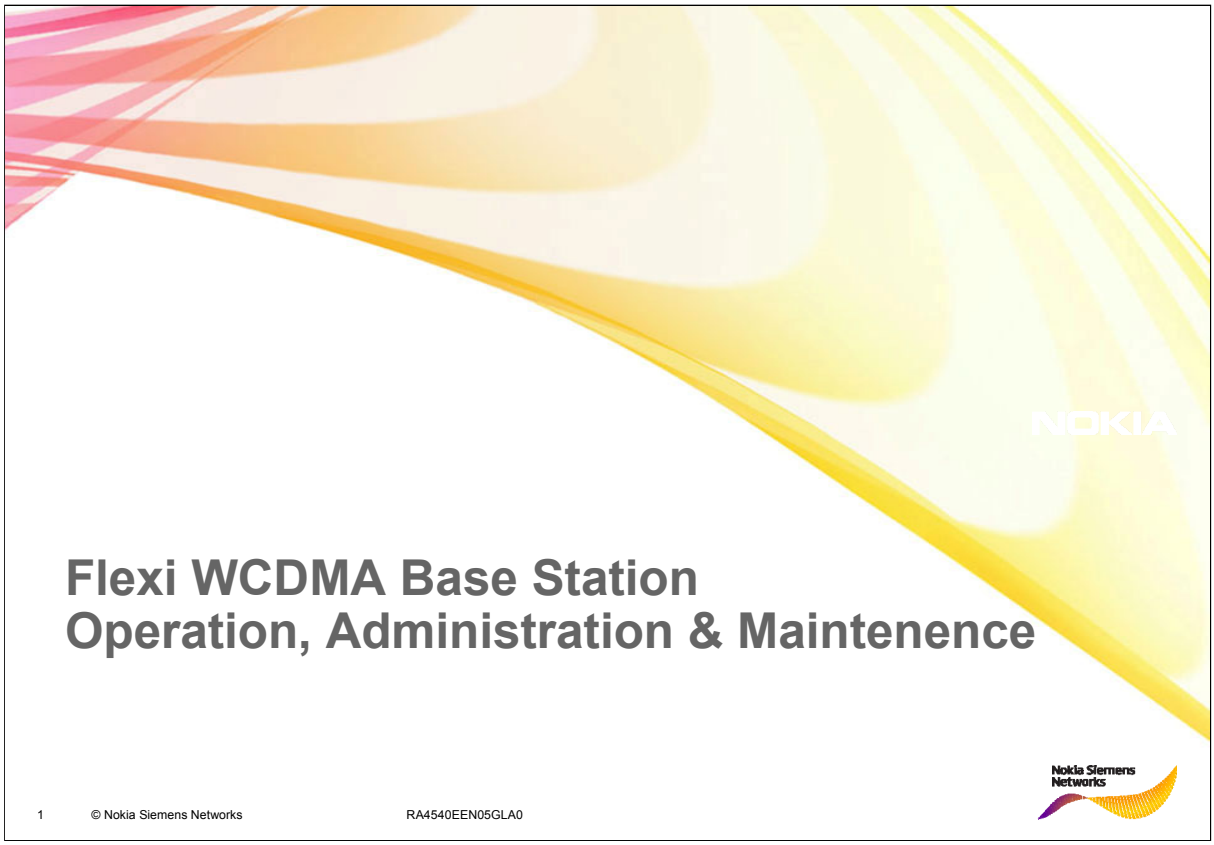
Flexi WCDMA Base Station
Operation, Administration & Maintenence
1
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Nokia Siemens Networks Academy

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Intellectual Property Rights

