently.

For example, in FDD/TDD, the basic structure includes parameters of the following elements:

- SU - Subscriber Unit - includes HW, registration, bridging, air interface, frequency scanning, best AU selection, gateway, ethernet port, and Licenses parameters.
- Subscriber Services - includes service profile, service group, voice domain, and Q in Q parameters.
- Geographical Area - includes parameters in three levels: Region, country and city. There must be exactly three hierarchy levels in the AlvariSTAR location manager.
- COUNTS - parameters for collecting inventory information per equipment type.

All objects are also described in the specific Device Manager User Manual and System Manual.

To modify an existing report:

1 Do one of the following:

- From the report list (see Figure 3-11) right-click on the report to edit and select **Modify**.
- From an already generated report (after running using **View**, see Figure 3-12), click **Edit** at the top of the window.

  The report appears with the data tree pane at the left side (Figure 3-14).

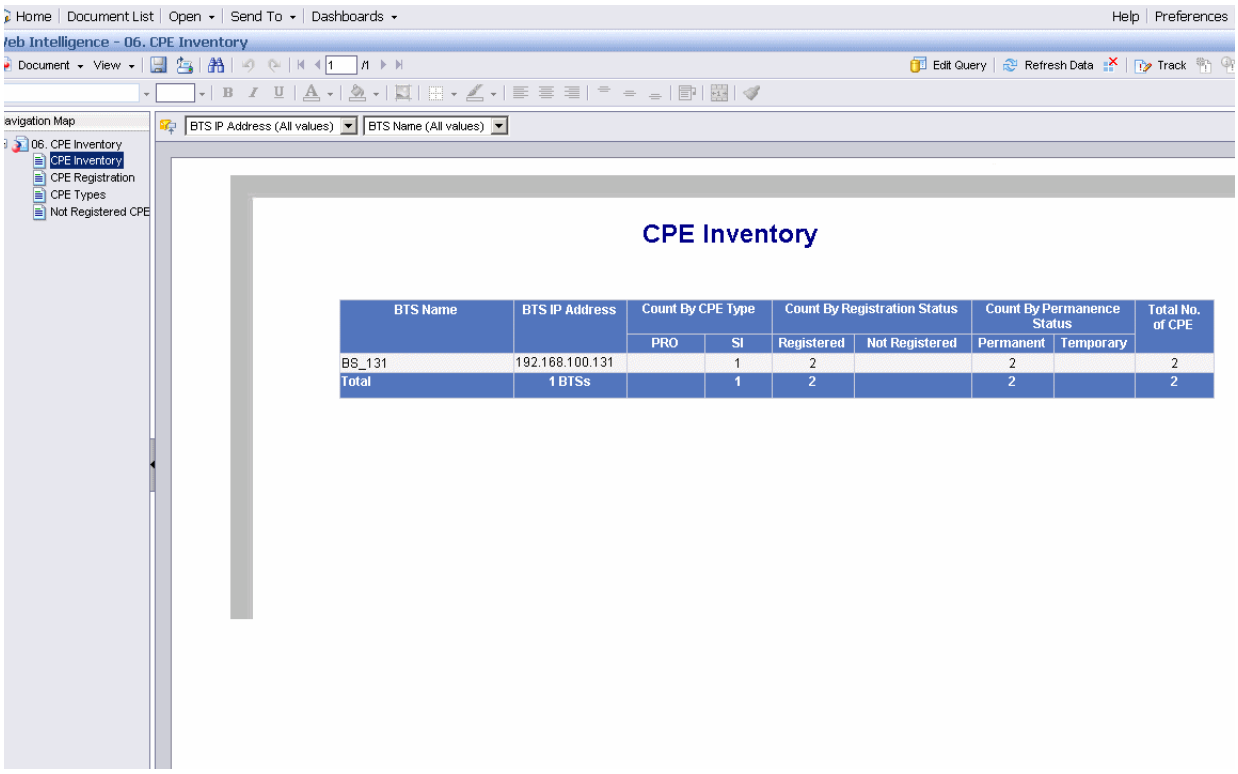


Figure 3-14: Sample of Report in Edit Mode

2 Make any modification, such as: change column location or color, change names, etc.

INFORMATION

In Edit mode, you can change only the names of the columns in the report, but not add/remove columns.

3 To change the information included in the report and re-build the report, click **Edit Query**. The objects appear in the Results Objects pane (Figure 3-15). From the Data tab at the left pane, select the objects you want to include in the report and drag them into the report display. Alternatively, double-click on the objects to add them to the report. To exclude objects (columns) or change their location, drag the column headers into the Data pane or to another location in the report.

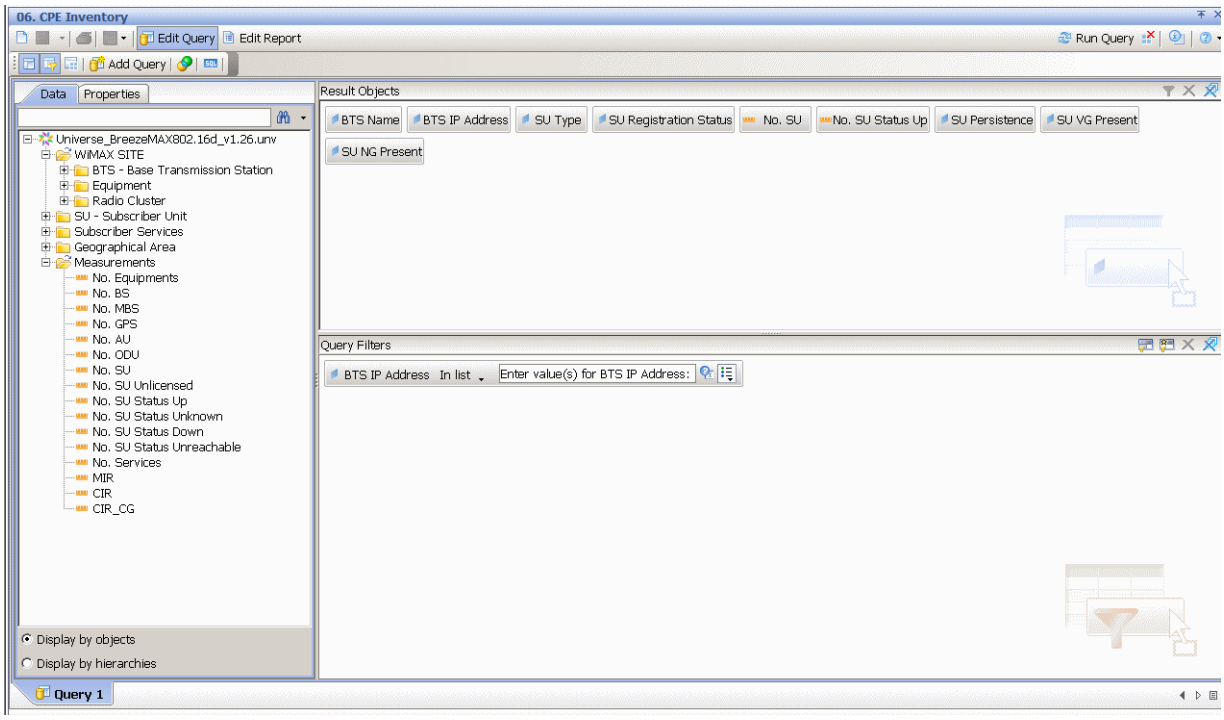


Figure 3-15: Edit Query

You can also generate reports that include graphs as shown in Figure 3-16. The procedure for designing this report type is described in the BusinessObjects manual.

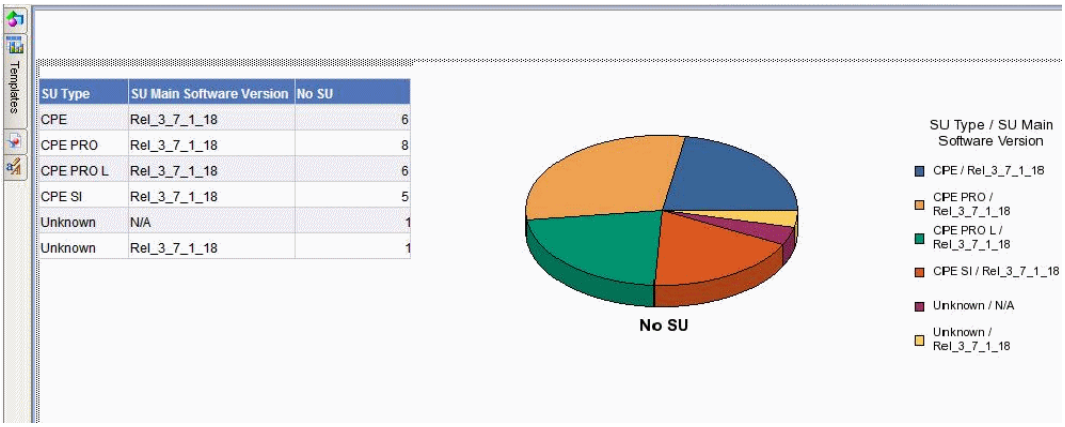


Figure 3-16: Report with Graph

To create a new report query:

1. Start the InfoView application (see Section 3.2).
2. Right-click and select New > Web Intelligence Document.

3 From the list of universes select BreezeMAX 802.16d Universe. A new empty query is created.

4 Select the objects you want to include in the query and drag them to the Result Objects pane. Alternatively, double click on the objects to add them in the Result Objects pane.

5 Click **Run Query** to generate the report.

Refer to the following sections for examples of reports.

3.4.2 Example 1 - Inventory Report

In this example, you will generate a tabular list of the following columns:

Base Station (BS) Operator ID, Cell ID, and Model and the IP Config IP address of the NPUs managed by these BSs.

1 Create a new report query as described above.

2 In this example, select:

» BreezeMAX FDD TDD > General and double-click on Operator ID, Cell ID, and Model.

» BreezeMAX Configuration > NPU > Data & Management Port > BS Ip If Config > and double-click on BTS Data/Mngmt IP Address.

All objects are displayed in the Result Objects window.

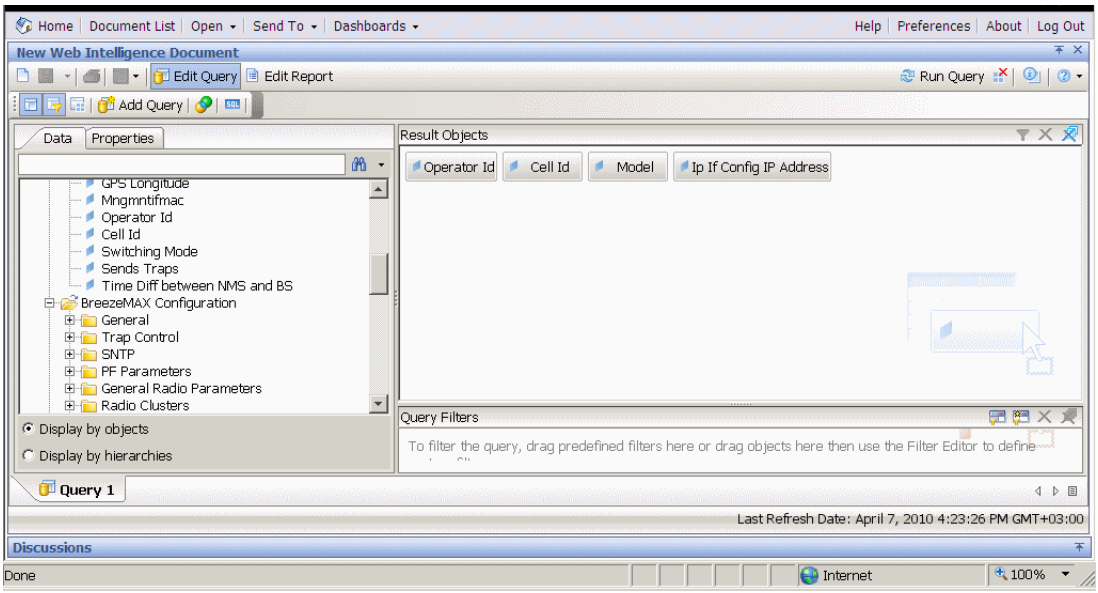


Figure 3-17: Selecting Objects for Generating Report

3 Click **Run Query** to generate the report.

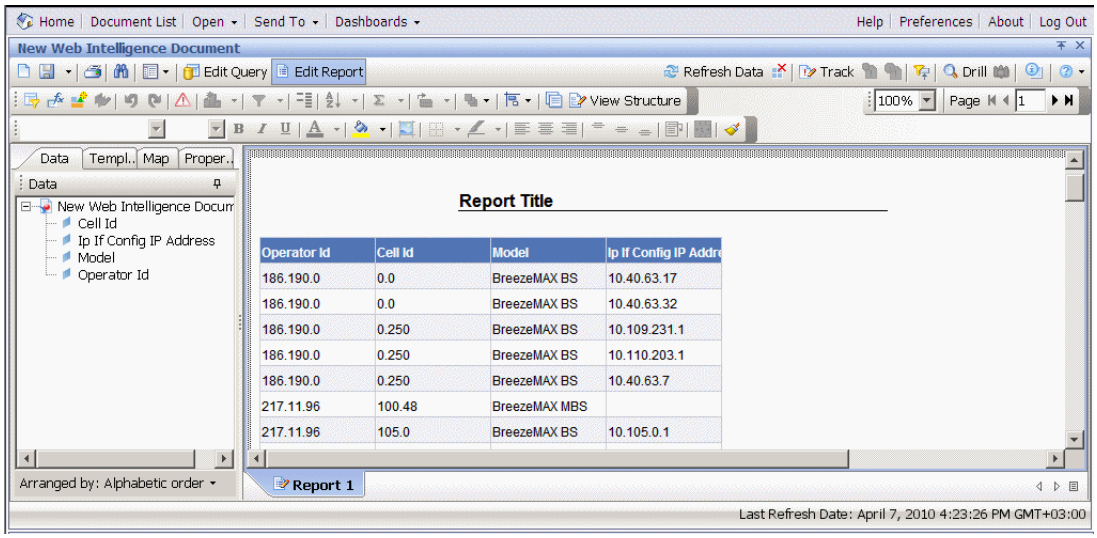


Figure 3-18: Generated Report (Inventory)

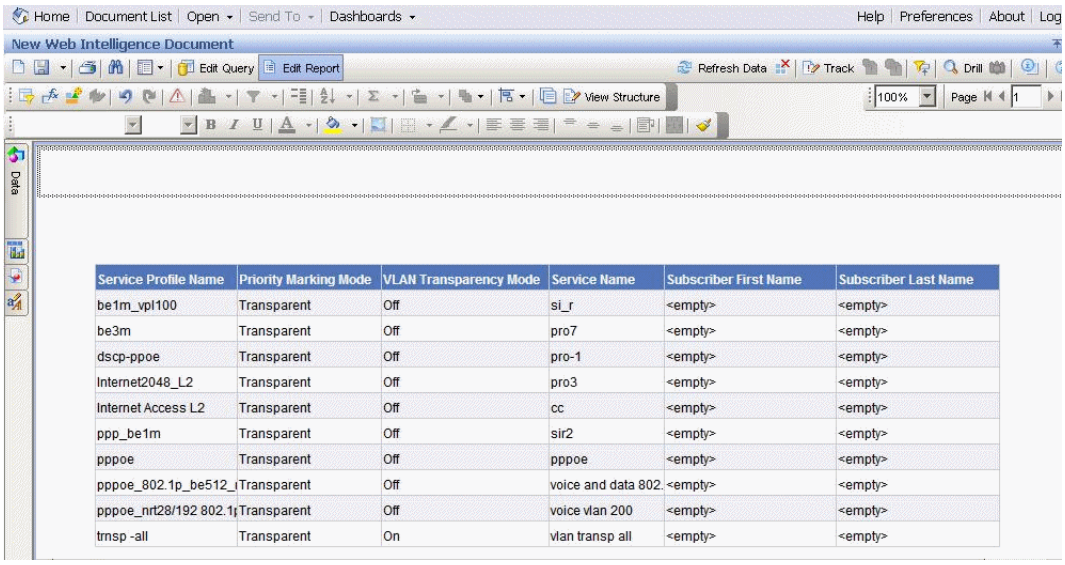
3.4.3 Example 2 - Services Report

In this example, you will generate a tabular list of services.

1 Double click on the following objects to include them in the query:

- Service Profile Name
- Priority Marking Mode
- VLAN Transparency Mode
- Service Name
- Subscriber First Name
- Subscriber Last Name

2 Click **Run Query** to generate the report.



Service Profile Name	Priority Marking Mode	VLAN Transparency Mode	Service Name	Subscriber First Name	Subscriber Last Name
be1m_vpl100	Transparent	Off	si_r	<empty>	<empty>
be3m	Transparent	Off	pro7	<empty>	<empty>
dscp-ppoe	Transparent	Off	pro-1	<empty>	<empty>
Internet2048_L2	Transparent	Off	pro3	<empty>	<empty>
Internet Access L2	Transparent	Off	cc	<empty>	<empty>
ppp_be1m	Transparent	Off	sir2	<empty>	<empty>
pppoe	Transparent	Off	pppoe	<empty>	<empty>
pppoe_802.1p_be512_	Transparent	Off	voice and data 802.	<empty>	<empty>
pppoe_nrt28/192 802.1	Transparent	Off	voice vlan 200	<empty>	<empty>
trnsp -all	Transparent	On	vlan transp all	<empty>	<empty>

Figure 3-19: Generated Report (Services)

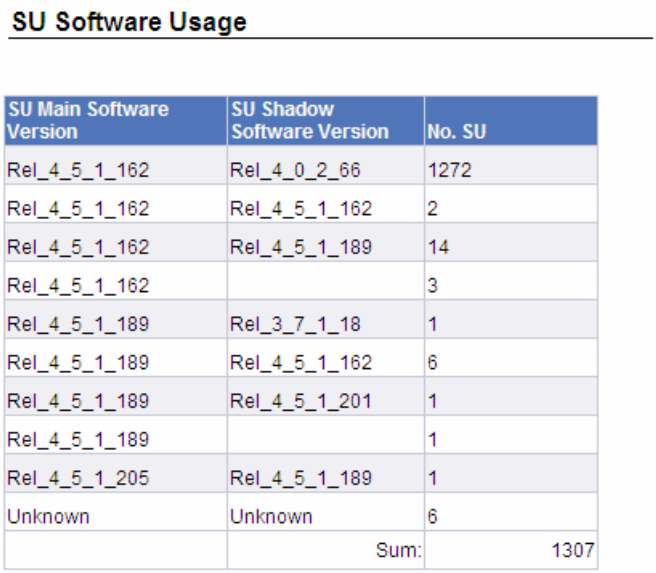
3.4.4 Example 3 - SU Software Usage

In this example, you will generate a tabular view of the distribution of software versions (main and shadow) used per SUs.

1 Double-click on the following objects to include them in the query:

- » SU Main Software Version
- » SU Shadow Software Version
- » COUNTS > No. SU

2 Click **Run Query** to generate the report.



SU Software Usage

SU Main Software Version	SU Shadow Software Version	No. SU
Rel_4_5_1_162	Rel_4_0_2_66	1272
Rel_4_5_1_162	Rel_4_5_1_162	2
Rel_4_5_1_162	Rel_4_5_1_189	14
Rel_4_5_1_162		3
Rel_4_5_1_189	Rel_3_7_1_18	1
Rel_4_5_1_189	Rel_4_5_1_162	6
Rel_4_5_1_189	Rel_4_5_1_201	1
Rel_4_5_1_189		1
Rel_4_5_1_205	Rel_4_5_1_189	1
Unknown	Unknown	6
	Sum:	1307

Figure 3-20: Generated Report (SU SW Usage)

Chapter 4 - Pre-defined Reports - WIMAX 16d

In this Chapter:

4.1 Introduction

This chapter describes the pre-defined reports provided by Alvarion on the StarReport platform, for the WIMAX 16d systems.

The StarReport is used to generate a wide variety of reports, based on information gathered from the AlvariSTAR and the StarQuality systems. A trained user may create further reports based on specific requirements.

The next sections describe the report types.

INFORMATION

- The terms CPE (Customer Premises Equipment) and SU (Subscriber Unit) are used interchangeably in this chapter, as they are used differently in FDD/TDD and 4Motion.
- The terms AU (Access Unit) and BS (Base Station) are used interchangeably in the reports, as they are used differently in FDD/TDD and 4Motion.

To generate a WiMAX 16d pre-defined report:

1. In the BusinessObjects InfoView select StarReport for WiMAX 16d.
2. Select one of the folders to display the available report types:
   - » Inventory and Configuration Reports
   - » Performance reports

   The report list is displayed.

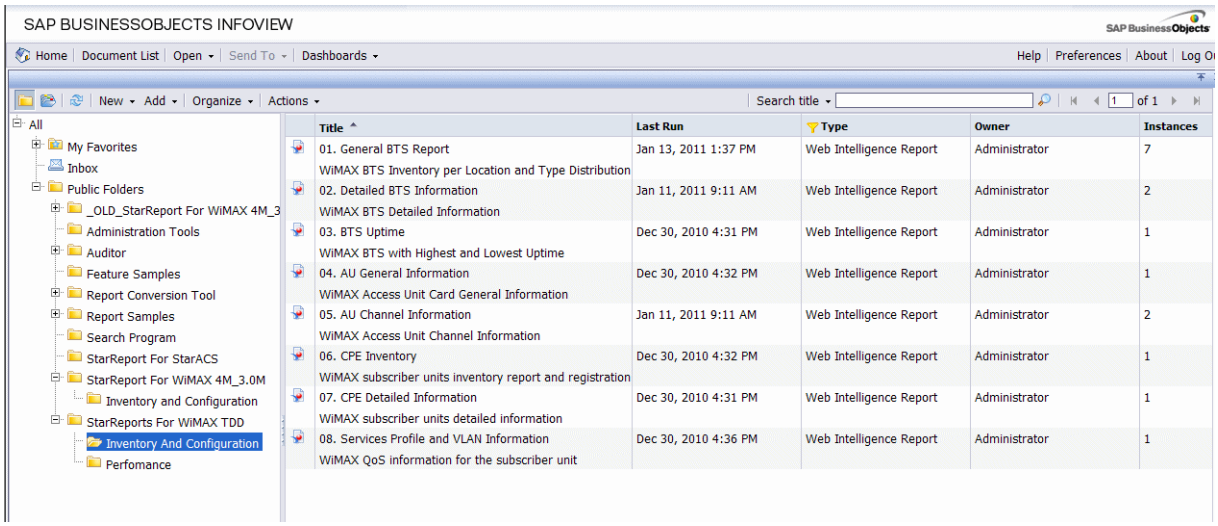


Figure 4-1: WiMAX TDD Inventory and Configuration Reports List

3 In the reports list, right-click on a selected report and select **View**. The report is generated and displayed after a few seconds.

4 After running any tabular report, you can filter, re-order, or sort the data by each column, using the sorting lists 

, or the filtering icon  at the top of the page.

4.2 Inventory and Configuration Reports

These reports provide network-wide or specific BTS data, depending on selected parameters. The various reports display BreezeMAX base station inventory information from network-level to specific detailed data for each location and equipment type. The reports in this type are:

4.2.1 General BTS Report

This report provides a high level view of the network, from inventory perspective: Number of BTSs, AUs and SUs per each city of the network, as well as total sums. Using this report, you obtain an initial perspective of the equipment types in use and their geographical distribution, and then navigate to more detailed reports.

This report includes three tabs, as described in the following sections, to display the information both in table and graphical formats.

To generate this report select **01. General BTS Report** from the Inventory and Configuration reports list.

4.2.1.1 BTS Inventory per Location Table

The BTS Inventory per Location report table includes the following columns:

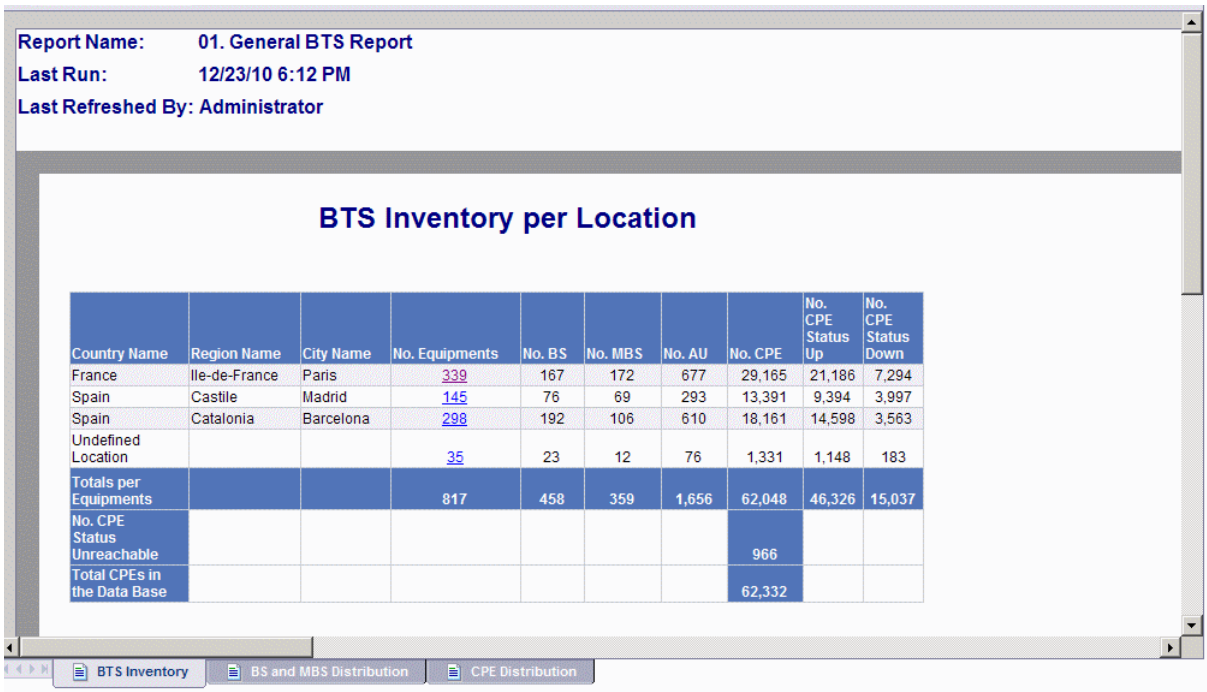
- Country Name – upper location level
- Region Name – middle location level
- City Name – lower location level – BTS associated location

INFORMATION

The country/region/city concept is based on the AlvariSTAR standard - there must be three hierarchy levels.

- No. Equipment – Total BTS count, with a link to the BTS Detailed Information per Location report for this specific BTS location (see Section 4.2.2).
- No. BS – number of Macro Base Stations
- No. MBS – number of Micro Base Stations
- No. AU – total number of AU cards (not applicable for Micro Base Station)
- No. CPE – number of Customer Premises Equipment (subscriber) units
- No. CPE Status Up - number of connected CPEs
- No. CPE Status Down - number of disconnected CPEs

The table footer displays accumulated statistics (sum of no. of units), where applicable.



Report Name: 01. General BTS Report
Last Run: 12/23/10 6:12 PM
Last Refreshed By: Administrator

BTS Inventory per Location

Country Name	Region Name	City Name	No. Equipments	No. BS	No. MBS	No. AU	No. CPE	No. CPE Status Up	No. CPE Status Down
France	Ile-de-France	Paris	339	167	172	677	29,165	21,186	7,294
Spain	Castile	Madrid	145	76	69	293	13,391	9,394	3,997
Spain	Catalonia	Barcelona	298	192	106	610	18,161	14,598	3,563
Undefined Location			35	23	12	76	1,331	1,148	183
Totals per Equipments			817	458	359	1,656	62,048	46,326	15,037
No. CPE Status Unreachable							966		
Total CPEs in the Data Base							62,332		

BTS Inventory | BS and MBS Distribution | CPE Distribution

Figure 4-2: General BTS Report - BTS Inventory per Location

4.2.1.2 BS and MBS Distribution Graph

This report provides a graphical representation (bar chart) of the distribution between Micro and Macro BreezeMAX base stations, per location, using tabular data of the "BTS Inventory per Location Table" on page 43.

- Y axis: No. of BTSs
- X axis: Locations, subdivided into Macro/Micro BTSs per location

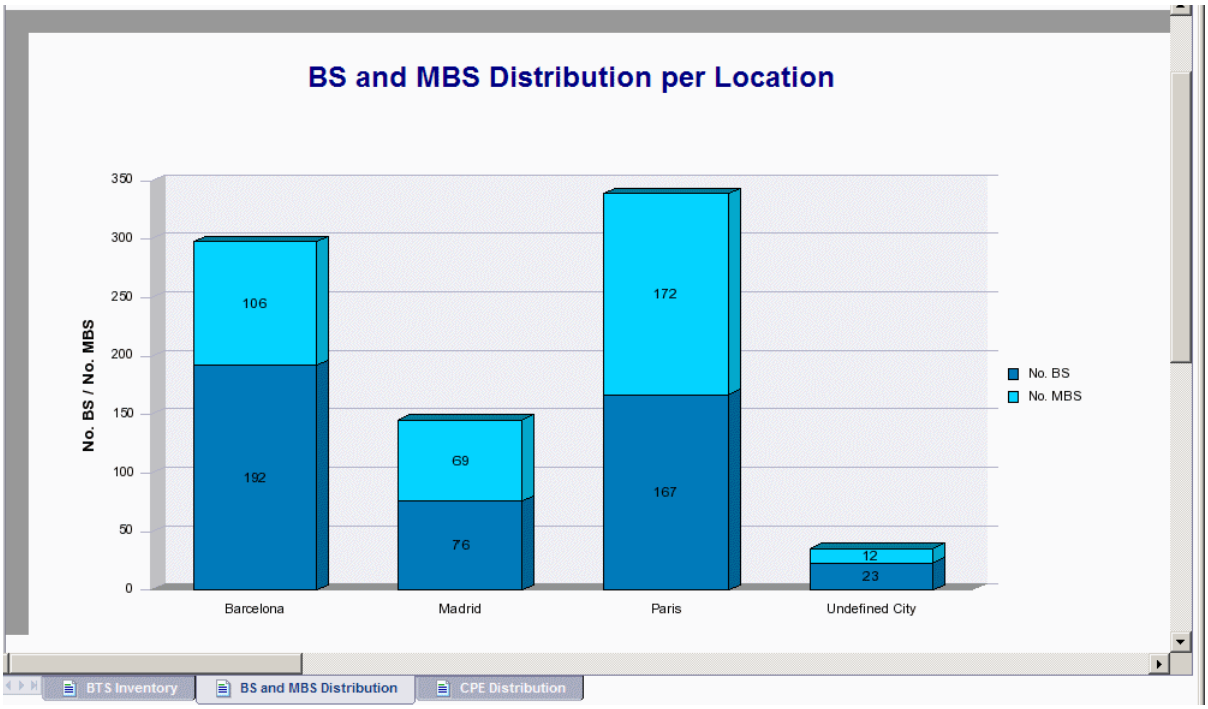


Figure 4-3: General BTS Report - BS and MBS Distribution per Location

4.2.1.3 CPE Distribution Graph

This report provides a graphical representation (bar chart) of the distribution between CPEs with the status "up" and those with the status "down", per location, using tabular data of the "BTS Inventory per Location Table" on page 43.

- Y axis: No. of CPE (referred to as SU)
- X axis: Locations, subdivided into total number of SUs, Up SUs and Down SUs, per location

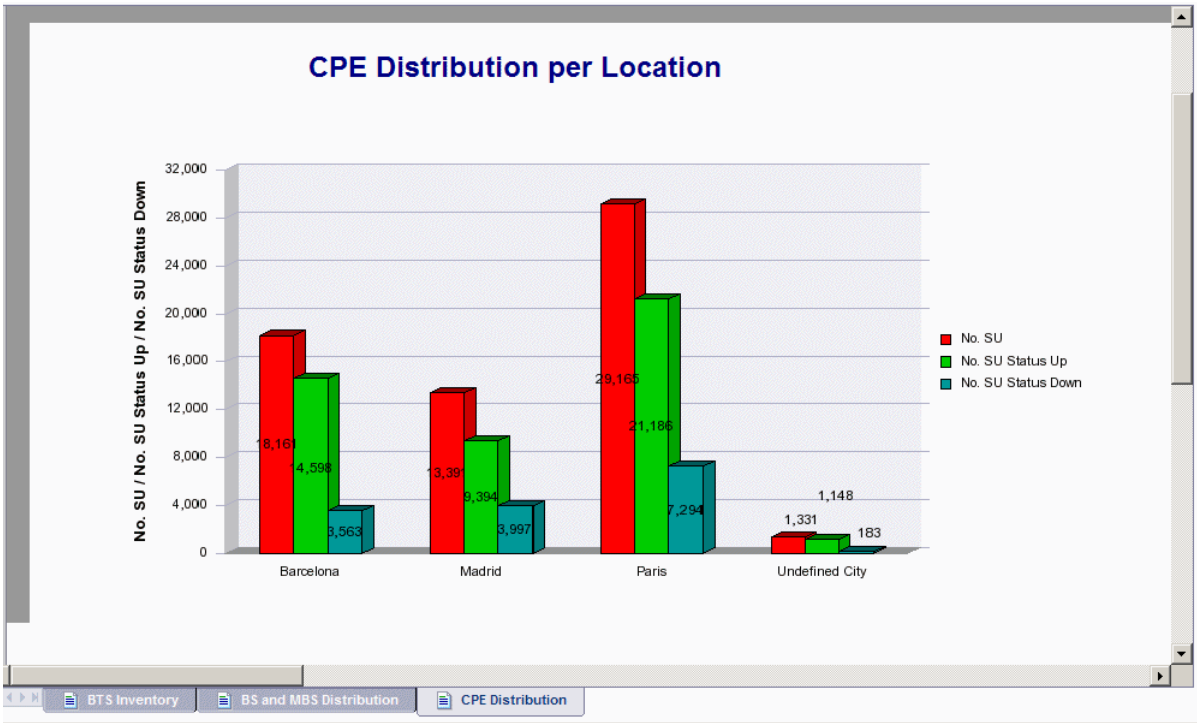


Figure 4-4: General BTS Report - CPE Distribution per Location

4.2.2 BTS Detailed Information per Location

This report contains BreezeMAX base stations detailed information. It provides comprehensive data about the BTSs in use in the network, their types, operability status, SW versions, number of AUs, ODUs, SUs, etc.

To generate this report select **02. Detailed BTS Information** from the Inventory and Configuration reports list.

The table includes the following columns:

- BTS IP Address – management IP
- BTS Name
- BTS Model – Micro or Macro base station
- BTS State – Up or Unreachable in the AlvariSTAR database
- NPU Serial Number
- NPU Main SW version
- NPU Shadow SW version
- NPU Running Software – whether the NPU running from main or shadow
- BTS General Operator ID

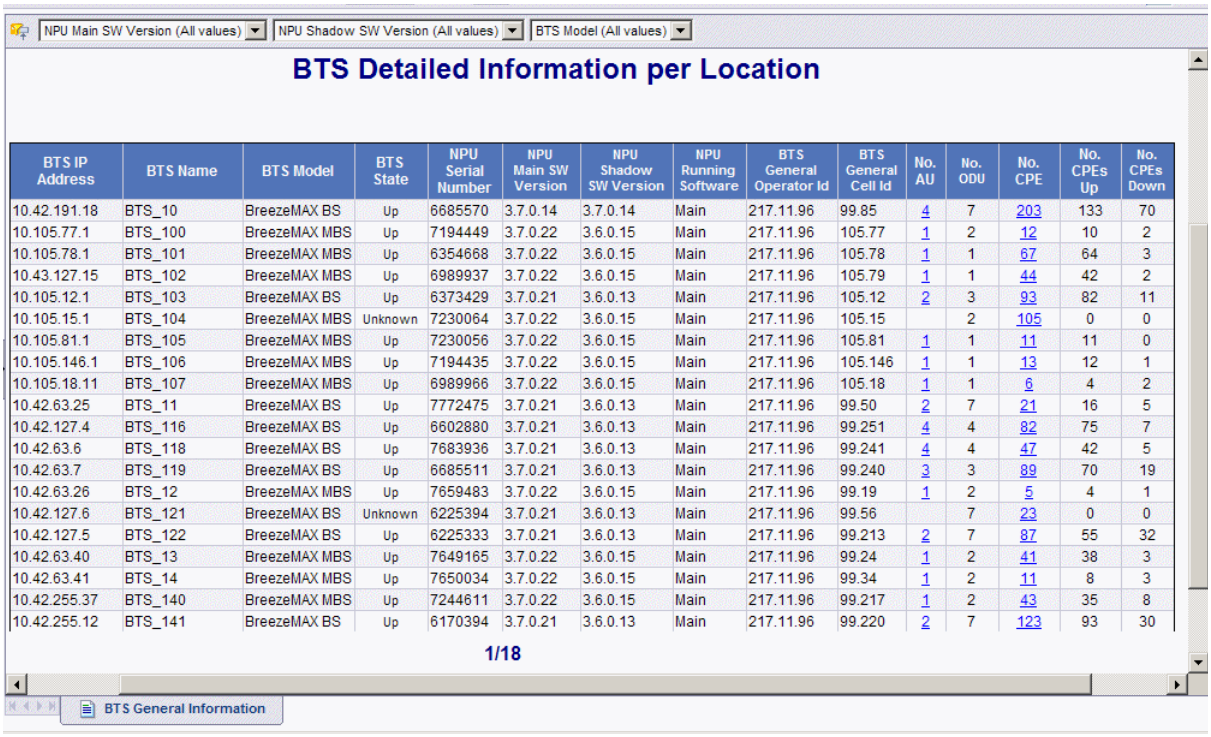
- BTS General Cell ID
- No. AU – number of AU cards - Link to the AU general information report for this specific BTS (see Section 4.2.4). Not applicable for Micro Base Station.
- No. ODU – number of outdoor units
- No. CPE – number of CPEs – Link to CPE detailed information report for this specific BTS (see Section 4.2.7)
- No. CPE Up - Number of connected CPEs
- No. CPE Down - Number of disconnected CPEs

You can manipulate the displayed data (filter, sort, etc.) to retrieve data of interest, such as the following examples:

- BTSs for which SW upgrade is required
- BTSs having no SUs attached
- Find a specific BTS of interest according to serial number, IP address, name, etc. and then drill down to view its AUs or SUs
- Find BTSs which are the most or least loaded with AUs, and then drill down to view its AUs or SUs

The following filters are available at the top of the report page:

- NPU Main SW Version
- NPU Shadow SW Version
- BTS Model



BTS IP Address	BTS Name	BTS Model	BTS State	NPU Serial Number	NPU Main SW Version	NPU Shadow SW Version	NPU Running Software	BTS General Operator Id	BTS General Cell Id	No. AU	No. ODU	No. CPE	No. CPEs Up	No. CPEs Down
10.42.191.18	BTS_10	BreezeMAX BS	Up	6685570	3.7.0.14	3.7.0.14	Main	217.11.96	99.85	4	7	203	133	70
10.105.77.1	BTS_100	BreezeMAX MBS	Up	7194449	3.7.0.22	3.6.0.15	Main	217.11.96	105.77	1	2	12	10	2
10.105.78.1	BTS_101	BreezeMAX MBS	Up	6354668	3.7.0.22	3.6.0.15	Main	217.11.96	105.78	1	1	67	64	3
10.43.127.15	BTS_102	BreezeMAX MBS	Up	6989937	3.7.0.22	3.6.0.15	Main	217.11.96	105.79	1	1	44	42	2
10.105.12.1	BTS_103	BreezeMAX BS	Up	6373429	3.7.0.21	3.6.0.13	Main	217.11.96	105.12	2	3	93	82	11
10.105.15.1	BTS_104	BreezeMAX MBS	Unknown	7230064	3.7.0.22	3.6.0.15	Main	217.11.96	105.15		2	105	0	0
10.105.81.1	BTS_105	BreezeMAX MBS	Up	7230056	3.7.0.22	3.6.0.15	Main	217.11.96	105.81	1	1	11	11	0
10.105.146.1	BTS_106	BreezeMAX MBS	Up	7194435	3.7.0.22	3.6.0.15	Main	217.11.96	105.146	1	1	13	12	1
10.105.18.11	BTS_107	BreezeMAX MBS	Up	6989966	3.7.0.22	3.6.0.15	Main	217.11.96	105.18	1	1	6	4	2
10.42.63.25	BTS_11	BreezeMAX BS	Up	7772475	3.7.0.21	3.6.0.13	Main	217.11.96	99.50	2	7	21	16	5
10.42.127.4	BTS_116	BreezeMAX BS	Up	6602880	3.7.0.21	3.6.0.13	Main	217.11.96	99.251	4	4	82	75	7
10.42.63.6	BTS_118	BreezeMAX BS	Up	7683936	3.7.0.21	3.6.0.13	Main	217.11.96	99.241	4	4	47	42	5
10.42.63.7	BTS_119	BreezeMAX BS	Up	6685511	3.7.0.21	3.6.0.13	Main	217.11.96	99.240	3	3	89	70	19
10.42.63.26	BTS_12	BreezeMAX MBS	Up	7659483	3.7.0.22	3.6.0.15	Main	217.11.96	99.19	1	2	5	4	1
10.42.127.6	BTS_121	BreezeMAX BS	Unknown	6225394	3.7.0.21	3.6.0.13	Main	217.11.96	99.56		7	23	0	0
10.42.127.5	BTS_122	BreezeMAX BS	Up	6225333	3.7.0.21	3.6.0.13	Main	217.11.96	99.213	2	7	87	55	32
10.42.63.40	BTS_13	BreezeMAX MBS	Up	7649165	3.7.0.22	3.6.0.15	Main	217.11.96	99.24	1	2	41	38	3
10.42.63.41	BTS_14	BreezeMAX MBS	Up	7650034	3.7.0.22	3.6.0.15	Main	217.11.96	99.34	1	2	11	8	3
10.42.255.37	BTS_140	BreezeMAX MBS	Up	7244611	3.7.0.22	3.6.0.15	Main	217.11.96	99.217	1	2	43	35	8
10.42.255.12	BTS_141	BreezeMAX BS	Up	6170394	3.7.0.21	3.6.0.13	Main	217.11.96	99.220	2	7	123	93	30

Figure 4-5: BTS Detailed Information per Location

4.2.3 BTS Uptime

This report (based on the StarQuality universe) provides a list of the ten BTSs with longest or shortest uptime duration.

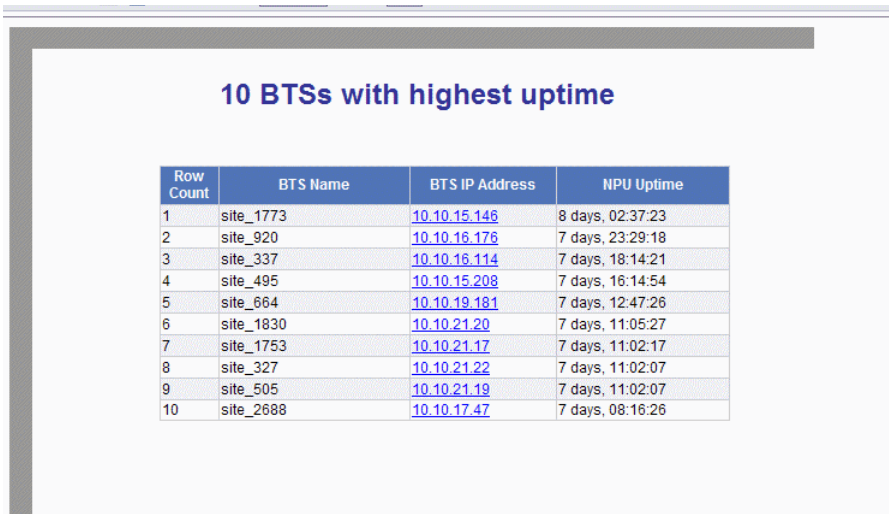
To generate this report select **03. BTS Uptime** from the Inventory and Configuration reports list.

4.2.3.1 10 BTSs with Highest Uptime

You may run this report in order to find those BTSs in continuous operation (no restart) for the longest time. This report has significance in terms of network availability, but also provides reference perspective to the report of BTSs with lowest uptime, detailed below (Section 4.2.3.2).

This report contains the following columns:

- BTS Name
- BTS IP Address – management IP, with a link to the specific BTS Detailed Information per Location (see Section 4.2.2)
- NPU Uptime - NPU cumulative power-on, expressed in [minutes]/[hours]/[days] as applicable



10 BTSs with highest uptime

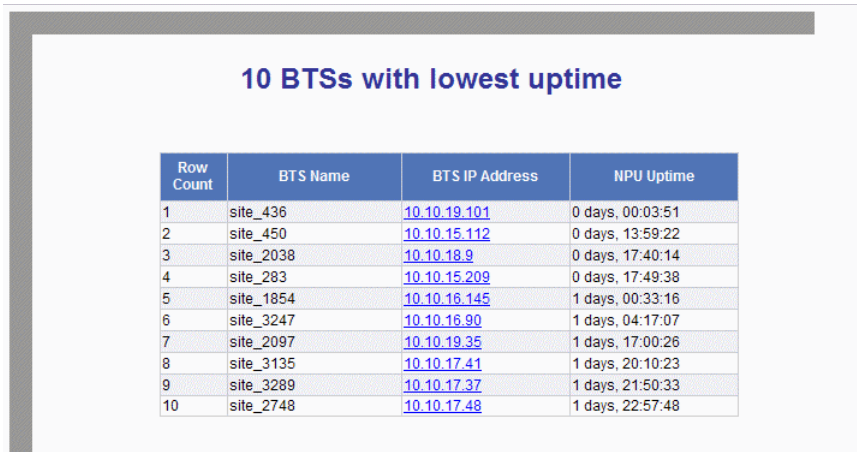
Row Count	BTS Name	BTS IP Address	NPU Uptime
1	site_1773	10.10.15.146	8 days, 02:37:23
2	site_920	10.10.16.176	7 days, 23:29:18
3	site_337	10.10.16.114	7 days, 18:14:21
4	site_495	10.10.15.208	7 days, 16:14:54
5	site_664	10.10.19.181	7 days, 12:47:26
6	site_1830	10.10.21.20	7 days, 11:05:27
7	site_1753	10.10.21.17	7 days, 11:02:17
8	site_327	10.10.21.22	7 days, 11:02:07
9	site_505	10.10.21.19	7 days, 11:02:07
10	site_2688	10.10.17.47	7 days, 08:16:26

Figure 4-6: 10 BTSs with Highest Uptime

4.2.3.2 10 BTSs with Lowest Uptime

Same as defined above for Section 4.2.3.1, however for the lowest uptime BTSs.

You may run this report to find those BTSs that have been restarted recently, and the time since the restart. This report has significance in terms of network availability. When evaluating this report, take into account planned restarts (e.g. due to SW version change).



10 BTSs with lowest uptime

Row Count	BTS Name	BTS IP Address	NPU Uptime
1	site_436	10.10.19.101	0 days, 00:03:51
2	site_450	10.10.15.112	0 days, 13:59:22
3	site_2038	10.10.18.9	0 days, 17:40:14
4	site_283	10.10.15.209	0 days, 17:49:38
5	site_1854	10.10.16.145	1 days, 00:33:16
6	site_3247	10.10.16.90	1 days, 04:17:07
7	site_2097	10.10.19.35	1 days, 17:00:26
8	site_3135	10.10.17.41	1 days, 20:10:23
9	site_3289	10.10.17.37	1 days, 21:50:33
10	site_2748	10.10.17.48	1 days, 22:57:48

Figure 4-7: 10 BTSs with Lowest Uptime

4.2.4 AU General Information Report

This report contains AU general information for each base station (the entire network), and links to the channel report for AU information per specific location (see Section 4.2.5). You may originate this report from scratch, or navigate to it from the BTS Detailed Information report (see "BTS Detailed Information per Location" on page 46). It provides comprehensive inventory data about the AUs in use in a single

BTS, their types, operability status, SW versions, and the configured value of some significant parameters.

To generate this report select **04. AU General Information** from the Inventory and Configuration reports list.

The report table includes the following columns:

- BTS IP Address – management IP
- Slot no. - a link to the AU Channel Information report (see Section 4.2.5). Not applicable for Micro Base Station.
- IDU Serial number
- AU Current Base Station ID
- AU IDU Type – indoor unit type (two or four channel AU)
- IDU Card HW Revision
- Fault status - No Faults, warning, N/A
- AU Diversity Mode -No Diversity, Undefined
- AU Main SW version
- AU Shadow SW version
- AU Running SW – running from main or shadow
- Optimal Uplink RSSI (dBm)

AU General Information

BTS IP Address	Slot No.	IDU Serial Number	AU Current Base Station ID	AU IDU Type	IDU Card HW Revision	Fault Status	AU Diversity Mode	AU Main SW Version	AU Shadow SW Version	AU Running Software	Optimal Uplink RSSI (dBm)
172.17.18.15	1	7504223		Four Channels HP 4M	3	No Faults	Second Order	Rel_4_5_1_189	Rel_4_5_1_276	Main	-74
172.17.18.15	2	7504250		Four Channels HP 4M	3	No Faults	Second Order	Rel_4_5_1_189	Rel_4_5_1_276	Main	-74
172.17.18.15	3	90053871		Four Channels HP 4M	3	No Faults	Second Order	Rel_4_5_1_189	Rel_4_5_1_276	Main	-74
172.17.19.177	1	90066066	254.22.0.20.62.1	Four Channels HP 4M	3	No Faults	Second Order	Rel_4_5_1_276	Rel_4_5_1_189	Main	-74
172.17.19.177	3	90053984	254.22.0.20.62.3	Four Channels HP 4M	3	No Faults	Second Order	Rel_4_5_1_276	Rel_4_5_1_189	Main	-74
172.17.19.177	4	7504200	254.22.0.20.62.206	Four Channels HP 4M	3	No Faults	Second Order	Rel_4_5_1_276	Rel_4_5_1_189	Main	-74

Figure 4-8: AU General Information

4.2.5 AU Channel Information Report

This report contains BreezeMAX Access Unit (AU) radio channel information for each base station and AU slot. It provides operational data about the AU channels in a single BTS, their operability status, and the configured value of some significant parameters.

To generate this report select **05. AU Channel Information** from the Inventory and Configuration reports list.

The report table includes the following columns:

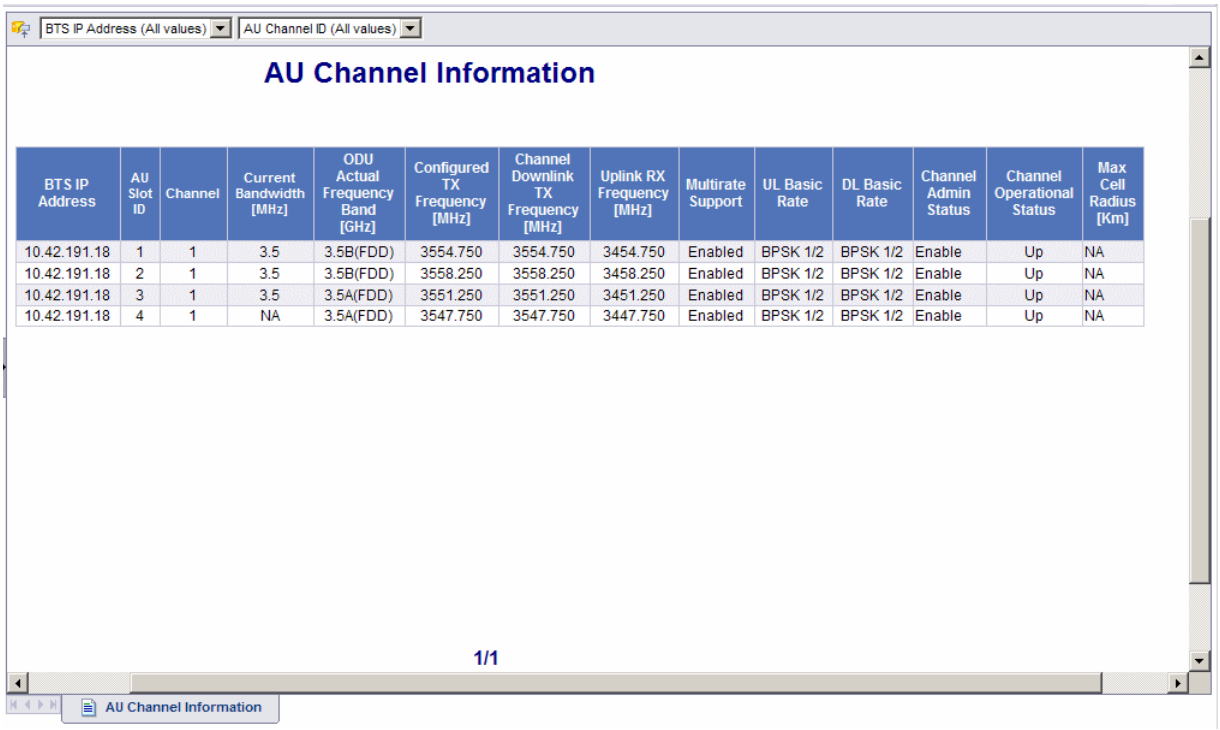
- BTS IP Address – management IP
- AU slot ID
- Channel
- Current Bandwidth (MHz)
- ODU Actual Frequency Band [GHz]
- Configured TX Frequency (MHz)
- Channel Downlink TX Frequency (MHz) – actual transmission frequency
- Uplink RX Frequency (MHz) – actual received frequency
- Multirate Support - Enabled, Disabled
- UL Basic Rate – If multirate is enabled, the report displays the minimal modulation available for the uplink. If multi-rate is disabled, the report displays the fixed modulation rate.
- DL Basic Rate - If multirate is enabled, the report displays the minimal modulation available for the downlink. If multi-rate is disabled, the report displays the fixed modulation rate.
- Channel Admin Status
- Channel Operational Status
- Max Cell Radius (Km)

You can manipulate the displayed data (filter, sort, etc.) to retrieve data of interest, such as the following examples:

- AUs for which HW/SW upgrade is required
- Compare configured values of all AUs of the BTS
- Monitor administrative and operational status of AUs

The available filters are:

- BTS IP Address
- AU Channel ID



BTS IP Address	AU Slot ID	Channel	Current Bandwidth [MHz]	ODU Actual Frequency Band [GHz]	Configured TX Frequency [MHz]	Channel Downlink TX Frequency [MHz]	Uplink RX Frequency [MHz]	Multirate Support	UL Basic Rate	DL Basic Rate	Channel Admin Status	Channel Operational Status	Max Cell Radius [Km]
10.42.191.18	1	1	3.5	3.5B(FDD)	3554.750	3554.750	3454.750	Enabled	BPSK 1/2	BPSK 1/2	Enable	Up	NA
10.42.191.18	2	1	3.5	3.5B(FDD)	3558.250	3558.250	3458.250	Enabled	BPSK 1/2	BPSK 1/2	Enable	Up	NA
10.42.191.18	3	1	3.5	3.5A(FDD)	3551.250	3551.250	3451.250	Enabled	BPSK 1/2	BPSK 1/2	Enable	Up	NA
10.42.191.18	4	1	NA	3.5A(FDD)	3547.750	3547.750	3447.750	Enabled	BPSK 1/2	BPSK 1/2	Enable	Up	NA

Figure 4-9: AU Channel Information

4.2.6 CPE Inventory Report

This report includes Customer Premises Equipment (CPE) information, detailed per BTS. It provides a high-level view of the network from the CPE inventory perspective: Number of CPEs, their types and status - per each BTS of the network, as well as total sums.

Using this report, you may obtain an initial evaluation of CPE types in use and their geographical distribution.

The report page includes four tabs, as described in the following sections, to display the information both in table and graphical formats.

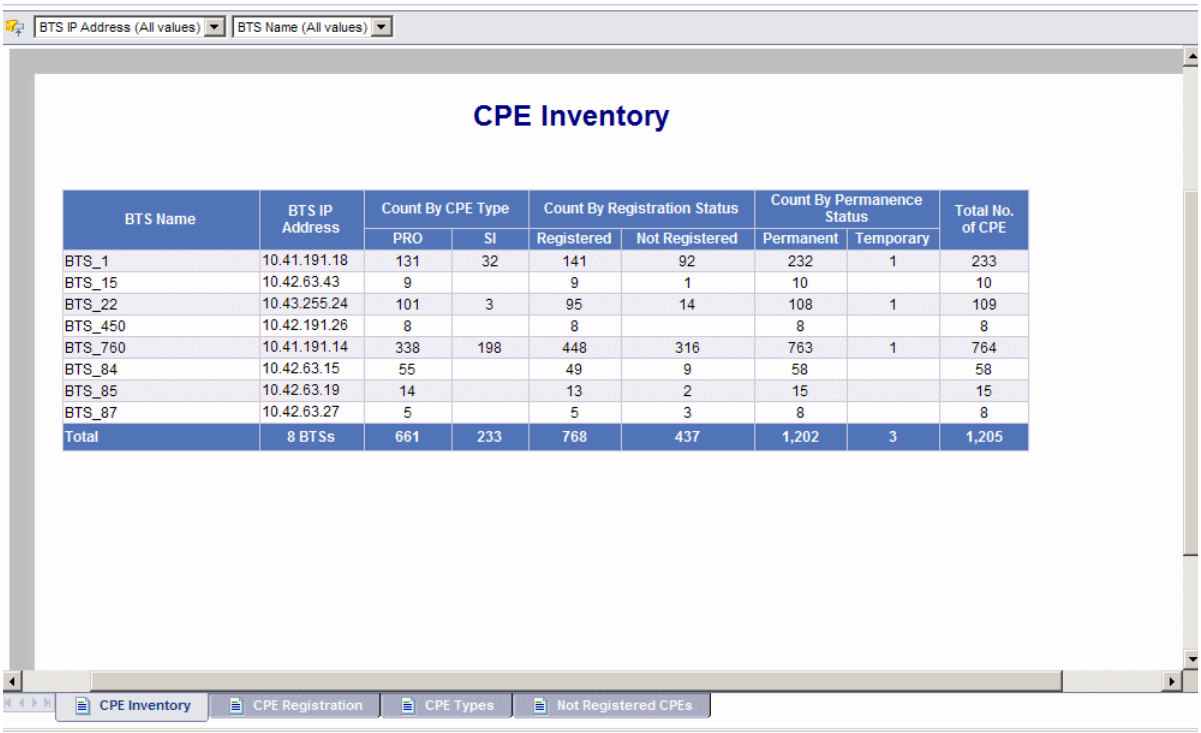
To generate this report select **06. CPE Inventory** from the Inventory and Configuration reports list.

The report table includes the following columns:

- BTS Name
- BTS IP Address
- Count by CPE Type:
  - » No. CPE Pro – number of CPEs of the PRO models
  - » No. CPE Si – number of CPEs of the SI (Self Install) models

- Count by Registration Status:
  - Registered – number of registered CPEs
  - Not Registered – number of non-registered CPEs
- Count by Performance Status:
  - No. Permanent – number of CPE in permanent status (registered in NPU) per BTS
  - No. Temporary – number of CPE in temporary status (not registered in NPU) per BTS
- No. SUs – total number of CPEs

The table footer displays accumulated statistics



BTS Name	BTS IP Address	Count By CPE Type		Count By Registration Status		Count By Permanence Status		Total No. of CPE
		PRO	SI	Registered	Not Registered	Permanent	Temporary	
BTS_1	10.41.191.18	131	32	141	92	232	1	233
BTS_15	10.42.63.43	9		9	1	10		10
BTS_22	10.43.255.24	101	3	95	14	108	1	109
BTS_450	10.42.191.26	8		8		8		8
BTS_760	10.41.191.14	338	198	448	316	763	1	764
BTS_84	10.42.63.15	55		49	9	58		58
BTS_85	10.42.63.19	14		13	2	15		15
BTS_87	10.42.63.27	5		5	3	8		8
Total	8 BTSs	661	233	768	437	1,202	3	1,205

Figure 4-10: CPE Inventory

4.2.6.1 CPE Registration Report – Network View

This report displays a bar chart of the registered and not registered CPEs distribution, over the whole network. It provides a visualization of the registration data included in the CPE Inventory Report (see Section 4.2.6 above).

- Y axis: No. of SUs
- X axis: SU registration status (Registered/Not registered)

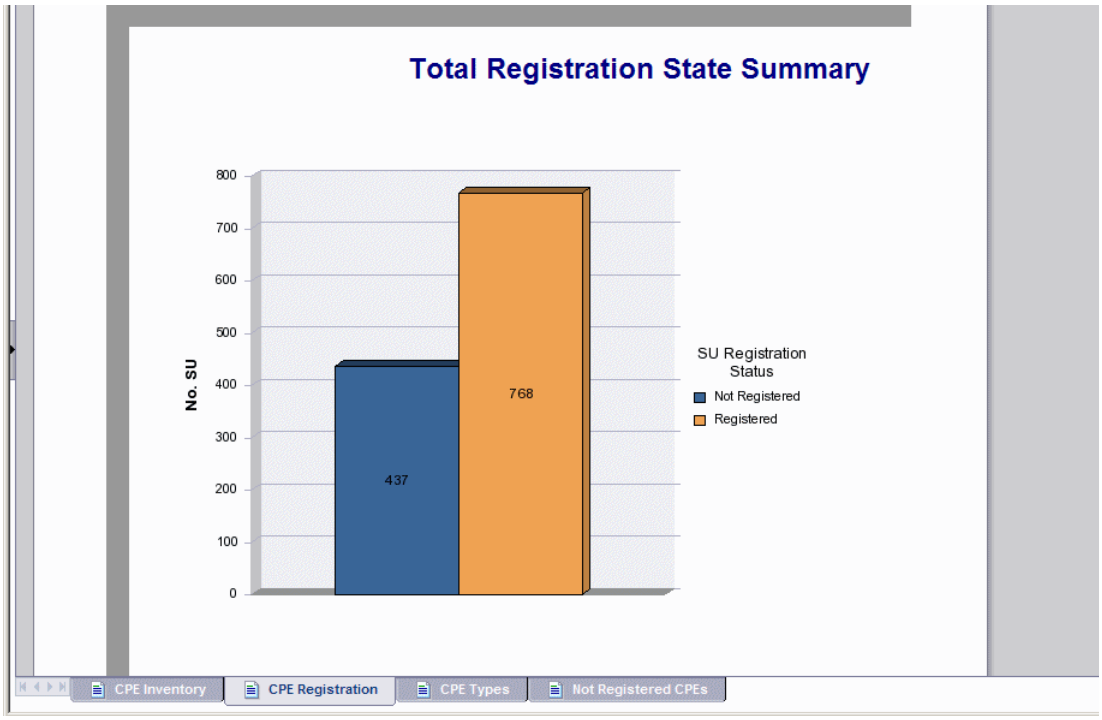


Figure 4-11: CPE Registration - Total Registration State Summary

4.2.6.2 CPE Type Report

This report includes a graphical view (pie chart) of the distribution of different CPE types. It provides a visualization of the CPE type data included in the CPE Inventory Report (see Section 4.2.6 above).

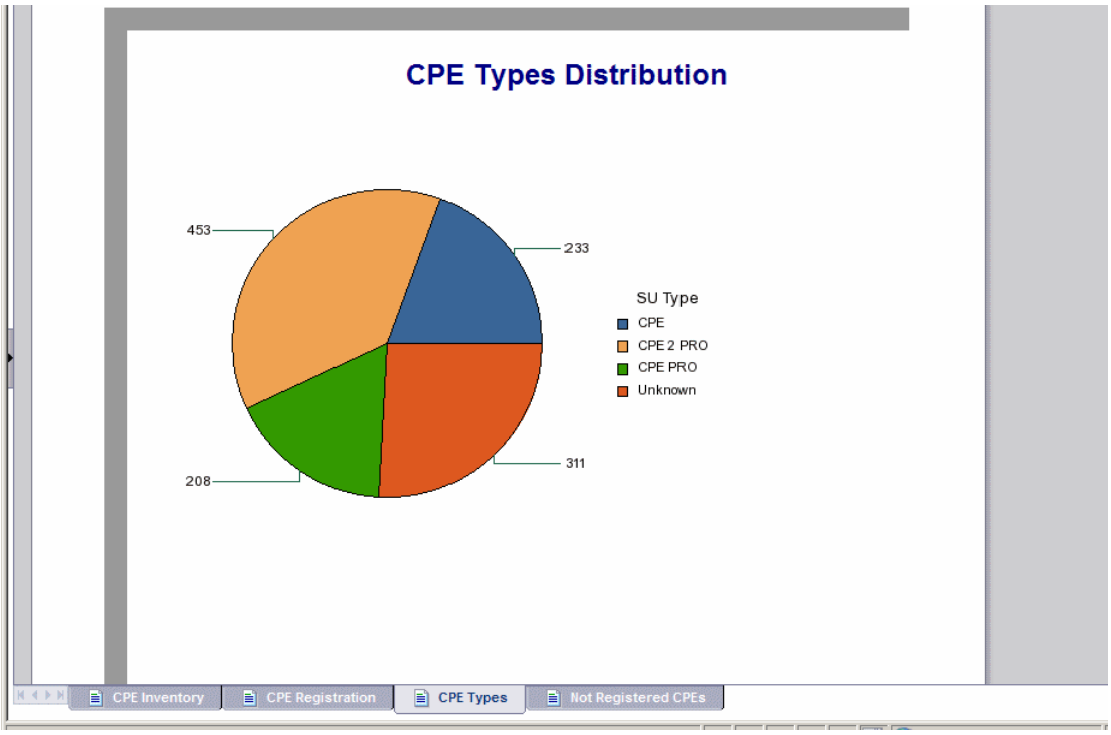


Figure 4-12: CPE Types Distribution

4.2.6.3 Not Registration CPEs Per BTS

This report displays a bar chart of the distribution of not registered CPEs, per BTS. It provides a visualization of the registration data included in CPE Inventory Report (see Section 4.2.6 above).

- Y axis: Number of not registered CPEs
- X axis: BTS name

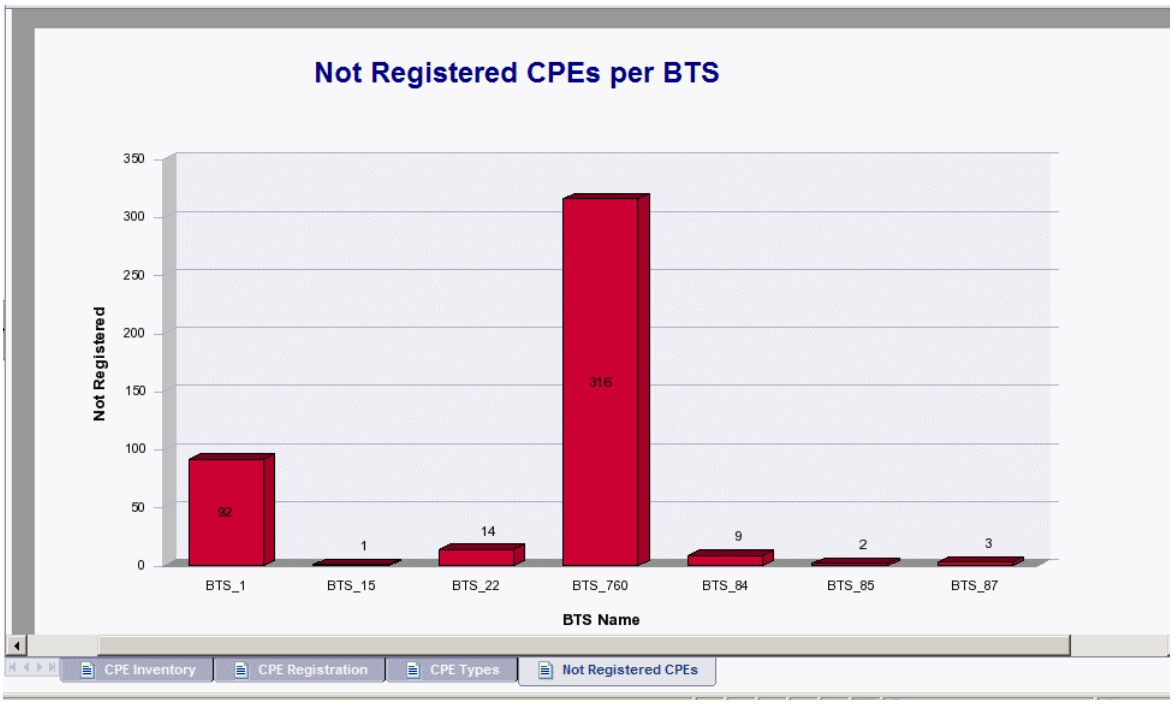


Figure 4-13: Not Registered CPEs per BTS

4.2.7 CPE Detailed Information Report

This report contains CPE information for each base station and CPE.

It provides operational data about the CPEs in use in a single BTS, their type, operational status, and SW versions. For additional information, you can from this report to the service-related reports (see Section 4.2.8).

To generate this report select **07. CPE Detailed Information** from the Inventory and Configuration reports list.

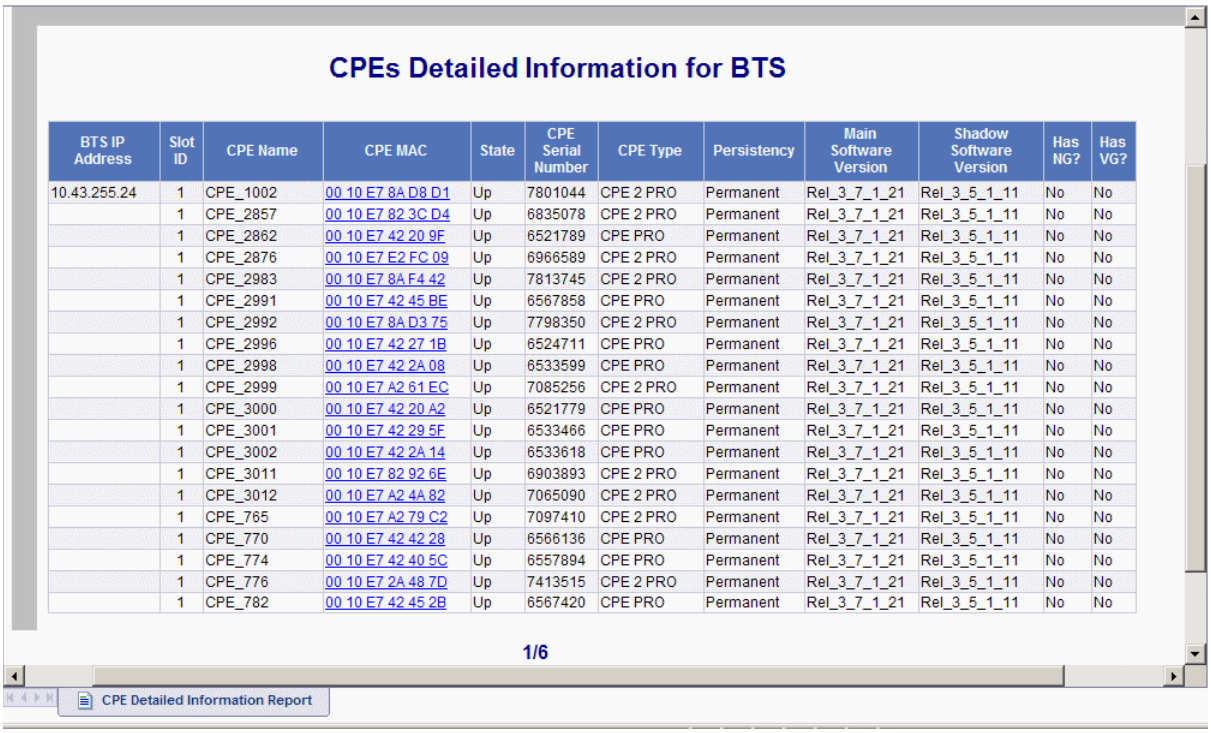
The report table includes the following columns:

- BTS IP Address
- Slot ID - AU slot number
- CPE Name
- CPE MAC Address - with a link to the Services reports (see Section 4.2.8)
- State – Up/Down
- CPE Serial Number
- CPE Type
- Persistency – Temporary (not registered in NPU)/Permanent (registered in NPU)
- Main Software Version

- Shadow Software Version
- Has NG? – Is there a network gateway connected to this CPE (Yes/No)
- Has VG? – Is there a voice gateway connected to this CPE (Yes/No)

You can manipulate the displayed data (filter, sort etc.) to retrieve data of interest, such as the following examples:

- Find SUs for which SW upgrade is required
- Find SUs of specific types and/or installed gateways



CPEs Detailed Information for BTS

BTS IP Address	Slot ID	CPE Name	CPE MAC	State	CPE Serial Number	CPE Type	Persistency	Main Software Version	Shadow Software Version	Has NG?	Has VG?
10.43.255.24	1	CPE_1002	00 10 E7 8A D8 D1	Up	7801044	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2857	00 10 E7 82 3C D4	Up	6835078	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2862	00 10 E7 42 20 9F	Up	6521789	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2876	00 10 E7 E2 FC 09	Up	6966589	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2983	00 10 E7 8A F4 42	Up	7813745	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2991	00 10 E7 42 45 BE	Up	6567858	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2992	00 10 E7 8A D3 75	Up	7798350	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2996	00 10 E7 42 27 1B	Up	6524711	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2998	00 10 E7 42 2A 08	Up	6533599	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_2999	00 10 E7 A2 61 EC	Up	7085256	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_3000	00 10 E7 42 20 A2	Up	6521779	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_3001	00 10 E7 42 29 5F	Up	6533466	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_3002	00 10 E7 42 2A 14	Up	6533618	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_3011	00 10 E7 82 92 6E	Up	6903893	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_3012	00 10 E7 A2 4A 82	Up	7065090	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_765	00 10 E7 A2 79 C2	Up	7097410	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_770	00 10 E7 42 42 28	Up	6566136	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_774	00 10 E7 42 40 5C	Up	6557894	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_776	00 10 E7 2A 48 7D	Up	7413515	CPE 2 PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No
	1	CPE_782	00 10 E7 42 45 2B	Up	6567420	CPE PRO	Permanent	Rel_3_7_1_21	Rel_3_5_1_11	No	No

1/6

CPE Detailed Information Report

Figure 4-14: CPEs Detailed Information for BTS

4.2.8 Service Profile and VLAN Information

This report include CPE service information, and includes three tabs, as described in the following sections, to display the information of the entire network or service information per specific CPE.

To generate this report select **08. Service Profile and VLAN Information** from the Inventory and Configuration reports list.

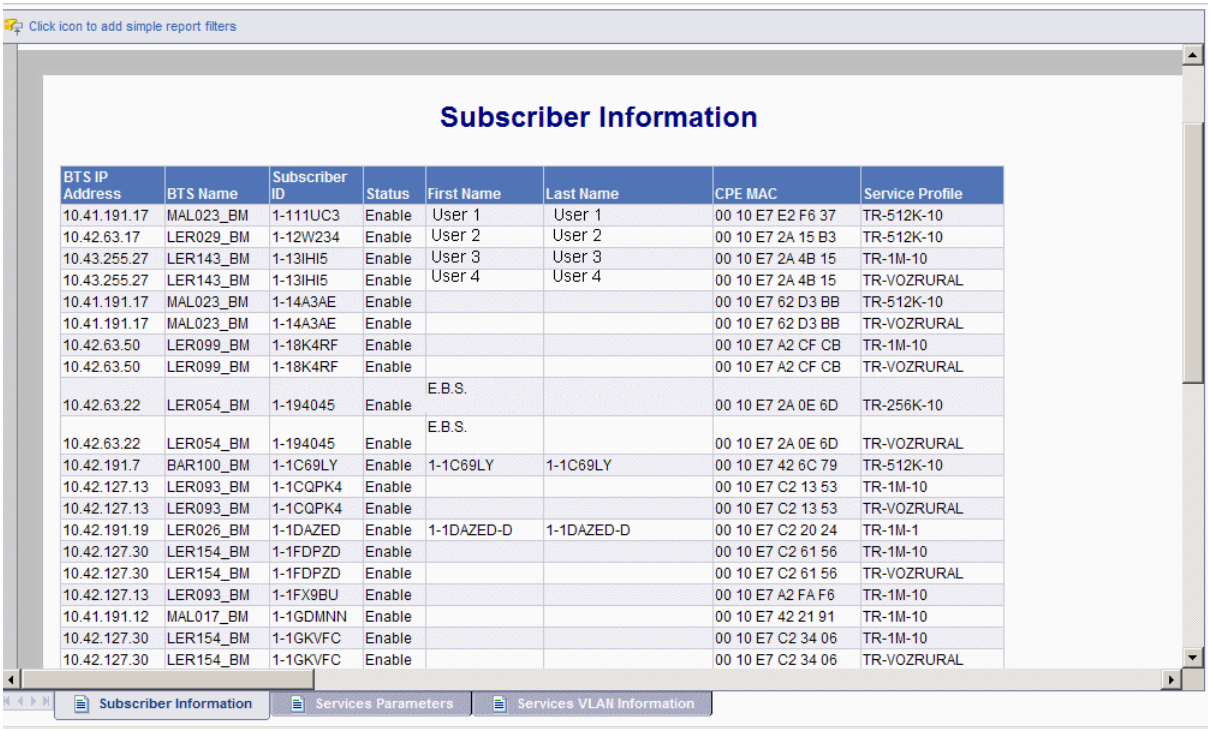
4.2.8.1 Subscriber Information

This report include CPE service information, per specific CPE MAC.

The report table includes the following columns:

- BTS IP Address

- BTS Name
- Subscriber ID
- Status - Enabled/Disabled
- First Name
- Last Name
- CPE MAC
- Service Profile



BTS IP Address	BTS Name	Subscriber ID	Status	First Name	Last Name	CPE MAC	Service Profile
10.41.191.17	MAL023_BM	1-111UC3	Enable	User 1	User 1	00 10 E7 E2 F6 37	TR-512K-10
10.42.63.17	LER029_BM	1-12W234	Enable	User 2	User 2	00 10 E7 2A 15 B3	TR-512K-10
10.43.255.27	LER143_BM	1-13IHI5	Enable	User 3	User 3	00 10 E7 2A 4B 15	TR-1M-10
10.43.255.27	LER143_BM	1-13IHI5	Enable	User 4	User 4	00 10 E7 2A 4B 15	TR-VOZRURAL
10.41.191.17	MAL023_BM	1-14A3AE	Enable			00 10 E7 62 D3 BB	TR-512K-10
10.41.191.17	MAL023_BM	1-14A3AE	Enable			00 10 E7 62 D3 BB	TR-VOZRURAL
10.42.63.50	LER099_BM	1-18K4RF	Enable			00 10 E7 A2 CF CB	TR-1M-10
10.42.63.50	LER099_BM	1-18K4RF	Enable			00 10 E7 A2 CF CB	TR-VOZRURAL
10.42.63.22	LER054_BM	1-194045	Enable	E.B.S.		00 10 E7 2A 0E 6D	TR-256K-10
10.42.63.22	LER054_BM	1-194045	Enable	E.B.S.		00 10 E7 2A 0E 6D	TR-VOZRURAL
10.42.191.7	BAR100_BM	1-1C69LY	Enable	1-1C69LY	1-1C69LY	00 10 E7 42 6C 79	TR-512K-10
10.42.127.13	LER093_BM	1-1CQPK4	Enable			00 10 E7 C2 13 53	TR-1M-10
10.42.127.13	LER093_BM	1-1CQPK4	Enable			00 10 E7 C2 13 53	TR-VOZRURAL
10.42.191.19	LER026_BM	1-1DAZED	Enable	1-1DAZED-D	1-1DAZED-D	00 10 E7 C2 20 24	TR-1M-1
10.42.127.30	LER154_BM	1-1FDPZD	Enable			00 10 E7 C2 61 56	TR-1M-10
10.42.127.30	LER154_BM	1-1FDPZD	Enable			00 10 E7 C2 61 56	TR-VOZRURAL
10.42.127.13	LER093_BM	1-1FX9BU	Enable			00 10 E7 A2 FA F6	TR-1M-10
10.41.191.12	MAL017_BM	1-1GDMNN	Enable			00 10 E7 42 21 91	TR-1M-10
10.42.127.30	LER154_BM	1-1GKVFC	Enable			00 10 E7 C2 34 06	TR-1M-10
10.42.127.30	LER154_BM	1-1GKVFC	Enable			00 10 E7 C2 34 06	TR-VOZRURAL

Figure 4-15: Subscriber Information

4.2.8.2 Services Profile Parameters Report

This report contains a Service information matrix per BTS and CPE.

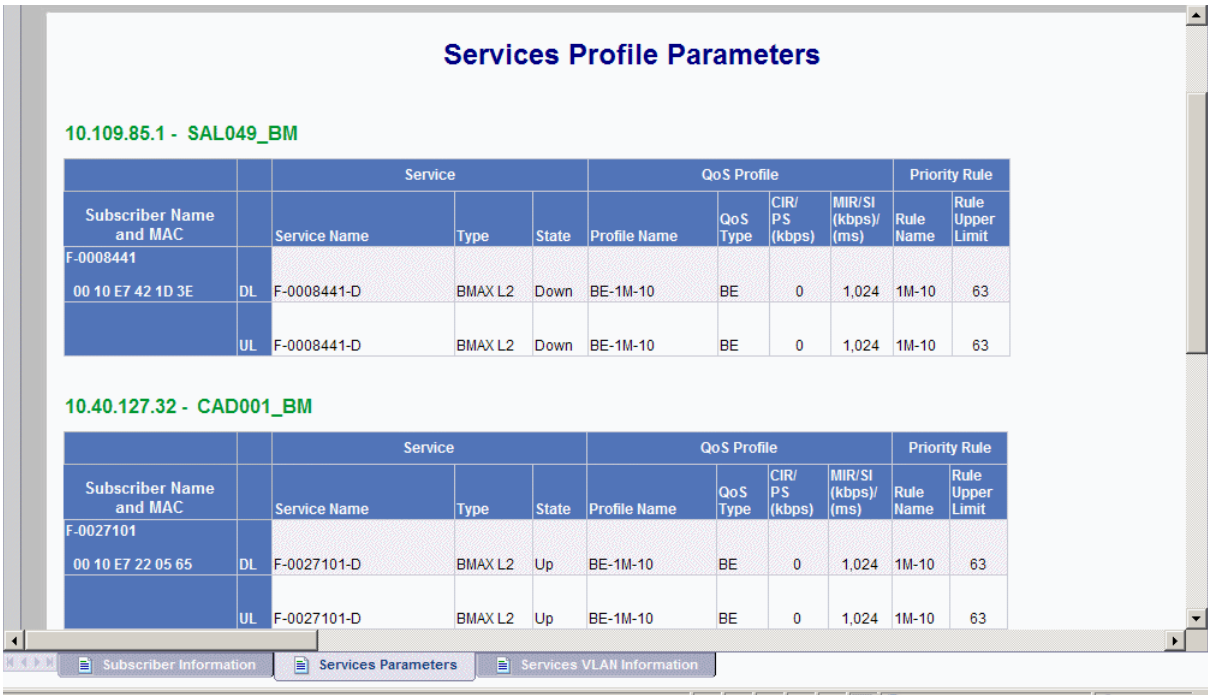
The report table includes the following parameters:

- Title - Base Station name
- Subscriber Name and MAC, divided by UL and DL

- Service:
  - Service Name
  - Type
  - State
- QoS Profile:
  - Profile Name
  - QoS Type
  - CIR/PS (kbps)
  - MIR/SI (kbps)/(ms)
- Priority Rule:
  - Rule Name
  - Rule Upper Limit (numbers according to the QoS in AlvariSTAR)

You can manipulate the displayed data (filter, sort, etc.) to retrieve data of interest, such as the following examples:

- Specific service configured values
- Comparison between services configured values
- Services allocated to each CPE



Services Profile Parameters

10.109.85.1 - SAL049_BM

Subscriber Name and MAC		Service			QoS Profile				Priority Rule	
		Service Name	Type	State	Profile Name	QoS Type	CIR/ PS (kbps)	MIR/SI (kbps)/ (ms)	Rule Name	Rule Upper Limit
F-0008441 00 10 E7 42 1D 3E	DL	F-0008441-D	BMAX L2	Down	BE-1M-10	BE	0	1,024	1M-10	63
	UL	F-0008441-D	BMAX L2	Down	BE-1M-10	BE	0	1,024	1M-10	63

10.40.127.32 - CAD001_BM

Subscriber Name and MAC		Service			QoS Profile				Priority Rule	
		Service Name	Type	State	Profile Name	QoS Type	CIR/ PS (kbps)	MIR/SI (kbps)/ (ms)	Rule Name	Rule Upper Limit
F-0027101 00 10 E7 22 05 65	DL	F-0027101-D	BMAX L2	Up	BE-1M-10	BE	0	1,024	1M-10	63
	UL	F-0027101-D	BMAX L2	Up	BE-1M-10	BE	0	1,024	1M-10	63

Subscriber Information | Services Parameters | Services VLAN Information

Figure 4-16: Services Profile Parameters

4.2.8.3 Services VLAN Information Report

This tab contains a Service information matrix per BTS and CPE.

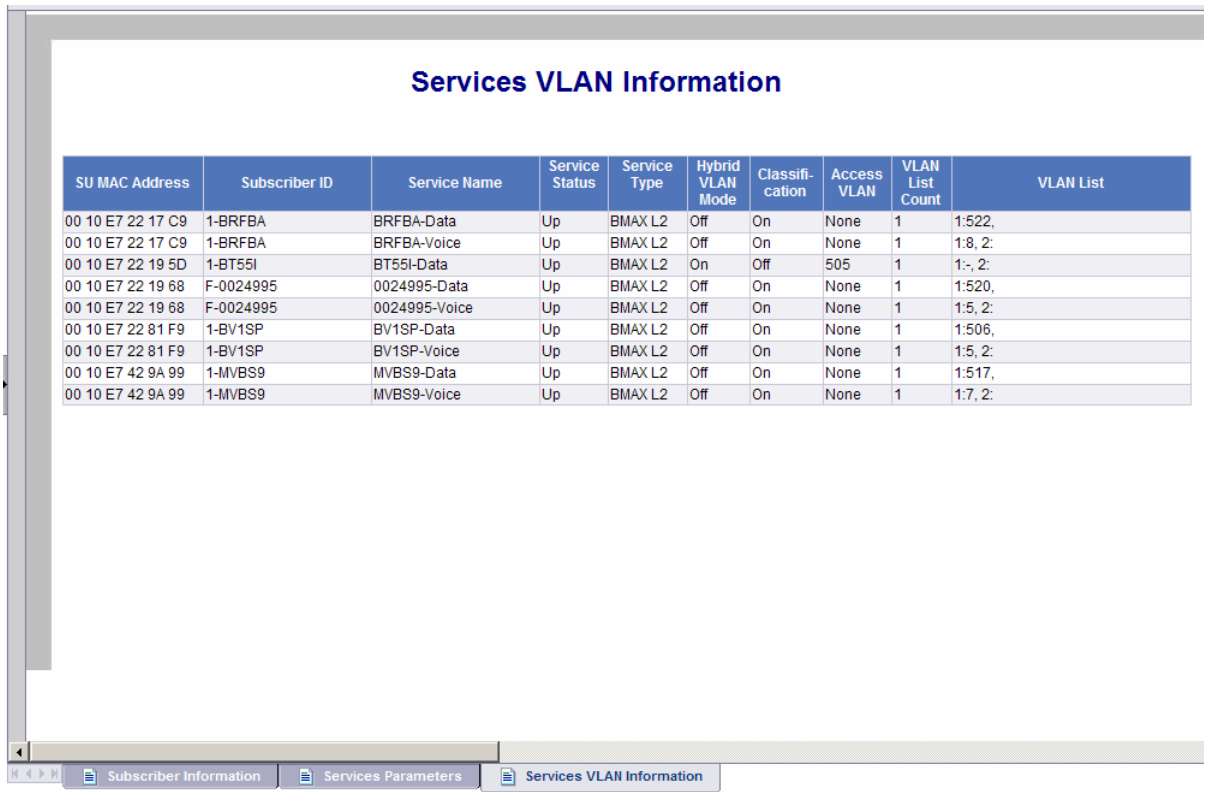
You can manipulate the displayed data (filter, sort, etc.) to retrieve data of interest, such as the following examples:

- Specific VLAN configured value
- Comparison between VLANs configured values
- VLANs allocated to each CPE

The report table includes the following columns:

- SU MAC Address
- Subscriber ID
- Service Name
- Service Status – Up/Down
- Service Type
- Hybrid VLAN Mode
- Classification
- Access VLAN - VLAN 4095 appears as “None”

- VLAN List Count
- VLAN List – presented in case the VLAN List Count is different then zero.



Services VLAN Information

SU MAC Address	Subscriber ID	Service Name	Service Status	Service Type	Hybrid VLAN Mode	Classifi-cation	Access VLAN	VLAN List Count	VLAN List
00 10 E7 22 17 C9	1-BRFBA	BRFBA-Data	Up	BMAX L2	Off	On	None	1	1:522,
00 10 E7 22 17 C9	1-BRFBA	BRFBA-Voice	Up	BMAX L2	Off	On	None	1	1:8, 2:
00 10 E7 22 19 5D	1-BT55I	BT55I-Data	Up	BMAX L2	On	Off	505	1	1:-, 2:
00 10 E7 22 19 68	F-0024995	0024995-Data	Up	BMAX L2	Off	On	None	1	1:520,
00 10 E7 22 19 68	F-0024995	0024995-Voice	Up	BMAX L2	Off	On	None	1	1:5, 2:
00 10 E7 22 81 F9	1-BV1SP	BV1SP-Data	Up	BMAX L2	Off	On	None	1	1:506,
00 10 E7 22 81 F9	1-BV1SP	BV1SP-Voice	Up	BMAX L2	Off	On	None	1	1:5, 2:
00 10 E7 42 9A 99	1-MVBS9	MVBS9-Data	Up	BMAX L2	Off	On	None	1	1:517,
00 10 E7 42 9A 99	1-MVBS9	MVBS9-Voice	Up	BMAX L2	Off	On	None	1	1:7, 2:

Subscriber Information | Services Parameters | Services VLAN Information

Figure 4-17: Serviced VLAN Information

4.3 Performance Related Reports

The following pre-defined reports are generated by the StarReport, based on information gathered from the StarQuality™.

Performance reports provide network-wide or specific (selected) BTS data. Most reports present Key Performance Indicators (KPI) variation over user-selected time interval, while some provide aggregated view.

The reports provide performance information related to the AU or the CPE as the basic reference unit.

Time domain start and end points of a specific report are user-defined, per each report generation.

The various types of reports may be generated for different groups of AUs in the controlled network. The applicable group is defined in the next sections per each report type.

The reports in this type are:

18 "CPE Historical Radio Link Quality" on page 94

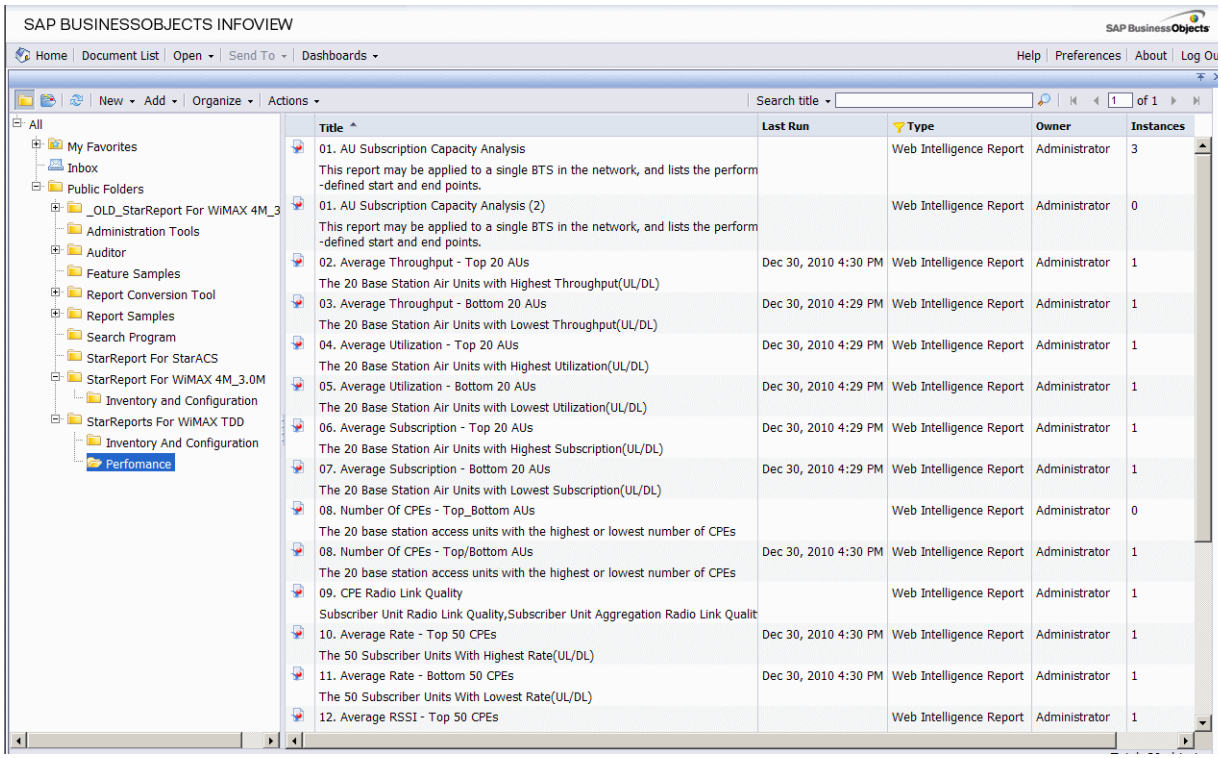


Figure 4-18: Performance Reports List

4.3.1 AU Subscription Capacity Analysis

This report may be applied to a single BTS in the network, and lists the performance of each of the AUs (up to 6) of the selected BTS, as aggregated between the user-defined start and end points. The report includes six tabs, as described in the following sections, to display the information in table format and in graphical format.

You may run this report in order to find issues of interest, such as:

- Performance comparison between AUs regarding throughput, subscription, number of SUs, etc.
- Navigate to time-domain behavior
- Navigate to CPE level in order to view radio-related performance, associated with the specific AU and its SUs

To select a BTS and generate the report:

1. Select **01. AU Subscription Capacity Analysis** from the reports list and select **View**.
2. At the top-right toolbar click **Refresh Data**. The Prompts window is displayed.

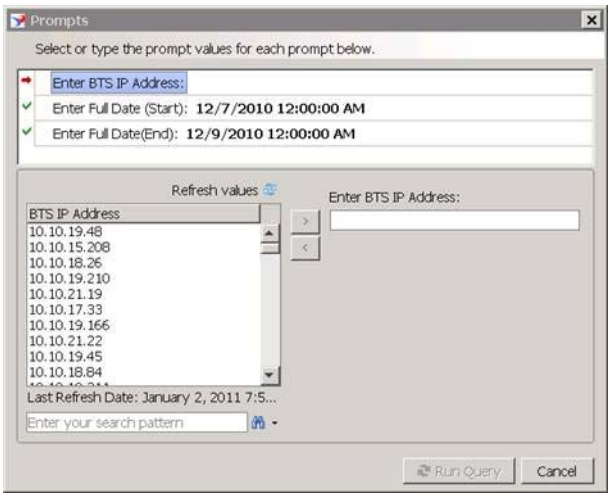


Figure 4-19: Prompts Window

3 Select a BTS IP address from the list.

4 Enter Start and End values for the report <dd/m/yyyy hh:mm:ss AM/PM>

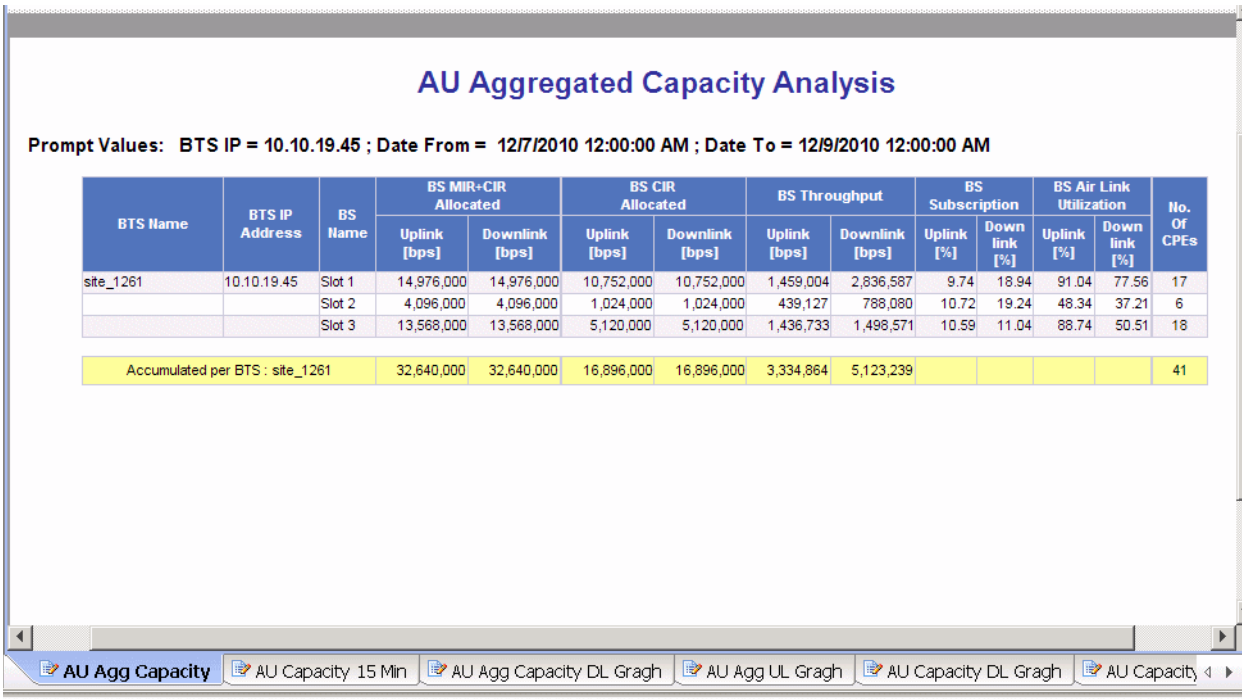
5 Click **Run Query**.

4.3.1.1 AU Aggregated Capacity Analysis

The report table includes the following columns:

- BTS Name
- BTS IP Address
- BS Name
- BS MIR+CIR Allocated: Uplink and Downlink (bps)
- BS CIR Allocated: Uplink and Downlink (bps)
- BS Throughput: Uplink and Downlink (bps)
- BS Subscription: Uplink and Downlink (%)
- BS Air Link Utilization: Uplink and Downlink (%)
- No. of CPEs

The table footer displays accumulated statistics, where applicable.



AU Aggregated Capacity Analysis

Prompt Values: BTS IP = 10.10.19.45 ; Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:00 AM

BTS Name	BTS IP Address	BS Name	BS MIR+CIR Allocated		BS CIR Allocated		BS Throughput		BS Subscription		BS Air Link Utilization		No. Of CPEs
			Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [%]	Down link [%]	Uplink [%]	Down link [%]	
site_1261	10.10.19.45	Slot 1	14,976,000	14,976,000	10,752,000	10,752,000	1,459,004	2,836,587	9.74	18.94	91.04	77.56	17
		Slot 2	4,096,000	4,096,000	1,024,000	1,024,000	439,127	788,080	10.72	19.24	48.34	37.21	6
		Slot 3	13,568,000	13,568,000	5,120,000	5,120,000	1,436,733	1,498,571	10.59	11.04	88.74	50.51	18
Accumulated per BTS : site_1261			32,640,000	32,640,000	16,896,000	16,896,000	3,334,864	5,123,239					41

AU Agg Capacity | AU Capacity 15 Min | AU Agg Capacity DL Gragh | AU Agg UL Gragh | AU Capacity DL Gragh | AU Capacity

Figure 4-20: AU Aggregated Capacity Analysis

4.3.1.2 AU Detailed Capacity Analysis

This tab lists the performance of each of the AUs (up to 6) of the selected BTS, as recorded between the user-defined start and end points, however with 15 minutes samples.