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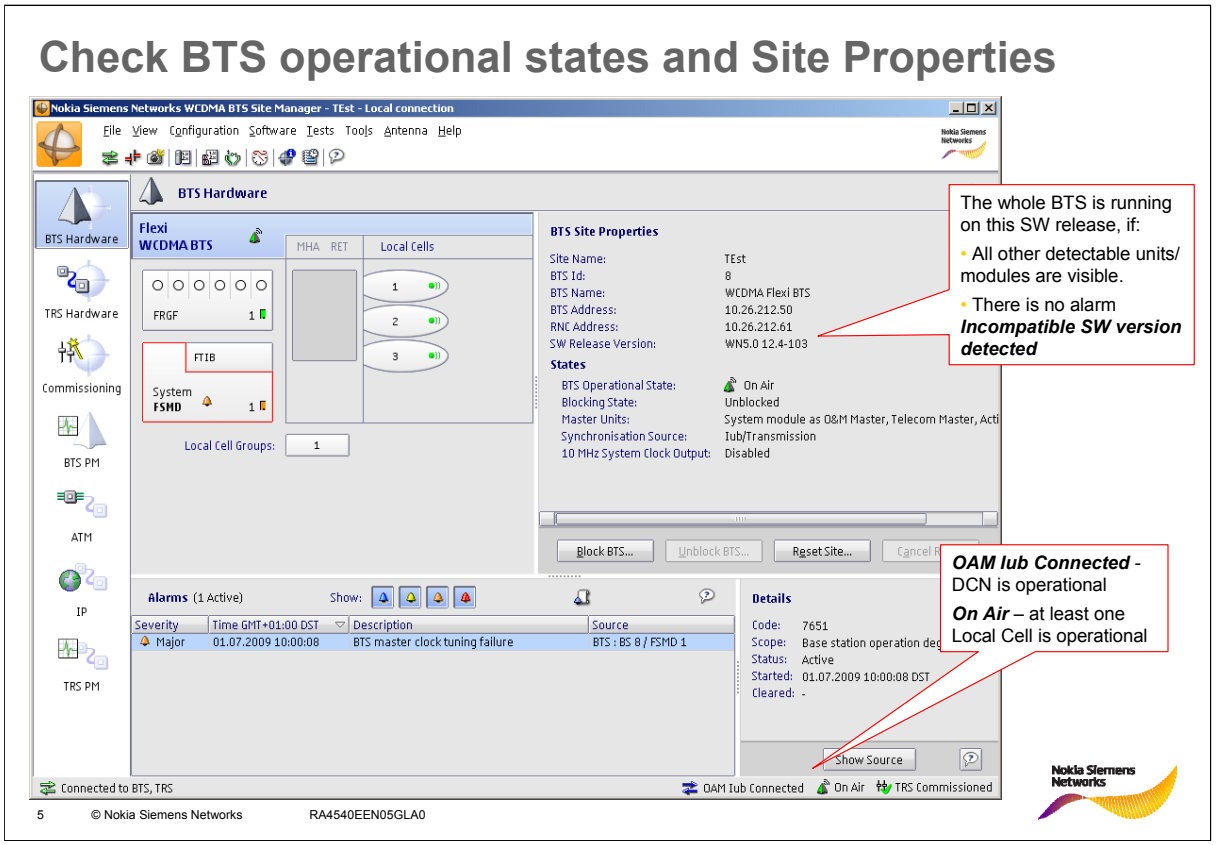
- Check BTS operational states
- Check Module and Local Cell properties
- Alarm Monitoring
- Check and modify TRS settings
- Performance monitoring
- Check and Save Flexi WCDMA BTS Information and Logs
- Flexi WCDMA BTS Testing
- Use of WCDMA BTS Site Manager Tools

Operational Functionality

The Flexi WBTS can be seen as operational, if:

- ***OAM IUB*** is ***connected***
- Operational state is ***On Air*** and
  - All Local Cells states are: ***Operational***
- ***TRS*** is ***Commissioned***
- All ***IUB links***
  - ***CNBAP***
  - ***DNBAP***
  - ***OAM***
  - ***SAAL2*** are ***connected***
- ***WCDMA BTS Loop Test*** has run successfully (if supported).
- Test calls are carried out successfully
- The BTS is free of unexpected alarms
- Remote Management (RNC / NetAct) through DCN is working.



Operational states of BTS

Not Commissioned: The BTS is started and not commissioned yet (a commissioning file does not exist).

Commissioned: A valid commissioning file is loaded to the BTS.

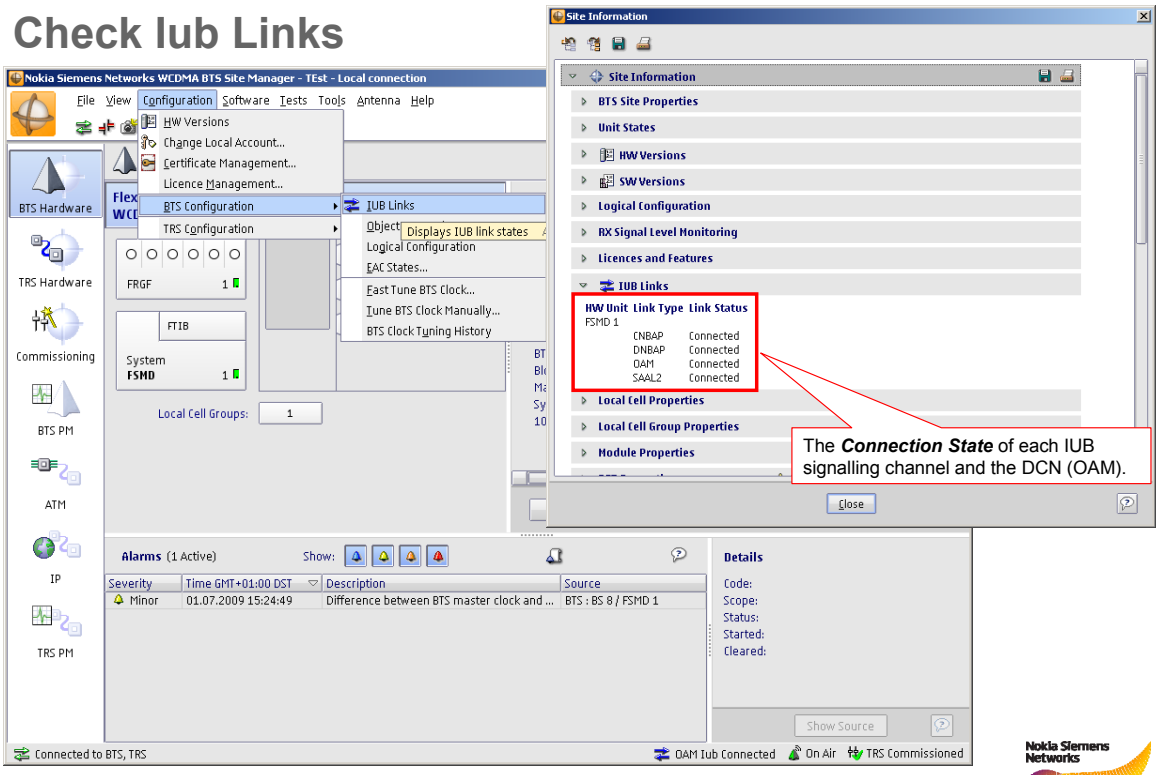
Configured: Commissioning parameters are configured to units/modules.

Integrated to RAN: The network connection to the RNC is established.

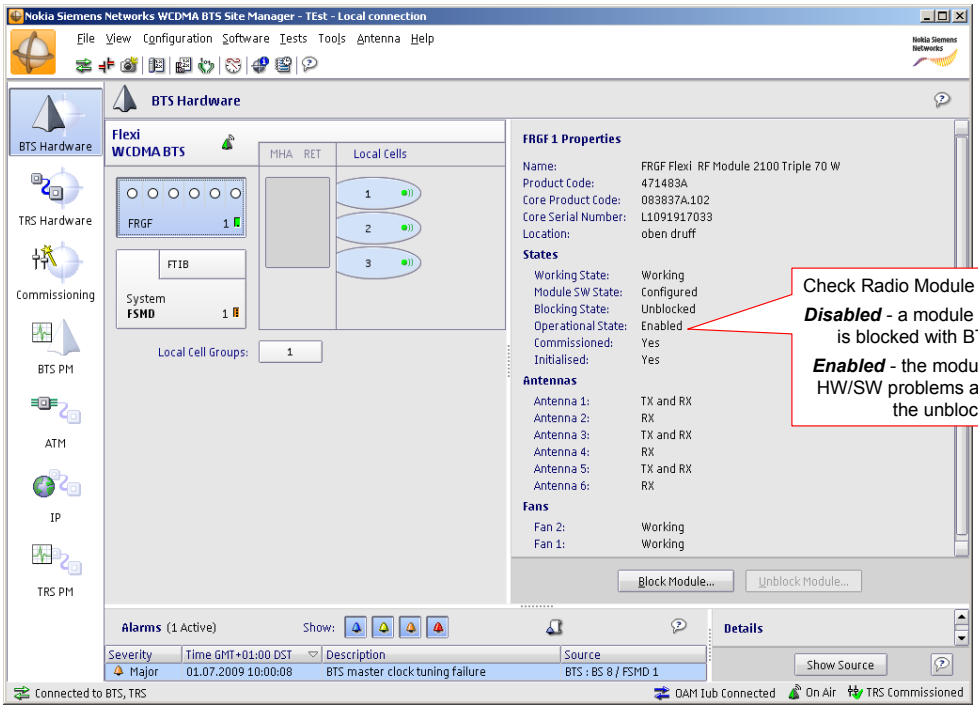
On Air: At least one local cell has been setup and activated, and the BTS is operational.