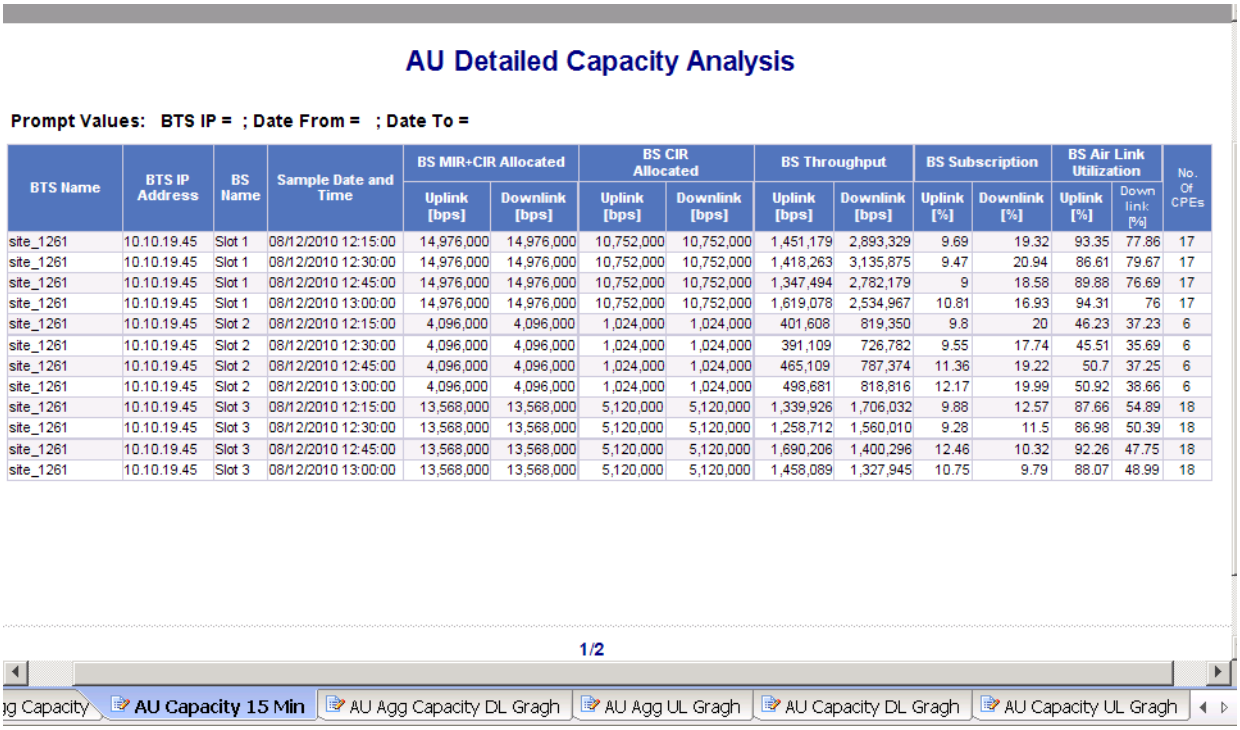
You can use this tab to view some details of the AUs functionality over time, such as:

- Extreme values (e.g. busy periods)
- Periodicity of load
- The effect of number of subscribers on AU load

The report table includes the following columns:

- BTS Name
- BTS IP Address
- Sample Date and Time - time and date of data, 15-minute resolution
- BS MIR+CIR Allocated: Uplink and Downlink (bps)
- BS CIR Allocated: Uplink and Downlink (bps)
- BS Throughput: Uplink and Downlink (bps)
- BS Subscription: Uplink and Downlink (%)
- BS Air Link Utilization: Uplink and Downlink (%)

- No of CPEs



AU Detailed Capacity Analysis

Prompt Values: BTS IP = ; Date From = ; Date To =

BTS Name	BTS IP Address	BS Name	Sample Date and Time	BS MIR+CIR Allocated		BS CIR Allocated		BS Throughput		BS Subscription		BS Air Link Utilization		No. Of CPEs
				Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [%]	Downlink [%]	Uplink [%]	Down link [%]	
site_1261	10.10.19.45	Slot 1	08/12/2010 12:15:00	14,976,000	14,976,000	10,752,000	10,752,000	1,451,179	2,893,329	9.69	19.32	93.35	77.86	17
site_1261	10.10.19.45	Slot 1	08/12/2010 12:30:00	14,976,000	14,976,000	10,752,000	10,752,000	1,418,263	3,135,875	9.47	20.94	86.61	79.67	17
site_1261	10.10.19.45	Slot 1	08/12/2010 12:45:00	14,976,000	14,976,000	10,752,000	10,752,000	1,347,494	2,782,179	9	18.58	89.88	76.69	17
site_1261	10.10.19.45	Slot 1	08/12/2010 13:00:00	14,976,000	14,976,000	10,752,000	10,752,000	1,619,078	2,534,967	10.81	16.93	94.31	76	17
site_1261	10.10.19.45	Slot 2	08/12/2010 12:15:00	4,096,000	4,096,000	1,024,000	1,024,000	401,608	819,350	9.8	20	46.23	37.23	6
site_1261	10.10.19.45	Slot 2	08/12/2010 12:30:00	4,096,000	4,096,000	1,024,000	1,024,000	391,109	726,782	9.55	17.74	45.51	35.69	6
site_1261	10.10.19.45	Slot 2	08/12/2010 12:45:00	4,096,000	4,096,000	1,024,000	1,024,000	465,109	787,374	11.36	19.22	50.7	37.25	6
site_1261	10.10.19.45	Slot 2	08/12/2010 13:00:00	4,096,000	4,096,000	1,024,000	1,024,000	498,681	818,816	12.17	19.99	50.92	38.66	6
site_1261	10.10.19.45	Slot 3	08/12/2010 12:15:00	13,568,000	13,568,000	5,120,000	5,120,000	1,339,926	1,706,032	9.88	12.57	87.66	54.89	18
site_1261	10.10.19.45	Slot 3	08/12/2010 12:30:00	13,568,000	13,568,000	5,120,000	5,120,000	1,258,712	1,560,010	9.28	11.5	86.98	50.39	18
site_1261	10.10.19.45	Slot 3	08/12/2010 12:45:00	13,568,000	13,568,000	5,120,000	5,120,000	1,690,206	1,400,296	12.46	10.32	92.26	47.75	18
site_1261	10.10.19.45	Slot 3	08/12/2010 13:00:00	13,568,000	13,568,000	5,120,000	5,120,000	1,458,089	1,327,945	10.75	9.79	88.07	48.99	18

1/2

Figure 4-21: AU Detailed Capacity Analysis

4.3.1.3 AU Capacity Graphs

The following figures show the graph tabs in the AU Capacity report. The graphs illustrate various data defined for the table described in Section 4.3.1.1 above.

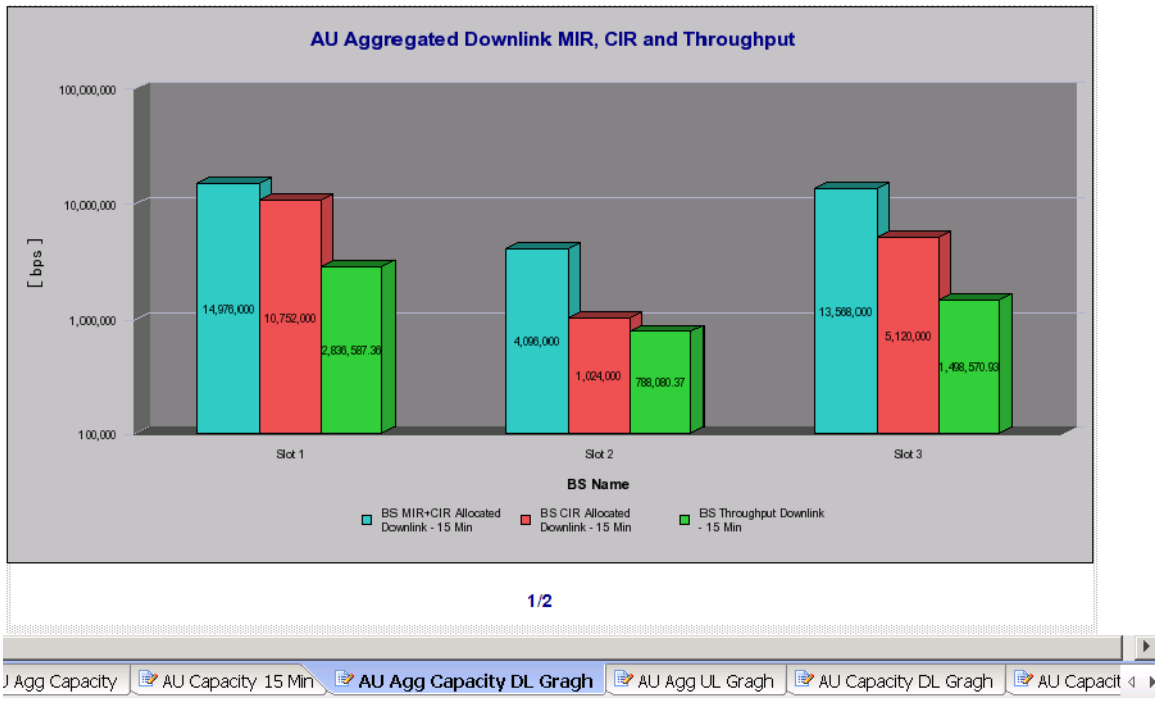


Figure 4-22: AU Aggregated Downlink Capacity (MIR, CIR and Throughput)

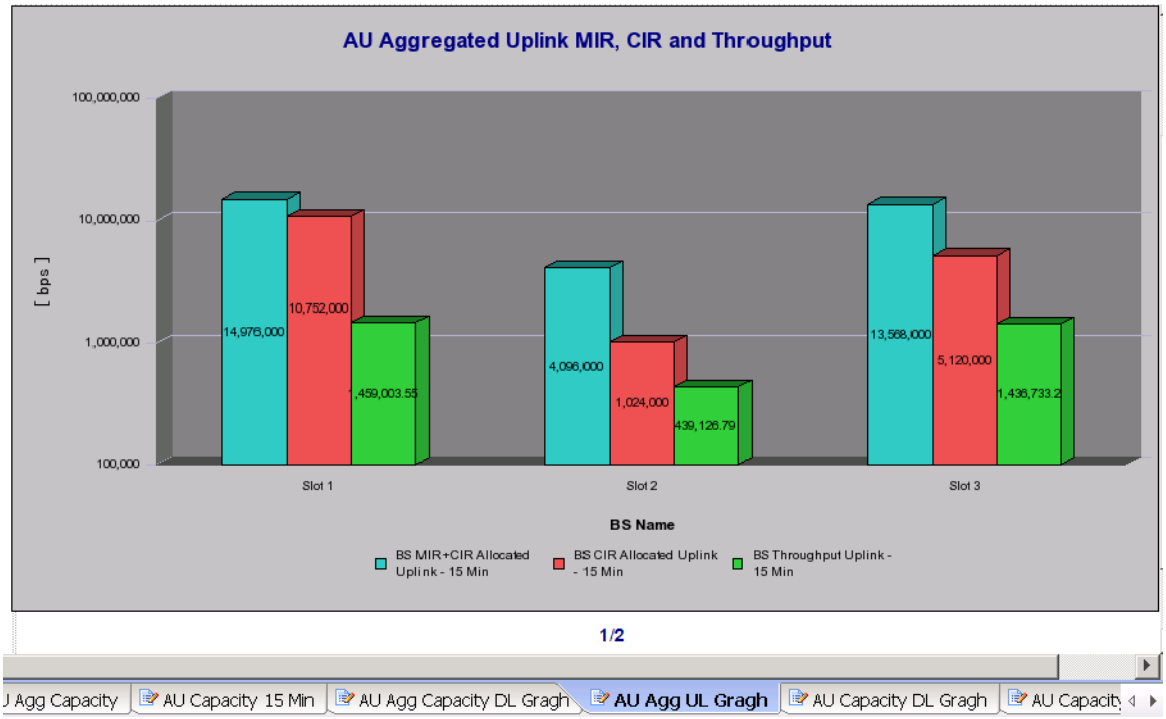


Figure 4-23: AU Aggregated Uplink Capacity (MIR, CIR and Throughput)

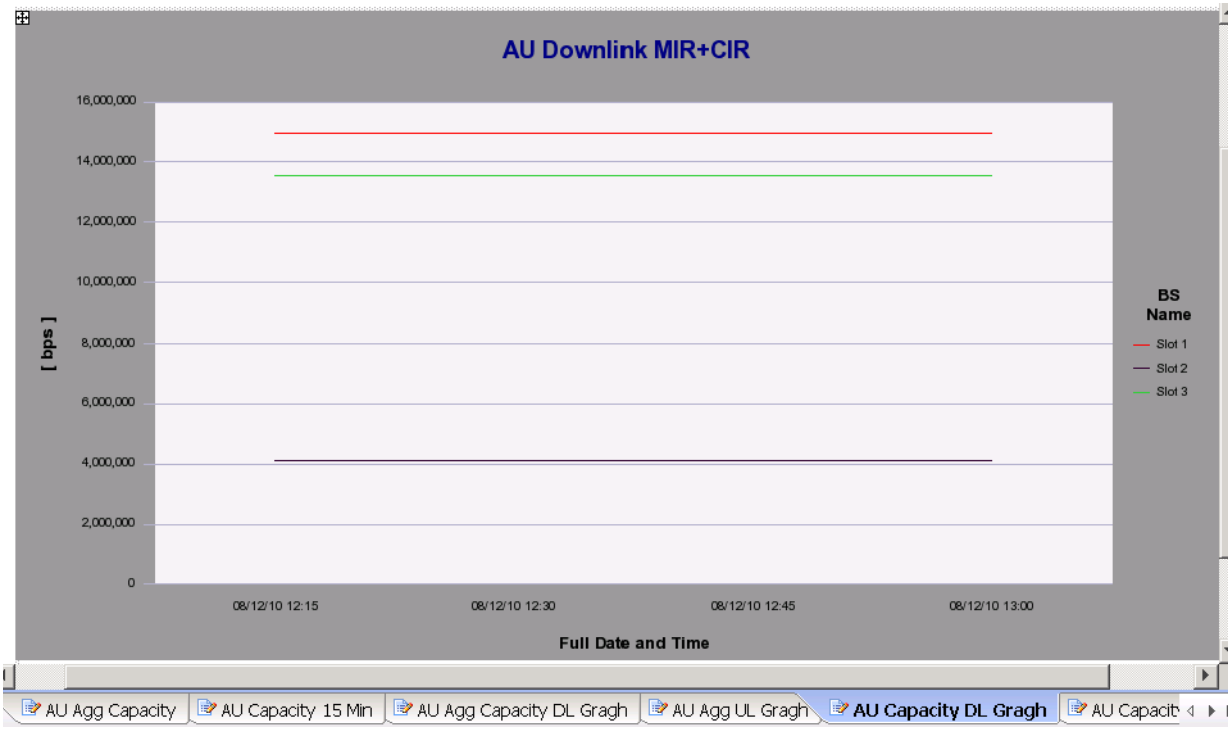


Figure 4-24: AU Downlink MIR+CIR

Figure 4-25: AU Uplink MIR+CIR

4.3.2 AUs with the Highest Average Throughput in the Uplink/Downlink

This report may be generated for all the BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 20 AUs with highest aggregated (averaged) UL throughput.

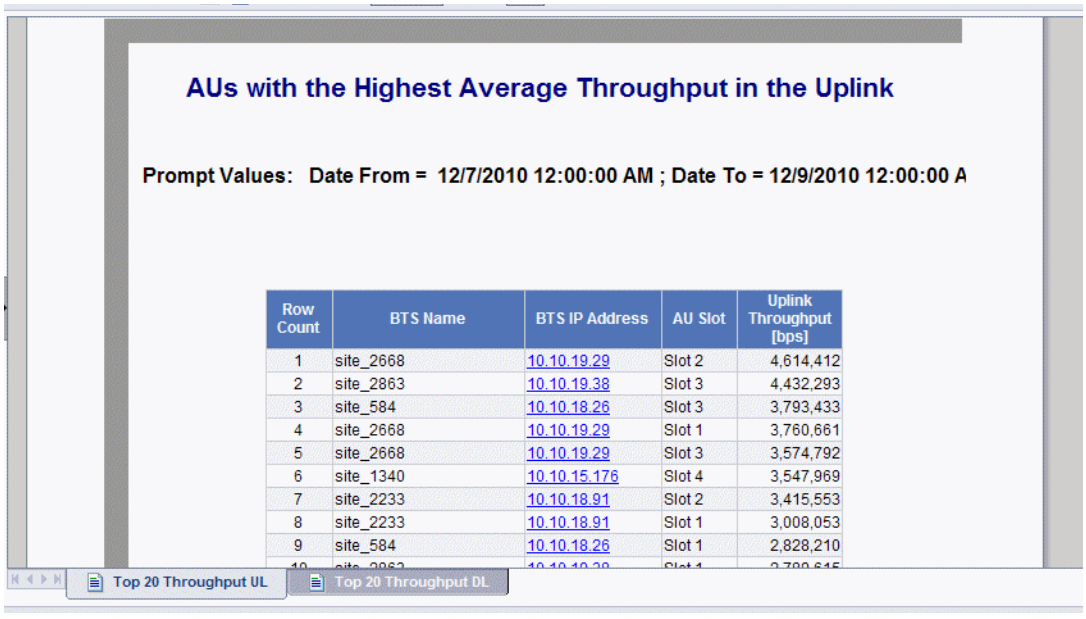
A similar report is available for DL in a separate tab on the report page.

This report enables fast detection of the highly loaded (throughput) AUs in the network. You can also drill down to the AU details, and initiate configuration actions (using AlvariSTAR) to reduce excessive load.

To generate this report select **02. Average Throughput - Top 20 AUs** from the list.

The report tables contain the following columns:

- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- Uplink/Downlink Throughput (as applicable)



Row Count	BTS Name	BTS IP Address	AU Slot	Uplink Throughput [bps]
1	site_2668	10.10.19.29	Slot 2	4,614,412
2	site_2863	10.10.19.38	Slot 3	4,432,293
3	site_584	10.10.18.26	Slot 3	3,793,433
4	site_2668	10.10.19.29	Slot 1	3,760,661
5	site_2668	10.10.19.29	Slot 3	3,574,792
6	site_1340	10.10.15.176	Slot 4	3,547,969
7	site_2233	10.10.18.91	Slot 2	3,415,553
8	site_2233	10.10.18.91	Slot 1	3,008,053
9	site_584	10.10.18.26	Slot 1	2,828,210

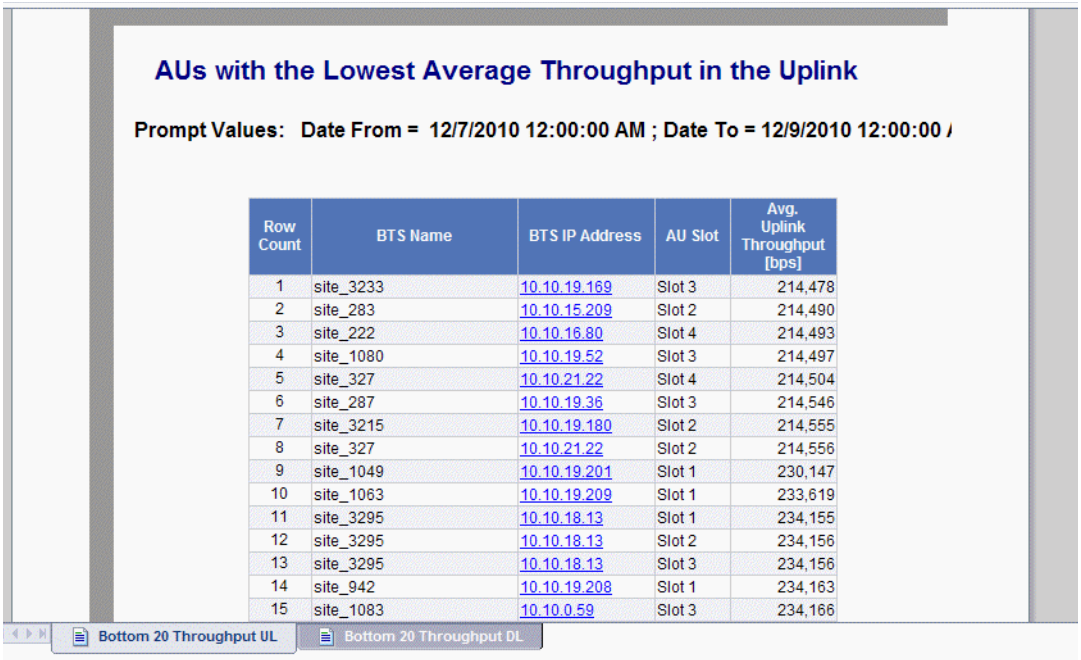
Figure 4-26: AUs with the Highest Average Throughput in the Uplink

4.3.3 AUs with the Lowest Average Throughput in the Uplink/Downlink

Same as defined above for Top 20 AUs Regarding Average Throughput (UL/DL) report (see Section 4.3.2), but for the lowest aggregated throughput.

This report enables fast detection of the least loaded (throughput) AUs in the network. You can also navigate to the AU details to investigate the reasons for the low load (e.g. very few SUs).

To generate this report select **03. Average Throughput - Bottom 20 AUs** from the Performance reports list.



AUs with the Lowest Average Throughput in the Uplink

Prompt Values: Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:00 /

Row Count	BTS Name	BTS IP Address	AU Slot	Avg. Uplink Throughput [bps]
1	site_3233	10.10.19.169	Slot 3	214,478
2	site_283	10.10.15.209	Slot 2	214,490
3	site_222	10.10.16.80	Slot 4	214,493
4	site_1080	10.10.19.52	Slot 3	214,497
5	site_327	10.10.21.22	Slot 4	214,504
6	site_287	10.10.19.36	Slot 3	214,546
7	site_3215	10.10.19.180	Slot 2	214,555
8	site_327	10.10.21.22	Slot 2	214,556
9	site_1049	10.10.19.201	Slot 1	230,147
10	site_1063	10.10.19.209	Slot 1	233,619
11	site_3295	10.10.18.13	Slot 1	234,155
12	site_3295	10.10.18.13	Slot 2	234,156
13	site_3295	10.10.18.13	Slot 3	234,156
14	site_942	10.10.19.208	Slot 1	234,163
15	site_1083	10.10.0.59	Slot 3	234,166

Bottom 20 Throughput UL | Bottom 20 Throughput DL

Figure 4-27: AUs with the Lowest Average Throughput in the Uplink

4.3.4 AUs with the Highest Average Utilization in the Uplink/Downlink

This report may be generated for all the BTSs in the network, or for a group of user-selected BTSs. It provides a list of the 20 AUs with the highest aggregated (averaged) UL utilization.

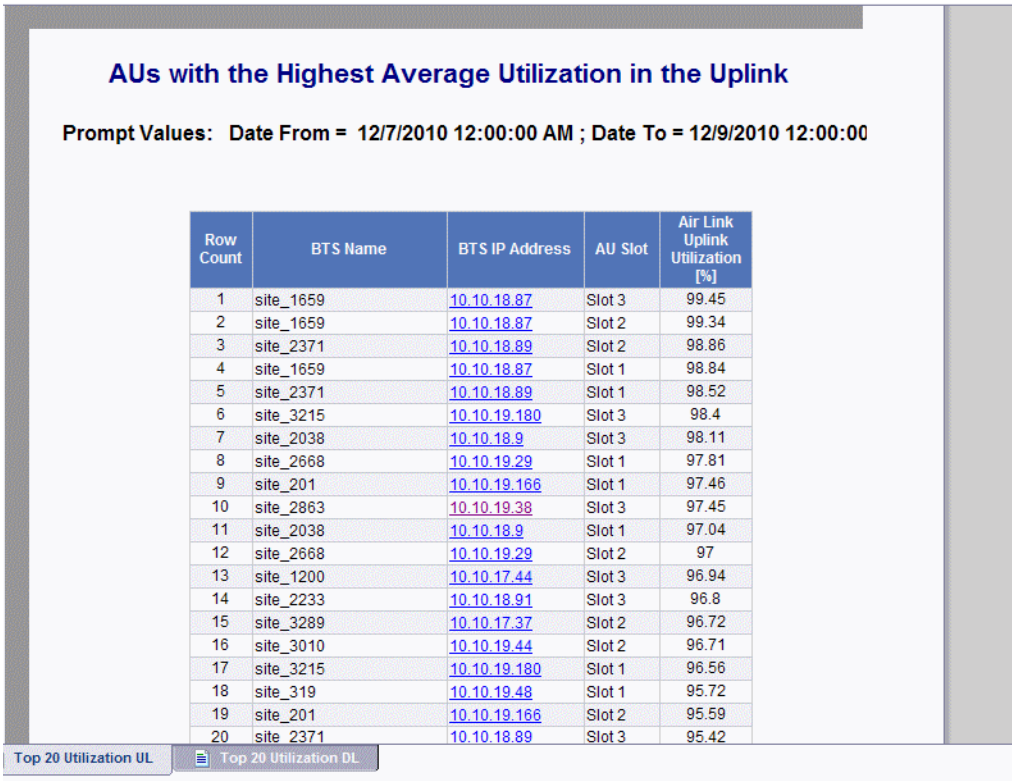
A similar report is available for DL.

This report enables fast detection of the highly utilized AUs in the network. You can also drill down to the AU details, and initiate configuration actions (using AlvariSTAR) to reduce excessive utilization.

To generate this report select **04. Average Utilization - Top 20 AUs** from the list.

The report tables contain the following columns:

- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- Airlink Utilization (%) UL/DL (as applicable)



AUs with the Highest Average Utilization in the Uplink

Prompt Values: Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:00

Row Count	BTS Name	BTS IP Address	AU Slot	Air Link Uplink Utilization [%]
1	site_1659	10.10.18.87	Slot 3	99.45
2	site_1659	10.10.18.87	Slot 2	99.34
3	site_2371	10.10.18.89	Slot 2	98.86
4	site_1659	10.10.18.87	Slot 1	98.84
5	site_2371	10.10.18.89	Slot 1	98.52
6	site_3215	10.10.19.180	Slot 3	98.4
7	site_2038	10.10.18.9	Slot 3	98.11
8	site_2668	10.10.19.29	Slot 1	97.81
9	site_201	10.10.19.166	Slot 1	97.46
10	site_2863	10.10.19.38	Slot 3	97.45
11	site_2038	10.10.18.9	Slot 1	97.04
12	site_2668	10.10.19.29	Slot 2	97
13	site_1200	10.10.17.44	Slot 3	96.94
14	site_2233	10.10.18.91	Slot 3	96.8
15	site_3289	10.10.17.37	Slot 2	96.72
16	site_3010	10.10.19.44	Slot 2	96.71
17	site_3215	10.10.19.180	Slot 1	96.56
18	site_319	10.10.19.48	Slot 1	95.72
19	site_201	10.10.19.166	Slot 2	95.59
20	site_2371	10.10.18.89	Slot 3	95.42

Top 20 Utilization UL | Top 20 Utilization DL

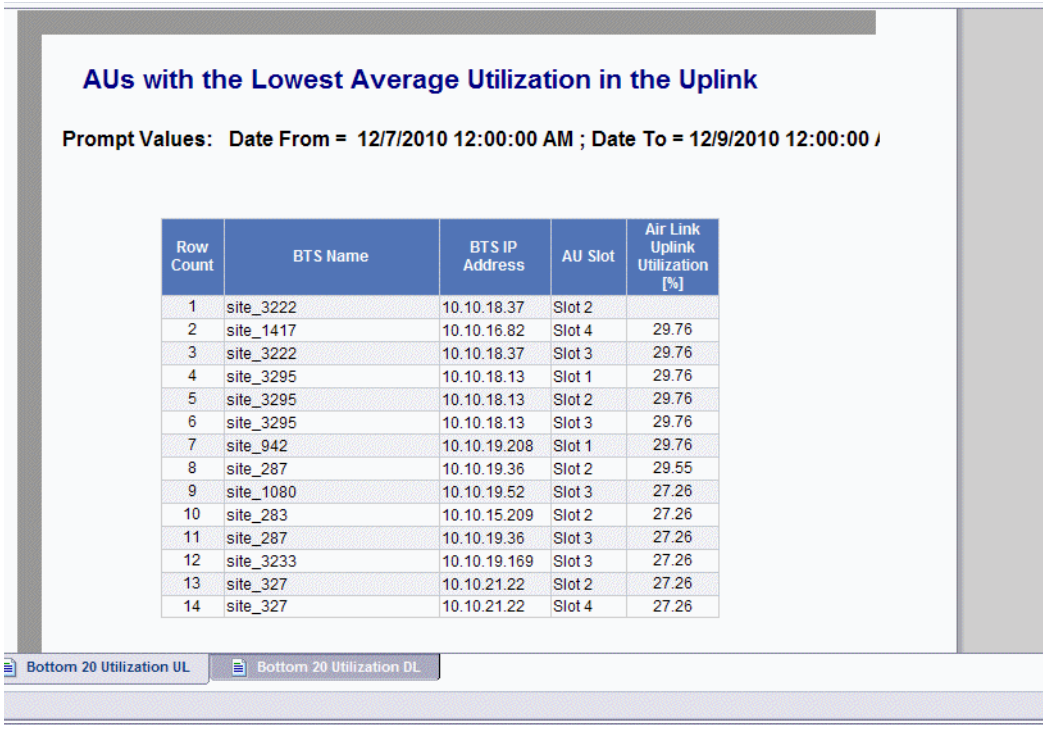
Figure 4-28: AUs with the Highest Average Utilization in the Uplink

4.3.5 AUs with the Lowest Average Utilization in the Uplink/Downlink

Same as defined above for the Top 20 AUs Regarding Utilization (UL/DL) report (see Section 4.3.4), but for the lowest aggregated utilization.

This report enables fast detection of the least utilized AUs in the network. You can also drill down to the AU details to investigate the reasons for the low utilization (e.g. very few SUs).

To generate this report select **05. Average Utilization - Bottom 20 AUs** from the Performance reports list.



Row Count	BTS Name	BTS IP Address	AU Slot	Air Link Uplink Utilization [%]
1	site_3222	10.10.18.37	Slot 2	
2	site_1417	10.10.16.82	Slot 4	29.76
3	site_3222	10.10.18.37	Slot 3	29.76
4	site_3295	10.10.18.13	Slot 1	29.76
5	site_3295	10.10.18.13	Slot 2	29.76
6	site_3295	10.10.18.13	Slot 3	29.76
7	site_942	10.10.19.208	Slot 1	29.76
8	site_287	10.10.19.36	Slot 2	29.55
9	site_1080	10.10.19.52	Slot 3	27.26
10	site_283	10.10.15.209	Slot 2	27.26
11	site_287	10.10.19.36	Slot 3	27.26
12	site_3233	10.10.19.169	Slot 3	27.26
13	site_327	10.10.21.22	Slot 2	27.26
14	site_327	10.10.21.22	Slot 4	27.26

Figure 4-29: AUs with the Lowest Average Utilization in the Uplink

4.3.6 AUs with the Highest Average Subscription in the Uplink/Downlink

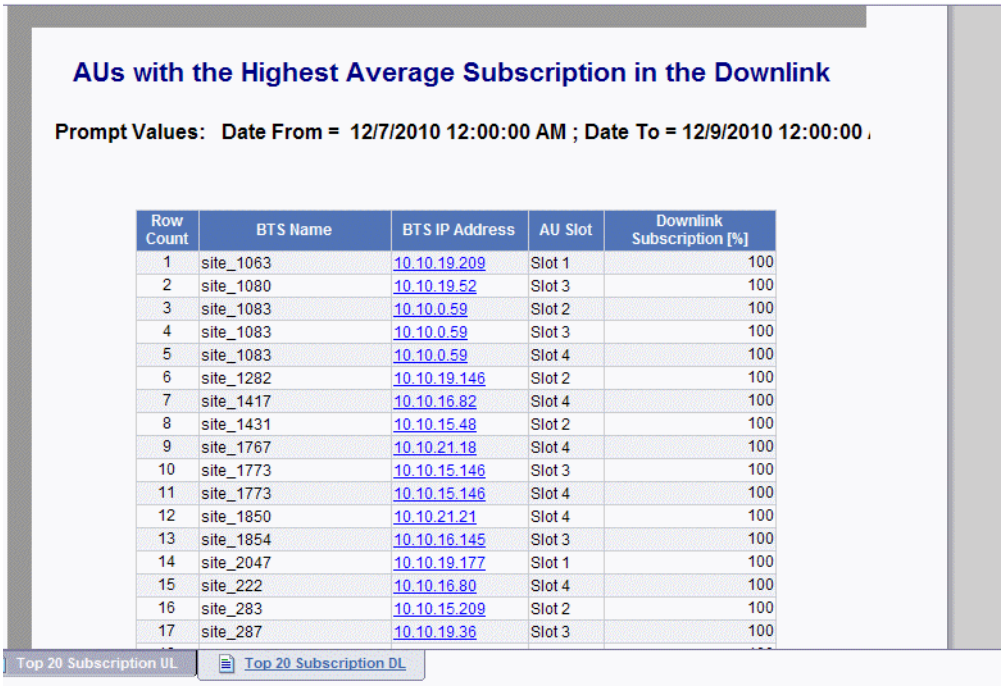
This report may be generated for all the BTSs in the network, or for a group of user-selected BTSs. It provides a list of the 20 AUs with highest aggregated (averaged) UL subscription.

A similar report is available for DL.

To generate this report select **06. Average Subscription - Top 20 AUs** from the Performance reports list.

The report tables contain the following columns:

- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- Subscription UL/DL [%] (as applicable)



AUs with the Highest Average Subscription in the Downlink

Prompt Values: Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:00

Row Count	BTS Name	BTS IP Address	AU Slot	Downlink Subscription [%]
1	site_1063	10.10.19.209	Slot 1	100
2	site_1080	10.10.19.52	Slot 3	100
3	site_1083	10.10.0.59	Slot 2	100
4	site_1083	10.10.0.59	Slot 3	100
5	site_1083	10.10.0.59	Slot 4	100
6	site_1282	10.10.19.146	Slot 2	100
7	site_1417	10.10.16.82	Slot 4	100
8	site_1431	10.10.15.48	Slot 2	100
9	site_1767	10.10.21.18	Slot 4	100
10	site_1773	10.10.15.146	Slot 3	100
11	site_1773	10.10.15.146	Slot 4	100
12	site_1850	10.10.21.21	Slot 4	100
13	site_1854	10.10.16.145	Slot 3	100
14	site_2047	10.10.19.177	Slot 1	100
15	site_222	10.10.16.80	Slot 4	100
16	site_283	10.10.15.209	Slot 2	100
17	site_287	10.10.19.36	Slot 3	100

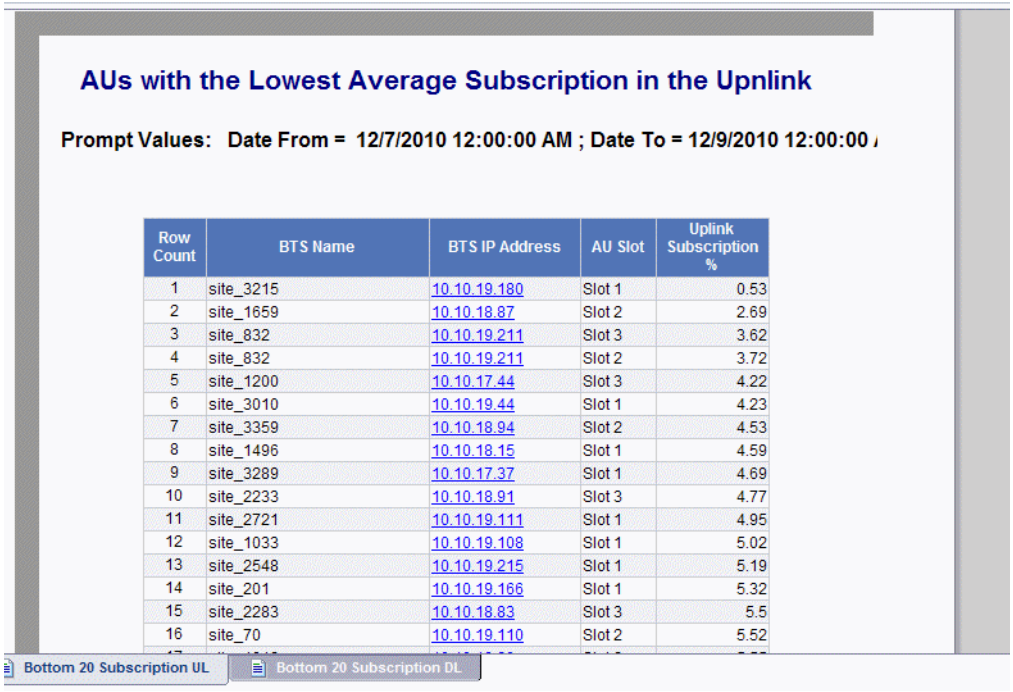
Top 20 Subscription UL | Top 20 Subscription DL

Figure 4-30: AUs with the Highest Average Subscription in the Downlink

4.3.7 AUs with the Lowest Average Subscription in the Uplink/Downlink

Same as defined above for the Top 20 AUs regarding subscription (UL/DL) report (see Section 4.3.6 above), but for the lowest aggregated subscription.

To generate this report select **07. Average Subscription - Bottom 20 AUs** from the list.



AUs with the Lowest Average Subscription in the Uplink

Prompt Values: Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:00 A

Row Count	BTS Name	BTS IP Address	AU Slot	Uplink Subscription %
1	site_3215	10.10.19.180	Slot 1	0.53
2	site_1659	10.10.18.87	Slot 2	2.69
3	site_832	10.10.19.211	Slot 3	3.62
4	site_832	10.10.19.211	Slot 2	3.72
5	site_1200	10.10.17.44	Slot 3	4.22
6	site_3010	10.10.19.44	Slot 1	4.23
7	site_3359	10.10.18.94	Slot 2	4.53
8	site_1496	10.10.18.15	Slot 1	4.59
9	site_3289	10.10.17.37	Slot 1	4.69
10	site_2233	10.10.18.91	Slot 3	4.77
11	site_2721	10.10.19.111	Slot 1	4.95
12	site_1033	10.10.19.108	Slot 1	5.02
13	site_2548	10.10.19.215	Slot 1	5.19
14	site_201	10.10.19.166	Slot 1	5.32
15	site_2283	10.10.18.83	Slot 3	5.5
16	site_70	10.10.19.110	Slot 2	5.52

Bottom 20 Subscription UL | Bottom 20 Subscription DL

Figure 4-31: AUs with the Lowest Average Subscription in the Uplink

4.3.8 Number of CPEs in AUs

This report may be generated for all the BTSs in the network, or for a group of user-selected BTSs.

This report includes two tabs, as described in the following sections, to display the information for AUs with highest number of CPEs, and AUs with lowest number of CPEs.

To generate this report select **08. Number Of CPEs - Top/Bottom AUs** from the list.

4.3.8.1 Top 20 AUs with Highest Number of CPEs

This tab provides a list of the 20 AUs with the highest aggregated (averaged) number of CPE, and thus enables fast detection of the highly loaded AUs in the network, regarding number of SUs.

You can also navigate to the AU details, and initiate configuration actions (using AlvariSTAR) to reduce excessive SUs (e.g. re-allocation to AUs).

The report table contains the following columns:

- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- No. of CPEs

Top 20 AUs With Highest Number Of CPEs

Prompt Values: Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:0

Row Count	BTS Name	BTS IP Address	AU Slot	Number of CPEs
1	site_1200	10.10.17.44	Slot 3	67
2	site_1659	10.10.18.87	Slot 3	48
3	site_1659	10.10.18.87	Slot 2	46
4	site_70	10.10.19.110	Slot 3	45
5	site_201	10.10.19.166	Slot 1	44
6	site_2668	10.10.19.29	Slot 1	40
7	site_750	10.10.16.18	Slot 3	39
8	site_2668	10.10.19.29	Slot 2	37
9	site_3215	10.10.19.180	Slot 1	36
10	site_2233	10.10.18.91	Slot 2	35
11	site_1340	10.10.15.176	Slot 4	33
12	site_3010	10.10.19.44	Slot 2	31
13	site_2371	10.10.18.89	Slot 3	31
14	site_2863	10.10.19.38	Slot 3	30
15	site_2668	10.10.19.29	Slot 3	30
16	site_2233	10.10.18.91	Slot 3	29
17	site_2371	10.10.18.89	Slot 1	29

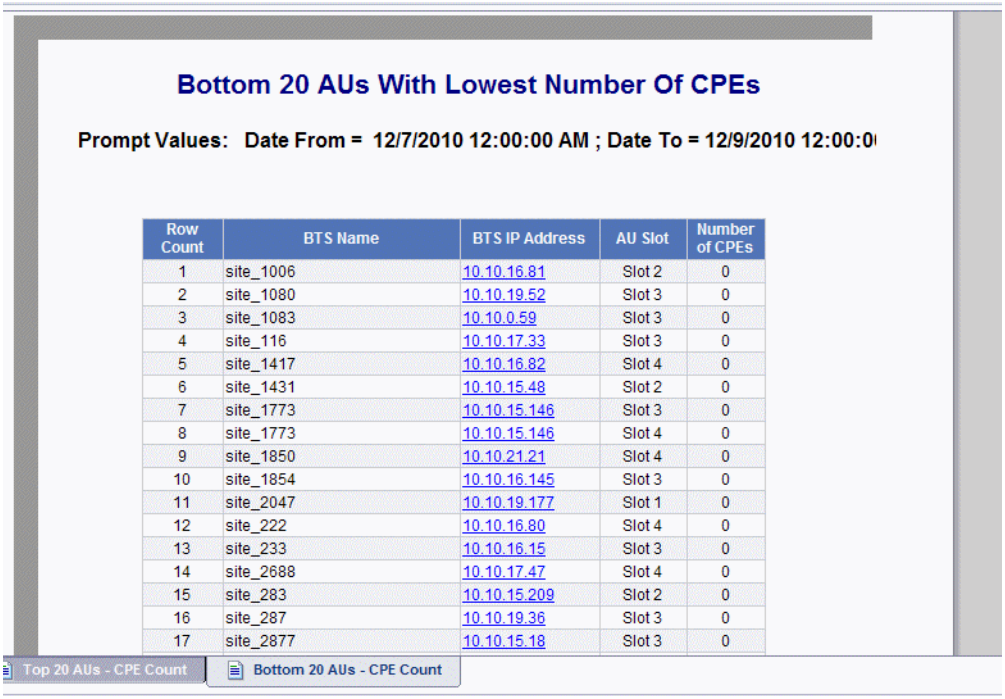
Top 20 AUs - CPE Count | Bottom 20 AUs - CPE Count

Figure 4-32: Top 20 AUs with Highest Number of CPEs

4.3.8.2 Bottom 20 AUs regarding no. of SUs

Same as defined above for Top 20 AUs regarding no. of CPEs (see Section 4.3.8 above), but for the lowest number of CPEs.

This report enables fast detection of the least loaded AUs in the network, regarding number of SUs. You can drill down to the AU details.



Bottom 20 AUs With Lowest Number Of CPEs

Prompt Values: Date From = 12/7/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:0

Row Count	BTS Name	BTS IP Address	AU Slot	Number of CPEs
1	site_1006	10.10.16.81	Slot 2	0
2	site_1080	10.10.19.52	Slot 3	0
3	site_1083	10.10.0.59	Slot 3	0
4	site_116	10.10.17.33	Slot 3	0
5	site_1417	10.10.16.82	Slot 4	0
6	site_1431	10.10.15.48	Slot 2	0
7	site_1773	10.10.15.146	Slot 3	0
8	site_1773	10.10.15.146	Slot 4	0
9	site_1850	10.10.21.21	Slot 4	0
10	site_1854	10.10.16.145	Slot 3	0
11	site_2047	10.10.19.177	Slot 1	0
12	site_222	10.10.16.80	Slot 4	0
13	site_233	10.10.16.15	Slot 3	0
14	site_2688	10.10.17.47	Slot 4	0
15	site_283	10.10.15.209	Slot 2	0
16	site_287	10.10.19.36	Slot 3	0
17	site_2877	10.10.15.18	Slot 3	0

Top 20 AUs - CPE Count | Bottom 20 AUs - CPE Count

Figure 4-33: Bottom 20 AUs with Lowest Number of CPEs

4.3.9 CPE Related Reports and Graphs

The following reports provide performance information related to the CPE as the basic reference unit.

The various types of CPE related reports may be generated for different groups of CPEs in the controlled network. The applicable group is defined below per each report type.

Time domain start and end points of a specific report are user-defined, per each report generation.

To generate these reports select **0.9 CPE Radio Link Quality** from the Performance reports list.

4.3.9.1 [BTS Name][1] - CPE Radio Link Quality - Aggregated

This report may be generated for a single BTS in the network, and presents the aggregated performance of the selected CPEs (up to 3,000) of the specific BTS, as aggregated between the user-defined start and end points.

You may generate this report, and then manipulate its output to obtain a concept of the radio behavior of CPEs of a specific BTS, as aggregated over a period of time.

Other activities you can do with the output data:

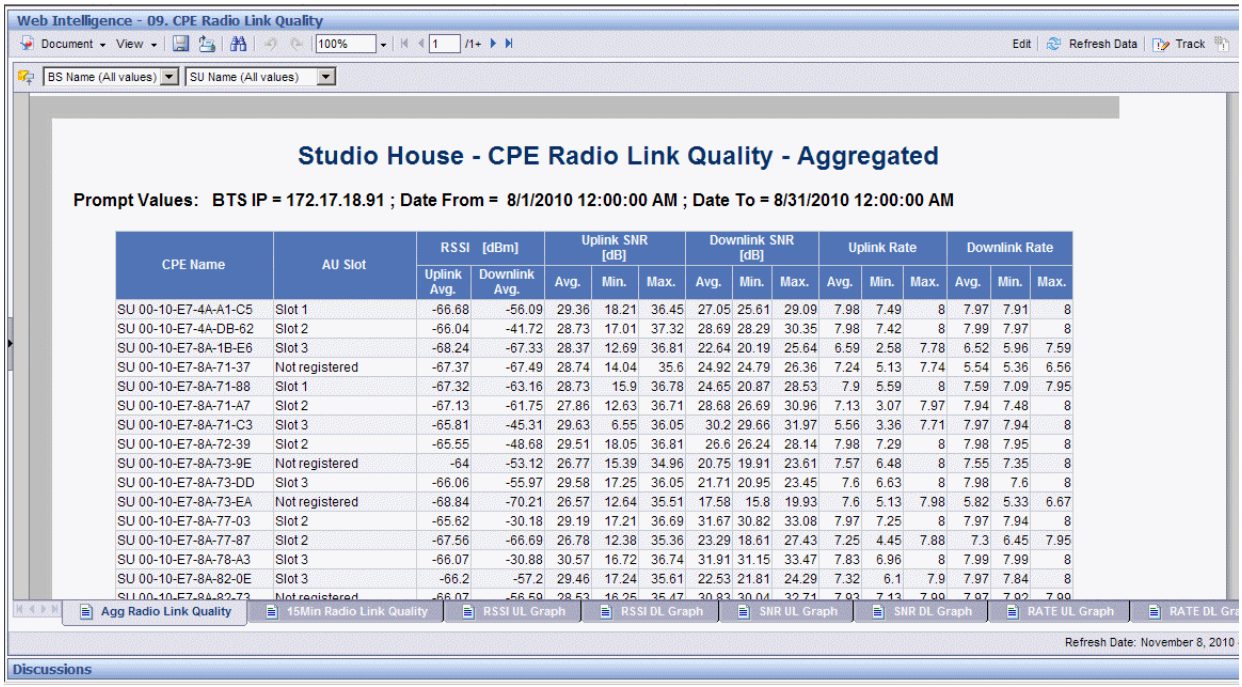
- Navigate to a specific CPE
- Generate top/bottom type CPE reports to find extreme behavior CPEs

1. [BTS Name] - The BTS name appears at the title of this report.

- Navigate to time-domain behavior of selected CPEs

The report table includes the following columns:

- CPE Name
- AU Slot
- RSSI (dBm): Uplink Avg. and Downlink Avg.
- Uplink SNR [dB]: Avg. Min., and Max.
- Downlink SNR [dB]: Avg. Min., and Max.
- Uplink Rate
- Downlink Rate



CPE Name	AU Slot	RSSI [dBm]		Uplink SNR [dB]			Downlink SNR [dB]			Uplink Rate			Downlink Rate		
		Uplink Avg.	Downlink Avg.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.
SU 00-10-E7-4A-A1-C5	Slot 1	-66.68	-56.09	29.36	18.21	36.45	27.05	25.61	29.09	7.98	7.49	8	7.97	7.91	8
SU 00-10-E7-4A-DB-62	Slot 2	-66.04	-41.72	28.73	17.01	37.32	28.69	28.29	30.35	7.98	7.42	8	7.99	7.97	8
SU 00-10-E7-8A-1B-E6	Slot 3	-68.24	-67.33	28.37	12.69	36.81	22.64	20.19	25.64	6.59	2.58	7.78	6.52	5.96	7.59
SU 00-10-E7-8A-71-37	Not registered	-67.37	-67.49	28.74	14.04	35.6	24.92	24.79	26.36	7.24	5.13	7.74	5.54	5.36	6.56
SU 00-10-E7-8A-71-88	Slot 1	-67.32	-63.16	28.73	15.9	36.78	24.65	20.87	28.53	7.9	5.59	8	7.59	7.09	7.95
SU 00-10-E7-8A-71-A7	Slot 2	-67.13	-61.75	27.86	12.63	36.71	28.68	26.69	30.96	7.13	3.07	7.97	7.94	7.48	8
SU 00-10-E7-8A-71-C3	Slot 3	-65.81	-45.31	29.63	6.55	36.05	30.2	29.66	31.97	5.56	3.36	7.71	7.97	7.94	8
SU 00-10-E7-8A-72-39	Slot 2	-65.55	-48.68	29.51	18.05	36.81	26.6	26.24	28.14	7.98	7.29	8	7.98	7.95	8
SU 00-10-E7-8A-73-9E	Not registered	-64	-53.12	26.77	15.39	34.96	20.75	19.91	23.61	7.57	6.48	8	7.55	7.35	8
SU 00-10-E7-8A-73-DD	Slot 3	-66.06	-55.97	29.58	17.25	36.05	21.71	20.95	23.45	7.6	6.63	8	7.98	7.6	8
SU 00-10-E7-8A-73-EA	Not registered	-68.84	-70.21	26.57	12.64	35.51	17.58	15.8	19.93	7.6	5.13	7.98	5.82	5.33	6.67
SU 00-10-E7-8A-77-03	Slot 2	-65.62	-30.18	29.19	17.21	36.69	31.67	30.82	33.08	7.97	7.25	8	7.97	7.94	8
SU 00-10-E7-8A-77-87	Slot 2	-67.56	-66.69	26.78	12.38	35.36	23.29	18.61	27.43	7.25	4.45	7.88	7.3	6.45	7.95
SU 00-10-E7-8A-78-A3	Slot 3	-66.07	-30.88	30.57	16.72	36.74	31.91	31.15	33.47	7.83	6.96	8	7.99	7.99	8
SU 00-10-E7-8A-82-0E	Slot 3	-66.2	-57.2	29.46	17.24	35.61	22.53	21.81	24.29	7.32	6.1	7.9	7.97	7.84	8

Figure 4-34: CPE Radio Link Quality - Aggregated

4.3.9.2 [BTS Name][1] - CPE Radio Link Quality Measurements

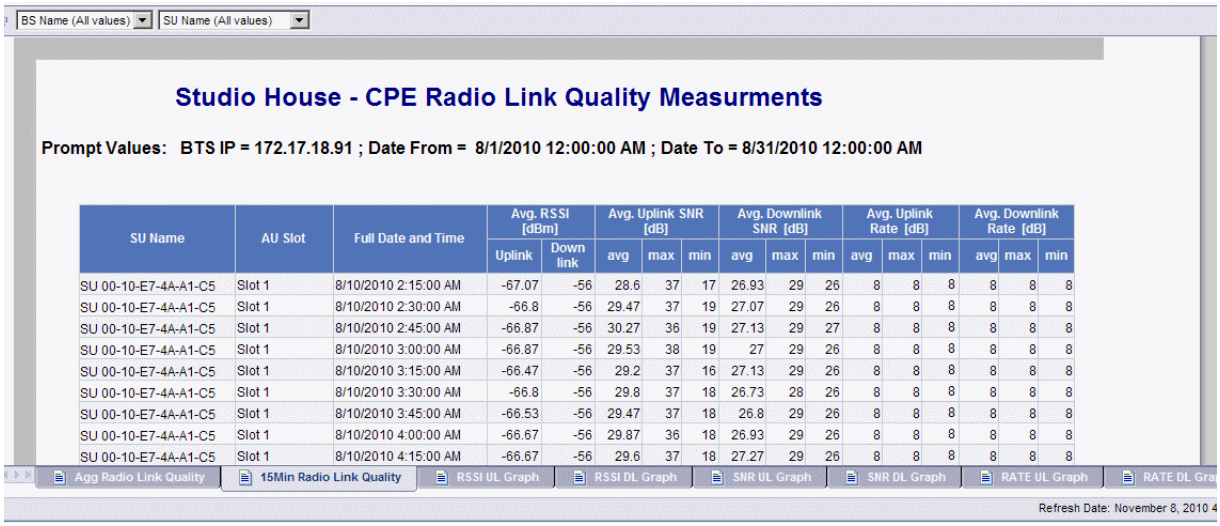
This report may be generated for a single BTS in the network, and presents the performance of the selected CPEs (up to 3,000) of a specific BTS, as recorded between the user-defined start and end points, but with a 15 minute samples.

You may generate this report in order to analyze the functionality of the AUs over time, and search for parameters such as: extreme values, periodicity of behavior, etc.

1. [BTS Name] - The BTS name appears at the title of this report.

The report table includes the following columns:

- SU Name
- AU Slot
- Full Date and Time: [dd/mm/yyyy], [hh/min/sec] AM/PM
- Avg. RSSI [dBm]: avg, min and max
- Avg. Uplink SNR [dB]: avg, min and max
- Avg. Downlink SNR [dB]: avg, min and max
- Avg. Uplink Rate [dB]: avg, min and max
- Avg. Downlink Rate [dB]: avg, min and max



SU Name	AU Slot	Full Date and Time	Avg. RSSI [dBm]		Avg. Uplink SNR [dB]			Avg. Downlink SNR [dB]			Avg. Uplink Rate [dB]			Avg. Downlink Rate [dB]		
			Uplink	Down link	avg	max	min	avg	max	min	avg	max	min	avg	max	min
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 2:15:00 AM	-67.07	-56	28.6	37	17	26.93	29	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 2:30:00 AM	-66.8	-56	29.47	37	19	27.07	29	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 2:45:00 AM	-66.87	-56	30.27	36	19	27.13	29	27	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 3:00:00 AM	-66.87	-56	29.53	38	19	27	29	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 3:15:00 AM	-66.47	-56	29.2	37	16	27.13	29	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 3:30:00 AM	-66.8	-56	29.8	37	18	26.73	28	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 3:45:00 AM	-66.53	-56	29.47	37	18	26.8	29	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 4:00:00 AM	-66.67	-56	29.87	36	18	26.93	29	26	8	8	8	8	8	8
SU 00-10-E7-4A-A1-C5	Slot 1	8/10/2010 4:15:00 AM	-66.67	-56	29.6	37	18	27.27	29	26	8	8	8	8	8	8

Figure 4-35: CPE Radio Link Quality Measurements

4.3.9.3 CPE Radio Link Quality Graphs

The following figures illustrate the graph tabs in the CPE Aggregated Radio Link Quality report. The graphs include various data defined for the table described in Section 4.3.9.1 and Section 4.3.9.2 above).

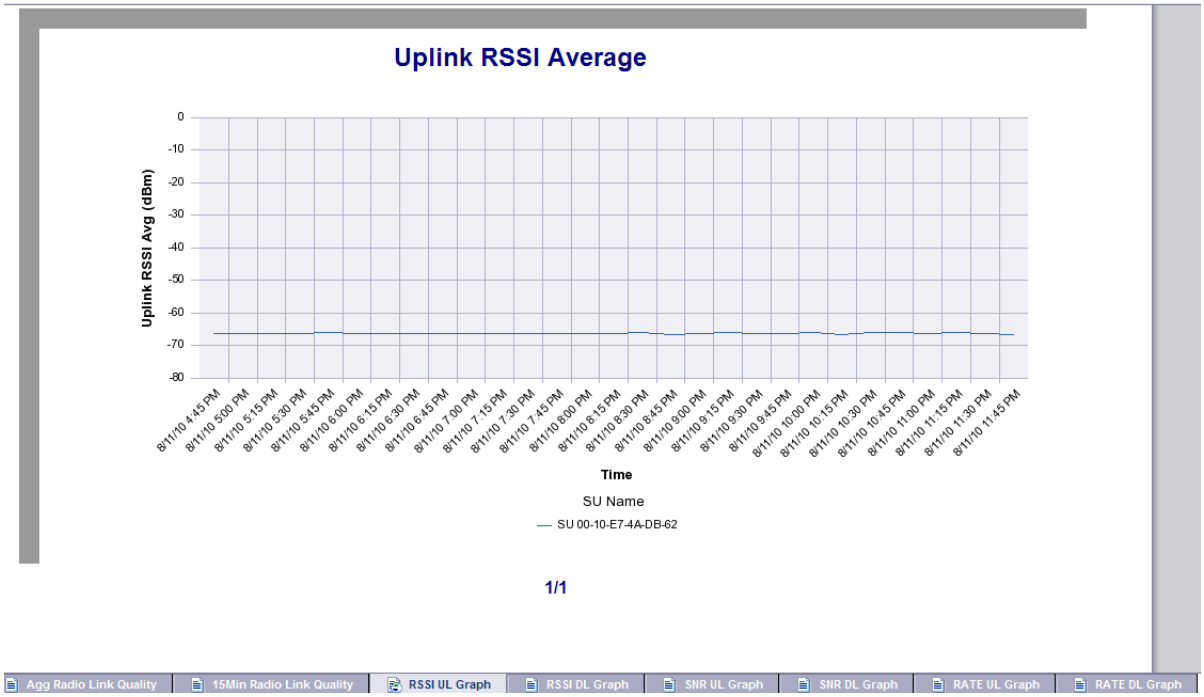


Figure 4-36: Uplink RSSI Average Graph

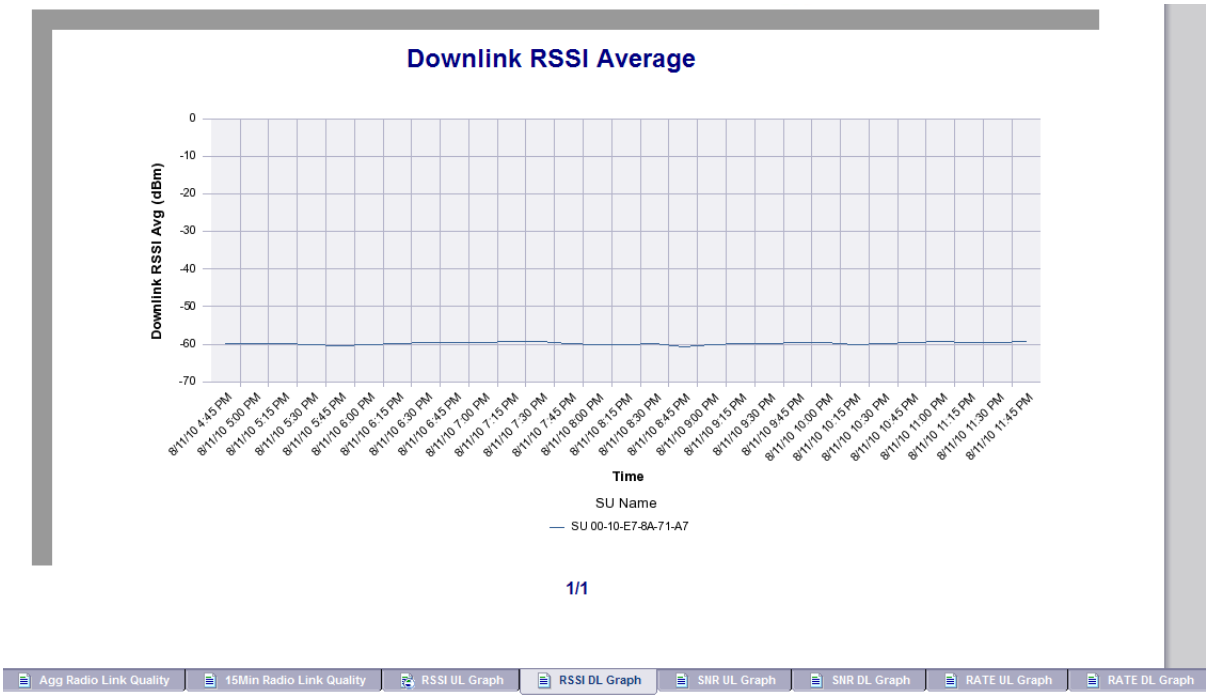


Figure 4-37: Downlink RSSI Average Graph

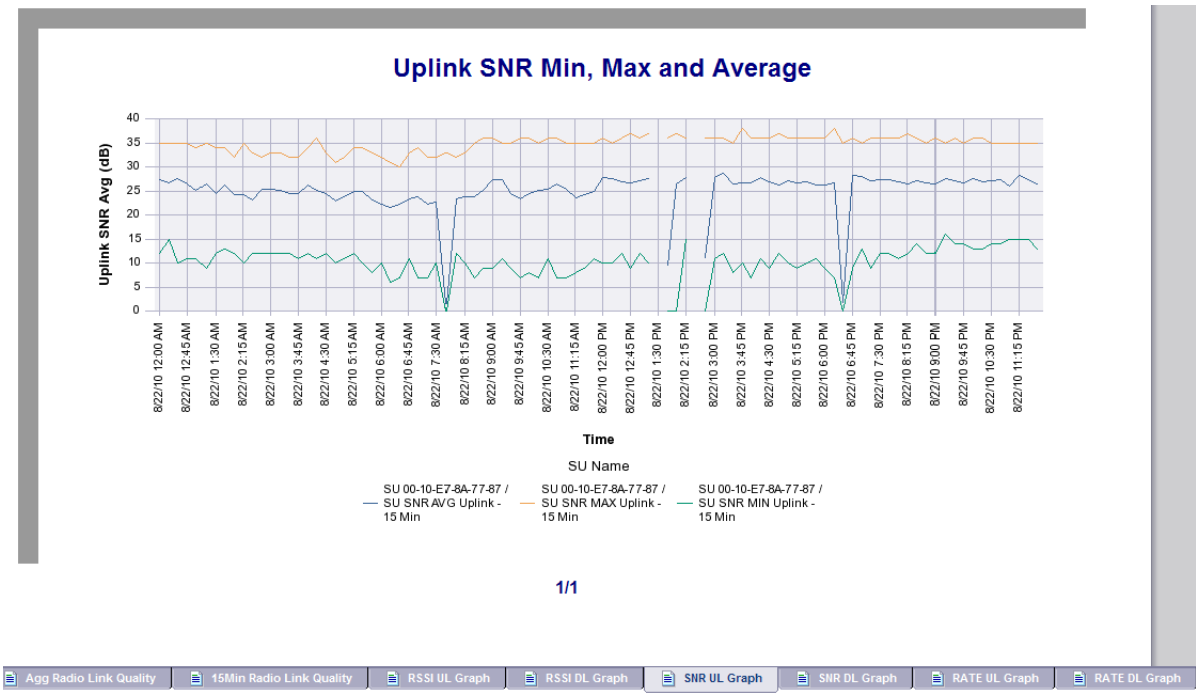


Figure 4-38: Uplink SNR Min, Max and Average Graph

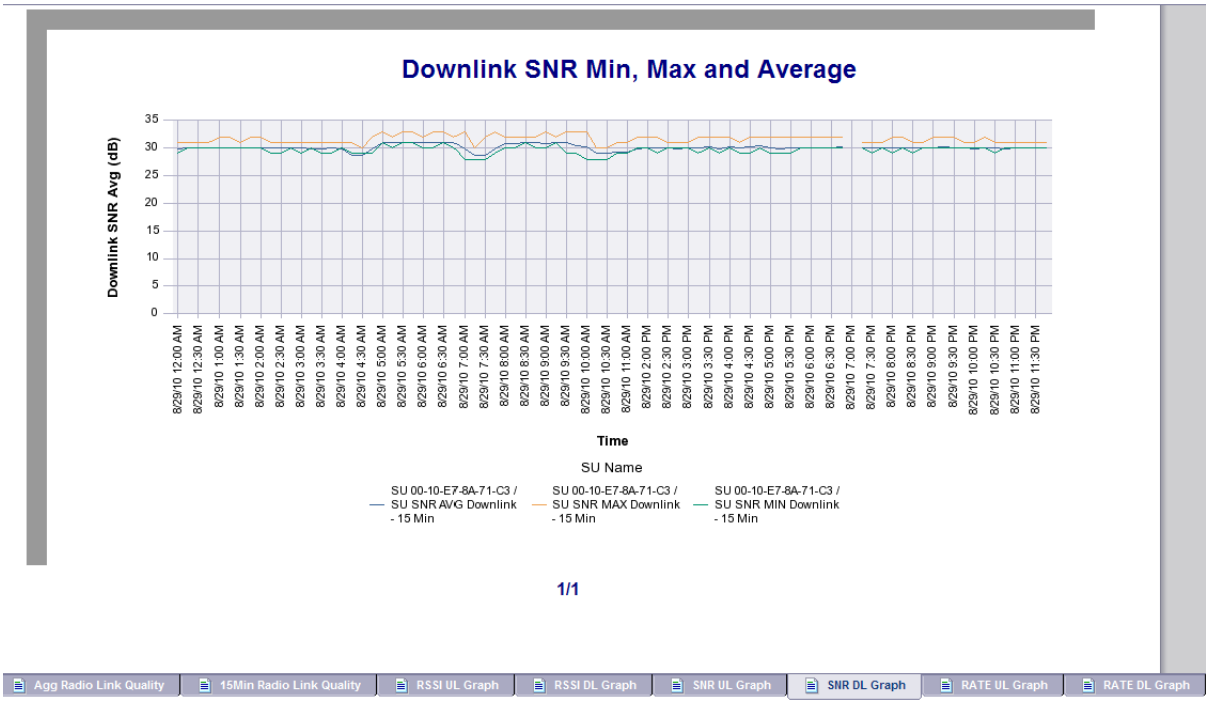


Figure 4-39: Downlink SNR Min, Max and Average Graph

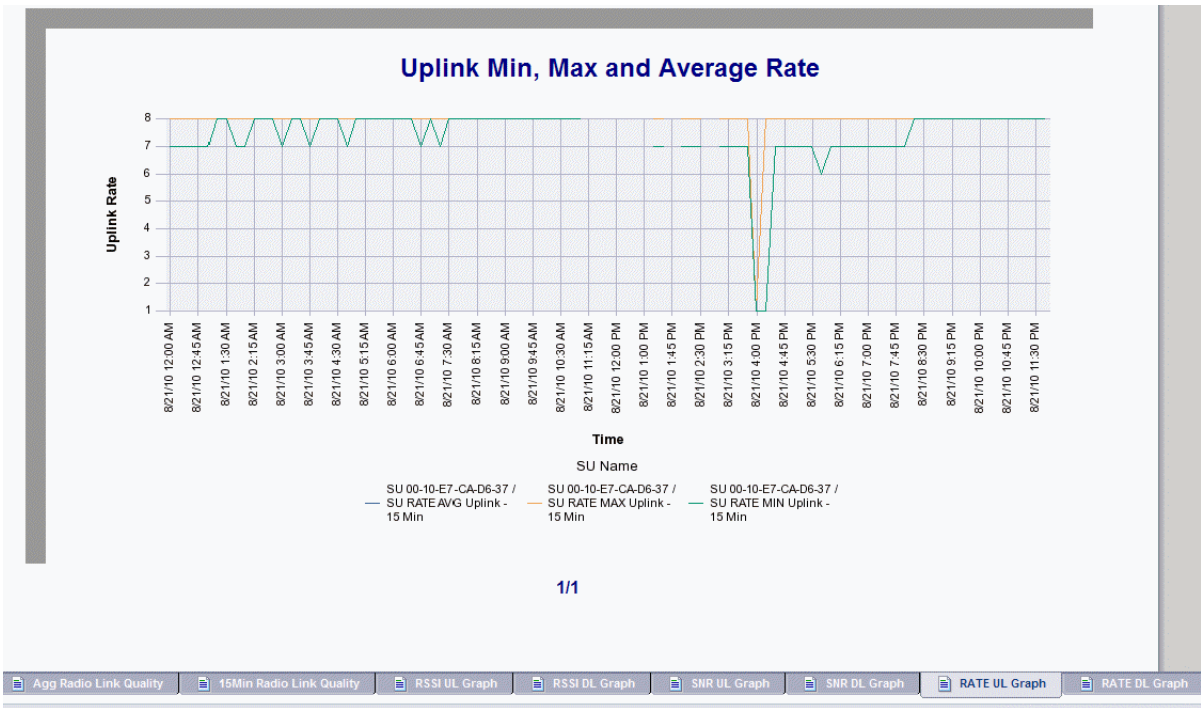


Figure 4-40: Uplink Min, Max and Average Rate Graph

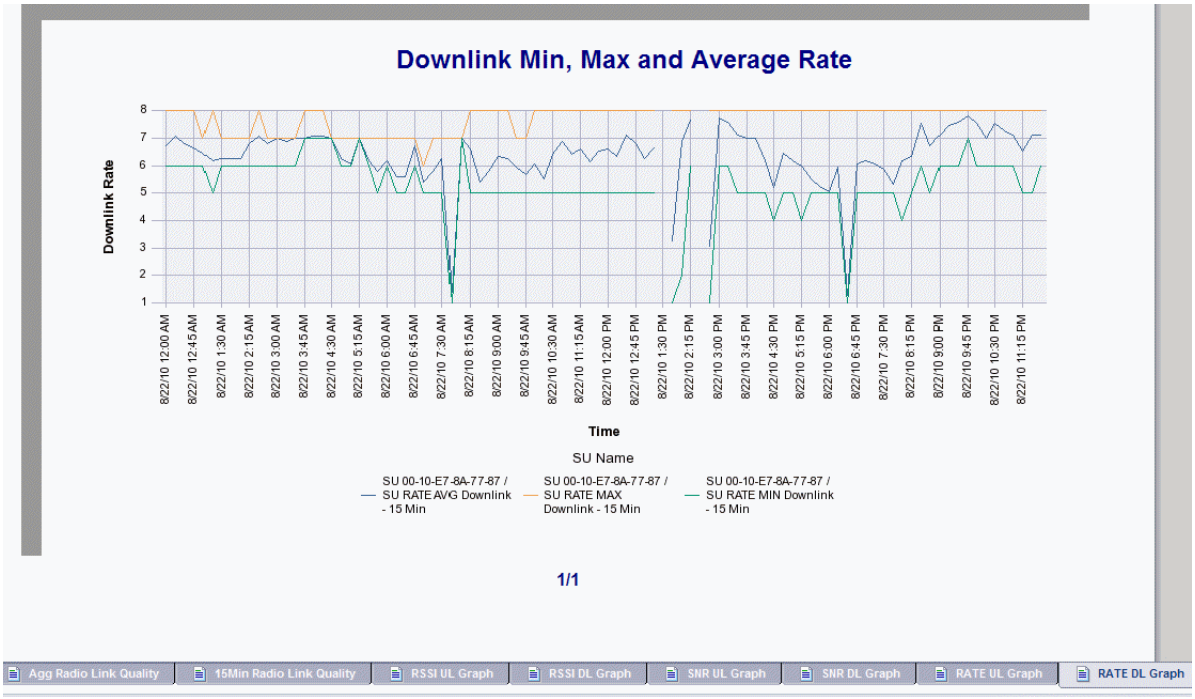


Figure 4-41: Downlink Min, Max and Average Rate Graph

4.3.10 CPEs with the Highest Average Rate in the Uplink/Downlink

This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 50 SUs with the highest average UL rate.

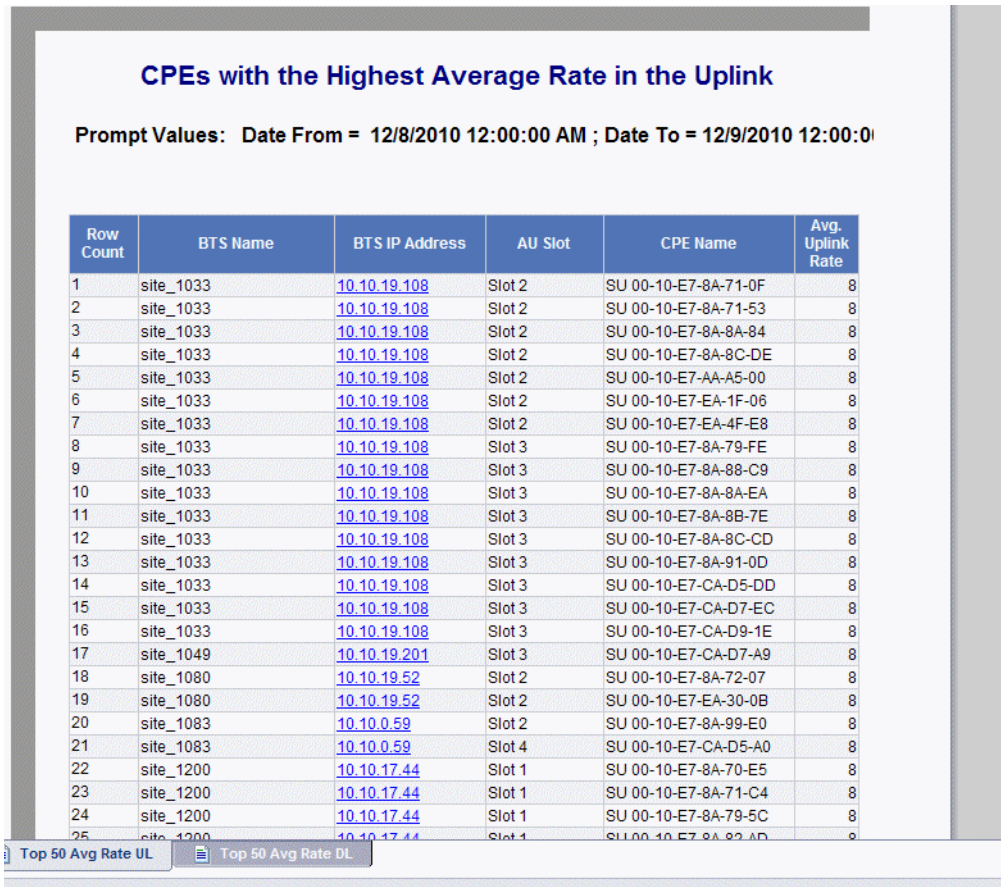
A similar report is available for DL.

This report enables a fast detection of the highest rate SUs in the network. You can also navigate to the CPE details for more information.

To generate this report select **10. Average Rate - Top 50 CPEs** from the reports list.

The report table contains the following columns:

- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- CPE Name
- Average rate UL/DL (as applicable)



CPEs with the Highest Average Rate in the Uplink

Prompt Values: Date From = 12/8/2010 12:00:00 AM ; Date To = 12/9/2010 12:00:0

Row Count	BTS Name	BTS IP Address	AU Slot	CPE Name	Avg. Uplink Rate
1	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-8A-71-0F	8
2	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-8A-71-53	8
3	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-8A-8A-84	8
4	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-8A-8C-DE	8
5	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-AA-A5-00	8
6	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-EA-1F-06	8
7	site_1033	10.10.19.108	Slot 2	SU 00-10-E7-EA-4F-E8	8
8	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-8A-79-FE	8
9	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-8A-88-C9	8
10	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-8A-8A-EA	8
11	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-8A-8B-7E	8
12	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-8A-8C-CD	8
13	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-8A-91-0D	8
14	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-CA-D5-DD	8
15	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-CA-D7-EC	8
16	site_1033	10.10.19.108	Slot 3	SU 00-10-E7-CA-D9-1E	8
17	site_1049	10.10.19.201	Slot 3	SU 00-10-E7-CA-D7-A9	8
18	site_1080	10.10.19.52	Slot 2	SU 00-10-E7-8A-72-07	8
19	site_1080	10.10.19.52	Slot 2	SU 00-10-E7-EA-30-0B	8
20	site_1083	10.10.0.59	Slot 2	SU 00-10-E7-8A-99-E0	8
21	site_1083	10.10.0.59	Slot 4	SU 00-10-E7-CA-D5-A0	8
22	site_1200	10.10.17.44	Slot 1	SU 00-10-E7-8A-70-E5	8
23	site_1200	10.10.17.44	Slot 1	SU 00-10-E7-8A-71-C4	8
24	site_1200	10.10.17.44	Slot 1	SU 00-10-E7-8A-79-5C	8

Top 50 Avg Rate UL Top 50 Avg Rate DL

Figure 4-42: CPEs with the Highest Average Rate in the Uplink

4.3.11 CPEs with the Lowest Average Rate in the Uplink/Downlink

This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 50 SUs with the lowest average UL rate.

A similar report is available for DL.

This report enables a fast detection of the lowest rate SUs in the network. You can also navigate to the CPE details for more information.

To generate this report select **11. Average Rate - Bottom 50 CPEs** from the reports list.

The report table contains the following columns:

- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- CPE Name

- Average rate UL/DL (as applicable)

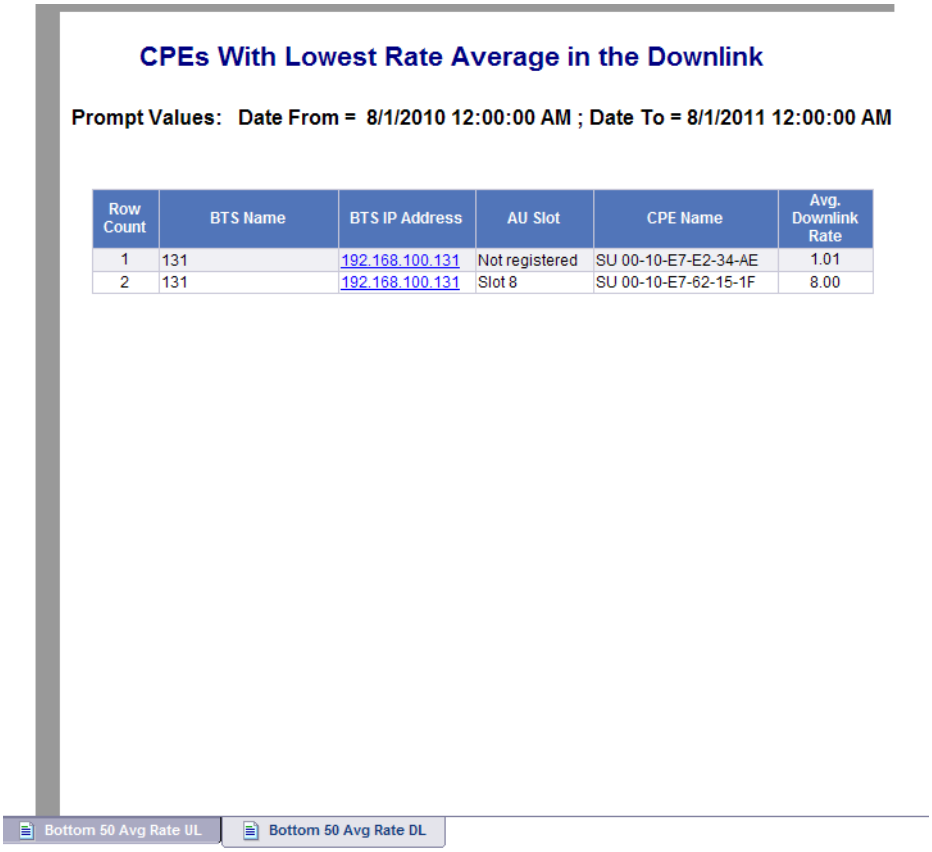


Figure 4-43: CPEs with the Lowest Average Rate in the Downlink

4.3.12 CPEs with the Highest RSSI Average in the Uplink/Downlink

This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 50 SUs with the highest RSSI (Received signal strength indication) average.

A similar report is available for DL.

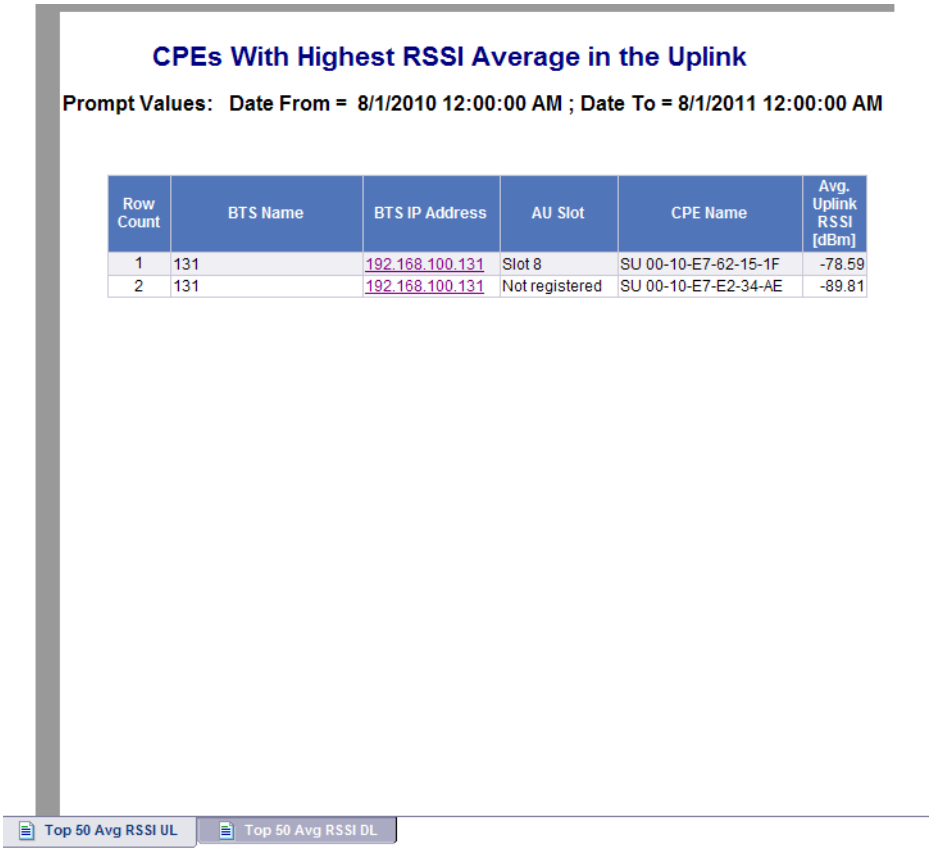
This report enables a fast detection of the highest RSSI rate of SUs in the network. You can also navigate to the CPE details for more information.

To generate this report select **12. Average RSSI - Top 50 CPEs** from the reports list.

The report table contains the following columns:

- Raw Count - entry number
- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)

- AU Slot
- CPE Name
- Average Uplink RSSI (dBm)



CPEs With Highest RSSI Average in the Uplink

Prompt Values: Date From = 8/1/2010 12:00:00 AM ; Date To = 8/1/2011 12:00:00 AM

Row Count	BTS Name	BTS IP Address	AU Slot	CPE Name	Avg. Uplink RSSI [dBm]
1	131	192.168.100.131	Slot 8	SU 00-10-E7-62-15-1F	-78.59
2	131	192.168.100.131	Not registered	SU 00-10-E7-E2-34-AE	-89.81

Top 50 Avg RSSI UL | Top 50 Avg RSSI DL

Figure 4-44: CPEs with the Highest RSSI Average in the Uplink

4.3.13 CPEs with the Lowest RSSI in the Uplink/Downlink

This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 50 SUs with the lowest RSSI (Received signal strength indication) average.

A similar report is available for DL.

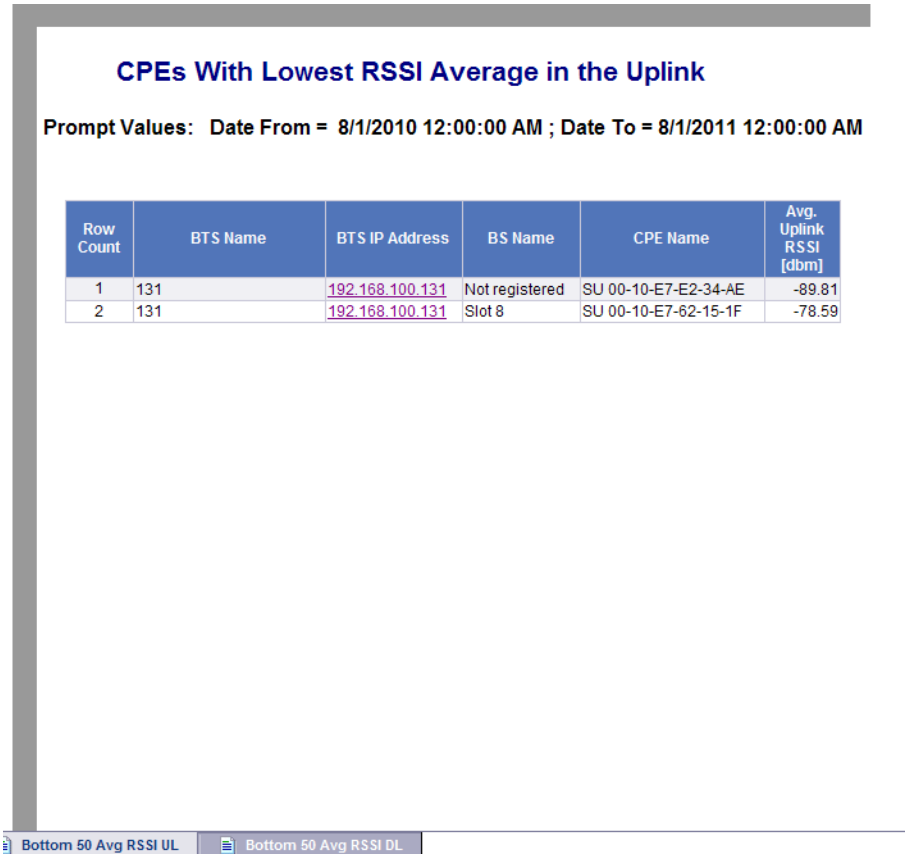
This report enables a fast detection of the lowest RSSI rate of SUs in the network. You can also navigate to the CPE details for more information.

To generate this report select **13. Average RSSI - Bottom 50 CPEs** from the reports list.

The report table contains the following columns:

- Raw Count - entry number
- BTS Name

- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- CPE Name
- Average Uplink/Downlink RSSI (dBm)



CPEs With Lowest RSSI Average in the Uplink

Prompt Values: Date From = 8/1/2010 12:00:00 AM ; Date To = 8/1/2011 12:00:00 AM

Row Count	BTS Name	BTS IP Address	BS Name	CPE Name	Avg. Uplink RSSI [dbm]
1	131	192.168.100.131	Not registered	SU 00-10-E7-E2-34-AE	-89.81
2	131	192.168.100.131	Slot 8	SU 00-10-E7-62-15-1F	-78.59

Figure 4-45: CPEs with the Lowest RSSI Average in the Uplink

4.3.14 CPEs with the Highest SNR Average in the Uplink/Downlink

This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 50 SUs with the highest SNR (Signal to Noise Ratio) average.

A similar report is available for DL.

This report enables a fast detection of the highest SNR average of SUs in the network. You can also navigate to the CPE details for more information.

To generate this report select **14. Average SNR - Top 50 CPEs** from the reports list.

The report table contains the following columns:

- Raw Count - entry number
- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- CPE Name
- Average Uplink/Downlink SNR (db)

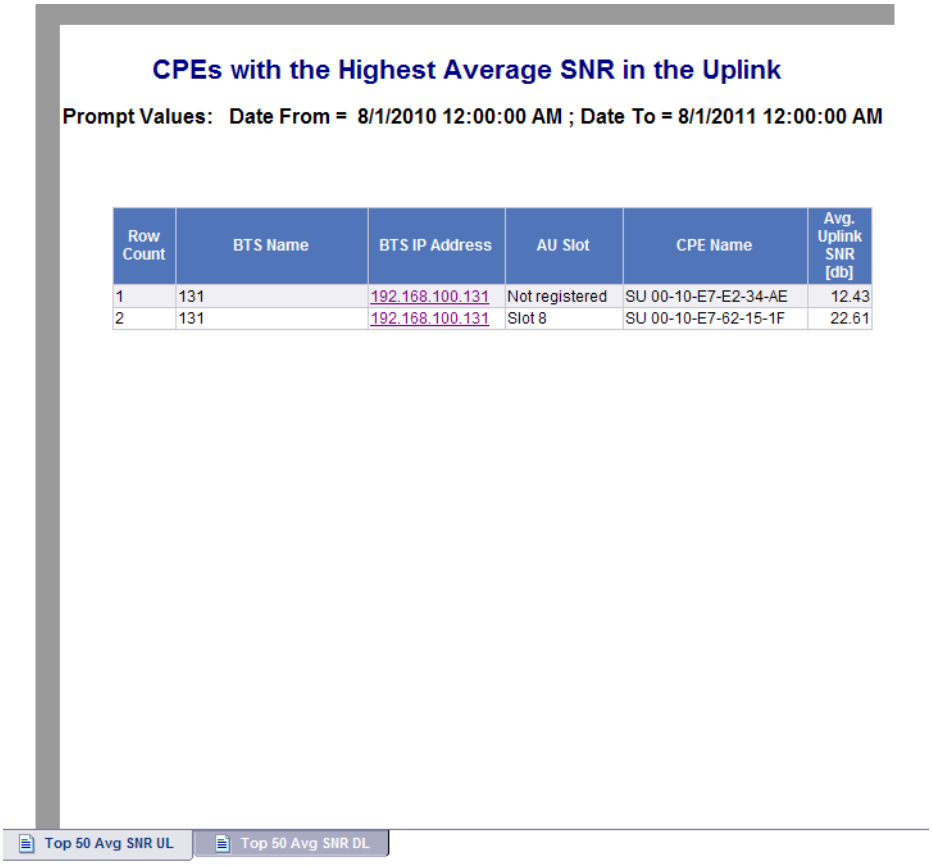


Figure 4-46: CPEs with the Highest SNR Average in the Uplink

4.3.15 CPEs with the Lowest SNR in the Uplink/Downlink

This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of the 50 SUs with the lowest SNR (Signal to Noise Ration) average.

A similar report is available for DL.

This report enables a fast detection of the lowest SNR rate of SUs in the network. You can also navigate to the CPE details for more information.

To generate this report select **15. Average SNR - Bottom 50 CPEs** from the reports list.

The report table contains the following columns:

- Raw Count - entry number
- BTS Name
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- CPE Name
- Average Uplink/Downlink SNR (db)

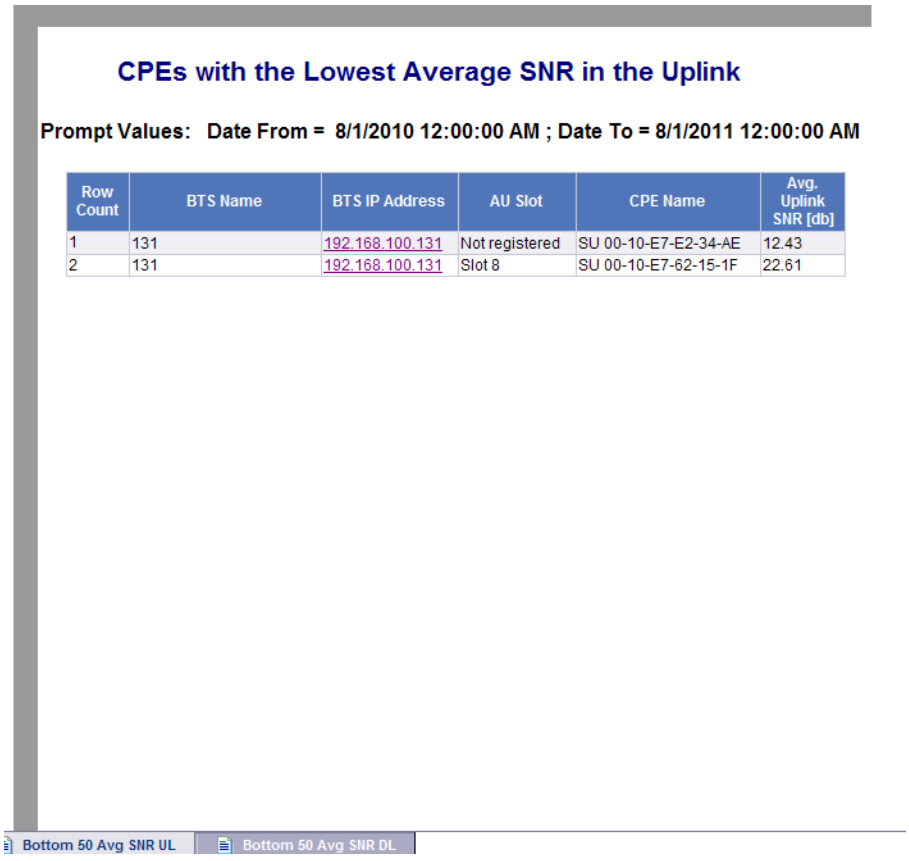


Figure 4-47: CPEs with the Lowest SNR Average in the Uplink

4.3.16 CPEs Not Reported for More than 10 Hours

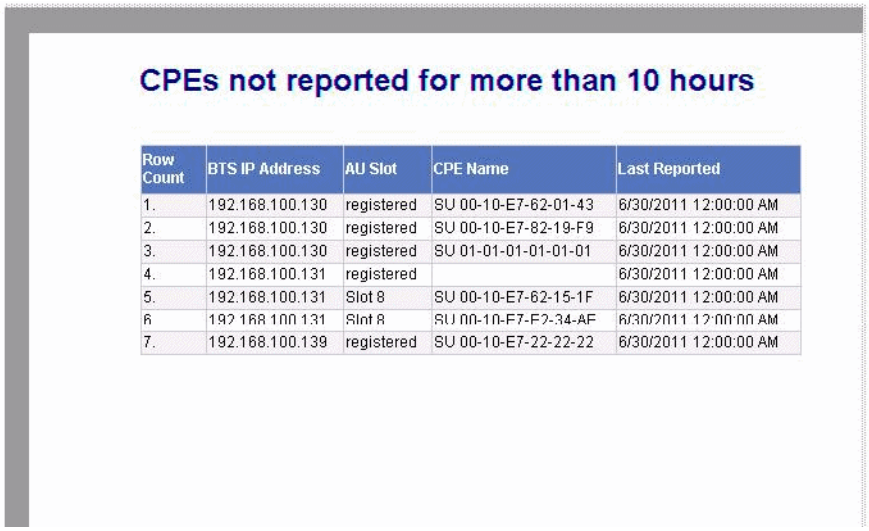
This report may be generated for all BTSs in the network, or to a group of user-selected BTSs. It provides a list of SUs that have no quality measurements indication for more than 10 hours.

This report enables a fast detection of dysfunctional or disconnected CPEs in the network. You can also navigate to the CPE details for more information.

To generate this report select **16. CPEs Not Reported for More than 10 Hours** from the reports list.

The report table contains the following columns:

- Raw Count - entry number
- BTS IP Address - with a link to the BTS Detailed Information per Location report (see Section 4.2.2)
- AU Slot
- CPE Name
- Last reported - date and time of last report



CPEs not reported for more than 10 hours

Row Count	BTS IP Address	AU Slot	CPE Name	Last Reported
1.	192.168.100.130	registered	SU 00-10-E7-62-01-43	6/30/2011 12:00:00 AM
2.	192.168.100.130	registered	SU 00-10-E7-82-19-F9	6/30/2011 12:00:00 AM
3.	192.168.100.130	registered	SU 01-01-01-01-01-01	6/30/2011 12:00:00 AM
4.	192.168.100.131	registered		6/30/2011 12:00:00 AM
5.	192.168.100.131	Slot 8	SU 00-10-E7-62-15-1F	6/30/2011 12:00:00 AM
6	192.168.100.131	Slot 8	SU 00-10-E7-F2-34-AF	6/30/2011 12:00:00 AM
7.	192.168.100.139	registered	SU 00-10-E7-22-22-22	6/30/2011 12:00:00 AM

Figure 4-48: Cpes Not Reported for More than 10 Hours

4.3.17 AU Historical Capacity Analysis

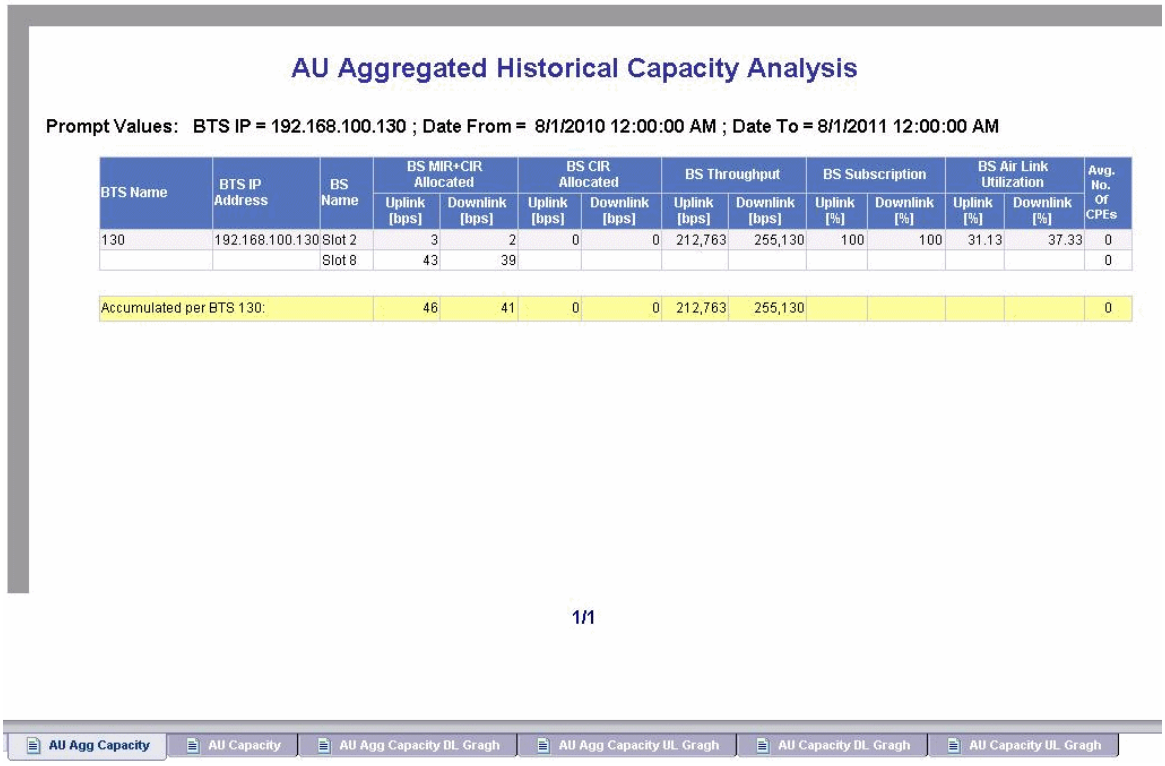
This report may be generated for a single BTS in the network, and lists the performance measurements of each of its AUs. The report displays the same measurements as report 01. AU Subscription Capacity Analysis (see "AU Subscription Capacity Analysis" on page 63), only for older data and with different resolution: measurements older than three months in a 1-hour resolution.

To generate this report select **17. AU Historical Capacity Analysis** from the reports list.

The following sections have a reference to the description in the AU Subscription Capacity Analysis report.

4.3.17.1 AU Aggregated Historical Capacity Analysis

Refer to "AU Aggregated Capacity Analysis" on page 64.



AU Aggregated Historical Capacity Analysis

Prompt Values: BTS IP = 192.168.100.130 ; Date From = 8/1/2010 12:00:00 AM ; Date To = 8/1/2011 12:00:00 AM

BTS Name	BTS IP Address	BS Name	BS MIR+CIR Allocated		BS CIR Allocated		BS Throughput		BS Subscription		BS Air Link Utilization		Avg. No. Of CPEs
			Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [%]	Downlink [%]	Uplink [%]	Downlink [%]	
130	192.168.100.130	Slot 2	3	2	0	0	212,763	255,130	100	100	31.13	37.33	0
		Slot 8	43	39									0
Accumulated per BTS 130:			46	41	0	0	212,763	255,130					0

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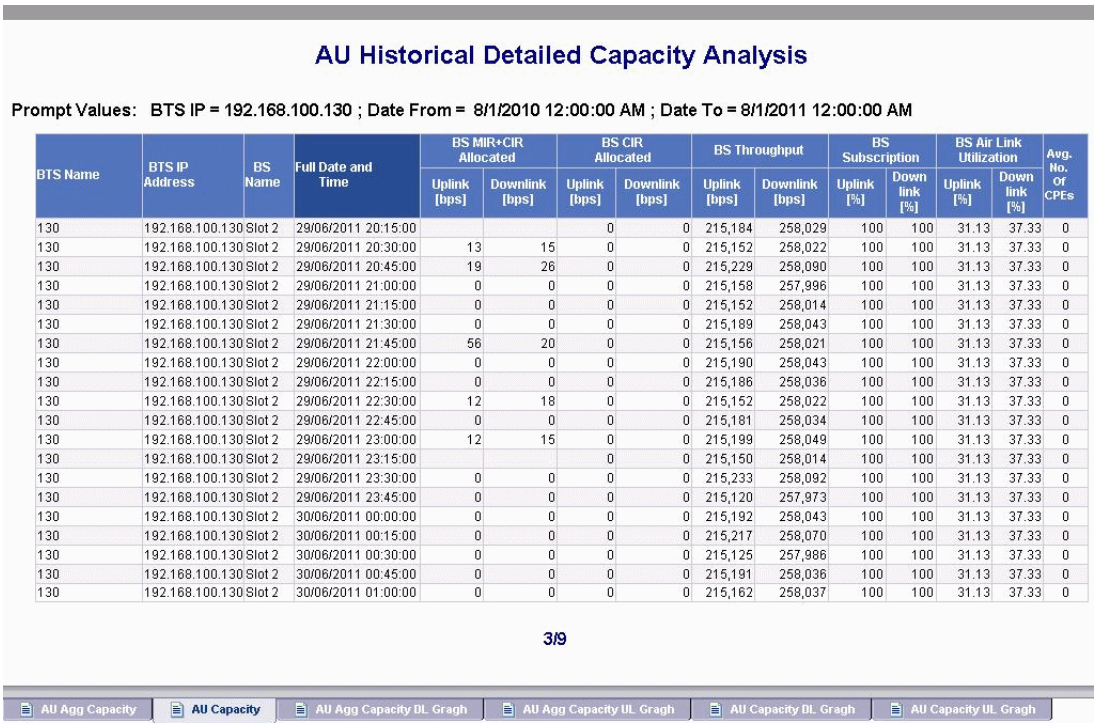
AU Agg Capacity | AU Capacity | AU Agg Capacity DL Gragh | AU Agg Capacity UL Gragh | AU Capacity DL Gragh | AU Capacity UL Gragh

Figure 4-49: AU Aggregated Historical Capacity Analysis

4.3.17.2 AU Historical Detailed Capacity Analysis

Refer to "AU Detailed Capacity Analysis" on page 65.



AU Historical Detailed Capacity Analysis

Prompt Values: BTS IP = 192.168.100.130 ; Date From = 8/1/2010 12:00:00 AM ; Date To = 8/1/2011 12:00:00 AM

BTS Name	BTS IP Address	BS Name	Full Date and Time	BS MIR+CIR Allocated		BS CIR Allocated		BS Throughput		BS Subscription		BS Air Link Utilization		Avg. No. Of CPEs
				Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [bps]	Downlink [bps]	Uplink [%]	Down link [%]	Uplink [%]	Down link [%]	
130	192.168.100.130	Slot 2	29/06/2011 20:15:00			0	0	215,184	258,029	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 20:30:00	13	15	0	0	215,152	258,022	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 20:45:00	19	26	0	0	215,229	258,090	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 21:00:00	0	0	0	0	215,158	257,996	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 21:15:00	0	0	0	0	215,152	258,014	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 21:30:00	0	0	0	0	215,189	258,043	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 21:45:00	56	20	0	0	215,156	258,021	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 22:00:00	0	0	0	0	215,190	258,043	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 22:15:00	0	0	0	0	215,186	258,036	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 22:30:00	12	18	0	0	215,152	258,022	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 22:45:00	0	0	0	0	215,181	258,034	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 23:00:00	12	15	0	0	215,199	258,049	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 23:15:00			0	0	215,150	258,014	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 23:30:00	0	0	0	0	215,233	258,092	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	29/06/2011 23:45:00	0	0	0	0	215,120	257,973	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	30/06/2011 00:00:00	0	0	0	0	215,192	258,043	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	30/06/2011 00:15:00	0	0	0	0	215,217	258,070	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	30/06/2011 00:30:00	0	0	0	0	215,125	257,986	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	30/06/2011 00:45:00	0	0	0	0	215,191	258,036	100	100	31.13	37.33	0
130	192.168.100.130	Slot 2	30/06/2011 01:00:00	0	0	0	0	215,162	258,037	100	100	31.13	37.33	0

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AU Agg Capacity | AU Capacity | AU Agg Capacity DL Gragh | AU Agg Capacity UL Gragh | AU Capacity DL Gragh | AU Capacity UL Gragh

Figure 4-50: AU Historical Detailed Capacity Analysis

4.3.17.3 AU Aggregated Capacity Downlink/Uplink Graphs

Refer to "AU Capacity Graphs" on page 66.

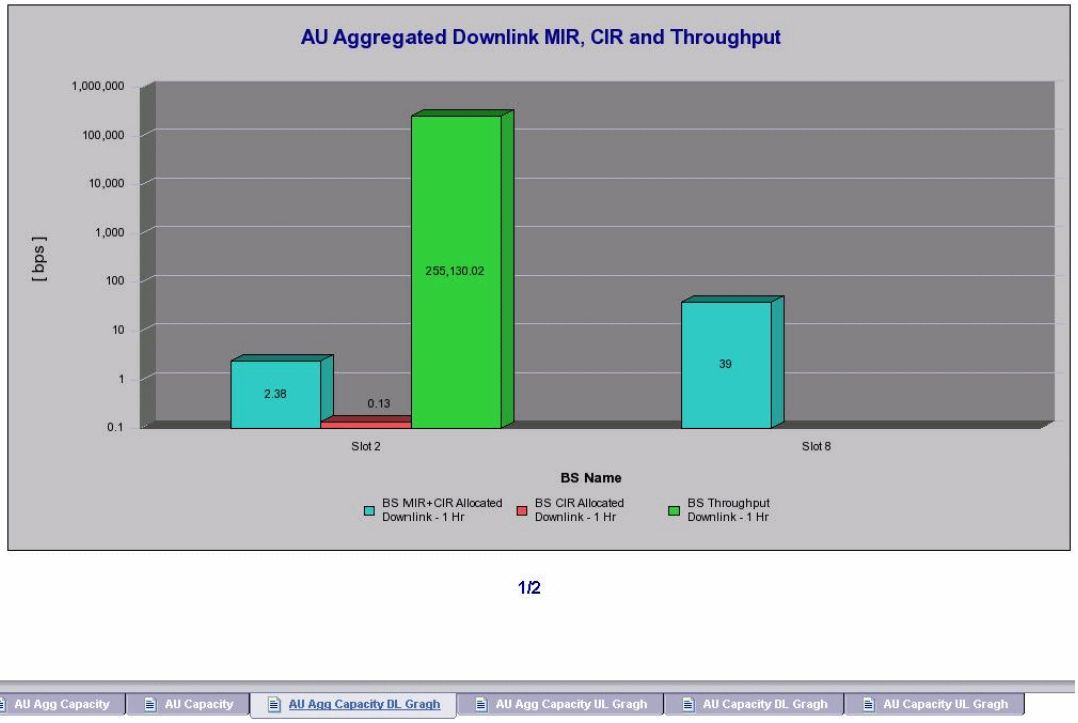


Figure 4-51: AU Aggregated Downlink MIR, CIR and Throughput

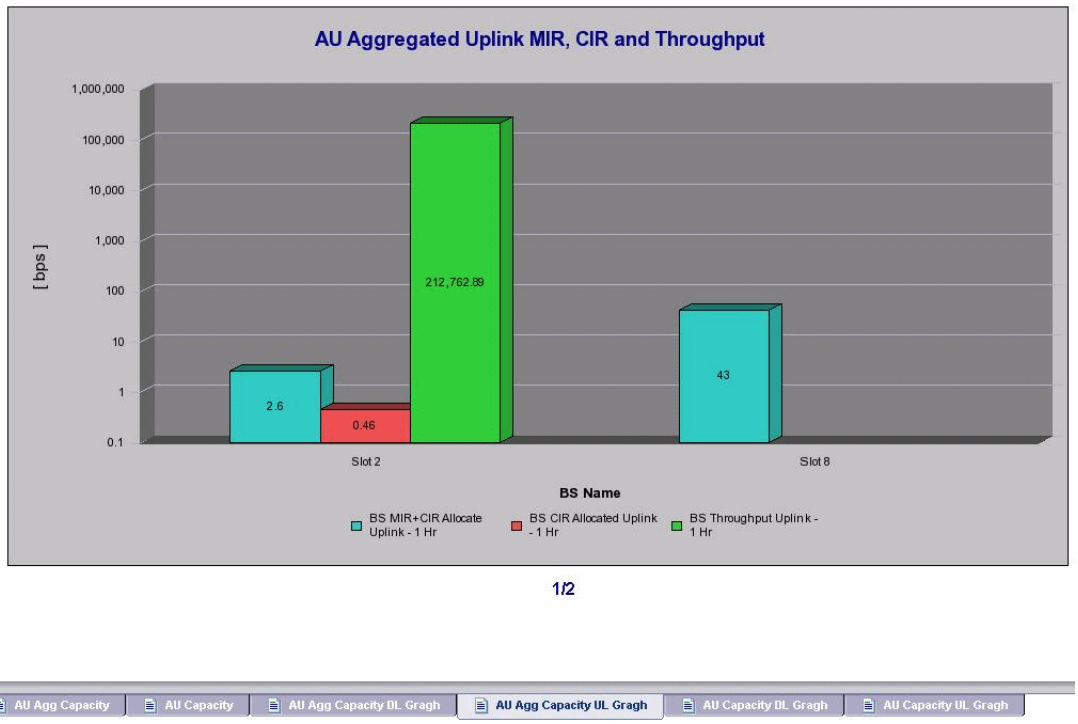


Figure 4-52: AU Aggregated Uplink MIR, CIR and Throughput

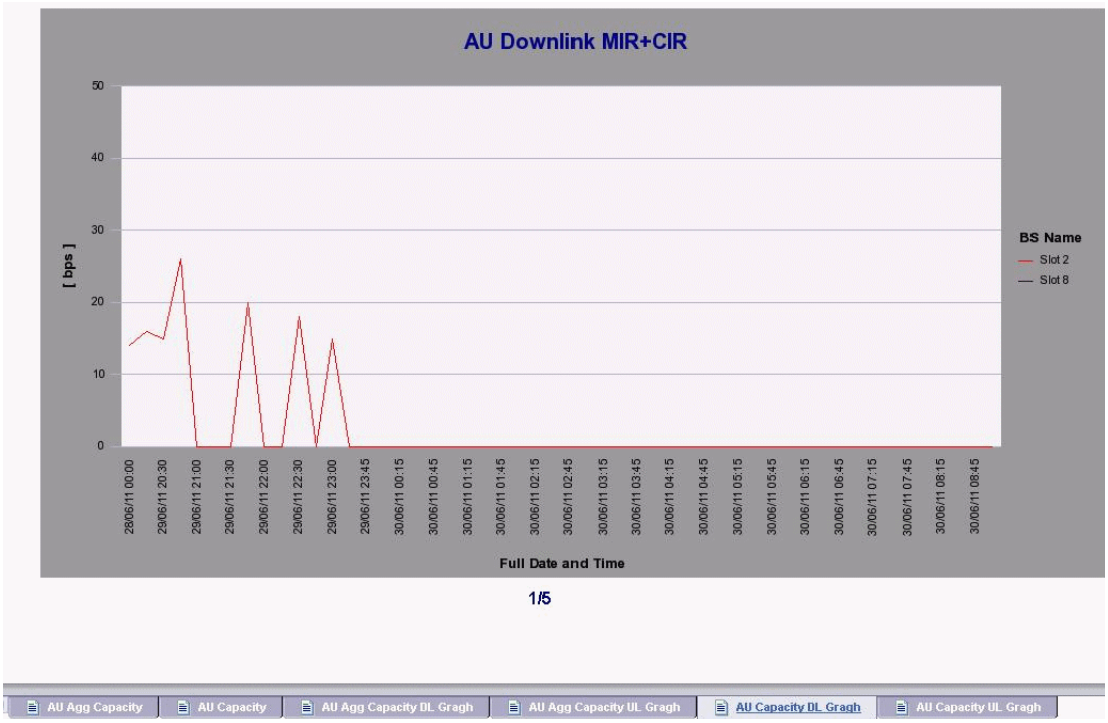


Figure 4-53: AU Downlink MIR+CIR

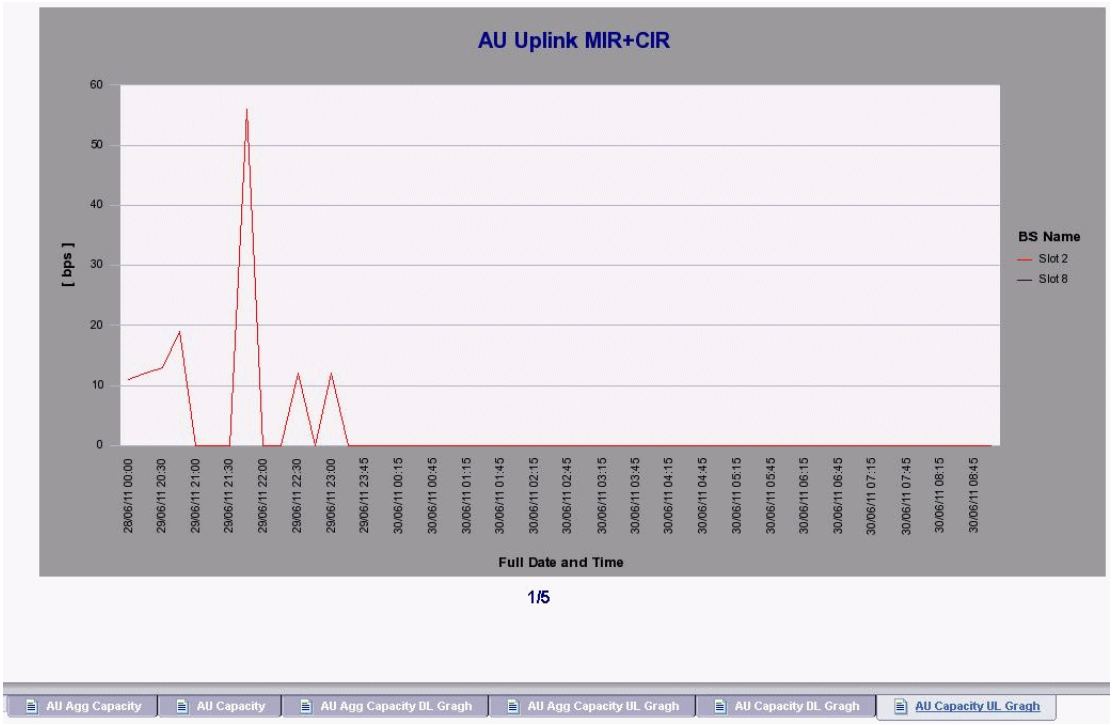


Figure 4-54: AU Uplink MIR+CIR

4.3.18 CPE Historical Radio Link Quality

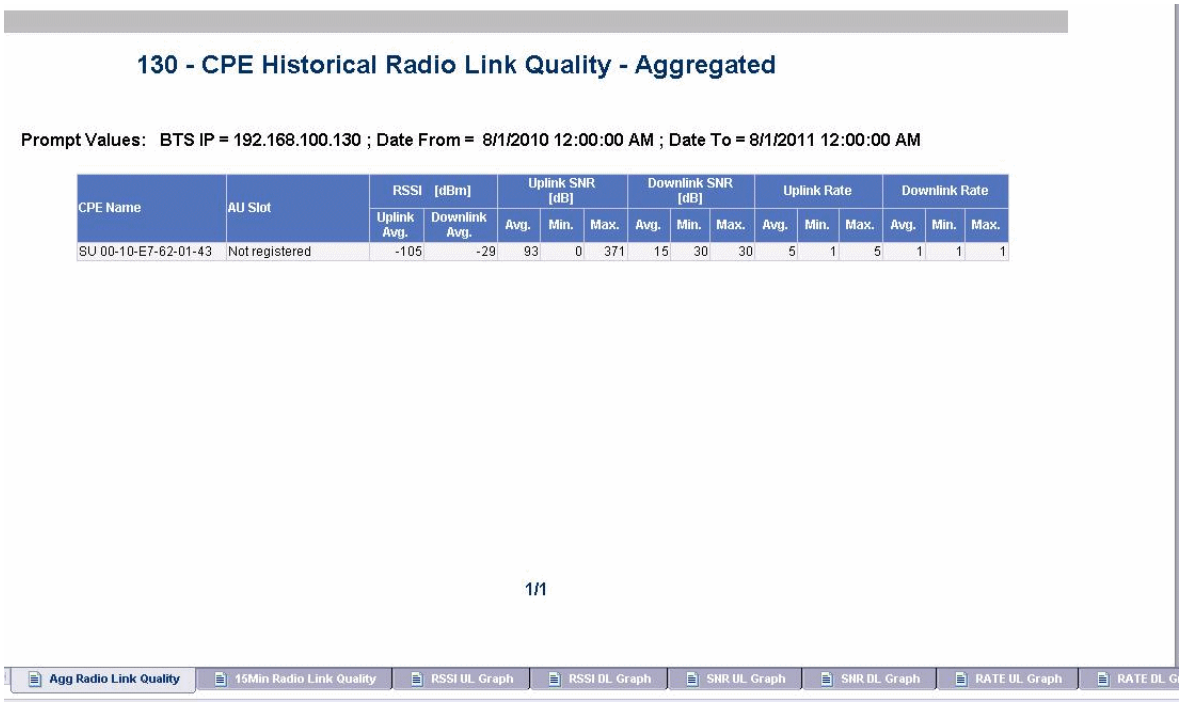
This report displays the same measurements as report 09. CPE Radio Link Quality (see "CPE Related Reports and Graphs" on page 76), only for older data and with different resolution: measurements older than three months in a 1-hour resolution.

To generate this report select **18. CPE Historical Radio Link Quality** from the reports list.

The following sections have a reference to the description in the CPE Radio Link Quality report.

4.3.18.1 CPE Aggregated Radio Link Quality

Refer to "[BTS Name] - CPE Radio Link Quality - Aggregated" on page 76.



130 - CPE Historical Radio Link Quality - Aggregated

Prompt Values: BTS IP = 192.168.100.130 ; Date From = 8/1/2010 12:00:00 AM ; Date To = 8/1/2011 12:00:00 AM

CPE Name	AU Slot	RSSI [dBm]		Uplink SNR [dB]			Downlink SNR [dB]			Uplink Rate			Downlink Rate		
		Uplink Avg.	Downlink Avg.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.
SU 00-10-E7-62-01-43	Not registered	-105	-29	93	0	371	15	30	30	5	1	5	1	1	1

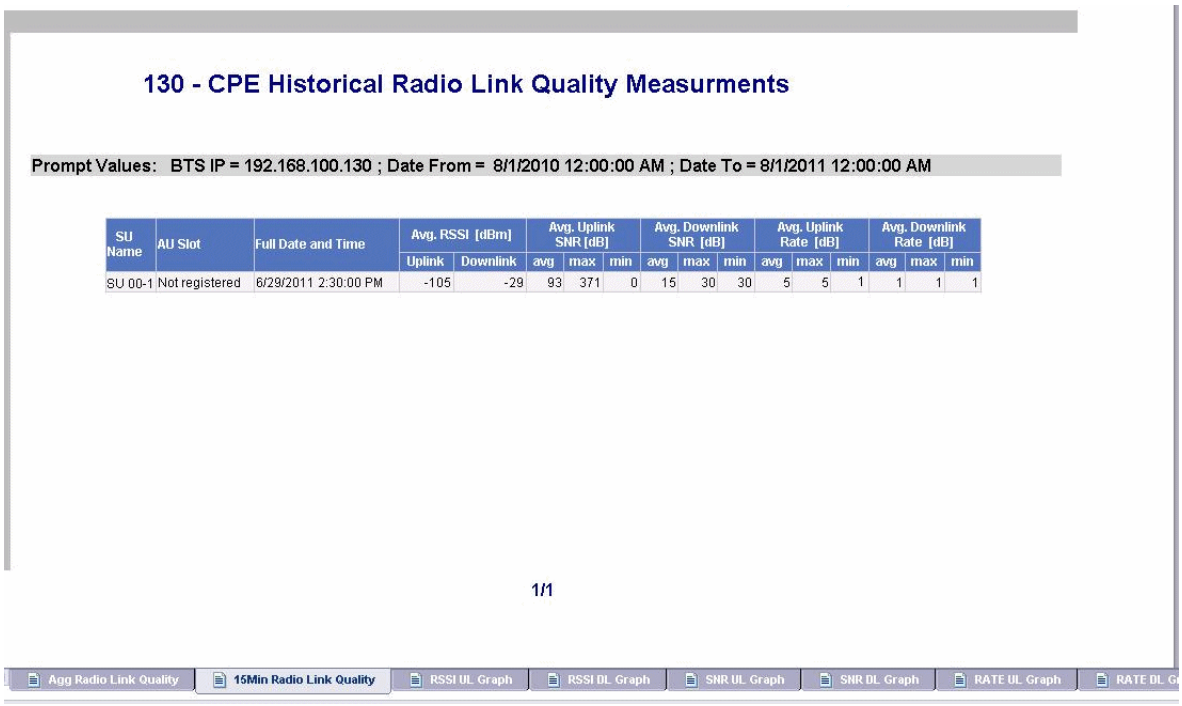
1/1

Agg Radio Link Quality | 15Min Radio Link Quality | RSSI UL Graph | RSSI DL Graph | SNR UL Graph | SNR DL Graph | RATE UL Graph | RATE DL G

Figure 4-55: CPE Historical Radio Link Quality - Aggregated

4.3.18.2 15Min Radio Link Quality

Refer to "[BTS Name] - CPE Radio Link Quality Measurements" on page 77.



130 - CPE Historical Radio Link Quality Measurments

Prompt Values: BTS IP = 192.168.100.130 ; Date From = 8/1/2010 12:00:00 AM ; Date To = 8/1/2011 12:00:00 AM

SU Name	AU Slot	Full Date and Time	Avg. RSSI [dBm]		Avg. Uplink SNR [dB]			Avg. Downlink SNR [dB]			Avg. Uplink Rate [dB]			Avg. Downlink Rate [dB]		
			Uplink	Downlink	avg	max	min	avg	max	min	avg	max	min	avg	max	min
SU 00-1	Not registered	6/29/2011 2:30:00 PM	-105	-29	93	371	0	15	30	30	5	5	1	1	1	1

1/1

Agg Radio Link Quality | 15Min Radio Link Quality | RSSI UL Graph | RSSI DL Graph | SNR UL Graph | SNR DL Graph | RATE UL Graph | RATE DL G

Figure 4-56: CPE Historical Radio Link Quality Measurements

4.3.18.3 RSSI UL Graph

Refer to "CPE Radio Link Quality Graphs" on page 78.

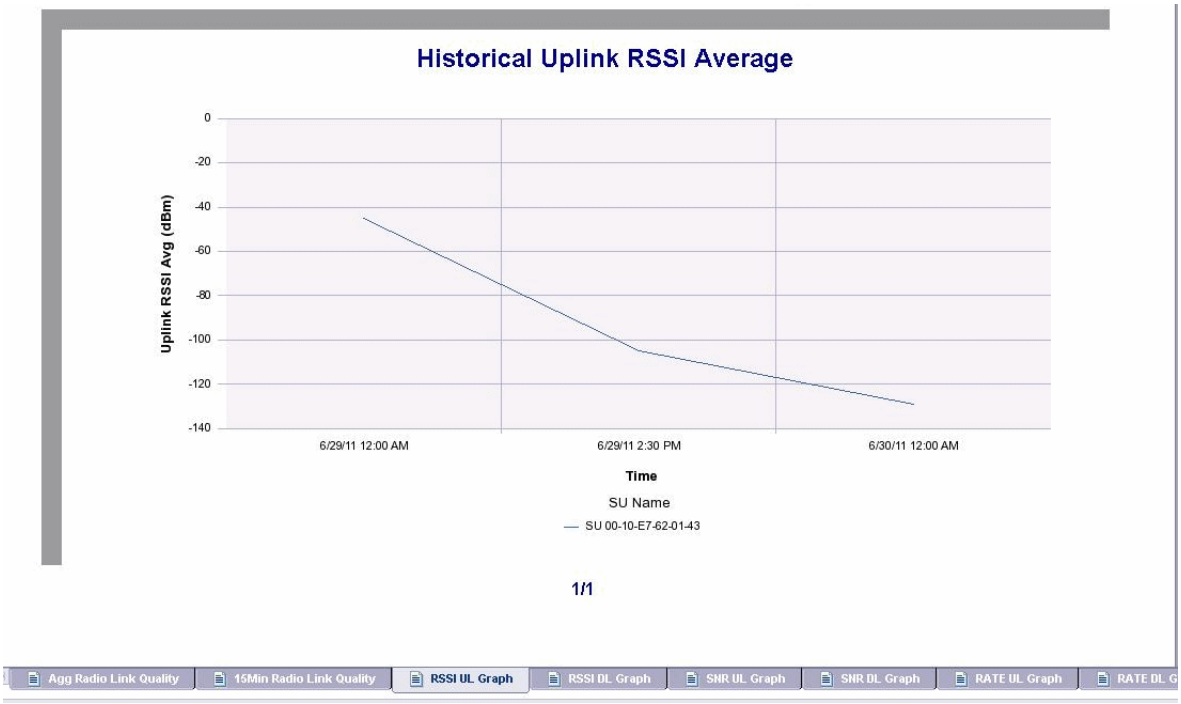


Figure 4-57: Historical Uplink RSSI Average

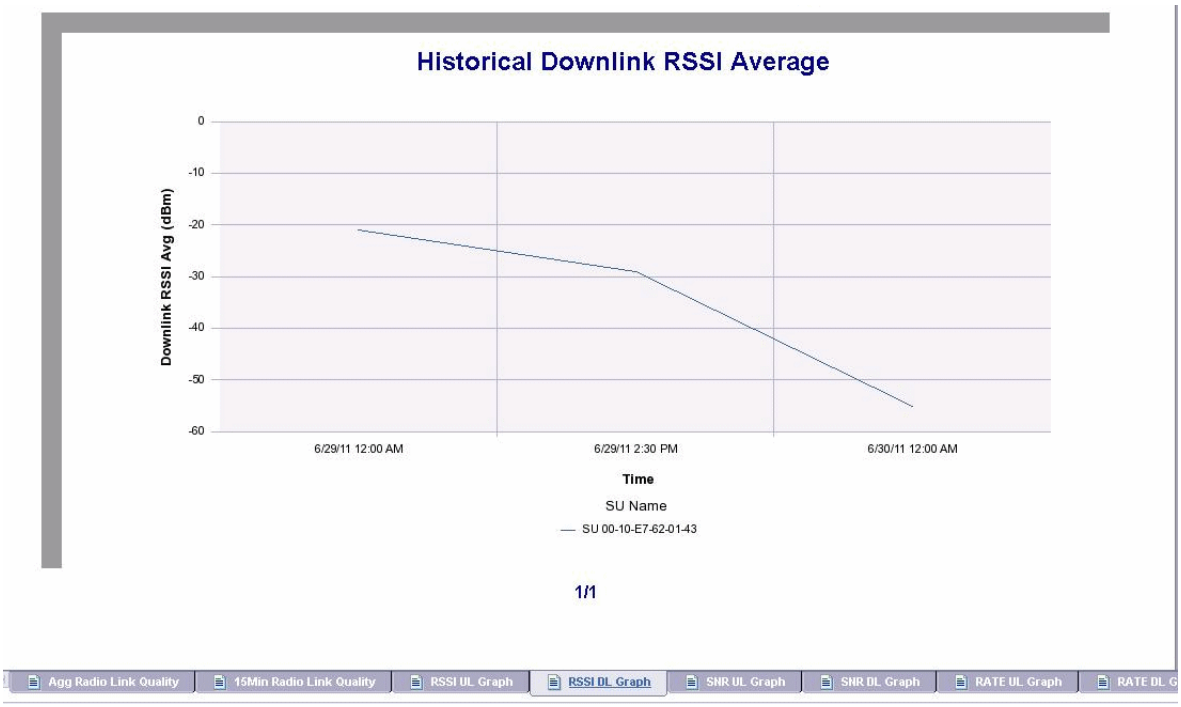


Figure 4-58: Historical Downlink RSSI Average

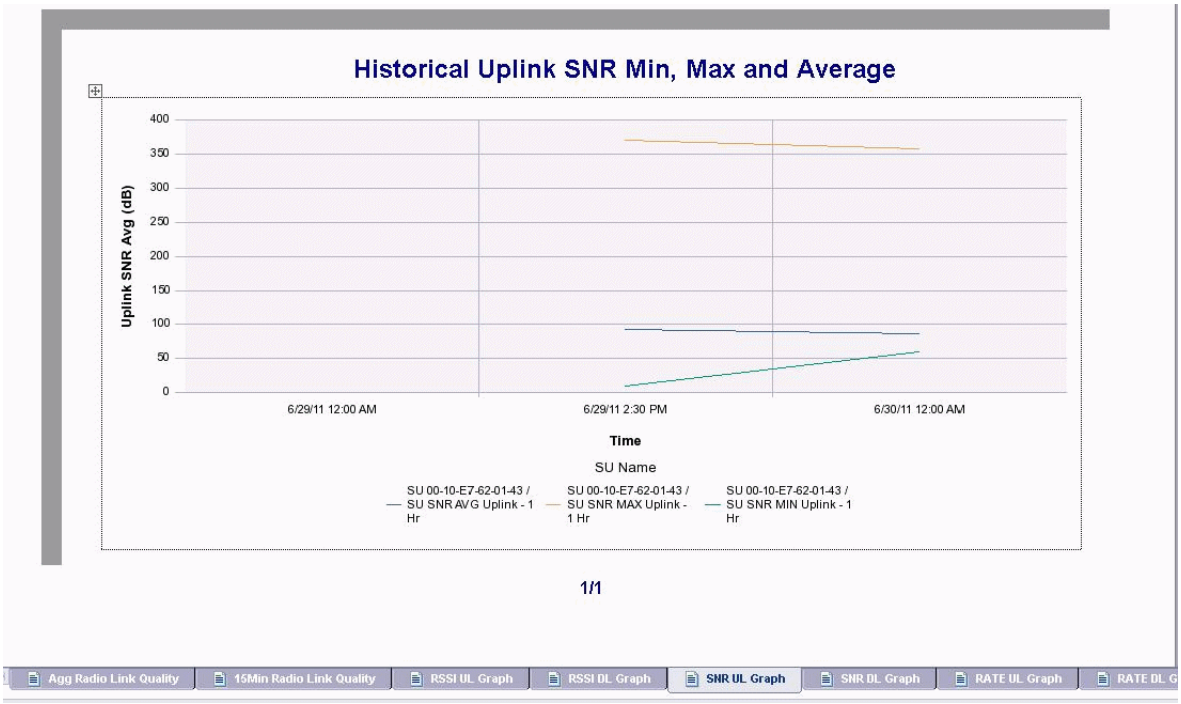


Figure 4-59: Historical Uplink SNR Min, Max and Average

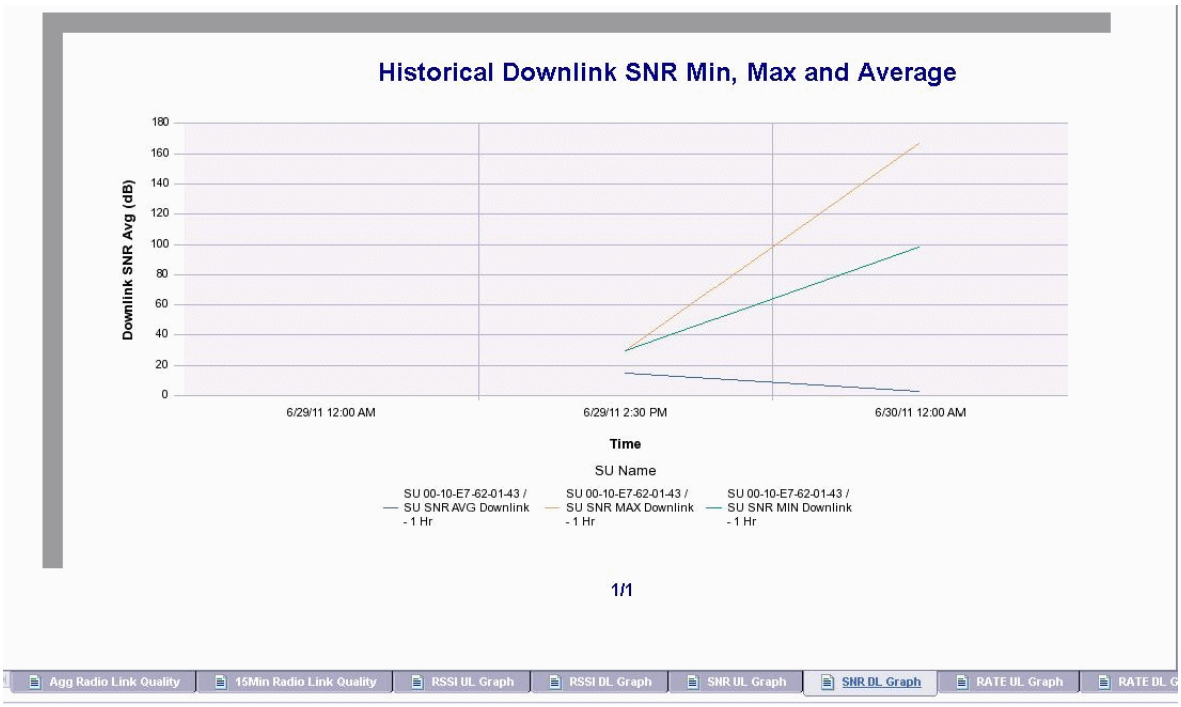


Figure 4-60: Historical Downlink SNR Min, Max and Average

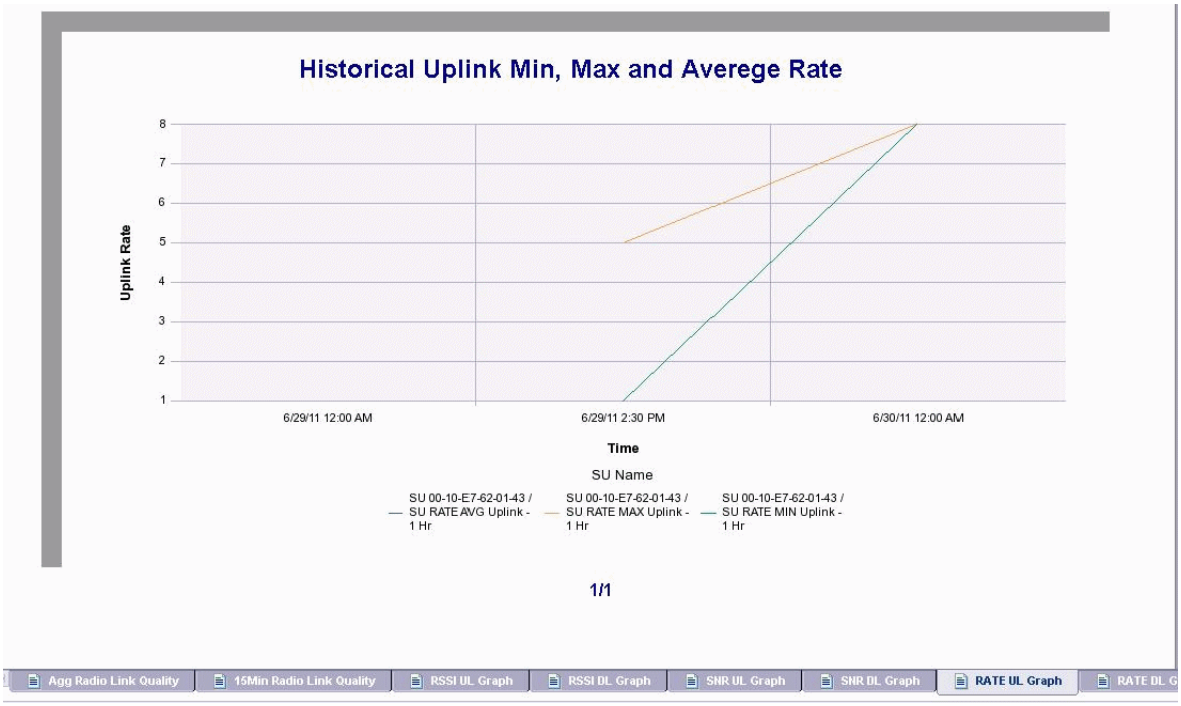


Figure 4-61: Historical Uplink Min, Max and Average Rate

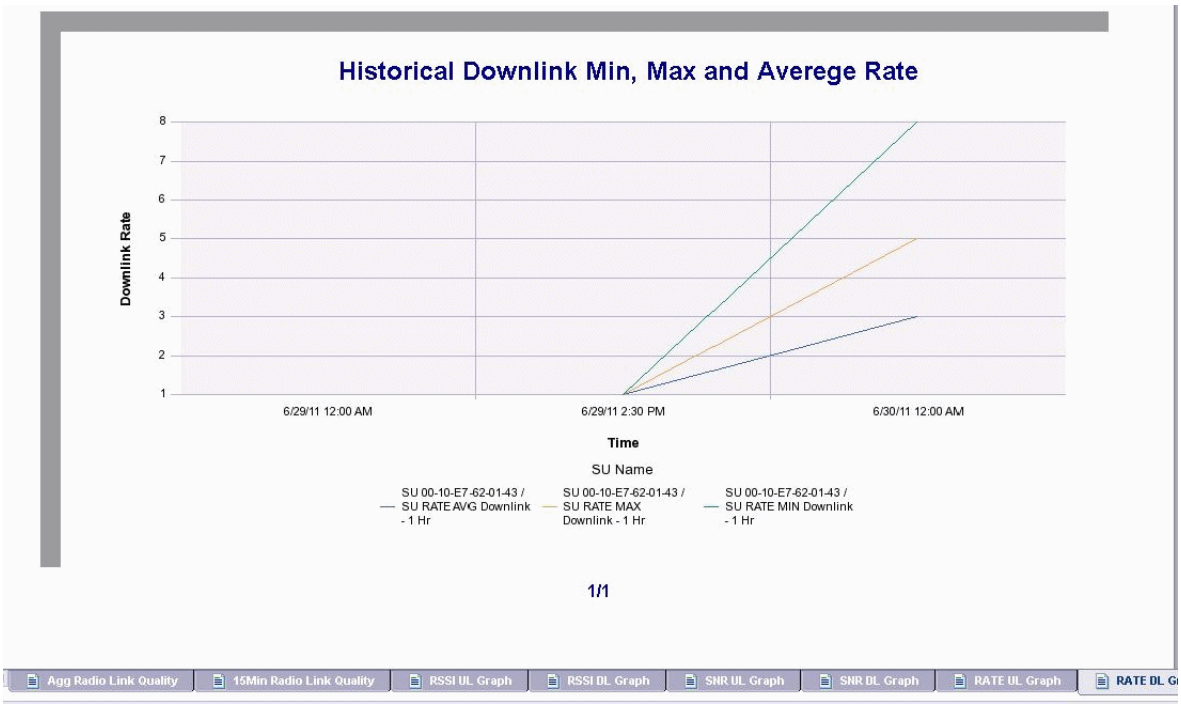


Figure 4-62: Historical Downlink Min, Max and Average Rate

Chapter 5 - Predefined Reports - *4*Motion

In this Chapter:

5.1 Introduction

This chapter describes the pre-defined reports provided by Alvarion on the StarReport platform, for the 4Motion system.

The StarReport is used to generate a wide variety of reports, based on information gathered from the AlvariSTAR and the StarQuality systems. A trained user may create further reports based on specific requirements.

The next sections describe the report types.

INFORMATION

- The terms CPE (Customer Premises Equipment) and SU (Subscriber Unit) are used interchangeably in this chapter, as they are used differently in FDD/TDD and 4Motion.
- The terms AU (Access Unit) and BS (Base Station) are used interchangeably in the reports, as they are used differently in FDD/TDD and 4Motion.

To generate a pre-defined 4Motion report:

1. In the BusinessObjects InfoView select StarReport for 4Motion.
2. Select Inventory and Configuration Reports. The report list is displayed.

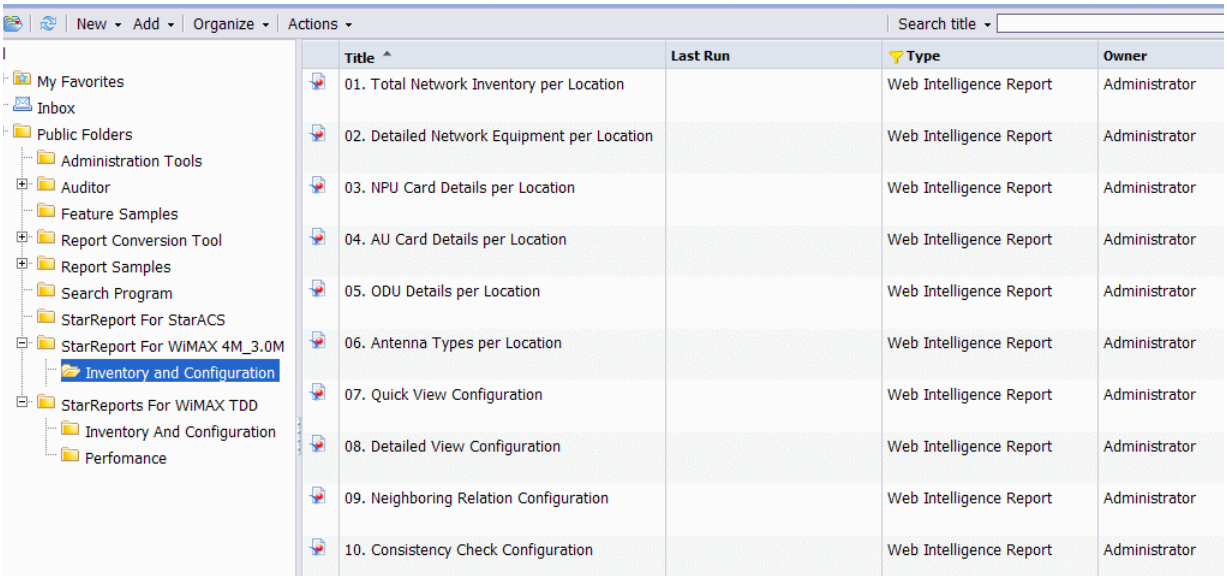


Figure 5-1: Inventory and Configuration Reports List

3. In the reports list, right-click on a selected report and select **View**. The report is generated and displayed after a few seconds.

4 After running any tabular report, you can filter, re-order, or sort the data by each column, using the sorting lists 

, or the filtering icon  at the top of the page.

5.2 Inventory and Configuration Reports

5.2.1 Total Network Inventory per Location

This report provides a high level view of the network, from inventory perspective: Number of BTSs per each city of the network, as well as total sums. Using this report, you can:

- Obtain an initial perspective of the equipment types in use and their geographical distribution
- Filter information for each location and equipment type
- Navigate to more detailed reports

This report includes two tabs, as described in the following sections, to display the information both in a graphical and a table formats.

To generate this report select **01. Total Network Inventory per Location** from the Inventory and Configuration reports list.

5.2.1.1 Total Network Inventory per Location Chart

This report provides a graphical representation (bar chart) of the distribution of BTSs per location, using tabular data of the "Total Network Inventory per Location Table" on page 103.

- Y axis: No. of BTSs
- X axis: Location (city names)

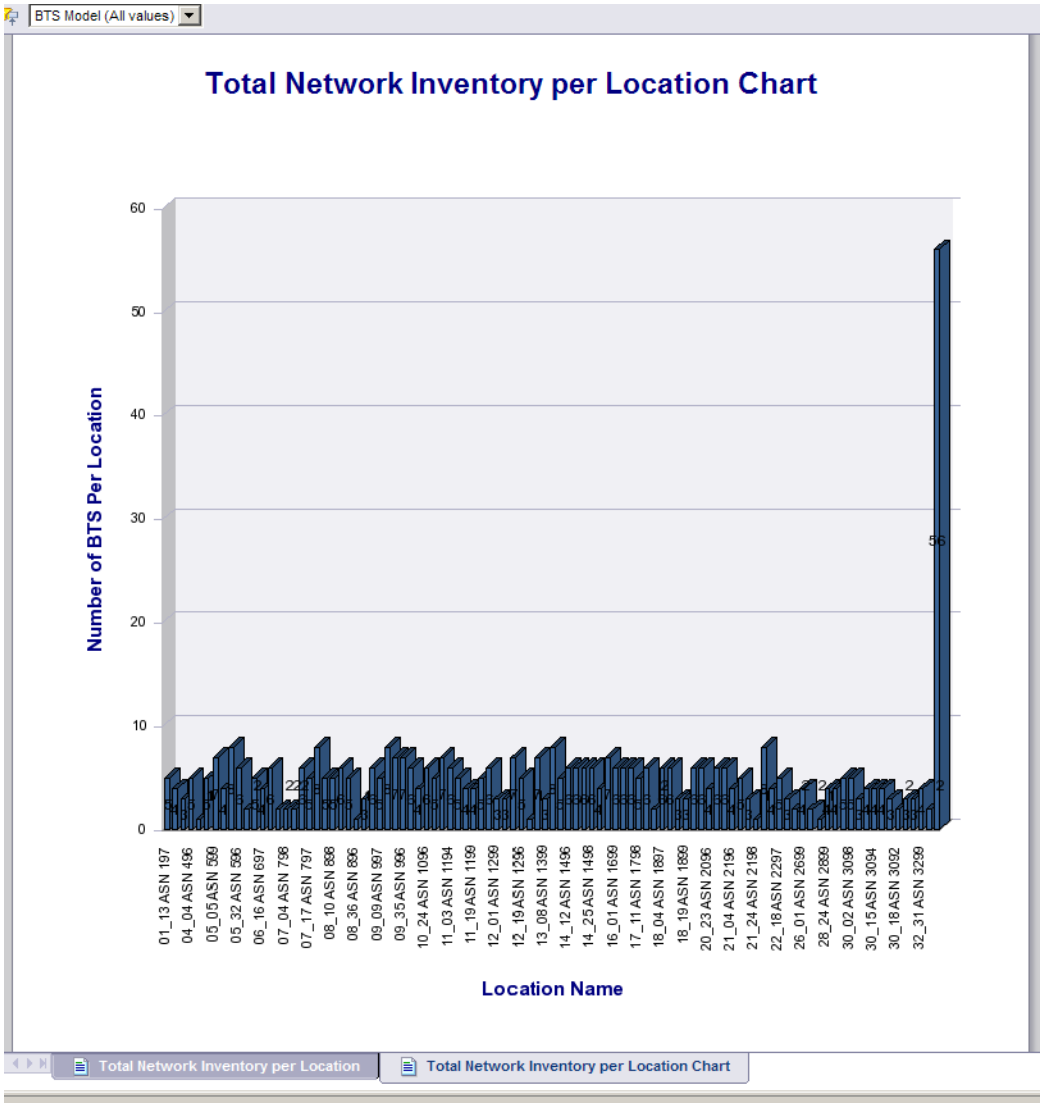


Figure 5-2: Total Network Inventory per Location Chart

5.2.1.2 Total Network Inventory per Location Table

The Total Inventory per Location report table includes the following columns:

- Country Name – upper location level
- Region Name – middle location level
- Market Name
- City Name – lower location level – BTS associated location

NOTE

INFORMATION

The country/region/market/city concept is based on the AlvariSTAR standard - there must be four hierarchy levels.

- BTS Model/NE Type - Network element type – the actual equipment, such as: Macro BTS ODU, Micro BTS ODU, MC ASN-GW.
- Number of BTS - Total BTS count, with a link to the BTS Detailed Information per Location report for this specific BTS location (see Section 5.2.2).

Total Network Inventory per Location

No	Country Name	Region Name	Market Name	City Name	NE Type	Number of BTS
1	WiMAX Network	Island	East	10_01 ASN 1099	4M Macro BTS	6
2	WiMAX Network	Island	East	10_06 ASN 1097	4M Macro BTS	4
3	WiMAX Network	Island	East	10_24 ASN 1096	4M Macro BTS	6
4	WiMAX Network	Island	East	10_28 ASN 1098	4M Macro BTS	5
5	WiMAX Network	Island	East	10_48 ASN 1095	4M Macro BTS	7
6	WiMAX Network	Island	East	12_01 ASN 1299	4M Macro BTS	3
7	WiMAX Network	Island	East	12_09 ASN 1298	4M Macro BTS	3
8	WiMAX Network	Island	East	12_10 ASN 1297	4M Macro BTS	7
9	WiMAX Network	Island	East	12_19 ASN 1296	4M Macro BTS	5
10	WiMAX Network	Island	East	13_01 ASN 1396	4M Macro BTS	1
11	WiMAX Network	Island	East	13_07 ASN 1398	4M Macro BTS	7
12	WiMAX Network	Island	East	13_08 ASN 1399	4M Macro BTS	3
13	WiMAX Network	Island	East	13_17 ASN 1397	4M Macro BTS	7
14	WiMAX Network	Island	East	13_17 ASN 1397	4M Macro BTS ODU	1
15	WiMAX Network	Island	East	14_08 ASN 1495	4M Macro BTS	5
16	WiMAX Network	Island	East	14_12 ASN 1496	4M Macro BTS	6
17	WiMAX Network	Island	East	14_15 ASN 1499	4M Macro BTS	6
18	WiMAX Network	Island	East	14_23 ASN 1497	4M Macro BTS	6
19	WiMAX Network	Island	East	14_25 ASN 1498	4M Macro BTS	6
20	WiMAX Network	Island	East	15_03 ASN 1598	4M Macro BTS	4
21	WiMAX Network	Island	East	15_08 ASN 1599	4M Macro BTS	7
22	WiMAX Network	Island	East	16_01 ASN 1699	4M Macro BTS	6
23	WiMAX Network	Island	East	16_13 ASN 1698	4M Macro BTS	6
24	WiMAX Network	Island	East	17_04 ASN 1799	4M Macro BTS	6
25	WiMAX Network	Island	East	17_11 ASN 1798	4M Macro BTS	5
26	WiMAX Network	Island	East	17_13 ASN 1797	4M Macro BTS	5
27	WiMAX Network	Island	East	17_13 ASN 1797	4M Macro BTS ODU	1
28	WiMAX Network	Island	East	17_24 ASN 1796	4M Macro BTS	2

Total Network Inventory per Location | Total Network Inventory per Location Chart

Figure 5-3: Total Network Inventory per Location (table)

5.2.2 Detailed Network Equipment per Location

This report contains BTS detailed information. It provides comprehensive data about the BTSs in use in the network, their locations, models, IP addresses, and their managed equipment (AUs, ODUs, etc.).

To generate this report, you can either click on the Number of BTS link in the Total Network Inventory per Location table (see Section 5.2.1.2), or select **02. Detailed Network Equipment per Location** from the Inventory and Configuration reports list.

The table includes the following columns:

- No. - entry number
- Country Name
- Region Name
- Market Name
- City Name
- BTS Model/NE Type - Network element type – the actual equipment, such as: Macro BTS ODU, Micro BTS ODU, MC ASN-GW.
- BTS Name
- BTS IP Address - management IP
- Site ID
- BTS Location
- Number of NPUs - number of NPUs with a link to the detailed NPU HW report for this specific BTS (see Section 5.2.3).
- Number of AUs - number of AU cards with a link to the detailed AU report for this specific BTS (see Section 5.2.4).
- Number of PIUs - number of power interface units
- Number of PSUs - number of power supply units
- Number of ODUs - number of outdoor units with a link to the ODU detailed report (see Section 5.2.5).
- Number of GPSs
- Number of PW Feeders - number of power feeders
- Number of Antennas - number of antennas with a link to the detailed antenna report for this specific BTS (see Section 5.2.6)

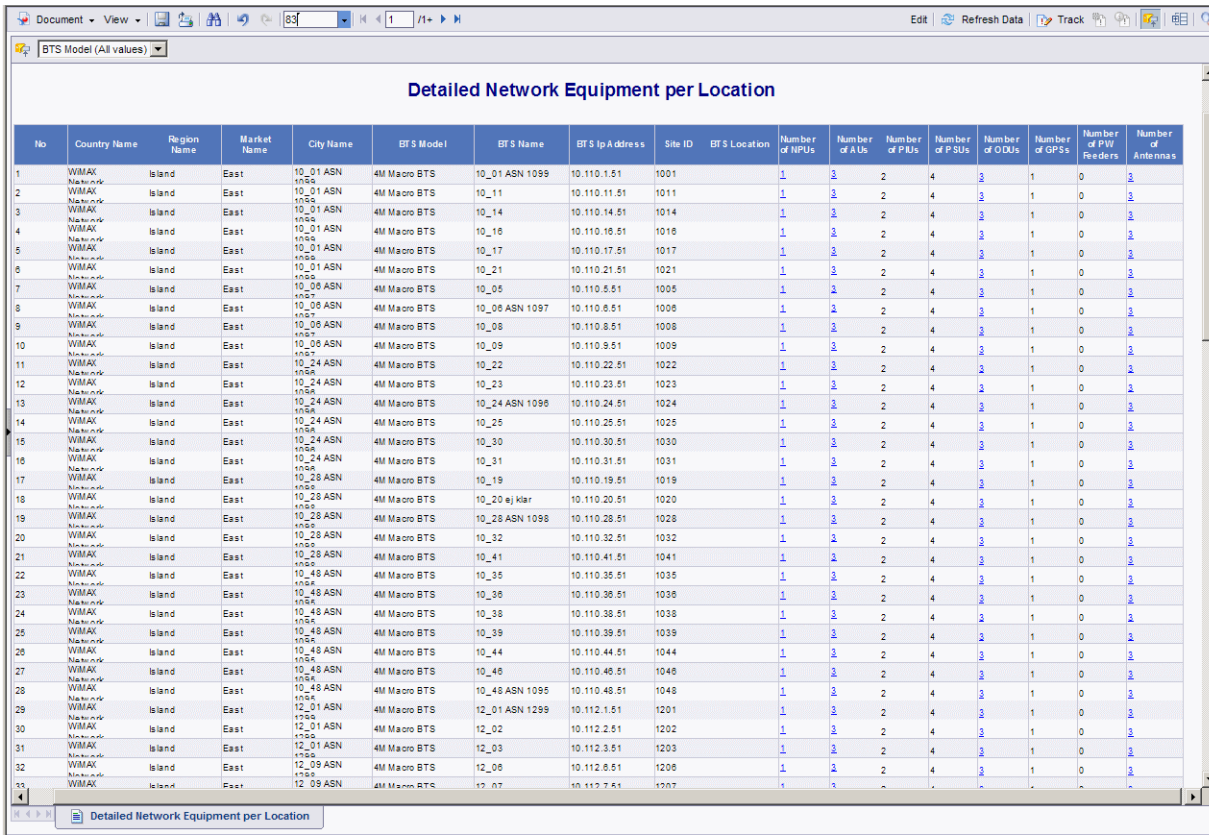


Figure 5-4: Detailed Network Equipment per Location

5.2.3 NPU Card HW Details per Location

This report provides a summary of NPU hardware details. It provides a detailed tabular data tab, as well as two additional tabs presenting NPUs version- revision values distribution and SW versions distribution.

To generate this report, you can either click on the Number of NPU link in the Detailed Network Equipment per Location table (see Section 5.2.2), or select
03. NPU Card HW Details per Location from the Inventory and Configuration reports list.

5.2.3.1 NPU Card HW Details per Location (table)

This table details the NPU Version-Revision value pairs distribution, over the whole network.

The table includes the following columns:

- No. - entry number
- Country Name
- Region Name
- Market Name
- City Name

- BTS Name
- BTS Model/NE Type - Network element type – the actual equipment, such as: Macro BTS ODU, Micro BTS ODU, MC ASN-GW.
- Site ID
- BTS Location
- BTS IP Address
- NPU Serial Number
- NPU HW Version Number
- NPU HW Revision Number
- NPU Oper SW Version Number - current software version

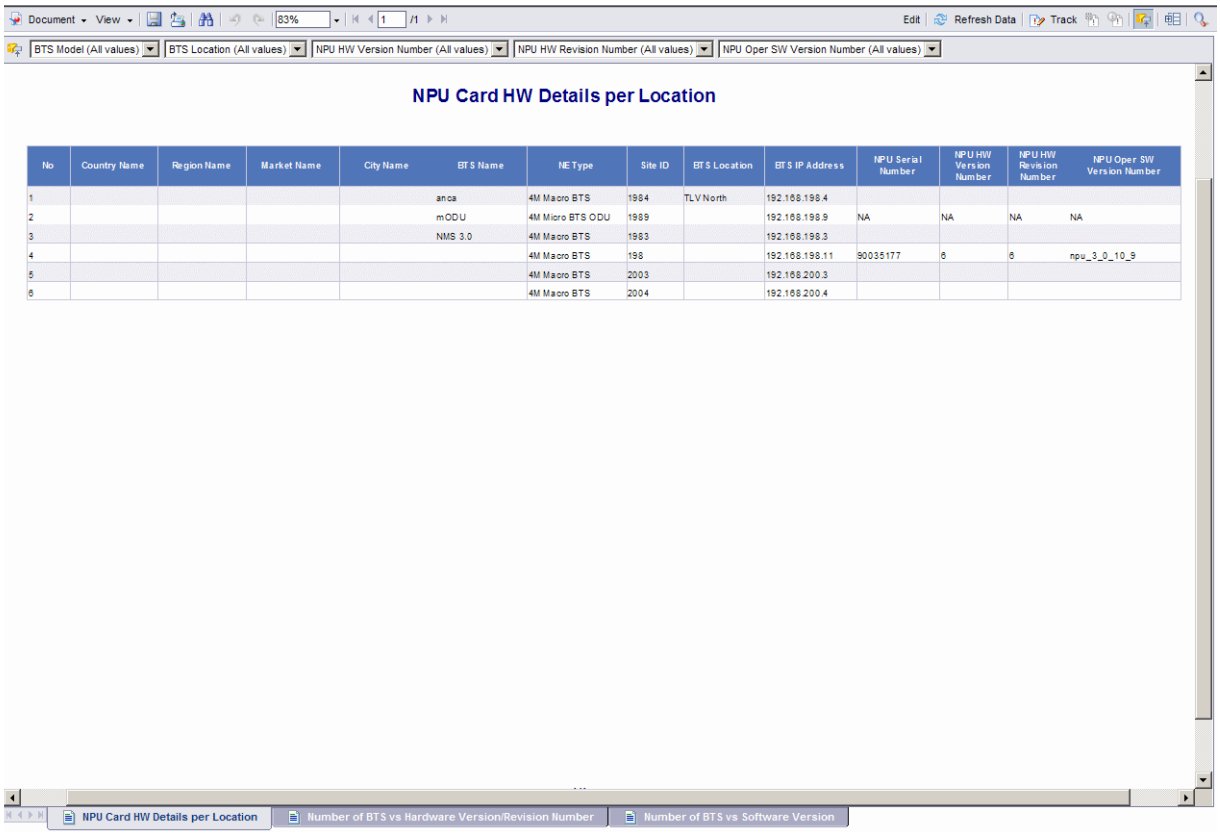


Figure 5-5: NPU Card HW Details per Location

5.2.3.2 Number of BTS vs. Hardware Version/Revision Number

This tab is a pie-chart of the distribution of the various NPU HW versions and revisions, over the whole network (by displaying the number of BTSs using the NPUs).

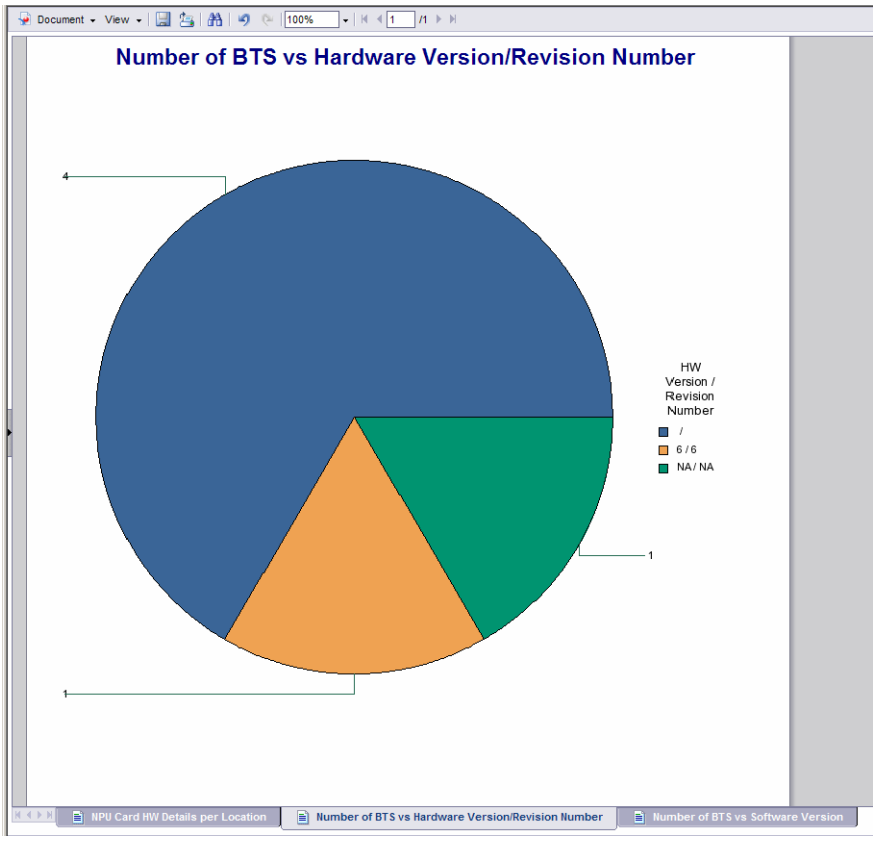


Figure 5-6: Number of BTS vs. Hardware Version/Revision Number

5.2.3.3 Number of BTS vs. Software Version

This tab provides a pie-chart of the NPU SW Version distribution, over the whole network, by displaying the number of BTSs using these NPUs.

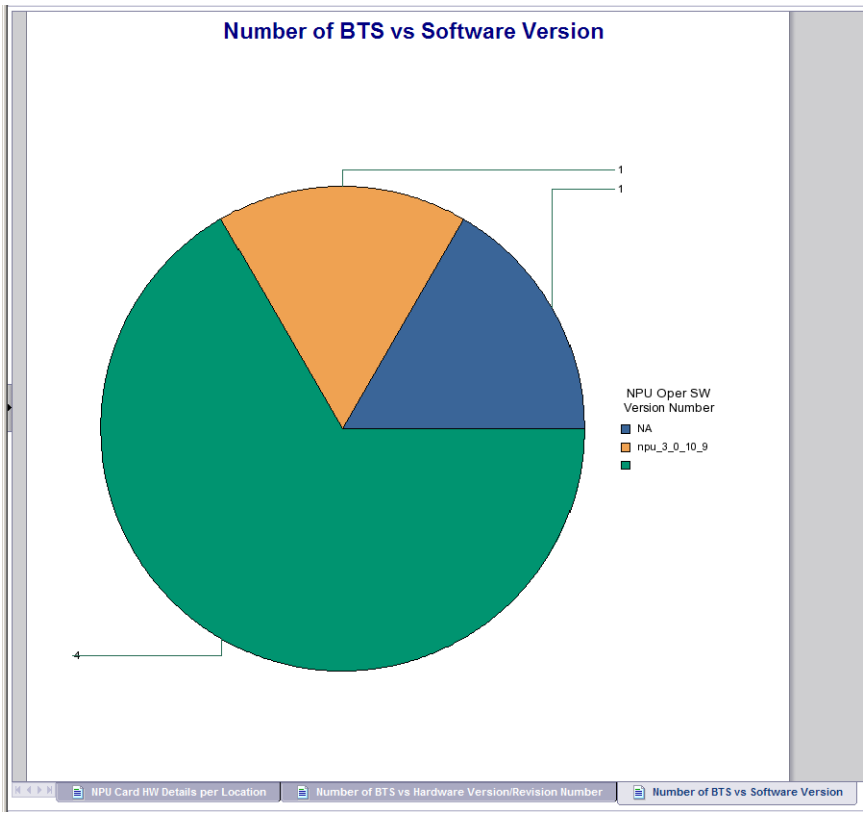


Figure 5-7: Number of BTS vs. Software Version

5.2.4 AU Card Details per Location

This report provides a summary of AU HW and SW details. It provides a detailed tabular data tab, and three additional tabs displaying AU types distribution, AU HW version/revision values distribution and SW versions distribution.

To generate this report, you can either click on the Number of AU link in the Detailed Network Equipment per Location table (see Section 5.2.2), or select
04. AU Card Details per Location from the Inventory and Configuration reports list.

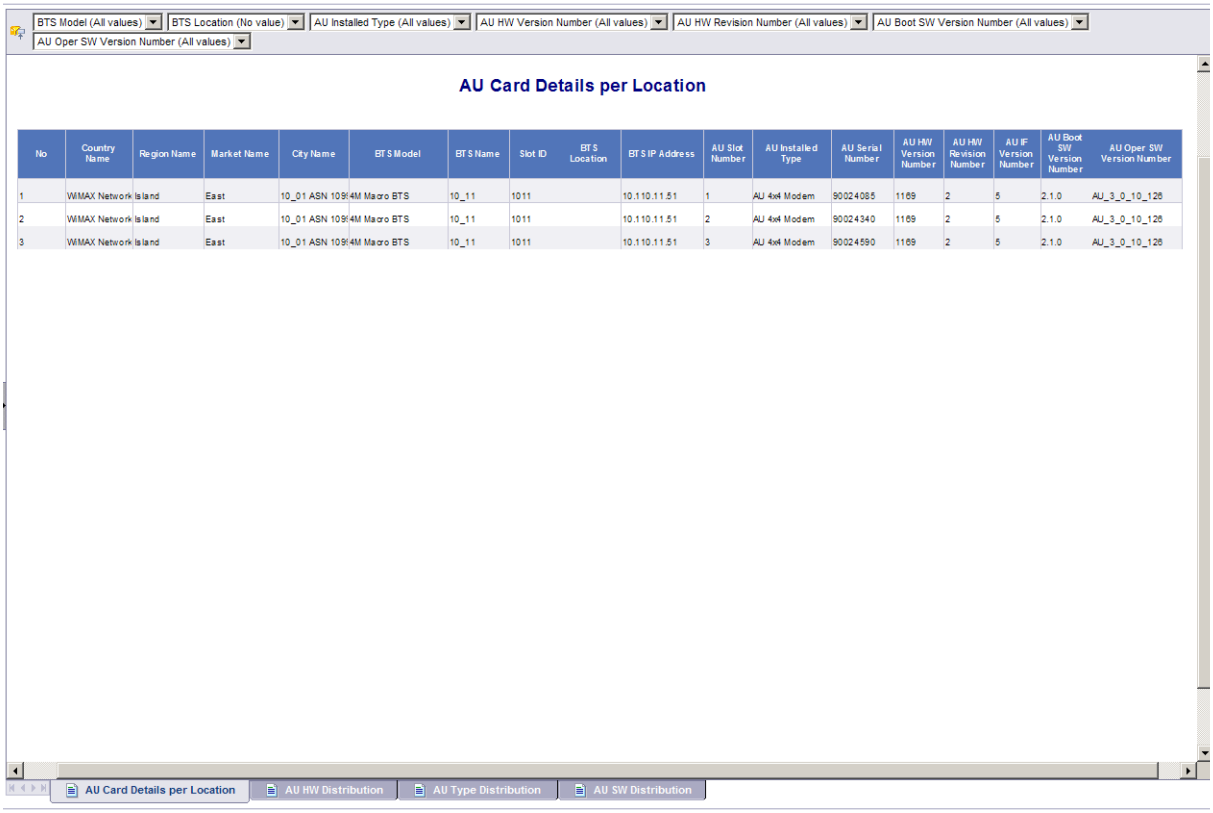
5.2.4.1 AU Card Details per Location Table

This table details the AU distribution, over the whole network.

The table includes the following columns:

- No. - entry number
- Country Name
- Region Name
- Market Name

- City Name
- BTS Model/NE Type - Network element type – the actual equipment, such as: Macro BTS ODU, Micro BTS ODU, MC ASN-GW.
- BTS Name
- Slot ID
- BTS Location
- BTS IP Address
- AU Slot Number
- AU Installed Type:
  - » In a Macro Indoor BTS only AU 4x4 Modem is applicable.
  - » In a Macro Outdoor BTS the applicable options are AU 4x4 Modem for a 4-channels AU and AU 2x2 Modem for a 2-channels AU.
- AU Serial Number
- AU HW Version Number
- AU HW Revision Number
- AU IF Version Number - The version of the the internal IF card located inside the AU
- AU Boot SW Version Number - The version of the downloaded software image that can be used to boot up the AU.
- AU Oper SW Version Number - The software that is currently running on the card.



No	Country Name	Region Name	Market Name	City Name	BTS Model	BTS Name	Slot ID	BTS Location	BTS IP Address	AU Slot Number	AU Installed Type	AU Serial Number	AU HW Version Number	AU HW Revision Number	AU IF Version Number	AU Boot SW Version Number	AU Oper SW Version Number
1	WiMAX Network	Island	East	10_01 ASN 109	4M Macro BTS	10_11	1011		10.110.11.51	1	AU 4x4 Modem	90024085	1169	2	5	2.1.0	AU_3_0_10_126
2	WiMAX Network	Island	East	10_01 ASN 109	4M Macro BTS	10_11	1011		10.110.11.51	2	AU 4x4 Modem	90024340	1169	2	5	2.1.0	AU_3_0_10_126
3	WiMAX Network	Island	East	10_01 ASN 109	4M Macro BTS	10_11	1011		10.110.11.51	3	AU 4x4 Modem	90024590	1169	2	5	2.1.0	AU_3_0_10_126

Figure 5-8: AU Card Details per Location

5.2.4.2 AU HW Distribution

This tab is a pie-chart of the distribution of the various AU HW versions and revisions, over the whole network (by displaying the number of BTSs using the AUs).

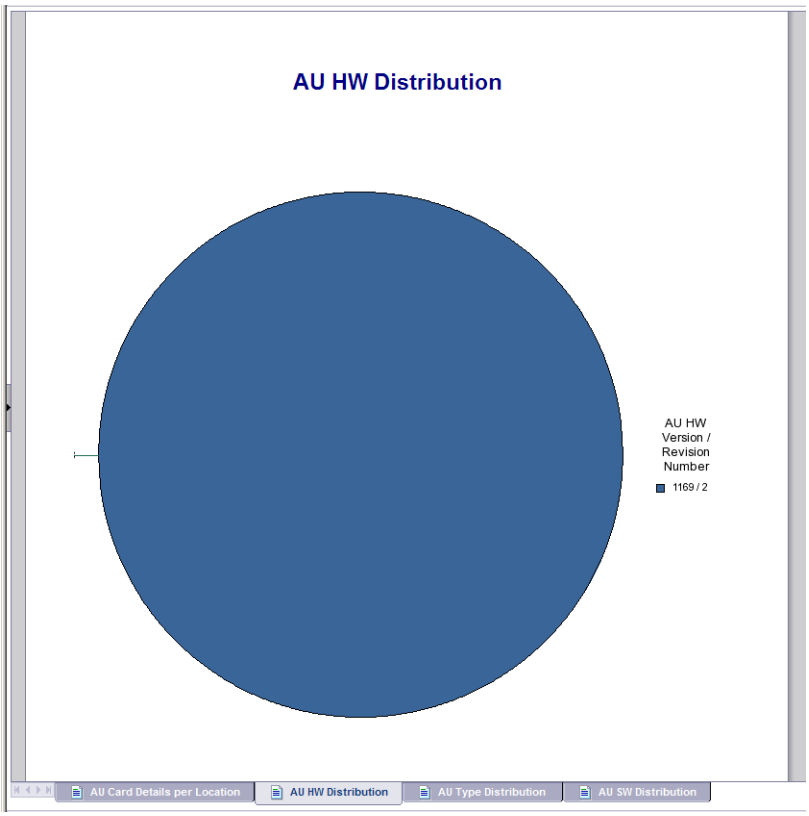


Figure 5-9: AU HW Distribution

5.2.4.3 AU Type Distribution

This tab is a pie-chart of the distribution of the various AU HW types over the whole network (by displaying the number of BTSs using the AUs).

- In a Macro Indoor BTS only AU 4x4 Modem is applicable.
- In a Macro Outdoor BTS the applicable options are AU 4x4 Modem for a 4-channels AU and AU 2x2 Modem for a 2-channels AU.

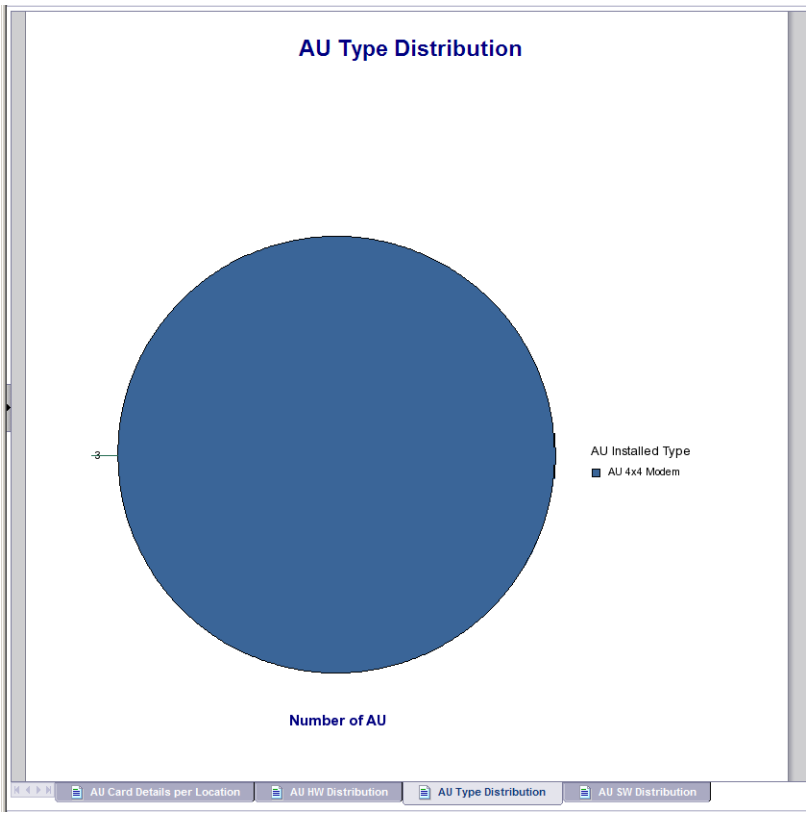


Figure 5-10: AU Type Distribution

5.2.4.4 AU SW Distribution

This tab is a pie-chart of the distribution of the various AU SW version, over the whole network (by displaying the number of BTSs using the AUs).

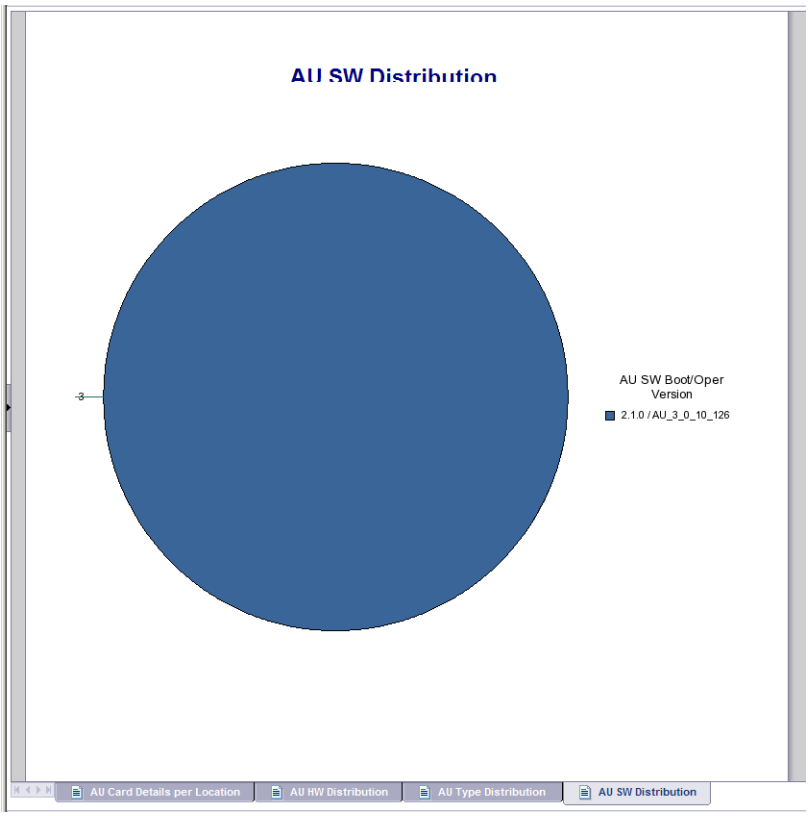


Figure 5-11: AU SW Distribution

5.2.5 ODU Details per Location

This report provides a summary of ODU HW and SW details. It provides a detailed tabular data tab, and an additional tab displaying ODU types distribution.

To generate this report, you can either click on the Number of ODUs link in the Detailed Network Equipment per Location table (see Section 5.2.2), or select
05. ODU Details per Location from the Inventory and Configuration reports list.

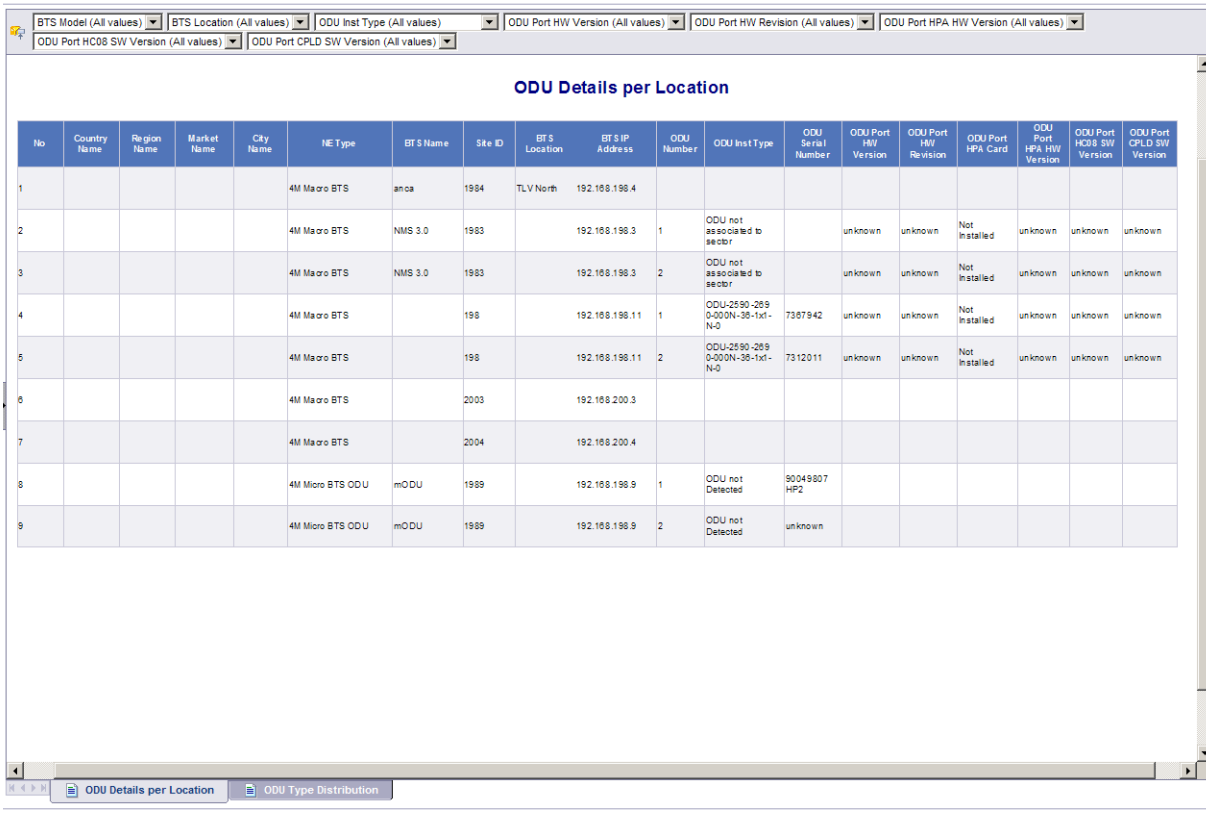
5.2.5.1 ODU Details per Location Table

This table details the ODU distribution, over the whole network.

The table includes the following columns:

- No. - entry number
- Country Name
- Region Name
- Market Name
- City Name

- BTS Model/NE Type - Network element type – the actual equipment, such as: Macro BTS ODU, Micro BTS ODU, MC ASN-GW.
- BTS Name
- Site ID
- BTS Location
- BTS IP Address
- ODU Number
- ODU Inst Type - The installed ODU type (or ODU not Associated to sector).
- ODU Serial Number
- ODU Port HW Version
- ODU Port HW Revision
- ODU Port HPA Card - Indicates whether the port is connected to an HPA card (installed/not installed).
- ODU Port HPA HW Version - The hardware version of the HPA connected to this port. Applicable only if an HPA card exists in an installed and associated ODU.
- ODU Port HC08 SW Version - The software version of the HCO8 controlling card connected to this port.
- ODU Port CPLD SW Version - The software version of the CPLD controlling card connected to this port.



No	Country Name	Region Name	Market Name	City Name	NE Type	BTS Name	Site ID	BTS Location	BTS IP Address	ODU Number	ODU Inst Type	ODU Serial Number	ODU Port HW Version	ODU Port HW Revision	ODU Port HPA Card	ODU Port HPA HW Version	ODU Port HC08 SW Version	ODU Port CPLD SW Version
1					4M Macro BTS	anca	1984	TLV North	192.168.198.4									
2					4M Macro BTS	NMS 3.0	1983		192.168.198.3	1	ODU not associated to sector		unknown	unknown	Not Installed	unknown	unknown	unknown
3					4M Macro BTS	NMS 3.0	1983		192.168.198.3	2	ODU not associated to sector		unknown	unknown	Not Installed	unknown	unknown	unknown
4					4M Macro BTS		198		192.168.198.11	1	ODU-2590-2690-00-00N-38-1xt-N-0	7367942	unknown	unknown	Not Installed	unknown	unknown	unknown
5					4M Macro BTS		198		192.168.198.11	2	ODU-2590-2690-00-00N-38-1xt-N-0	7312011	unknown	unknown	Not Installed	unknown	unknown	unknown
6					4M Macro BTS		2003		192.168.200.3									
7					4M Macro BTS		2004		192.168.200.4									
8					4M Micro BTS ODU	mODU	1989		192.168.198.9	1	ODU not Detected	90049807 HP2						
9					4M Micro BTS ODU	mODU	1989		192.168.198.9	2	ODU not Detected	unknown						

Figure 5-12: ODU Details per Location

5.2.5.2 ODU Type Distribution

This tab displays a pie-chart of the distribution of the ODU installation types, over the whole network. The installation type can be either one of the following:

- ODU name
- ODU not associated with a sector
- ODU not detected

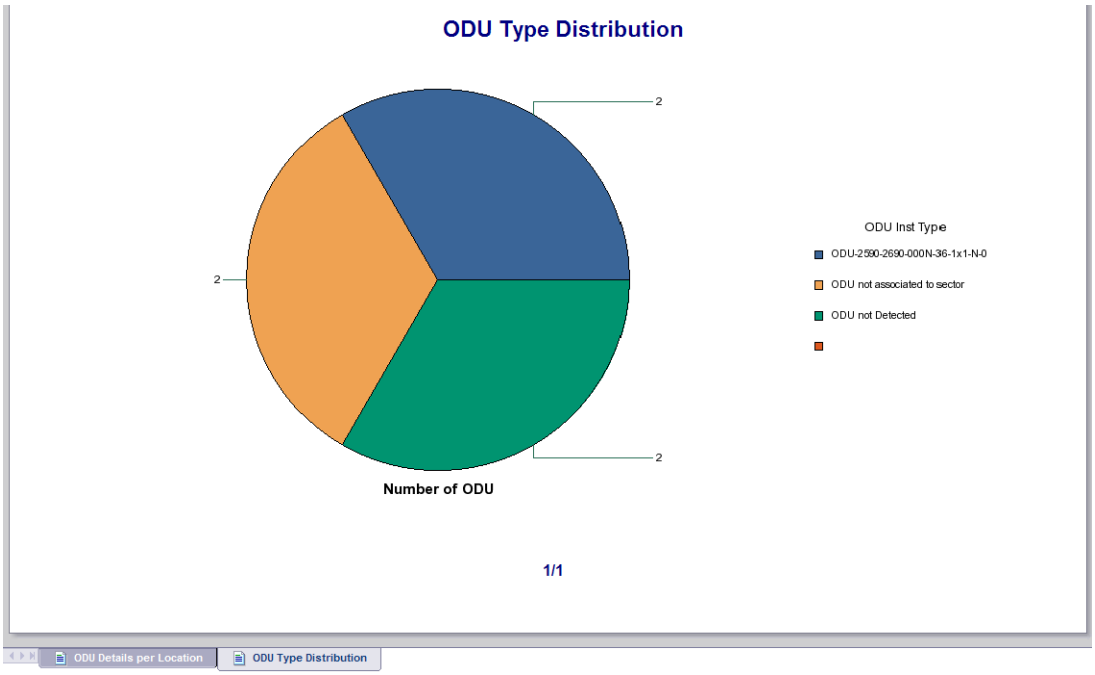


Figure 5-13: ODU Type Distribution

5.2.6 Antenna Types per Location

This report provides a summary of the antenna details. It provides a detailed tabular data tab, and an additional tab displaying antenna types distribution.

To generate this report, you can either click on the Number of Antennas link in the Detailed Network Equipment per Location table (see Section 5.2.2), or select
06. Antenna Types per Location from the Inventory and Configuration reports list.

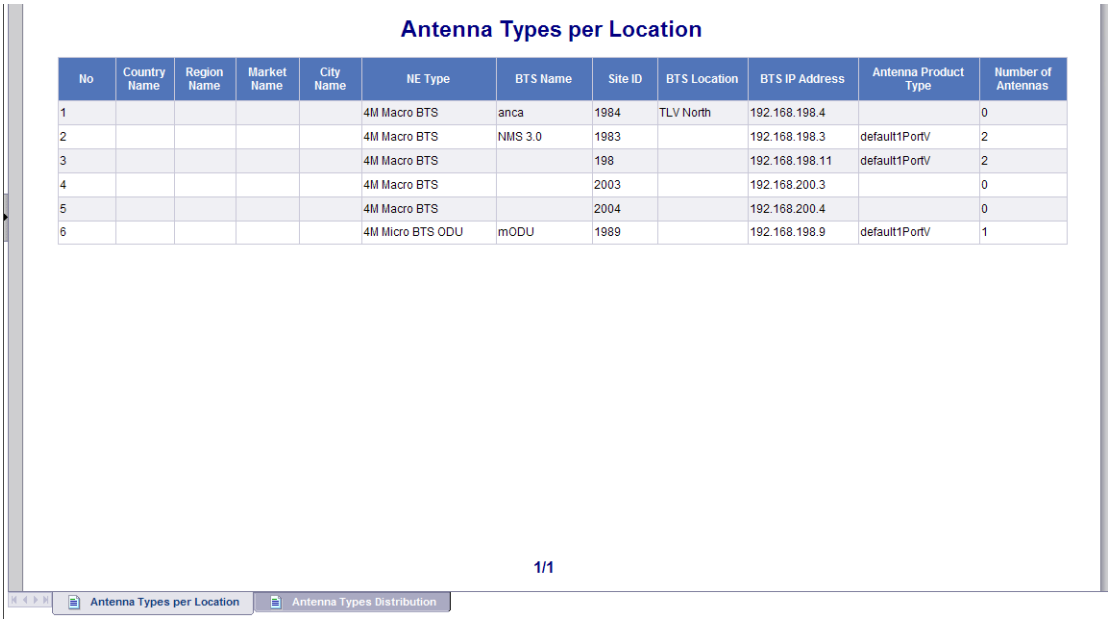
5.2.6.1 Antenna Types per Location (table)

This table details the antenna distribution, over the whole network.

The table includes the following columns:

- No. - entry number
- Country Name
- Region Name
- Market Name
- City Name
- BTS Model/NE Type - Network element type – the actual equipment, such as: Macro BTS ODU, Micro BTS ODU, MC ASN-GW.
- BTS Name

- Site ID
- BTS Location
- BTS IP Address
- Antenna Product Type - Product ID of the antenna
- Number of Antennas - connected to the specific BTS



Antenna Types per Location

No	Country Name	Region Name	Market Name	City Name	NE Type	BTS Name	Site ID	BTS Location	BTS IP Address	Antenna Product Type	Number of Antennas
1					4M Macro BTS	anca	1984	TLV North	192.168.198.4		0
2					4M Macro BTS	NMS 3.0	1983		192.168.198.3	default1PortV	2
3					4M Macro BTS		198		192.168.198.11	default1PortV	2
4					4M Macro BTS		2003		192.168.200.3		0
5					4M Macro BTS		2004		192.168.200.4		0
6					4M Micro BTS ODU	mODU	1989		192.168.198.9	default1PortV	1

1/1

Antenna Types per Location | Antenna Types Distribution

Figure 5-14: Antenna Types per Location

5.2.6.2 Antenna Types Distribution

This tab displays a pie-chart of the distribution of the antenna types, over the whole network. The available options includes a list of default and standard antennas. The default is default1portV.

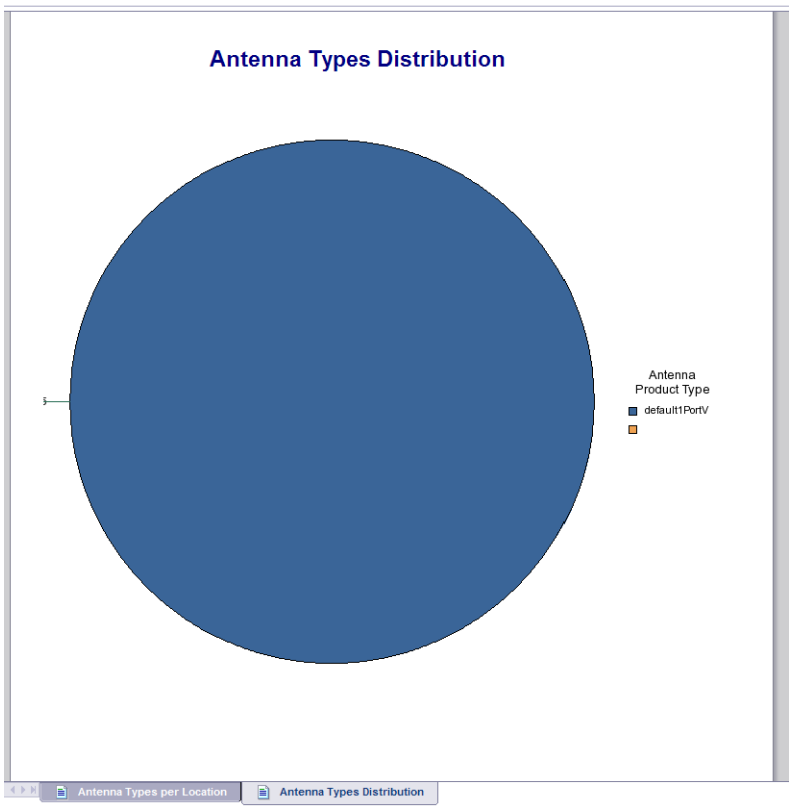


Figure 5-15: Antenna Types Distribution

5.2.7 Quick View Configuration

This report provides a summary of the 4Motion configuration details. It displays a detailed tabular data tab, and includes a link to a detailed table per specific BTSs.

To generate this report, select **07. Quick View Configuration** from the Inventory and Configuration reports list.

The report table includes the following columns:

- BTS Number
- BS ID - a link to a detailed configuration table for the specific BS (see Figure 5-17)

- General
  - Preamble Group - 1 or 2, according to the value set during the Radio Network Plan.
  - Segment Number - The segment (BS) number in a three sector BS (0-2). This number influences the values available for Preamble Group selection (see above) preamble selection and the configuration of Map (see below) used for the FDC transmission.
  - DL Diversity Mode - The downlink diversity mode used by the system: Matrix A/B or Beam Forming. The Beam Forming option is not applicable for 2-channels AU (Macro Outdoor BTS) and Micro Outdoor BTS.
  - Maximum Cell Radius (Km) - The available values are 1, 2, 4, 8, 15, 23. 30
  - Scheduler Mode - The basis for allocating excess bandwidth among relevant users:
    - Equal Rate: Throughput Fairness
    - Equal Time: Resource Fairness
- Permutation
  - Downlink Data Zone. Permutation Base The permutation base used in the downlink data zone. The valid range is 0 - 31.
  - Uplink Feedback Zone. Permutation Base - The permutation base used in the uplink feedback zone. The valid range is 0 - 69.
  - Uplink Data Zone. Permutation Base - The permutation base used in the uplink data zone. The valid range is 0 - 69.
- MAP
  - Minimum Size (symbols) - The initial size (in symbols) of the first zone. The available options are 2, 4,....34 (2xN where N=1-17) or No Limitation.
  - Basic Map Repetition - The basic repetition used in the transmission of the maps using QPSK 1/2. The available options are 1, 2, 4 and 6. (1 means no repetitions).
- Power Control
  - Allowed Interference Level - Correction of maximum allowed UL MCS based on measured DL CINR. The options are Very High, High, Medium, Low.
- Basic Rate

- Basic Rate - The uplink modulation basic rate:
  - QPSK 1/2 Repetition 6
  - QPSK 1/2 Repetition 4
  - QPSK 1/2 Repetition 2
  - QPSK 1/2
  - QPSK 3/4
  - 16-QAM 1/2
  - 16-QAM 3/4
  - 64-QAM 1/2
  - 64-QAM 2/3
  - 64-QAM 3/4
  - 64-QAM 5/6
- Basic Rate for Data - The downlink basic rate for data:
  - QPSK 1/2 Repetition 6
  - QPSK 1/2 Repetition 4
  - QPSK 1/2 Repetition 2
  - QPSK 1/2
  - QPSK 3/4
  - 16-QAM 1/2
  - 16-QAM 3/4
  - 64-QAM 1/2
  - 64-QAM 2/3
  - 64-QAM 3/4
  - 64-QAM 5/6
- Basic Rate for Management - The downlink basic rate for management:
  - QPSK 1/2 Repetition 6
  - QPSK 1/2 Repetition 4
  - QPSK 1/2 Repetition 2
  - QPSK 1/2

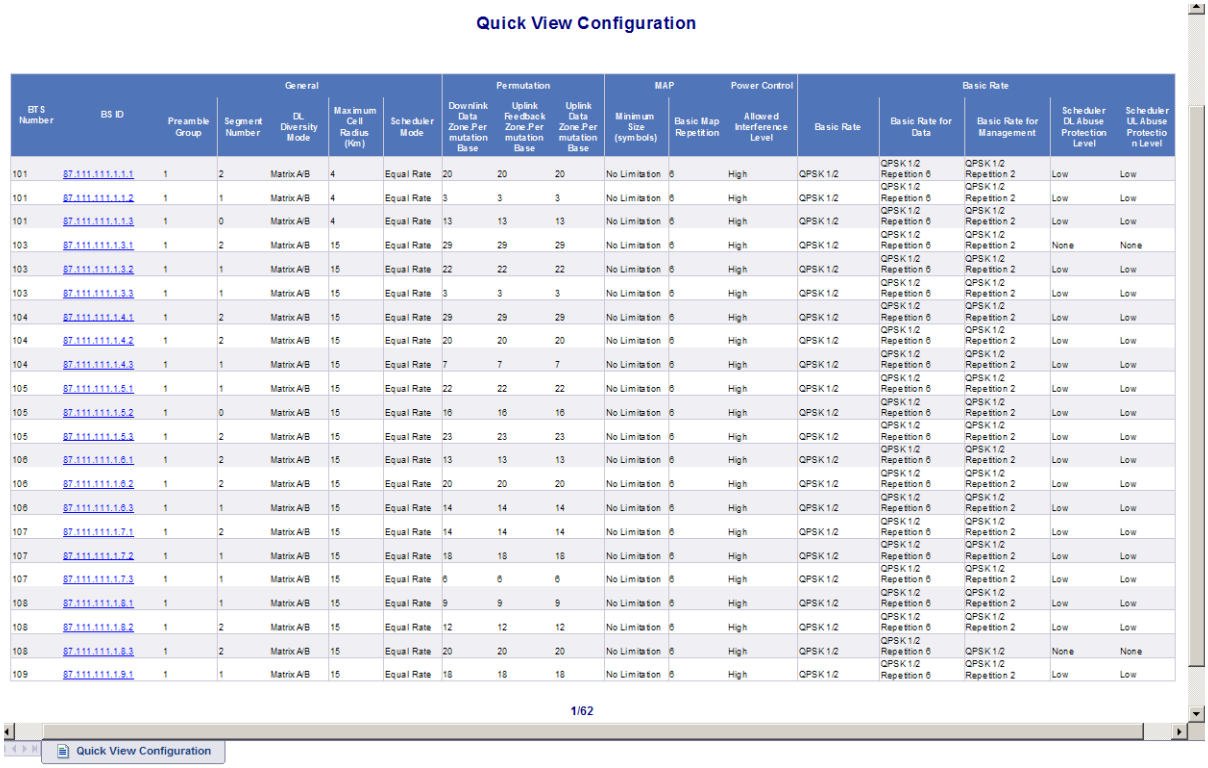
- ◊ QPSK 3/4
- ◊ 16-QAM 1/2
- ◊ 16-QAM 3/4
- ◊ 64-QAM 1/2
- ◊ 64-QAM 2/3
- ◊ 64-QAM 3/4
- ◊ 64-QAM 5/6

» Scheduler DL Abuse Protection Level - Applicable only if the Scheduler Mode is Equal Rate.

- ◊ None: No Protection
- ◊ Low: Limit the DL resources allocated to MSs with very low DL transmission Rate.
- ◊ Medium: Limit the DL resources allocated to MSs with low and very low DL transmission Rate.

» Scheduler UL Abuse Protection Level - Applicable only if the Scheduler Mode is Equal Rate.

- ◊ None: No Protection
- ◊ Low: Limit the UL resources allocated to MSs with very low UL transmission Rate.
- ◊ Medium: Limit the UL resources allocated to MSs with low and very low UL transmission Rate.



Quick View Configuration

		General					Permutation			MAP	Power Control	Basic Rate				
BTS Number	BS ID	Preamble Group	Segment Number	DL Diversity Mode	Maximum Cell Radius (Km)	Scheduler Mode	Downlink Data Zone Permutation Base	Uplink Feedback Zone Permutation Base	Uplink Data Zone Permutation Base	Minimum Size (symbols)	Basic Map Repetition	Allowed Interference Level	Basic Rate	Basic Rate for Data	Basic Rate for Management	Scheduler DL Abuse Protection Level	Scheduler UL Abuse Protection Level
101	87.111.111.1.1.1	1	2	Matrix A/B	4	Equal Rate	20	20	20	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
101	87.111.111.1.1.2	1	1	Matrix A/B	4	Equal Rate	3	3	3	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
101	87.111.111.1.1.3	1	0	Matrix A/B	4	Equal Rate	13	13	13	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
103	87.111.111.1.3.1	1	2	Matrix A/B	15	Equal Rate	29	29	29	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	None	None
103	87.111.111.1.3.2	1	1	Matrix A/B	15	Equal Rate	22	22	22	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
103	87.111.111.1.3.3	1	1	Matrix A/B	15	Equal Rate	3	3	3	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
104	87.111.111.1.4.1	1	2	Matrix A/B	15	Equal Rate	29	29	29	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
104	87.111.111.1.4.2	1	2	Matrix A/B	15	Equal Rate	20	20	20	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
104	87.111.111.1.4.3	1	1	Matrix A/B	15	Equal Rate	7	7	7	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
105	87.111.111.1.5.1	1	1	Matrix A/B	15	Equal Rate	22	22	22	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
105	87.111.111.1.5.2	1	0	Matrix A/B	15	Equal Rate	16	16	16	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
105	87.111.111.1.5.3	1	2	Matrix A/B	15	Equal Rate	23	23	23	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
106	87.111.111.1.6.1	1	2	Matrix A/B	15	Equal Rate	13	13	13	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
106	87.111.111.1.6.2	1	2	Matrix A/B	15	Equal Rate	20	20	20	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
106	87.111.111.1.6.3	1	1	Matrix A/B	15	Equal Rate	14	14	14	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
107	87.111.111.1.7.1	1	2	Matrix A/B	15	Equal Rate	14	14	14	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
107	87.111.111.1.7.2	1	1	Matrix A/B	15	Equal Rate	18	18	18	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
107	87.111.111.1.7.3	1	1	Matrix A/B	15	Equal Rate	6	6	6	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
108	87.111.111.1.8.1	1	1	Matrix A/B	15	Equal Rate	9	9	9	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
108	87.111.111.1.8.2	1	2	Matrix A/B	15	Equal Rate	12	12	12	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low
108	87.111.111.1.8.3	1	2	Matrix A/B	15	Equal Rate	20	20	20	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2	None	None
109	87.111.111.1.9.1	1	1	Matrix A/B	15	Equal Rate	18	18	18	No Limitation	6	High	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 2	Low	Low

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Quick View Configuration

Figure 5-16: Quick View Configuration

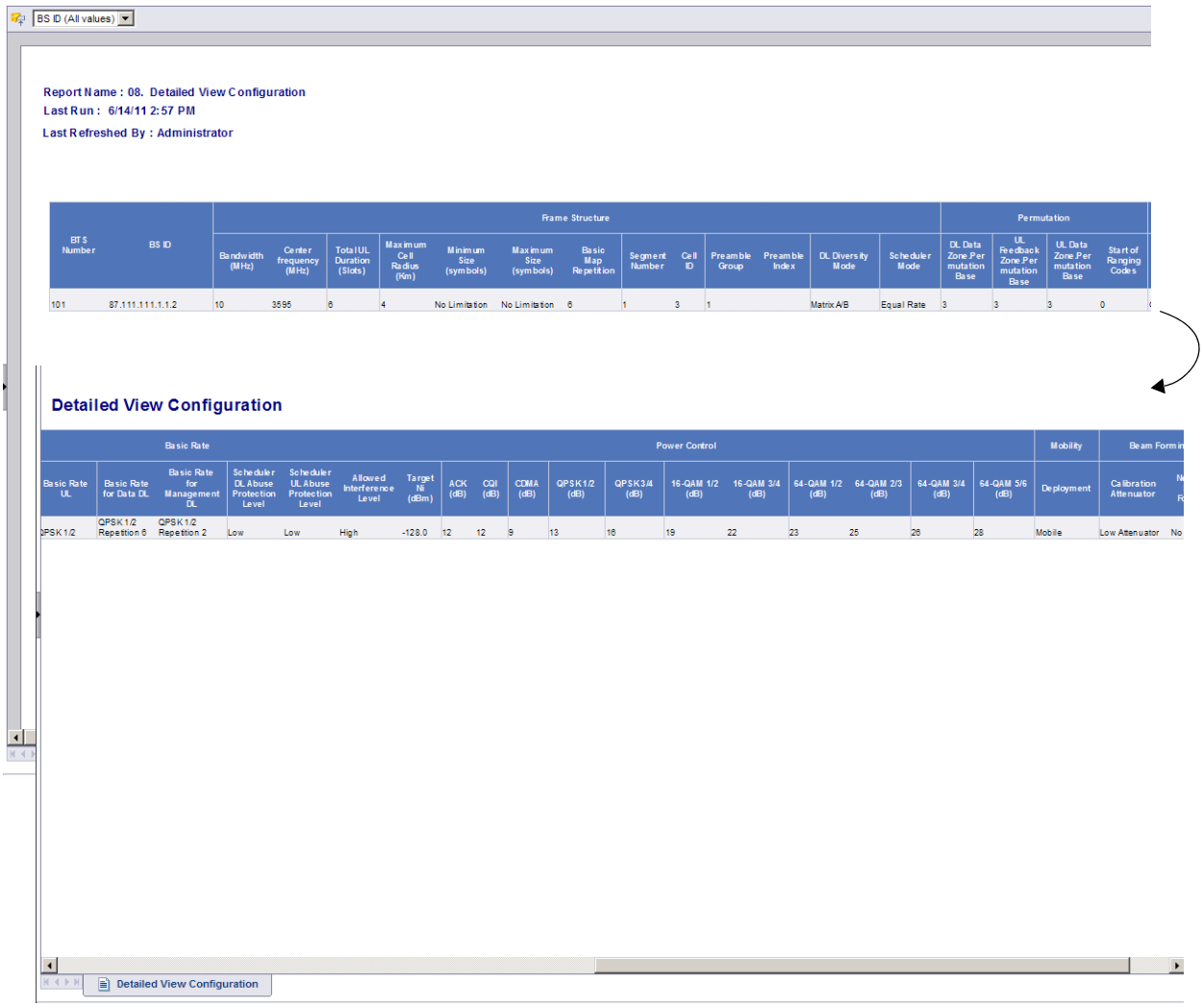


Figure 5-17: Detailed View Configuration - One Base Station

5.2.8 Detailed View Configuration

This report provides a detailed view of the 4Motion configuration.

To generate this report, select **08. Detailed View Configuration** from the Inventory and Configuration reports list.

The report table includes the following columns:

- BTS Number
- BS ID

- Frame Structure
  - Bandwidth (MHz) - The BS channel bandwidth (5 MHz, 7 MHz, 10MHz).
  - Center frequency (MHz) - The center of the frequency band in which the BS will transmit, in MHz.
  - Total UL Duration (Slots) - The total duration of the uplink in a frame, in slots (one slot equals 3 symbols). The range is 4-7 or 10 for bandwidth of 5 or 10MHz, 3-5 or 7 for bandwidth of 7MHz.
  - Maximum Cell Radius (Km) - Available values are 1, 2, 4, 8, 15, 23. 30.
  - Minimum Size (symbols) - The initial size (in symbols) of the first zone. The available options are 2, 4,....34 (2xN where N=1-17) or No Limitation.
  - Maximum Size (symbols) - Maximum size (in symbols) for first zone. Used mainly for performance control capability within frame. The available options are 2, 4,....34 (2xN where N=1-17) or No Limitation.
  - Basic Map Repetition - The basic repetition used in the transmission of the maps using QPSK 1/2. The available options are 1, 2, 4 and 6. (1 means no repetitions).
  - Segment Number - The segment (BS) number in a three sector BS (0-2). This number influences the values available for Preamble Group selection (see above) preamble selection and the configuration of Map (see below) used for the FDC transmission.
  - Cell ID - The Cell ID (IDCell) used for preamble selection. The range is 0 - 31.
  - Preamble Group - 1 or 2, according to the value set during the Radio Network Plan.
  - Preamble Index - The Preamble Index used by the BS (0-113).
  - DL Diversity Mode - The downlink diversity mode used by the system: Matrix A/B or Beam Forming. The Beam Forming option is not applicable for 2-channels AU (Macro Outdoor BTS) and Micro Outdoor BTS.
  - Scheduler Mode - The basis for allocating excess bandwidth among relevant users:
    - Equal Rate: Throughput Fairness
    - Equal Time: Resource Fairness

- Permutation
  - » DL Data Zone. Permutation Base - The permutation base used in the downlink data zone. The valid range is 0 - 31
  - » UL Feedback Zone. Permutation Base - The permutation base used in the uplink feedback zone. The valid range is 0 - 69.
  - » UL Data Zone. Permutation Base - The permutation base used in the uplink data zone.The valid range is 0 - 69.
  - » Start of Ranging Codes - The starting number of the group of codes used for the uplink. The available options are 0, 64, 128, 192.
- Basic Rate
  - » Basic Rate UL - The uplink modulation basic rate:
    - ◊ QPSK 1/2 Repetition 6
    - ◊ QPSK 1/2 Repetition 4
    - ◊ QPSK 1/2 Repetition 2
    - ◊ QPSK 1/2
    - ◊ QPSK 3/4
    - ◊ 16-QAM 1/2
    - ◊ 16-QAM 3/4
    - ◊ 64-QAM 1/2
    - ◊ 64-QAM 2/3
    - ◊ 64-QAM 3/4
    - ◊ 64-QAM 5/6
  - » Basic Rate for Data DL - The downlink basic rate for data:
    - ◊ QPSK 1/2 Repetition 6
    - ◊ QPSK 1/2 Repetition 4
    - ◊ QPSK 1/2 Repetition 2
    - ◊ QPSK 1/2
    - ◊ QPSK 3/4
    - ◊ 16-QAM 1/2
    - ◊ 16-QAM 3/4

- 64-QAM 1/2
- 64-QAM 2/3
- 64-QAM 3/4
- 64-QAM 5/6

» Basic Rate for Management DL - The downlink basic rate for management:

- QPSK 1/2 Repetition 6
- QPSK 1/2 Repetition 4
- QPSK 1/2 Repetition 2
- QPSK 1/2
- QPSK 3/4
- 16-QAM 1/2
- 16-QAM 3/4
- 64-QAM 1/2
- 64-QAM 2/3
- 64-QAM 3/4
- 64-QAM 5/6

» Scheduler DL Abuse Protection Level - Applicable only if the Scheduler Mode is Equal Rate.

- None: No Protection
- Low: Limit the DL resources allocated to MSs with very low DL transmission Rate.
- Medium: Limit the DL resources allocated to MSs with low and very low DL transmission Rate.

» Scheduler UL Abuse Protection Level - Applicable only if the Scheduler Mode is Equal Rate.

- None: No Protection
- Low: Limit the UL resources allocated to MSs with very low UL transmission Rate.
- Medium: Limit the UL resources allocated to MSs with low and very low UL transmission Rate.

- Power Control
  - Allowed Interference Level
  - Target Ni (dBm)
  - ACK (dB)
  - CQI (dB)
  - CDMA (dB)
  - QPSK 1/2 (dB)
  - QPSK 3/4 (dB)
  - 16-QAM 1/2 (dB)
  - 16-QAM 3/4 (dB)
  - 64-QAM 1/2 (dB)
  - 64-QAM 2/3 (dB)
  - 64-QAM 3/4 (dB)
  - 64-QAM 5/6 (dB)
- Mobility
  - Deployment - The type of deployment in the area served by the BS: Fix or Mobile.
- Beam Forming
  - Calibration Attenuator - The calibration attenuation used to help mitigate potential out of band interference to beam forming calibration caused by other base stations.The options are No Attenuation Used, Low Attenuation, High Attenuation.
  - Neighbor Beam Forming - Indicates whether any of the neighboring BSs operates in Beam Forming mode (Yes/No).

Report Name : 08. Detailed View Configuration
Last Run : 6/14/11 3:40 PM
Last Refreshed By : Administrator

BTS Number	BS ID	Frame Structure												
		Bandwidth (MHz)	Center frequency (MHz)	Total UL Duration (Slots)	Maximum Cell Radius (Km)	Minimum Size (symbols)	Maximum Size (symbols)	Basic Map Repetition	Segment Number	Cell ID	Preamble Group	Preamble Index	DL Diversity Mode	Scheduler Mode
198	255.243.41.2.2.2	7	2023.5	5	2	No Limitation	No Limitation	6	0	0	1	0	Matrix A/B	Equal Rate
198	255.243.41.2.6.25	5	2625	5	2	No Limitation	No Limitation	4	0	0	1	0	Matrix A/B	Equal Rate
198	255.243.41.2.6.35	5	2635	5	2	No Limitation	No Limitation	4	0	0	1	0	Matrix A/B	Equal Rate
1983	255.243.41.35.3.6	10	2559	10	8	No Limitation	No Limitation	4	0	0	1		Matrix A/B	Equal Rate
1983	255.243.41.35.3.7	10	2559	5	2	8	8	2	0	0	1		Beam Forming	Equal Rate
1984	255.243.41.12.133.0	5	2302.5	4	2	No Limitation	No Limitation	2	0	15	1		Matrix A/B	Equal Rate
1989	255.243.41.12.133.1	5	3450.000	7	30	12	14	2	1	10	2	106	Matrix A/B	Equal Time
2003					NA									
2004	255.243.41.5.5.5				2									Equal Rate

Detailed View Configuration

Detailed View Configuration

Permutation				Basic Rate					Power Control								
DL Data Zone.Permutation Base	UL Feedback Zone.Permutation Base	UL Data Zone.Permutation Base	Start of Ranging Codes	Basic Rate UL	Basic Rate for Data DL	Basic Rate for Management DL	Scheduler DL Abuse Protection Level	Scheduler UL Abuse Protection Level	Allowed Interference Level	Target Ni (dBm)	ACK (dB)	CQI (dB)	CDMA (dB)	QPSK 1/2 (dB)	QPSK 3/4 (dB)	16-QAM 1/2 (dB)	16
0	0	0	0	QPSK 1/2	QPSK 1/2	QPSK 1/2	None	None	High	-127	12	12	9	13	16	19	22
0	0	0	0	QPSK 1/2	QPSK 1/2	QPSK 1/2	None	None	High	-127	12	12	9	13	16	19	22
0	0	0	0	QPSK 1/2	QPSK 1/2	QPSK 1/2	None	None	High	-127	12	12	9	13	16	19	22
0	0	0	0	QPSK 1/2	QPSK 1/2	QPSK 1/2 Repetition 4	None	None	High	-127	12	12	9	13	16	19	22
0	0	0	0	QPSK 1/2	QPSK 1/2	QPSK 1/2	None	None	High	-127	12	12	9	13	16	19	22
0	1	0	0	QPSK 1/2	QPSK 1/2	QPSK 1/2	None	None	High	-127	12	12	9	13	16	19	22
10	10	10	64	QPSK 1/2	QPSK 1/2 Repetition 6	QPSK 1/2	None	None	Low	-130.000	12	12	9	13	16	19	22
			0	QPSK 1/2	QPSK 1/2	QPSK 1/2	None	None	High	-127	12	12	9	13	16	19	22

ower Control						Mobility	Beam Forming	
16-QAM 1/2 (dB)	16-QAM 3/4 (dB)	64-QAM 1/2 (dB)	64-QAM 2/3 (dB)	64-QAM 3/4 (dB)	64-QAM 5/6 (dB)	Deployment	Calibration Attenuator	Neighbor Beam Forming
19	22	23	25	26	28	Fix	Low Attenuator	No
19	22	23	25	26	28	Fix	Low Attenuator	No
19	22	23	25	26	28	Fix	Low Attenuator	No
19	22	23	25	26	28	Fix	Low Attenuator	No
19	22	23	25	26	28	Fix	Low Attenuator	No
19	22	23	25	26	28	Fix	Low Attenuator	No
19	22	23	25	26	28	Fix	Low Attenuator	Yes
19	22	23	25	26	28	Fix	Low Attenuator	

Figure 5-18: Detailed View Configuration - All Base Stations

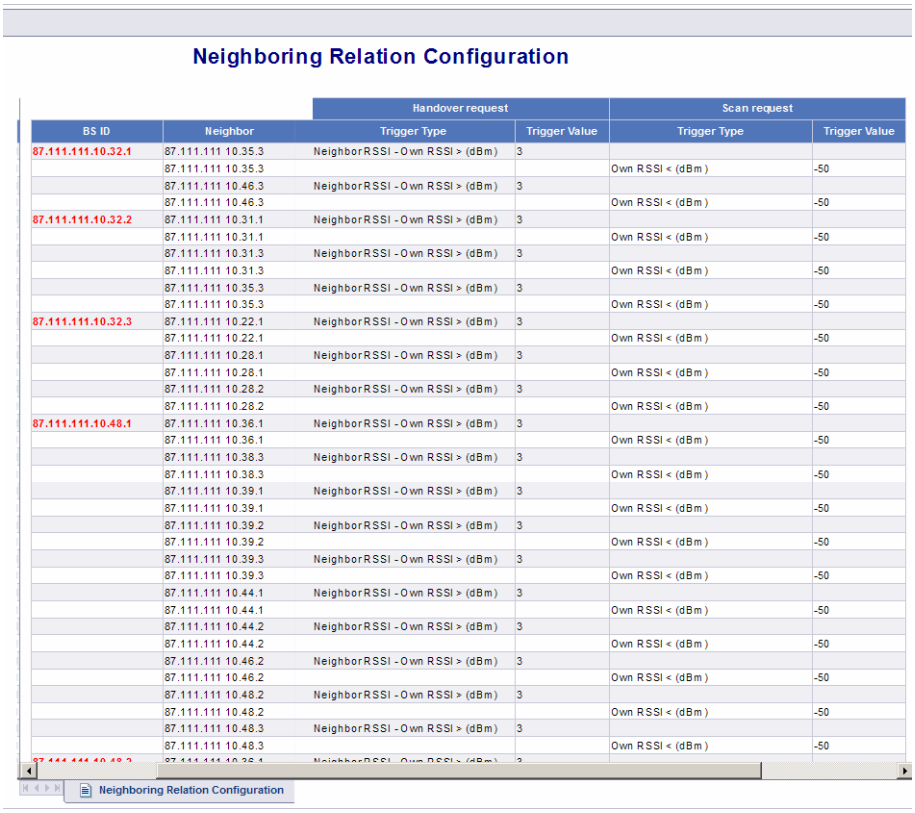
5.2.9 Neighboring Relation Configuration

This report displays a summary of the configuration of relations between neighboring BSs. It provides information as to the conditions by which handover requests and scan requests are sent between neighbor BSs, by displaying the values to trigger these requests.

To generate this report, select **09. Neighboring Relation Configuration** from the Inventory and Configuration reports list.

The report table includes the following columns:

- BS ID - the BS whose neighbors are checked
- Neighbor - the neighbor BSs of the "main" BS
- Handover request
  - » Trigger Type - one of the following handover request triggers:
    - ◊ Neighbor CINR(Handover request)>(dB)
    - ◊ Neighbor RSSI(Handover request)>(dBm)
    - ◊ Neighbor CINR-Own CINR(Handover request)>(dB)
    - ◊ Neighbor RSSI-Own RSSI(Handover request)>(dBm)
    - ◊ Distance(Handover request)-(m)
    - ◊ Own CINR(Handover request)<(dB)
    - ◊ Own RSSI(Handover request)<(dBm)
  - » Trigger Value - The threshold value for the trigger. For CINR triggers the range is -64 to 63.5 in steps of 0.5 (dB). For RSSI triggers the range is -103.75 to -40 in steps of 0.25 (dBm). For Distance triggers the range (in meters) is 0-3400 in steps of 50 if BS BW is 10 MHz, 0-6800 in steps of 50 if BS BW is 5 MHz, 0-4800 in steps of 50 if BS BW is 7 MHz.
- Scan request
  - » Trigger Type - one of the following scan request triggers:
    - ◊ Own CINR(Scan request<(dB)
    - ◊ Own RSSI(Scan request)<(dBm)
    - ◊ Distance(Scan Request)-(m)
  - » Trigger Value - The threshold value for the trigger. For CINR triggers the range is -64 to 63.5 in steps of 0.5 (dB). For RSSI triggers the range is -103.75 to -40 in steps of 0.25 (dBm). For Distance triggers the range (in meters) is 0-3400 in steps of 50 if BS BW is 10 MHz, 0-6800 in steps of 50 if BS BW is 5 MHz, 0-4800 in steps of 50 if BS BW is 7 MHz.



Neighboring Relation Configuration

		Handover request		Scan request	
BS ID	Neighbor	Trigger Type	Trigger Value	Trigger Type	Trigger Value
87.111.111.10.32.1	87.111.111 10.35.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.35.3			Own RSSI < (dBm)	-50
	87.111.111 10.46.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.46.3			Own RSSI < (dBm)	-50
87.111.111.10.32.2	87.111.111 10.31.1	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.31.1			Own RSSI < (dBm)	-50
	87.111.111 10.31.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.31.3			Own RSSI < (dBm)	-50
	87.111.111 10.35.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.35.3			Own RSSI < (dBm)	-50
87.111.111.10.32.3	87.111.111 10.22.1	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.22.1			Own RSSI < (dBm)	-50
	87.111.111 10.28.1	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.28.1			Own RSSI < (dBm)	-50
	87.111.111 10.28.2	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.28.2			Own RSSI < (dBm)	-50
87.111.111.10.48.1	87.111.111 10.36.1	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.36.1			Own RSSI < (dBm)	-50
	87.111.111 10.38.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.38.3			Own RSSI < (dBm)	-50
	87.111.111 10.39.1	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.39.1			Own RSSI < (dBm)	-50
	87.111.111 10.39.2	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.39.2			Own RSSI < (dBm)	-50
	87.111.111 10.39.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.39.3			Own RSSI < (dBm)	-50
	87.111.111 10.44.1	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.44.1			Own RSSI < (dBm)	-50
	87.111.111 10.44.2	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.44.2			Own RSSI < (dBm)	-50
	87.111.111 10.46.2	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.46.2			Own RSSI < (dBm)	-50
	87.111.111 10.48.2	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.48.2			Own RSSI < (dBm)	-50
	87.111.111 10.48.3	Neighbor RSSI - Own RSSI > (dBm)	3		
	87.111.111 10.48.3			Own RSSI < (dBm)	-50

Neighboring Relation Configuration

Figure 5-19: Neighboring Relation Configuration

5.2.10 Consistency Check Configuration

This report displays a summary of the inconsistent configuration of various BSs over the network. The report is divided into five tabs, each displaying a table of inconsistencies in the configurations of different parameters.

In each table, the sub-title displays specific parameters related to different configurations and three columns:

- BS ID - a BS for which inconsistency exists
- Actual Value - the currently configured values for the parameter in the BS.
- Desired Value - specifies the value set by the radio planning for best functionality of the system.

To generate this report, select **10. Consistency Check Configuration** from the Inventory and Configuration reports list.

5.2.10.1 Consistency Check Configuration - Frame Structure

This tab lists the inconsistencies related to frame structure.

The report table includes the following parameters for which inconsistencies exist:

- Bandwidth (MHz) - The BS channel bandwidth (5 MHz, 7 MHz, 10MHz)
- Basic Map Repetition - The basic repetition used in the transmission of the maps using QPSK 1/2. The available options are 1, 2, 4 and 6. (1 means no repetitions).
- DL Diversity Mode - The downlink diversity mode used by the system: Matrix A/B or Beam Forming. The Beam Forming option is not applicable for 2-channels AU (Macro Outdoor BTS) and Micro Outdoor BTS.
- Frame Number Offset - Controls the offset applied between the internal frame count and the reported frame number. The range is 0 -15.
- IR CDMA Allocations Period (Frames) - The period of IR CDMA (Infrared Code Division Multiple Access) allocations, in frames. The available options are 1, 2, 4, 6, 8, 10 frames.
- Map Major Groups - 6 bits representing the selection of Map Major Groups 0 to 5 where the left-most bit (MSB) represents Major Group 5.
- Maximum Cell Radius (Km) - The available values are 1, 2, 4, 8, 15, 23. 30.
- Maximum MAP Size (slots) - Limits the maximum size of maps (in slots). The available options are 10, 20,...300 (10xN where N=1-30) or No Limitation.
- Maximum Size (symbols) - Maximum size (in symbols) for first zone. Used mainly for performance control capability within frame. The available options are 2, 4,....34 (2xN where N=1-17) or No Limitation.

- Minimum Size (symbols) - The initial size (in symbols) of the first zone. When reuse 3 is used within first zone, this parameter should be equal across all BSs within deployment. The available options are 2, 4,....34 (2xN where N=1-17) or No Limitation.
- RCID Usage - whether RCID is enabled or disabled.
- Scheduler Mode - The basis for allocating excess bandwidth among relevant users: Equal Rate: Throughput Fairness, or Equal Time: Resource Fairness. The selected mode is applicable for both uplink and downlink schedulers.
- Total Uplink Duration (Slots) - The total duration of the uplink in a frame, in slots (one slot equals 3 symbols). The range is 4-7 or 10 for bandwidth of 5 or 10MHz, 3-5 or 7 for bandwidth of 7MHz.

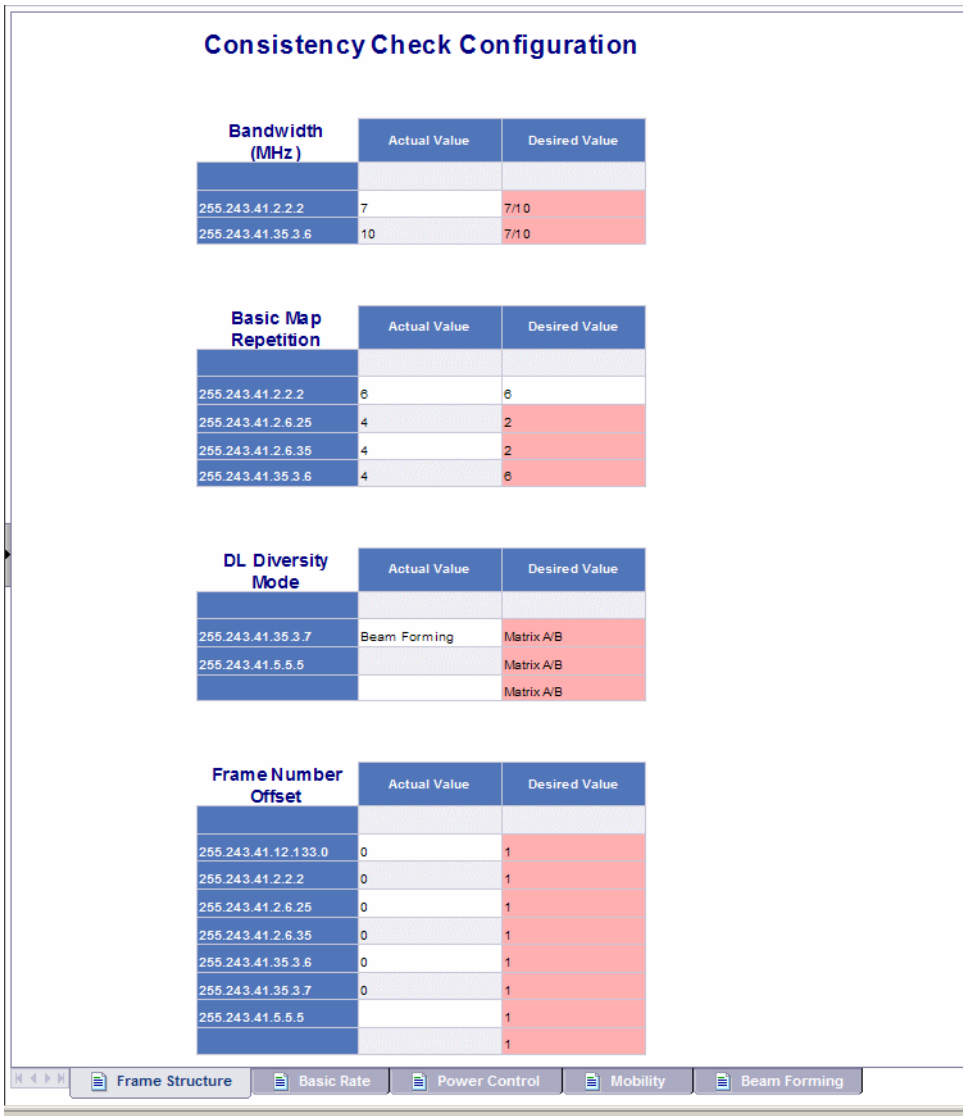
The following table lists the desired values from the Frame Structure Consistency Check report. Note that some of the desired values are simple ones, that is, have the same value for any BS configuration, however, others depend on some parameters, such as BW, Map, or Diversity:

Table 5-1: Frame Structure Desired Values

Parameter Name	Desired Value	Conditions
Bandwidth (MHz)	10	Diversity Mode IS “Beam Forming” AND “Map Major Group” IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1) OR (1,1,1,1,1,1)
	7 or 10	Diversity Mode IS “Matrix A/B” AND “Map Major Group” IS (1,1,1,1,1,1)
	5	Diversity Mode IS “Matrix A/B” AND “Map Major Group” IS (1,0,1,0,1,0)
Basic Map Repetition	2	Diversity Mode IS “Beam Forming” AND “Map Major Group” IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS “10 MHz”
	6	Diversity Mode IS “Beam Forming” AND “Map Major Group” IS (1,1,1,1,1,1)) AND Bandwidth IS “10 MHz”
	6	Diversity Mode IS “Matrix A/B” AND “Map Major Group” IS (1,1,1,1,1,1) AND Bandwidth IS “7 MHz or 10 MHz”
	2	Diversity Mode IS “Matrix A/B” AND “Map Major Group” IS (1,0,1,0,1,0) AND Bandwidth IS “5 MHz”
DL Diversity Mode	matrixA/B	Always
Frame Number Offset	1	Always

Table 5-1: Frame Structure Desired Values

Parameter Name	Desired Value	Conditions
IR CDMA Allocations Period (Frames)	2	Always
Map Major Groups	1,1,0,0,0,0	Diversity Mode IS "Beam Forming" AND Bandwidth IS "10 MHz"
	0,0,1,1,0,0	
	0,0,0,0,1,1	
	1,1,1,1,1,1	
	1,1,1,1,1,1	Diversity Mode IS "Matrix A/B" AND Bandwidth IS "7 MHz OR 10 MHz"
	1,0,1,0,1,0	Diversity Mode IS "Matrix A/B" AND Bandwidth IS "5 MHz"
Maximum Cell Radius (Km)	8	Always
Maximum MAP Size (slots)	No Limitation	Always
Maximum Size (symbols)	No Limitation	Always
Minimum Size (symbols)	12	Diversity Mode IS "Beam Forming" AND "Map Major Group" IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS "10 MHz"
	No Limitation	Diversity Mode IS "Beam Forming" AND "Map Major Group" IS (1,1,1,1,1,1)) AND Bandwidth IS "10 MHz"
		Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "7 MHz or 10 MHz"
		Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,0,1,0,1,0) AND Bandwidth IS "5 MHz"
RCID Usage	Disable	Always
Scheduler Mode	Equal Rate	Always
Total Uplink Duration (Slots)	4	Bandwidth IS "7 MHz"
	6	Bandwidth IS "5 MHz OR 10 MHz"



Consistency Check Configuration

Bandwidth (MHz)	Actual Value	Desired Value
255.243.41.2.2.2	7	7/10
255.243.41.35.3.6	10	7/10

Basic Map Repetition	Actual Value	Desired Value
255.243.41.2.2.2	6	6
255.243.41.2.6.25	4	2
255.243.41.2.6.35	4	2
255.243.41.35.3.6	4	6

DL Diversity Mode	Actual Value	Desired Value
255.243.41.35.3.7	Beam Forming	Matrix A/B
255.243.41.5.5.5		Matrix A/B
		Matrix A/B

Frame Number Offset	Actual Value	Desired Value
255.243.41.12.133.0	0	1
255.243.41.2.2.2	0	1
255.243.41.2.6.25	0	1
255.243.41.2.6.35	0	1
255.243.41.35.3.6	0	1
255.243.41.35.3.7	0	1
255.243.41.5.5.5		1
		1

Frame Structure | Basic Rate | Power Control | Mobility | Beam Forming

Figure 5-20: Consistency Check Configuration - Frame Structure

5.2.10.2 Consistency Check Configuration - Basic Rate

This tab lists the inconsistencies related to modulation basic rate.

The report table includes the following parameters for which inconsistencies exist:

- UL Basic Rate - The uplink modulation basic rate:
  - » QPSK 1/2 Repetition 6
  - » QPSK 1/2 Repetition 4
  - » QPSK 1/2 Repetition 2
  - » QPSK 1/2

- QPSK 3/4
- 16-QAM 1/2
- 16-QAM 3/4
- 64-QAM 1/2
- 64-QAM 2/3
- 64-QAM 3/4
- 64-QAM 5/6

- DL Basic Rate for Data - The downlink basic rate for data:
  - QPSK 1/2 Repetition 6
  - QPSK 1/2 Repetition 4
  - QPSK 1/2 Repetition 2
  - QPSK 1/2
  - QPSK 3/4
  - 16-QAM 1/2
  - 16-QAM 3/4
  - 64-QAM 1/2
  - 64-QAM 2/3
  - 64-QAM 3/4
  - 64-QAM 5/6
- DL Basic Rate for Management - The downlink basic rate for management:
  - QPSK 1/2 Repetition 6
  - QPSK 1/2 Repetition 4
  - QPSK 1/2 Repetition 2
  - QPSK 1/2
  - QPSK 3/4
  - 16-QAM 1/2
  - 16-QAM 3/4

- 64-QAM 1/2
- 64-QAM 2/3
- 64-QAM 3/4
- 64-QAM 5/6

- Scheduler DL Abuse Protection Level - Applicable only if the Scheduler Mode is Equal Rate.
  - None: No Protection
  - Low: Limit the DL resources allocated to MSs with very low DL transmission Rate.
  - Medium: Limit the DL resources allocated to MSs with low and very low DL transmission Rate.
- Scheduler UL Abuse Protection Level - Applicable only if the selected Scheduler Mode is Equal Rate.
  - None: No Protection
  - Low: Limit the UL resources allocated to MSs with very low UL transmission Rate.
  - Medium: Limit the UL resources allocated to MSs with low and very low UL transmission Rate.

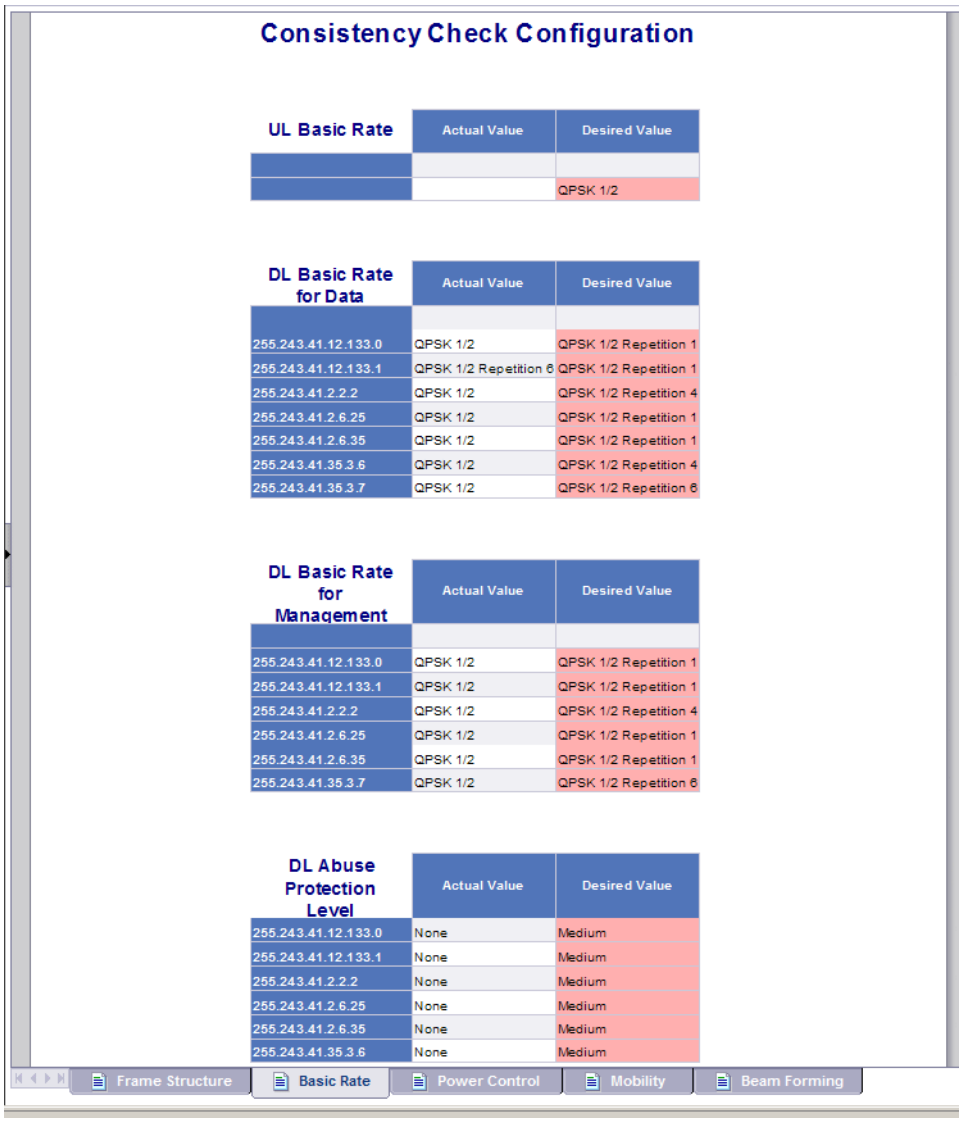
The following table lists the desired values from the Basic Rate Consistency Check report. Note that some of the desired values are simple ones, that is, have the same value for any BS configuration, however, others depend on some parameters, such as BW, Map, or Diversity:

Table 5-2: Basic Rate Desired Parameters

Parameter Name	Desired Value	Conditions
UL Basic Rate	QPSK 1/2	Always
DL Basic Rate for Data	QPSK 1/2 Rep6	Diversity Mode IS "Beam Forming" AND "Map Major Group" IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS "10 MHz"
	QPSK 1/2 Rep4	Diversity Mode IS "Beam Forming" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "10 MHz"
	QPSK 1/2 Rep4	Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "7 MHz or 10 MHz"
	QPSK 1/2 Rep1	Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,0,1,0,1,0) AND Bandwidth IS "5 MHz"

Table 5-2: Basic Rate Desired Parameters

Parameter Name	Desired Value	Conditions
DL Basic Rate for Management	QPSK 1/2 Rep6	Diversity Mode IS "Beam Forming" AND "Map Major Group" IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS "10 MHz"
	QPSK 1/2 Rep4	Diversity Mode IS "Beam Forming" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "10 MHz"
	QPSK 1/2 Rep4	Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "7 MHz or 10 MHz"
	QPSK 1/2 Rep1	Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,0,1,0,1,0) AND Bandwidth IS "5 MHz"
DL Abuse Protection Level	Medium	Always
UL Abuse Protection Level	Medium	Always



Consistency Check Configuration

UL Basic Rate	Actual Value	Desired Value
		QPSK 1/2

DL Basic Rate for Data	Actual Value	Desired Value
255.243.41.12.133.0	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.12.133.1	QPSK 1/2 Repetition 6	QPSK 1/2 Repetition 1
255.243.41.2.2.2	QPSK 1/2	QPSK 1/2 Repetition 4
255.243.41.2.6.25	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.2.6.35	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.35.3.6	QPSK 1/2	QPSK 1/2 Repetition 4
255.243.41.35.3.7	QPSK 1/2	QPSK 1/2 Repetition 6

DL Basic Rate for Management	Actual Value	Desired Value
255.243.41.12.133.0	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.12.133.1	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.2.2.2	QPSK 1/2	QPSK 1/2 Repetition 4
255.243.41.2.6.25	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.2.6.35	QPSK 1/2	QPSK 1/2 Repetition 1
255.243.41.35.3.7	QPSK 1/2	QPSK 1/2 Repetition 6

DL Abuse Protection Level	Actual Value	Desired Value
255.243.41.12.133.0	None	Medium
255.243.41.12.133.1	None	Medium
255.243.41.2.2.2	None	Medium
255.243.41.2.6.25	None	Medium
255.243.41.2.6.35	None	Medium
255.243.41.35.3.6	None	Medium

Frame Structure | Basic Rate | Power Control | Mobility | Beam Forming

Figure 5-21: Consistency Check Configuration - Basic Rate

5.2.10.3 Consistency Check Configuration - Power Control

This tab lists the inconsistencies related to power control.

The report table includes the following parameters for which inconsistencies exist:

- 16-QAM 1/2 (dB) - The C/N in dB required for transmitting 16-QAM 1/2, reported to the MS for power control purposes. The range is -20 to 50 (dB).
- 16-QAM 3/4(dB) - The C/N in dB required for transmitting 16-QAM 3/4, reported to the MS for power control purposes. The range is -20 to 50 (dB)

- 64-QAM 1/2 (dB) - The C/N in dB required for transmitting 64-QAM 1/2, reported to the MS for power control purposes. The range is -20 to 50 (dB)
- 64-QAM 2/3 (dB) - The C/N in dB required for transmitting 64-QAM 2/3, reported to the MS for power control purposes. The range is -20 to 50 (dB)
- 64-QAM 3/4 (dB) - The C/N in dB required for transmitting 64-QAM 3/4, reported to the MS for power control purposes. The range is -20 to 50 (dB)
- 64-QAM 5/6 (dB) - The C/N in dB required for transmitting 64-QAM 5/6, reported to the MS for power control purposes. The range is -20 to 50 (dB)
- ACK (dB) - The C/N in dB required for sending ACK, reported to the MS for power control purposes. The range is -20 to 50 (dB).
- Allowed Interference Level - Correction of maximum allowed UL MCS based on measured DL CINR. The options are Very High, High, Medium, Low.
- CDMA (dB) - The C/N in dB required for transmitting CDMA, reported to the MS for power control purposes. The range is -20 to 50 (dB).
- CQI (dB) - The C/N in dB required for sending CQI, reported to the MS for power control purposes.The range is -20 to 50 (dB).
- QPSK 1/2 - The C/N in dB required for sending QPSK 1/2, reported to the MS for power control purposes. The range is -20 to 50 (dB).
- QPSK 3/4 - The C/N in dB required for sending QPSK 3/4, reported to the MS for power control purposes. The range is -20 to 50 (dB).
- Target Ni (dBm) - The target noise and interference level for the PUSC zone, in dBm. The range is -130 to -110 in steps of 1 (dBm).
- Uplink Median Noise (dBm) - The median value of the noise floor histogram. If the uplink median noise level exceeds this value, an excessive uplink median noise alarm is generated. The value is in dBm/tone.

The following table lists the desired values from the Power Control Consistency Check report. Note that some of the desired values are simple ones, that is, have the same value for any BS configuration, however, others depend on some parameters, such as BW, Map, or Diversity:

Table 5-3: Power Control Desired Values

Parameter Name	Desired Value	Conditions
16-QAM 1/2 (dB)	16	Always
16-QAM 3/4 (dB)	22	Always
64-QAM 1/2 (dB)	23	Always
64-QAM 2/3 (dB)	25	Always
64-QAM 3/4 (dB)	26	Always

Table 5-3: Power Control Desired Values (Continued)

Parameter Name	Desired Value	Conditions
64-QAM 5/6 (dB)	28	Always
ACK (dB)	12	Always
Allowed Interference Level	Medium	Diversity Mode IS "Beam Forming" AND "Map Major Group" IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS "10 MHz"
	High	Diversity Mode IS "Beam Forming" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "10 MHz"
		Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "7 MHz or 10 MHz"
		Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,0,1,0,1,0) AND Bandwidth IS "5 MHz"
CDMA (dB)	9	Always
CQI (dB)	12	Always
QPSK 1/2	13	Always
QPSK 3/4	16	Always
Target Ni (dBm)	-127	Always
Uplink Median Noise (dBm)	-122	Always

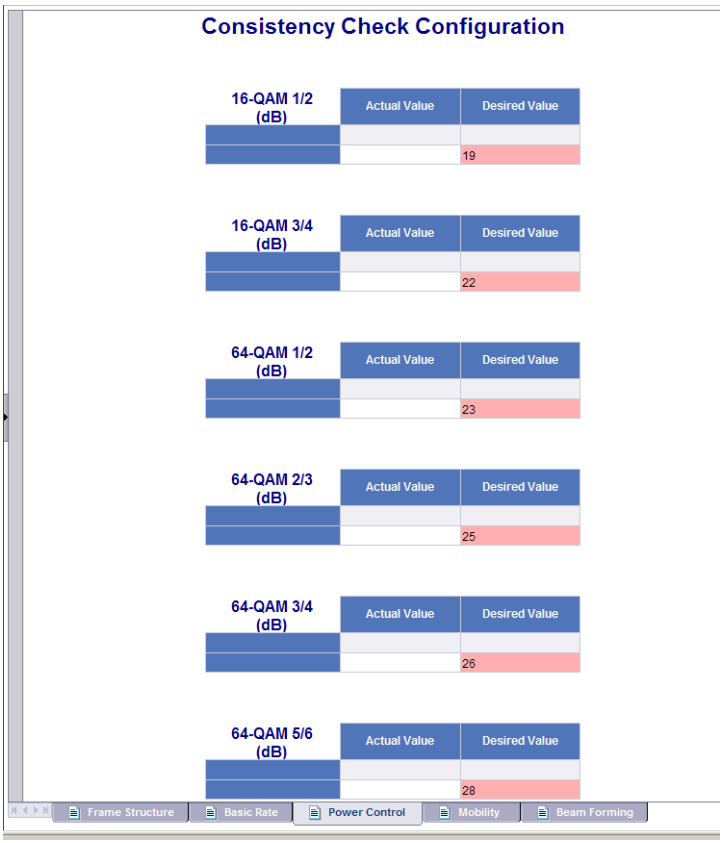


Figure 5-22: Consistency Check Configuration - Power Control

5.2.10.4 Consistency Check Configuration - Mobility

This tab lists the inconsistencies related to mobility.

The report table includes the following parameters for which inconsistencies exist:

- Deployment - The type of deployment in the area served by the BS: Fix or Mobile.
- Trigger Neighbor - General is the value given when the trigger is configured to apply to any BS defined in the neighbor list. Otherwise it will have the value of a specific neighbor BS ID.
- Trigger Value HO - The threshold value for the trigger. For CINR triggers the range is -64 to 63.5 in steps of 0.5 (dB). For RSSI triggers the range is -103.75 to -40 in steps of 0.25 (dBm). For Distance triggers the range (in meters) is 0-3400 in steps of 50 if BS BW is 10 MHz, 0-6800 in steps of 50 if BS BW is 5 MHz, 0-4800 in steps of 50 if BS BW is 7 MHz.

- Trigger Type HO - Handover trigger type. One of the following handover request triggers:
  - Neighbor CINR(Handover request)>(dB)
  - Neighbor RSSI(Handover request)>(dBm)
  - Neighbor CINR-Own CINR(Handover request)>(dB)
  - Neighbor RSSI-Own RSSI(Handover request)>(dBm)
  - Distance(Handover request)-(m)
  - Own CINR(Handover request)<(dB)
  - Own RSSI(Handover request)<(dBm)
- Trigger Value Scan - The threshold value for the trigger. For CINR triggers the range is -64 to 63.5 in steps of 0.5 (dB). For RSSI triggers the range is -103.75 to -40 in steps of 0.25 (dBm). For Distance triggers the range (in meters) is 0-3400 in steps of 50 if BS BW is 10 MHz, 0-6800 in steps of 50 if BS BW is 5 MHz, 0-4800 in steps of 50 if BS BW is 7 MHz.
- Trigger Type Scan - One of the following handover request triggers:
  - Own CINR(Scan request<(dB)
  - Own RSSI(Scan request)<(dBm)
  - Distance(Scan Request)-(m)

The following table lists the desired values from the Mobility Consistency Check report. Note that some of the desired values are simple ones, that is, have the same value for any BS configuration, however, others depend on some parameters, such as BW, Map, or Diversity:

Table 5-4: Mobility Desired Values

Parameter Name	Desired Value	Conditions
Deployment	Fix	Always
Trigger Neighbor	General	Always

Table 5-4: Mobility Desired Values (Continued)

Parameter Name	Desired Value	Conditions
Trigger Value	3 for Handover -50 for Scan	Diversity Mode IS "Beam Forming" AND "Map Major Group" IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS "10 MHz"
	3 for Handover -65 for Scan	Diversity Mode IS "Beam Forming" AND "Map Major Group" IS (1,1,1,1,1,1)) AND Bandwidth IS "10 MHz"
	3 for Handover -65 for Scan	Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,1,1,1,1,1) AND Bandwidth IS "7 MHz or 10 MHz"
	3 for Handover -65 for Scan	Diversity Mode IS "Matrix A/B" AND "Map Major Group" IS (1,0,1,0,1,0) AND Bandwidth IS "5 MHz"

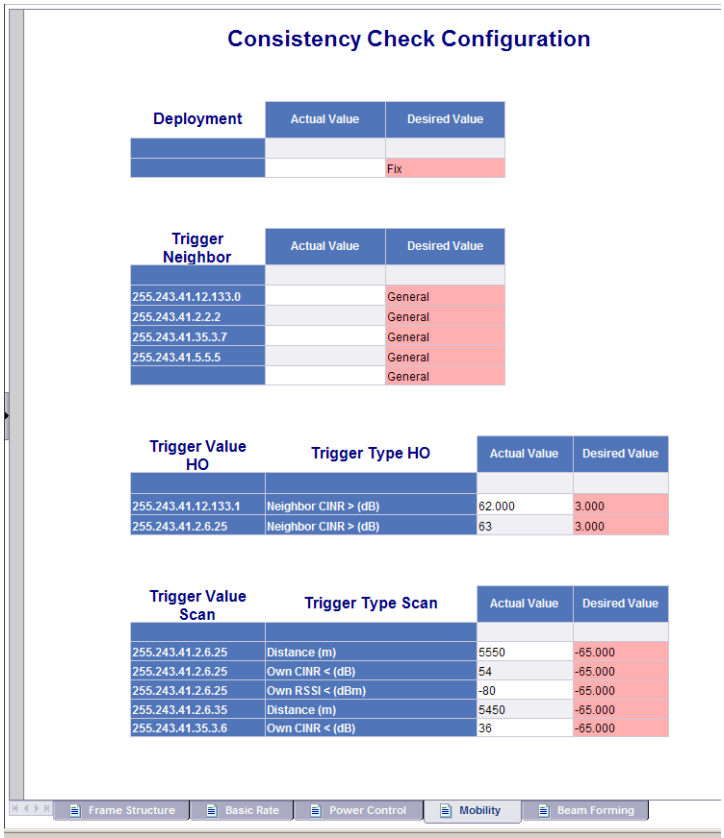


Figure 5-23: Consistency Check Configuration - Mobility

5.2.10.5 Consistency Check Configuration - Beam Forming

This tab lists the inconsistencies related to beam forming.

The report table includes the following parameters for which inconsistencies exist:

- Calibration Attenuator - The calibration attenuation used to help mitigate potential out of band interference to beam forming calibration caused by other base stations.The options are No Attenuation Used, Low Attenuation, High Attenuation.
- Neighbor Beam Forming - Indicates whether any of the neighboring BSs operates in Beam Forming mode.

The following table lists the desired values from the Beam Forming Consistency Check report. Note that some of the desired values are simple ones, that is, have the same value for any BS configuration, however, others depend on some parameters, such as BW, Map, or Diversity:

Table 5-5: Beam Forming Desired Values

Parameter Name	Desired Value	Conditions
Calibration Attenuator	Low Attenuator	Always
Neighbor Beam Forming	Yes	Diversity Mode IS “Beam Forming” AND “Map Major Group” IN ((1,1,0,0,0,0) OR (0,0,1,1,0,0) OR (0,0,0,0,1,1)) AND Bandwidth IS “10 MHz”
	Yes	Diversity Mode IS “Beam Forming” AND “Map Major Group” IS (1,1,1,1,1,1)) AND Bandwidth IS “10 MHz”
	NA	Diversity Mode IS “Matrix A/B” AND “Map Major Group” IS (1,1,1,1,1,1) AND Bandwidth IS “7 MHz or 10 MHz”
	NA	Diversity Mode IS “Matrix A/B” AND “Map Major Group” IS (1,0,1,0,1,0) AND Bandwidth IS “5 MHz”

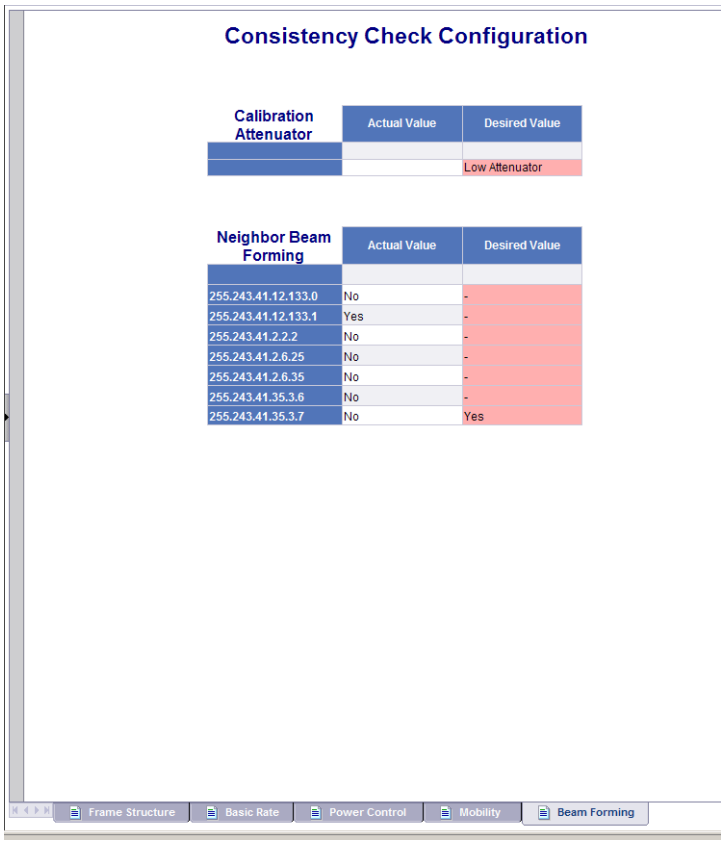


Figure 5-24: Consistency Check Configuration - Beam Forming

Chapter 6 - Advanced Operations

In this Chapter:

6.1 Introduction

The Central Management Console (CMC) is a web-based tool which offers a single interface through which the administrator can perform various administrative tasks, including user management, content management, and server management.

Only users with valid credentials to BusinessObjects Enterprise (administrators) can log on to the CMC and set preferences.

This chapter presents the basic information for configuring users, groups and security. For detailed information, refer to the BusinessObjects manuals.

To access CMC (from Windows Start menu):

1 Click **Start** and select Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise > BusinessObjects Enterprise Central Management Console. The Log On to the Central Management Console window is displayed.

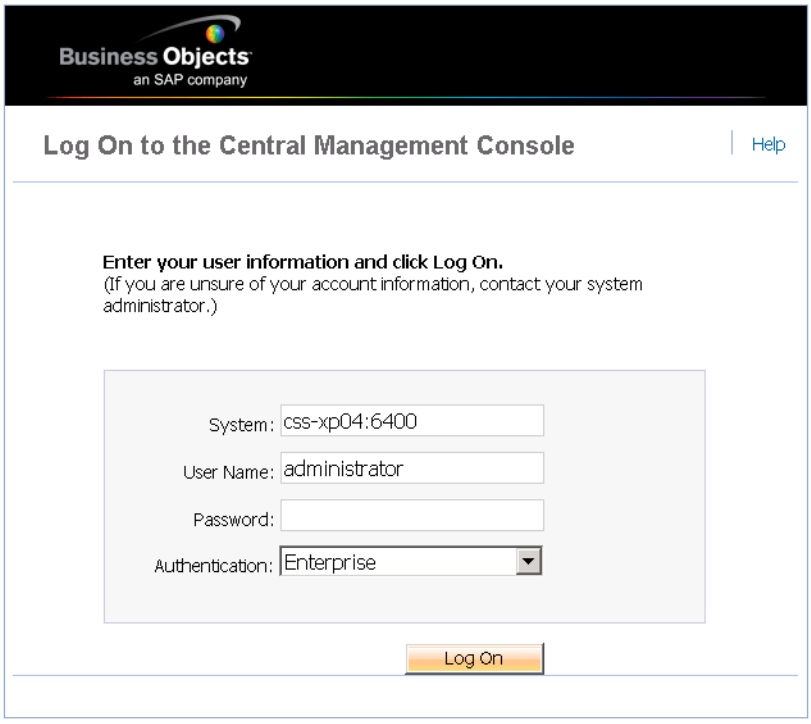


Figure 6-1: Log On to the Central Management Console

2 Type the name of your Central Management Server (CMS) in the System field.

3 Type your user name and password.

If you're using LDAP or Windows NT authentication, you may log on using an account that has been mapped to the BusinessObjects Enterprise Administrators group.

4 Select Enterprise in the Authentication Type list.

5 Click **Log On**. The Central Management Console is displayed.

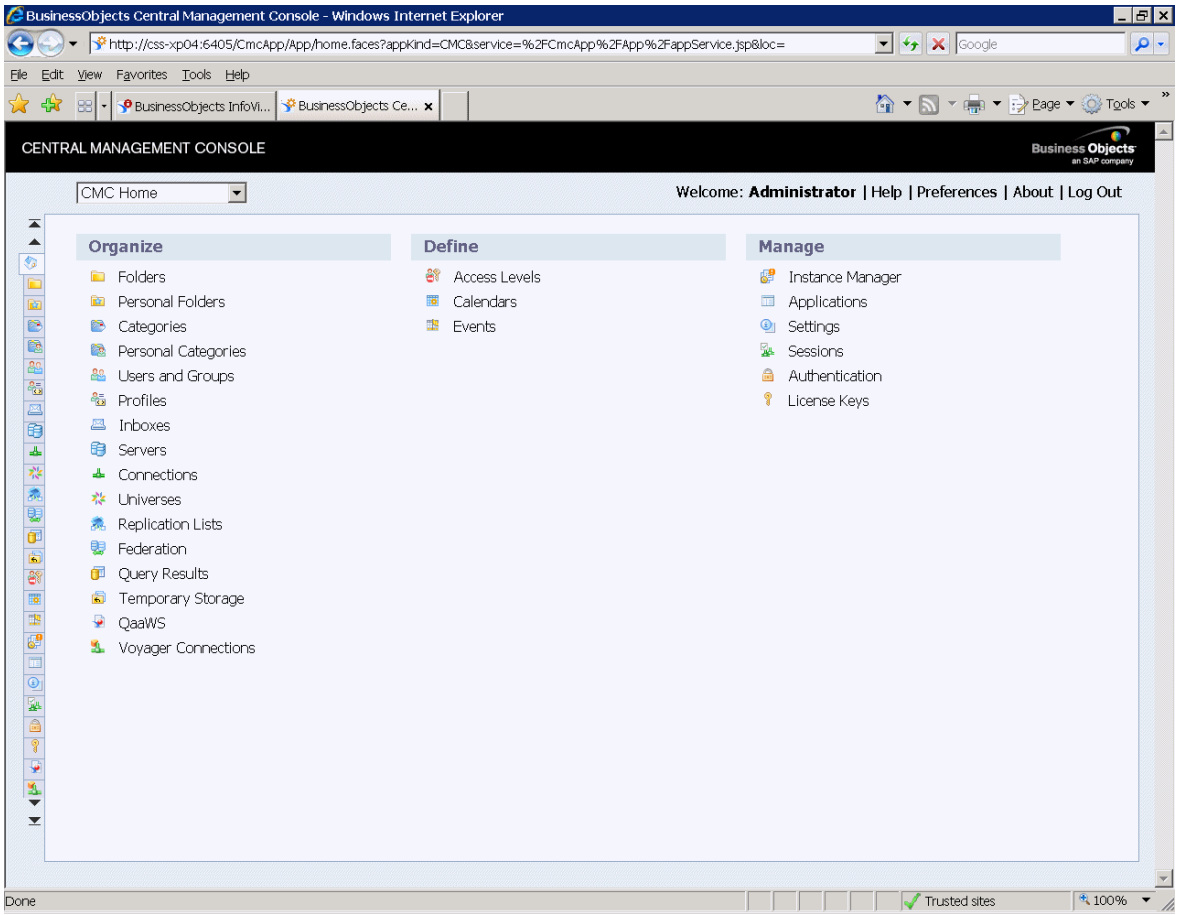


Figure 6-2: Central Management Console

6.2 Users and Groups - Applying Security on Objects and Folders

The “Users and Groups” management area of the Central Management Control (CMC) provides the tasks related to creating, mapping, changing and organizing the information about users and groups. After the user accounts and groups have been created, you can add objects and specify their permissions. You can add users to a group to simplify operating with a large number of users that need the same security rights. When users log on, they can view the objects using InfoView.

6.2.1 Creating New Groups and Users

A group is a collection of users who share the same account privileges. You can create groups that share the same access parameters to reports or folders. After creating a new group, users and subgroups can be added.

To create a new group:

1 In the CMC application click the  icon to access the Users and Groups management area.

2 Right-click on Group List and select New > New Group, or click the Create New Group icon () at the top-left corner. The Create New User Group dialog box is displayed (see Figure 6-4).

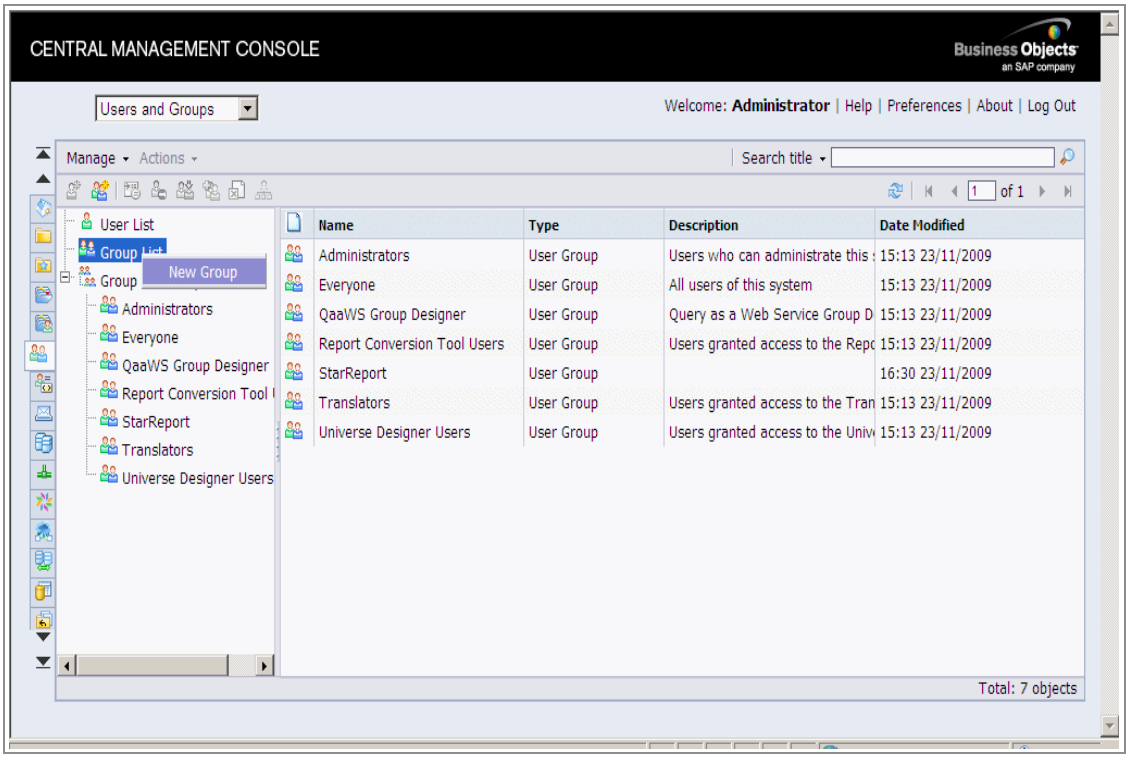


Figure 6-3: Users and Groups Menus

3 Enter the group name and description (optional).

Figure 6-4: New Group

4 Click **OK**; A group is created.

To create a new user:

1 In the CMC application click the icon to access the Users and Groups management area (see Figure 6-3).

2 Right-click on User List and select New > New User, or click the Create New User icon ( ) at the top-left corner. The Create New User dialog box is displayed (see Figure 6-5).

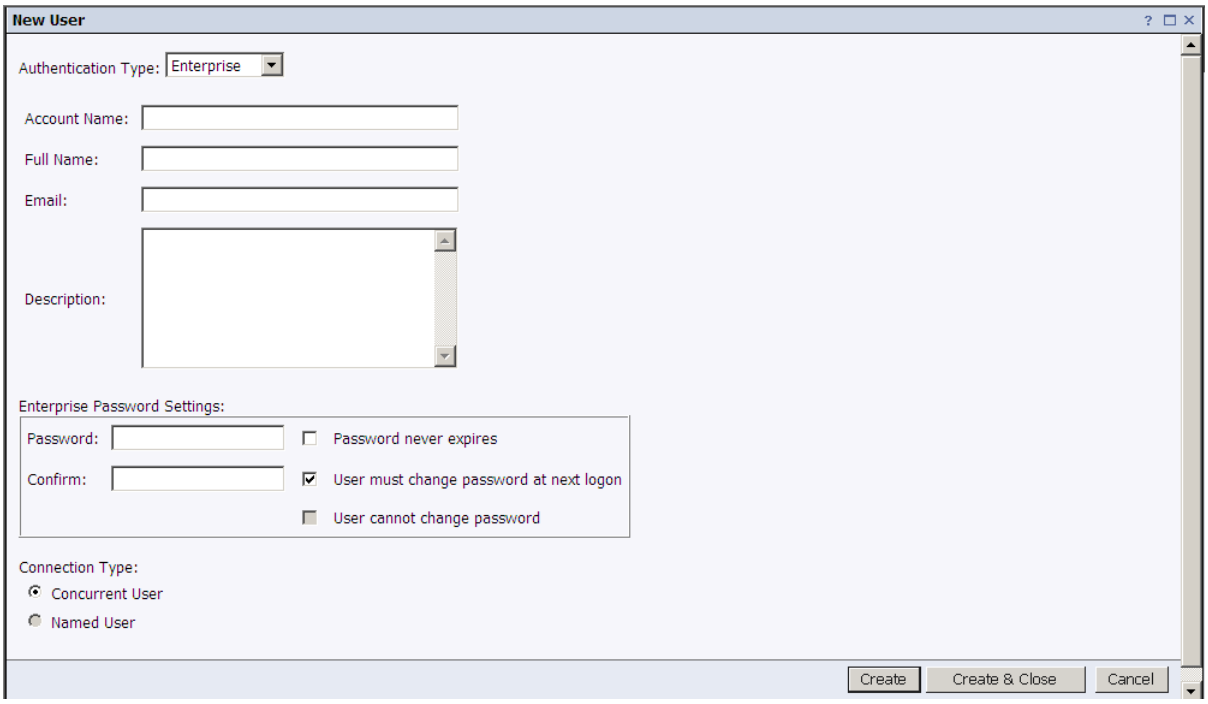


Figure 6-5: New User

3 Enter the appropriate information in the following fields:

- Authentication type – for working with the default BusinessObjects authentication select Enterprise.
- Account name –the name of the user to be created
- Complete Full Name, E-mail and Description information – optional free text
- Enterprise Password Settings – initial password

- Limitations that can be applied for that specific user:
  - » Password never expires
  - » User must change password on next logon
  - » User cannot change password
- Connection type – "Concurrent User" must be selected for the current license type

4 Click **Save and Close**. The user is added to the system and is automatically added to the "Everyone" group. You can now add the user to a group or specify rights directly to the user.

6.2.2 Mapping a User to a Specific Group

Users can be added to groups by adding them to an existing group, or have the user "join" a group from the users list.

To map a user to a group:

Do one of the following:

- Option 1 (see Figure 6-6)

1 From the Group list: Select the group, and select Add Members to Group from the Actions menu.

2 Select the user from the User list and send it to the Selected users/groups window, using the arrow buttons (><). Click **OK**.

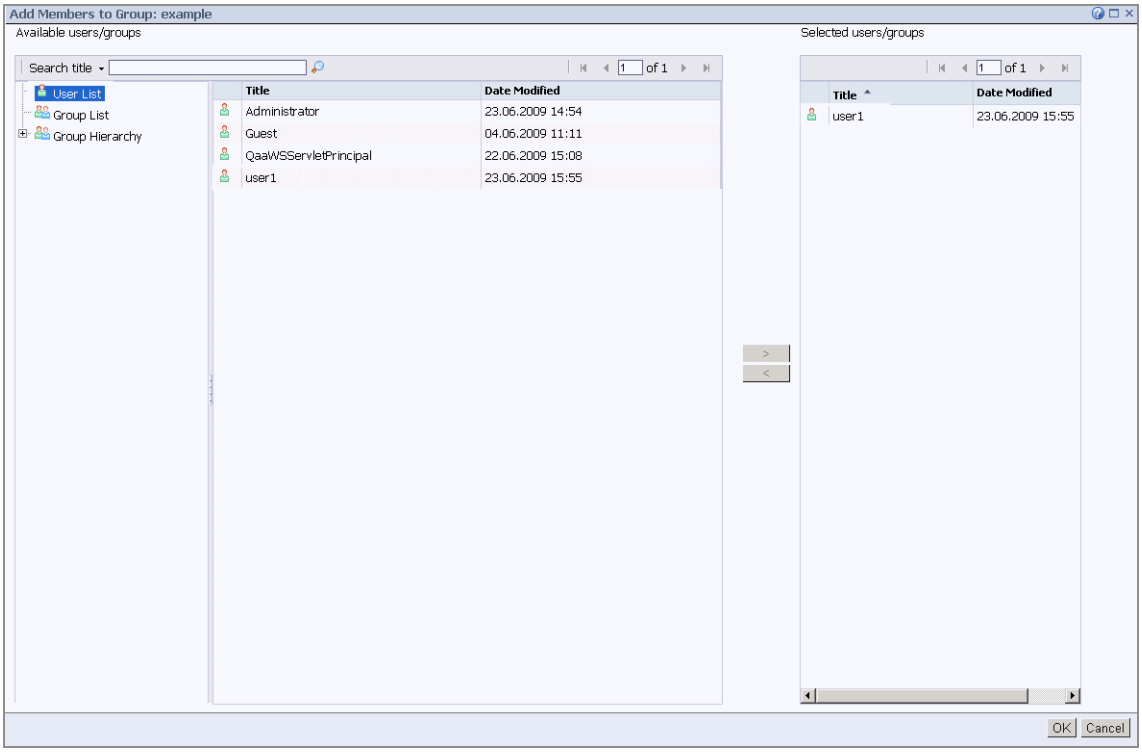


Figure 6-6: Add Members to Group

- Option 2 (see Figure 6-7 and Figure 6-8)

1. Open the User list and select the user you want to add; more users can be selected at the same time by holding the Shift or Ctrl keys.
2. Select Join Group; The Join Group: User window is displayed.

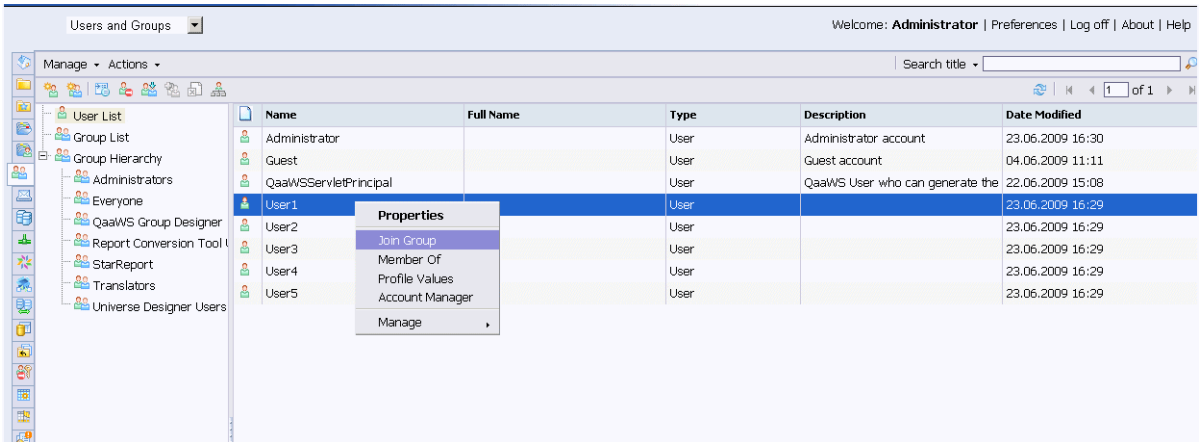


Figure 6-7: Join Group - 1

3. From the Group list select the group to add the user to; send the selected group to the Destination Group section using the arrow buttons (><).

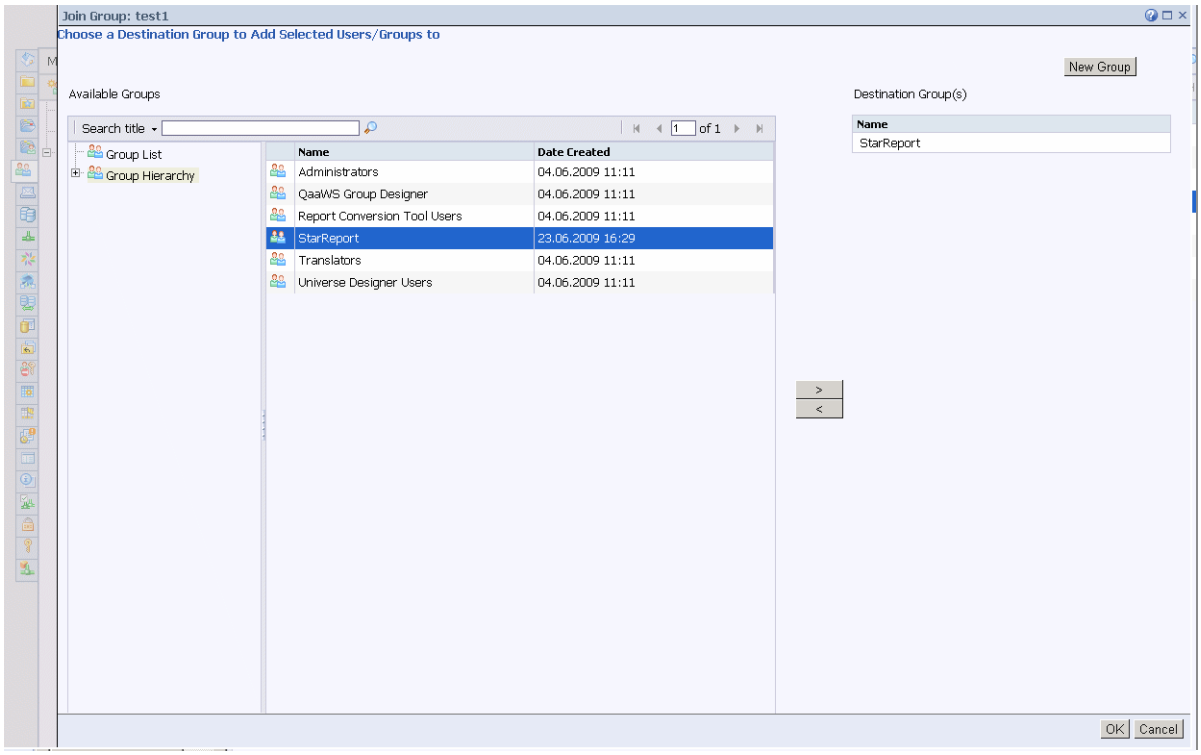


Figure 6-8: Join Group - 2

4 Click **OK**. The user is added to the group.

6.2.3 Allocating Security Rights on an Object or Folder

After installing the application and importing the BIAR file, only the administrator user has permission to view the newly created StarReport folder and its content in CMC or InfoView. By default, on a new installation, the permissions for the root of the folders (called "All Folders" in CMC) is denied to everyone including new users.

You can give access to a group or user on a specific object or folder. When adding rights on the root folder, all the folders under it will inherit it.

Newly created users can log in to InfoView, view the objects or folders for which they were given access and manage them according to the access levels.

To grant access to a group or user:

1 In the CMC application click the Folder icon  to access the folders management area.

2 Right-click on **All Folders** and select Properties; The Properties: Root Folder window is displayed.

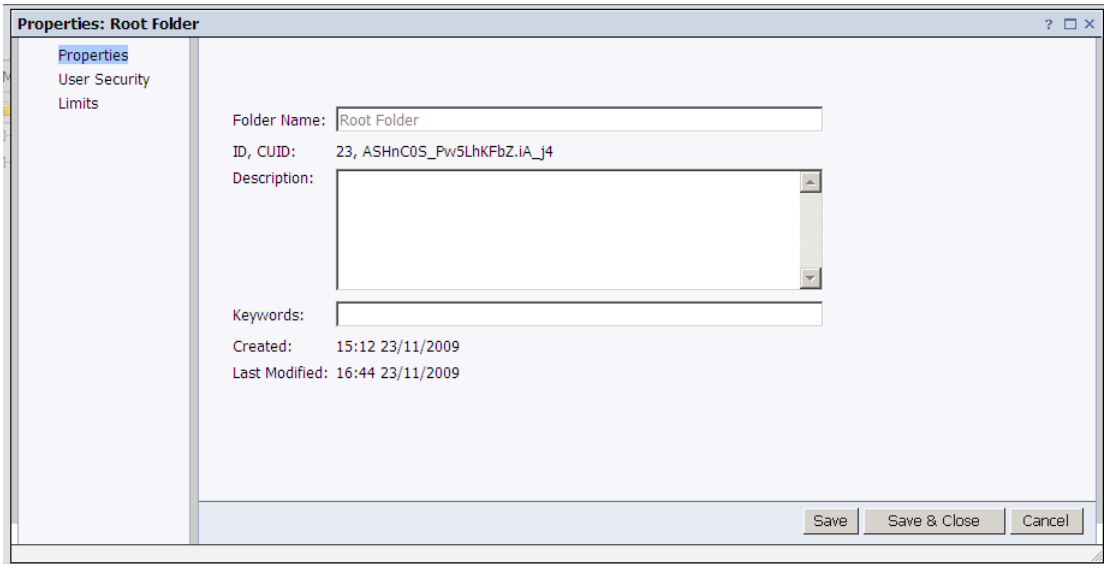


Figure 6-9: Properties: Root Folder

3 Select User Security from the left pane; The User Security: Root Folders window is displayed (see Figure 6-10).

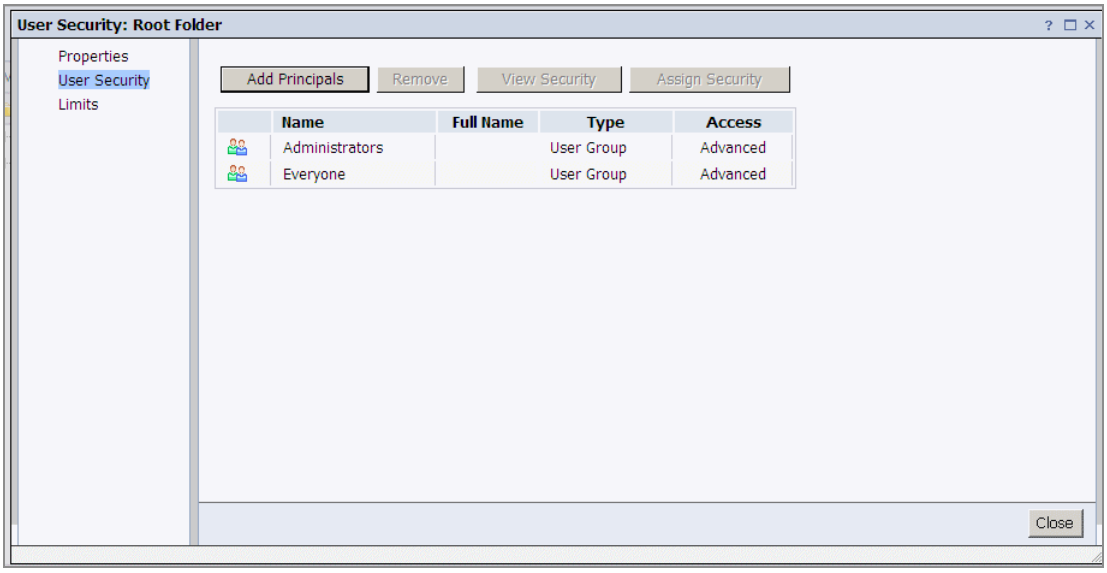


Figure 6-10: User Security Window

4 Select the "Everyone" user and click **Assign Security**; The Assign Security: Access Levels window is displayed.

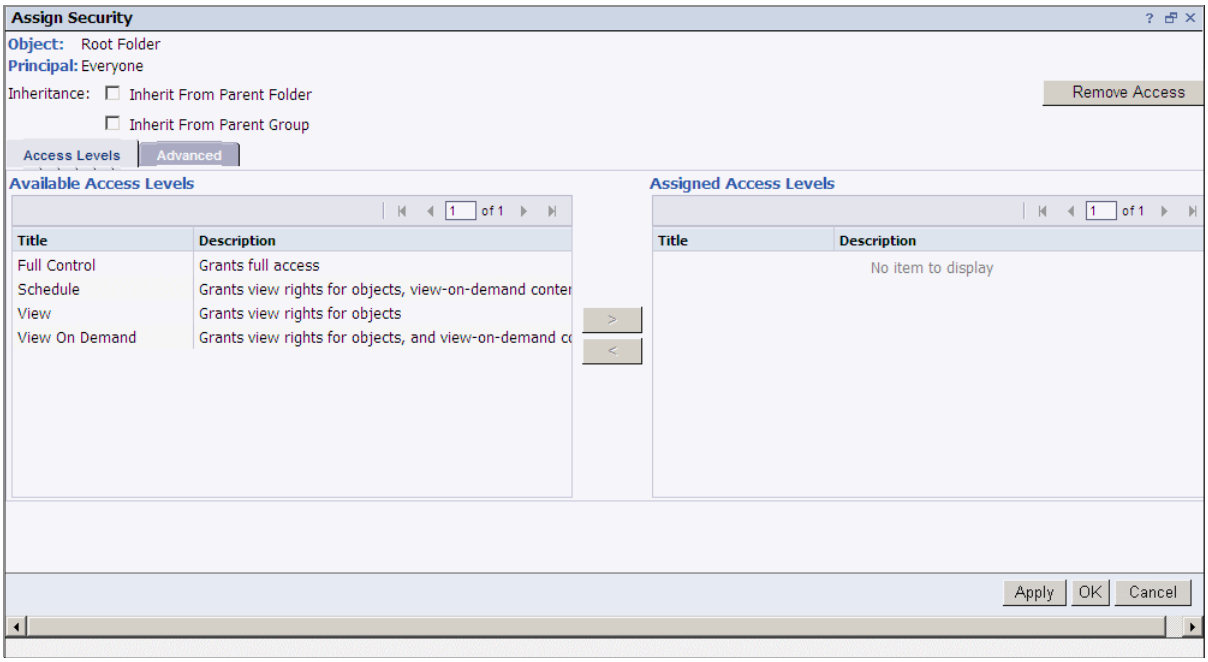


Figure 6-11: Assign Security Window

5 In the Access Level tab, allocate View on Demand access level from the Available Access Levels section to the Assigned Access Levels section using the arrow buttons (><); If you want to give access only to one folder under the root, use the **Remove Access** button to manually remove the rights from the other folders. Click **Apply** to immediately activate the change. Click **OK** and close the Assign Security window.

The following table describes the available access levels:

Table 6-1: Available Security Levels

Access level	Description	Rights Involved
View	■ If set on the folder level, a principal (user that has this right) can view the folder, objects within the folder, and each object's generated instances. ■ If set at the object level, a principal can view the object, its history, and generated instances.	■ View objects ■ View document instances

Table 6-1: Available Security Levels (Continued)

Access level	Description	Rights Involved
Schedule	A principal can generate instances by scheduling an object to run against a specified data source once or on a recurring basis. The principals can view, delete, and pause the scheduling of instances that they own. They can also schedule reports to different formats and destinations, set parameters and database logon information, choose servers to process jobs, add contents to the folder, and copy the object or folder.	View access rights, plus: ■ Schedule the document to run ■ Define server groupsto process jobs ■ Copy objects to anotherfolder ■ Schedule to destinations ■ Export and Print the reports data ■ Edit objects that the user owns ■ Delete instances that the user owns ■ Pause and resume document instances that the user owns
View On Demand	A principal can refresh data on demand against a data source.	Schedule access level rights, plus: ■ Refresh the report data
Full Control	A principal has full administrative control of the object.	All available rights, including: ■ Add objects to the folder ■ Edit objects ■ Modify rights users have to objects ■ Delete objects ■ Delete instances

To allocate rights on a specific folder to a specific group/user:

1 Re-open the User Security window (See Figure 6-10) and click **Add Principals** from the top buttons. The Add Principals window is displayed.

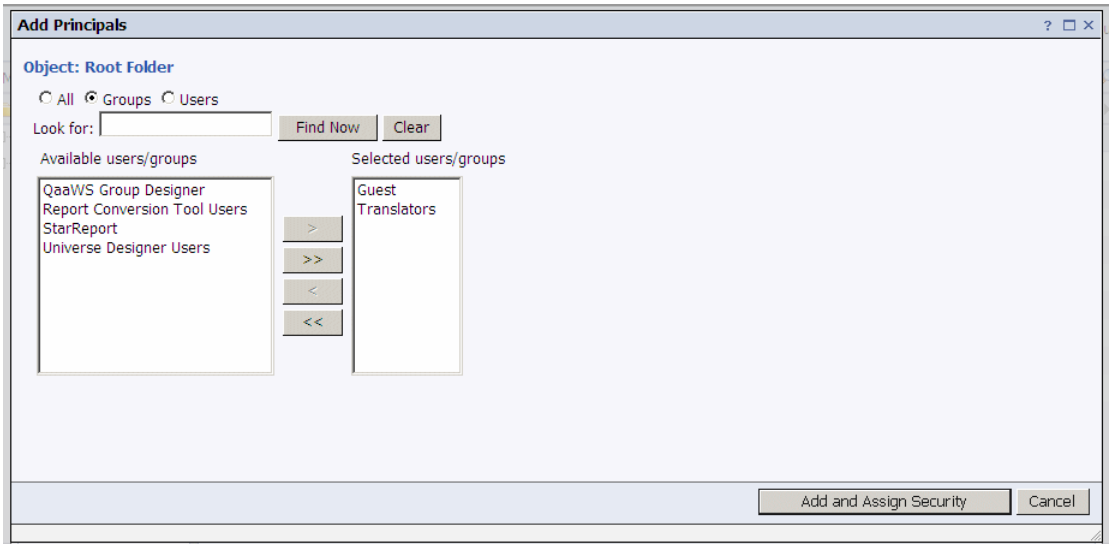


Figure 6-12: Add Principals Window

2 Select the Groups option.

3 Select a group and move it to the Selected users/groups pane using the arrow buttons (> < >> <<). Click **Add and Assign Security**; the Assign Security window is displayed (see Figure 6-11).

4 Select the security level and move it to the Assigned Access Levels pane.

5 Click **Apply** to activate the change.

6 Click **OK** to return to the User Security window.

6.3 Sending Scheduled Reports by Mail

6.3.1 Mail Server Configuration

With Simple Mail Transfer Protocol (SMTP) mail support, you can choose to send the instances of an object, for example: a report instance, to one or more e-mail destinations. After it has run the object, the system will send a copy of the output instance as an attachment to the e-mail address(es) you specified. To use a destination, you must have the destination enabled and configured on the job servers.

This chapter presents the basic information for sending reports by mail. For a more detailed explanation, refer to the BusinessObject manuals.

To enable sending reports by e-mail:

1 In the CMC application click the icon to access the Servers management area (Figure 6-13).

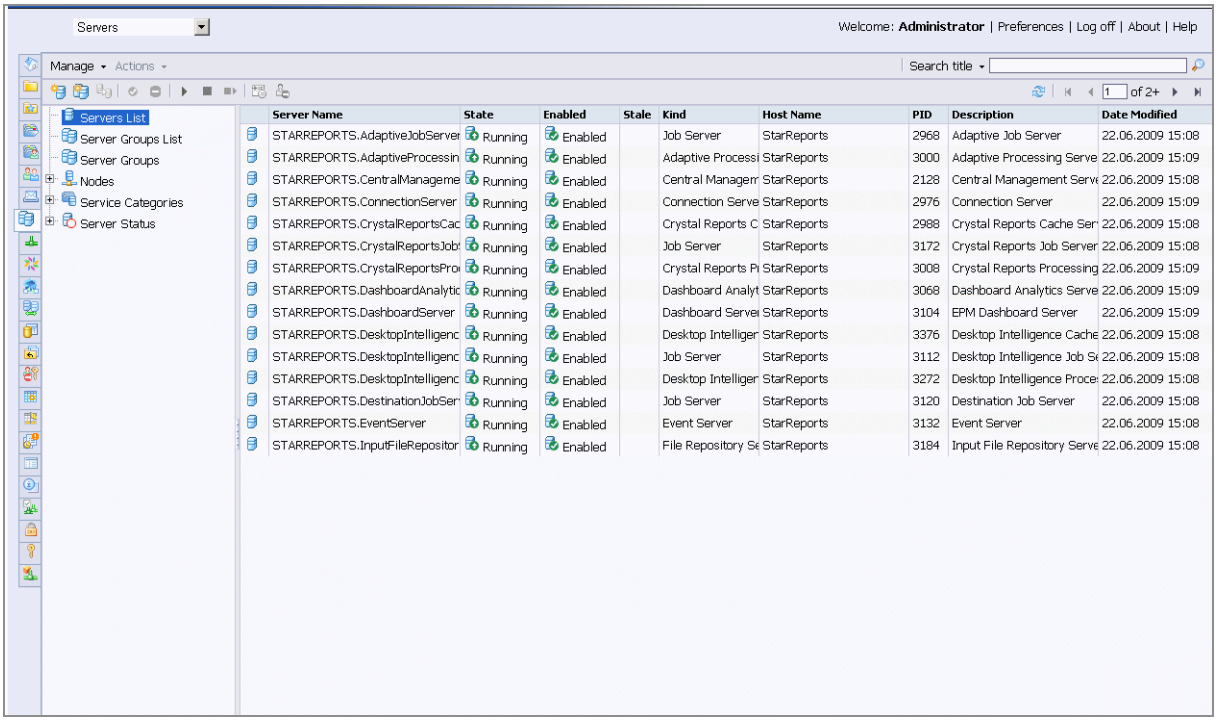


Figure 6-13: Servers List

2 From the Server Name column select the server name *<HostName>.AdaptiveJobServer* to enable or disable a destination. Right-click on the job server and select **Destination** from the menu (Figure 6-14); The Destination window is displayed (see Figure 6-15).

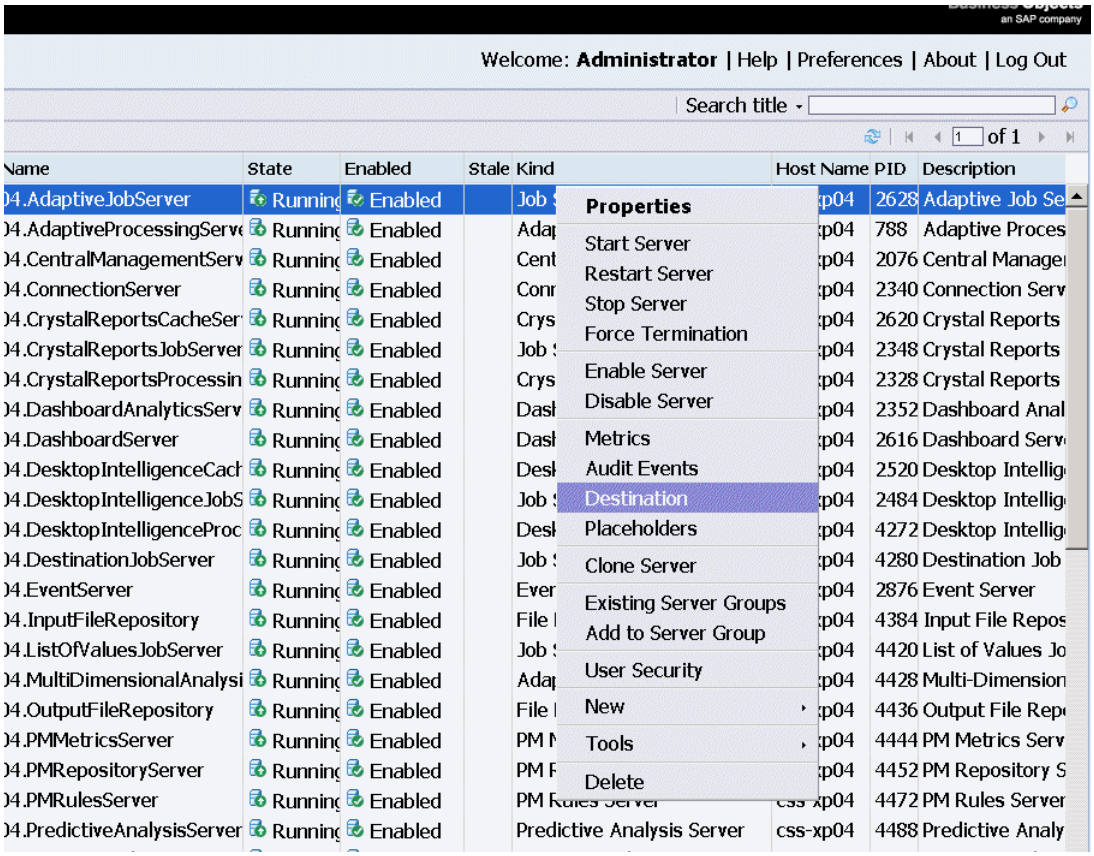


Figure 6-14: Server Management Right-Click Menu

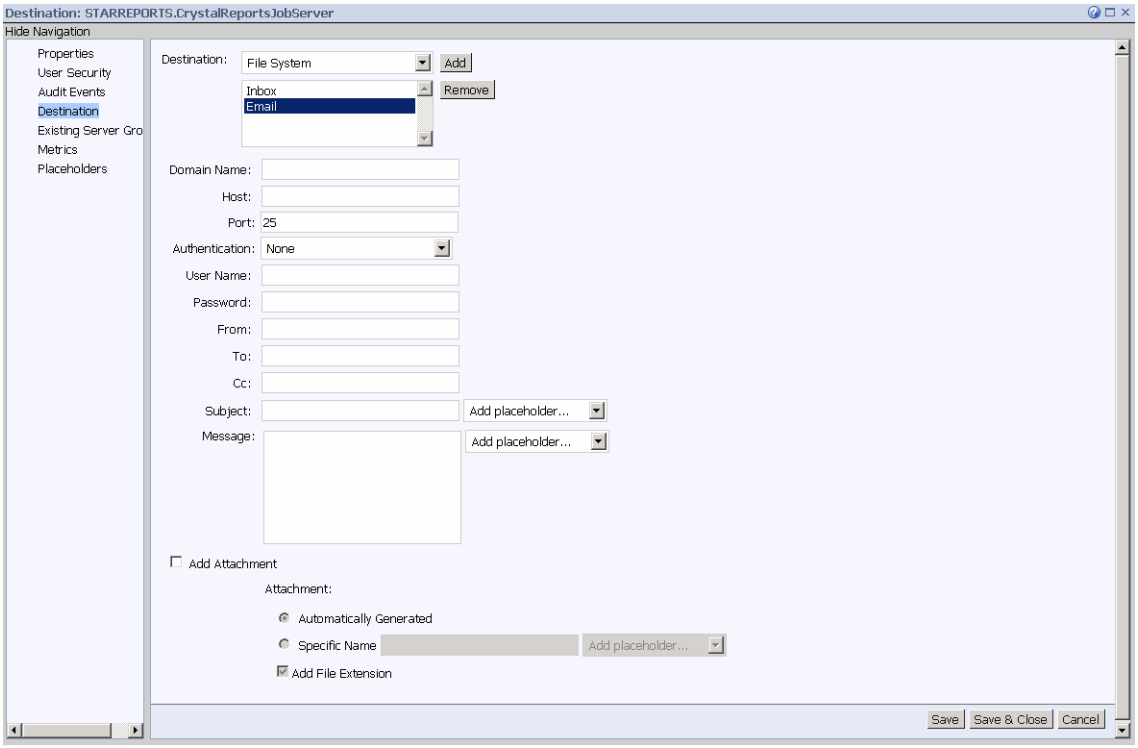


Figure 6-15: Server Destination Window

3 To enable an E-mail destination, select **Email** in the Destination list and click **Add**. Some fields are displayed for configuration (Figure 6-15).

4 Fill in the relevant information for your destination:

- Domain name – the SMTP server domain name
- Host – the SMPT server name
- Port – the SMTP server port
- Authentication – select **Plain** or **Login** if the job server must be authenticated using one of these methods in order to send mail.
- User name – provide a Job Server with a username that has permission to send e-mail
- Password – provide the Job Server with the password for the SMTP server
- From – the return e-mail address

5 To save your configuration, click **Save and Close**.

6 Repeat Steps 2 through 5 for the *<HostName>.DestinationJobServer* and *<HostName>.PublicationJobServer*

6.3.2 Scheduling a Report to be Sent by Mail

You can configure a report to be sent by e-mail to a destination on a certain schedule.

To schedule a report to be sent by e-mail:

1 In the CMC application click the Folder icon to access the folders management area.

2 Select All Folders > StarReport_x.y (x.y is the version number) and choose the report you want to schedule. Right-click and select **Schedule**, or select Schedule from the Actions menu. A window with the instance (report) title is displayed.

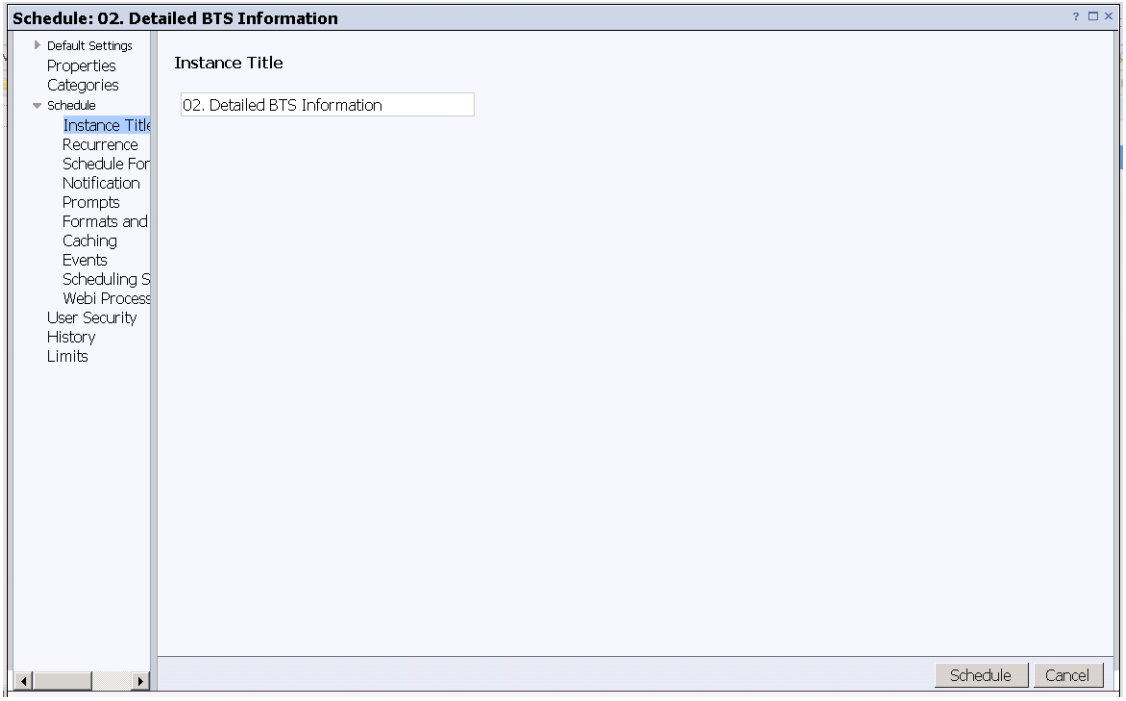


Figure 6-16: Instance Title

3 From the Schedule menu at the left pane select **Formats and Destination**; The Formats and Destination window is displayed.

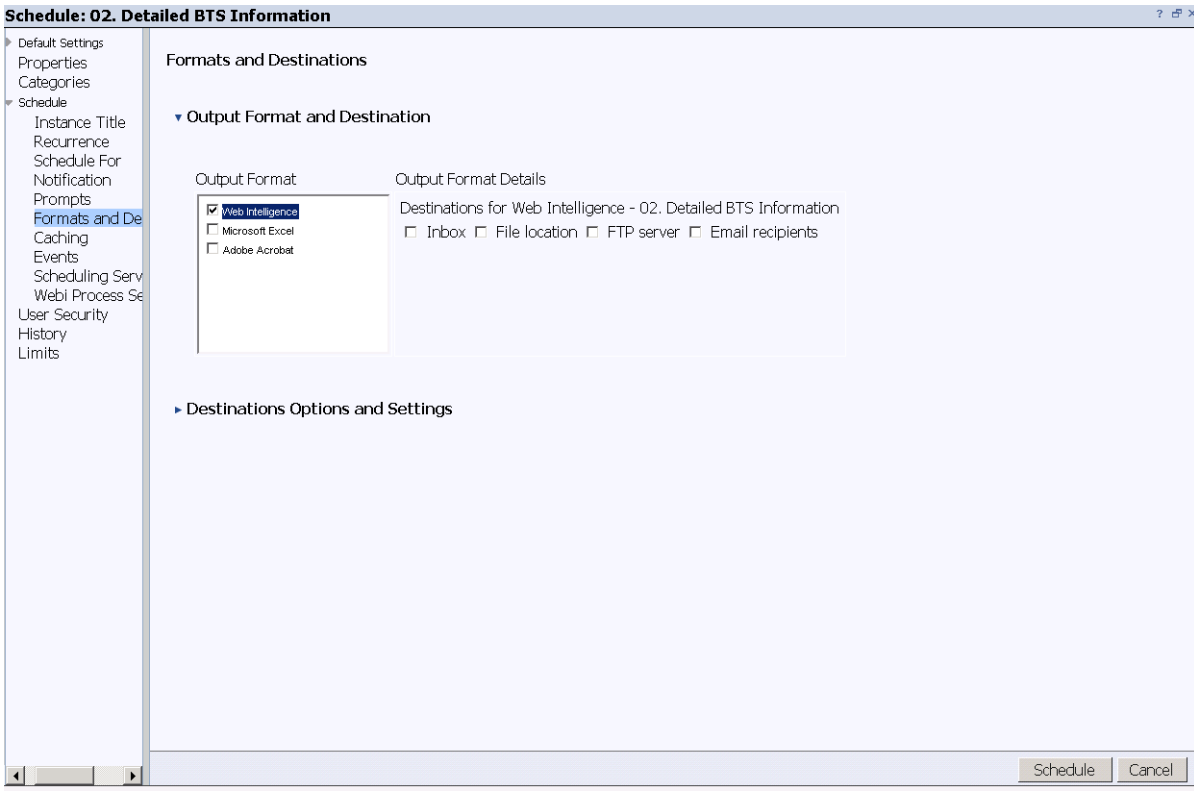


Figure 6-17: Schedule - Formats and Destinations

4 Select an Output Format, and the **Email Recipients** destination for the selected format.

5 Click Destinations Options and Settings to expand its options.

6 Select either one or both of the following:

- Use the Job Server's defaults. If you deselect this option, some fields are displayed for configuration (see Figure 6-18).
- Cleanup instance after scheduling

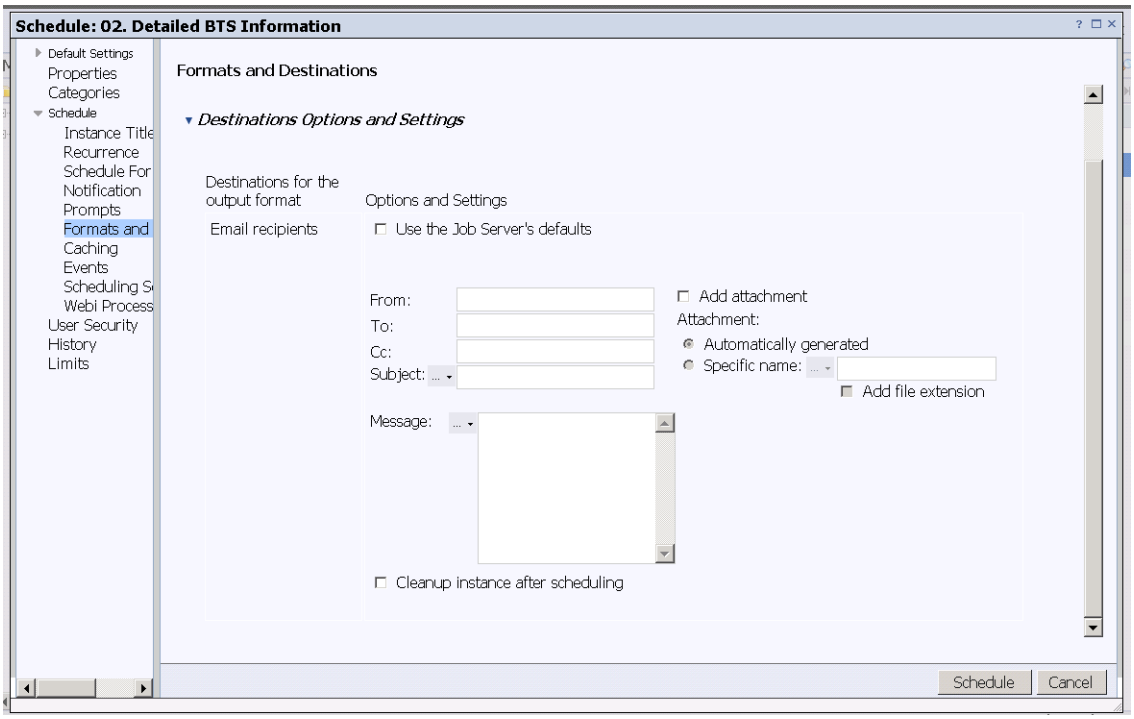


Figure 6-18: Destinations Options and Settings - Email Recipients

7 Fill in the information in the fields.

8 From the Schedule menu at the left pane select **Recurrence**; The Recurrence window is displayed with some fields for configuration (see Figure 6-19).

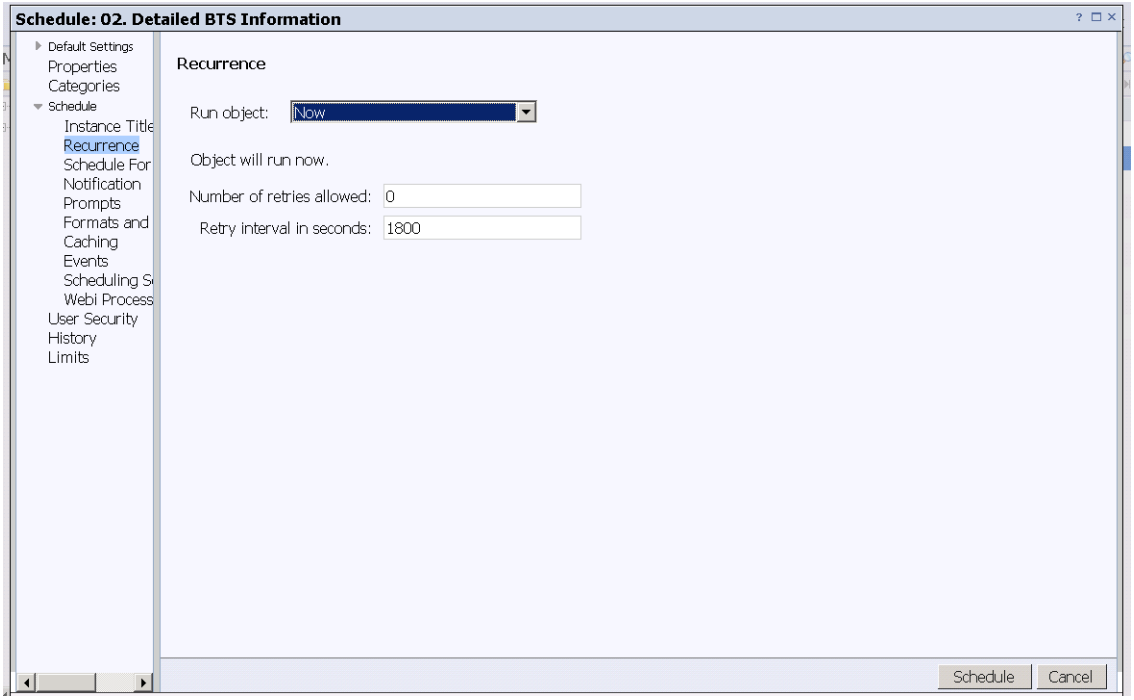


Figure 6-19: Schedule - Recurrence Window

9 Choose the recurrence to run the report.

10 Click **Schedule**. An e-mail will be sent to the selected e-mail address each time the report is being run.