Test dedicated: The BTS is under testing. This state can be entered by choosing the *Tests → Enter BTS to Test State* menu item.

Check Iub Links



Radio Module Properties

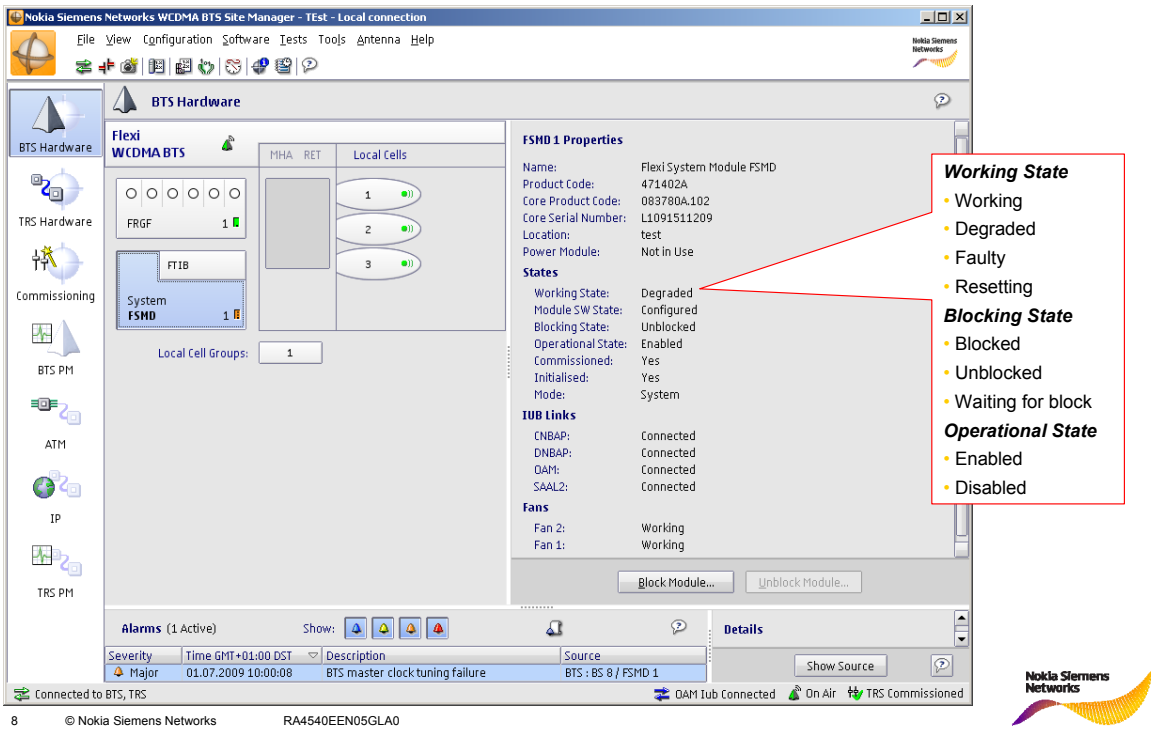


Check Radio Module Operational State:

Disabled - a module failure or the module is blocked with BTS Site Manager

Enabled - the module is operational: no HW/SW problems and the module is in the unblocked state.

System Module Properties



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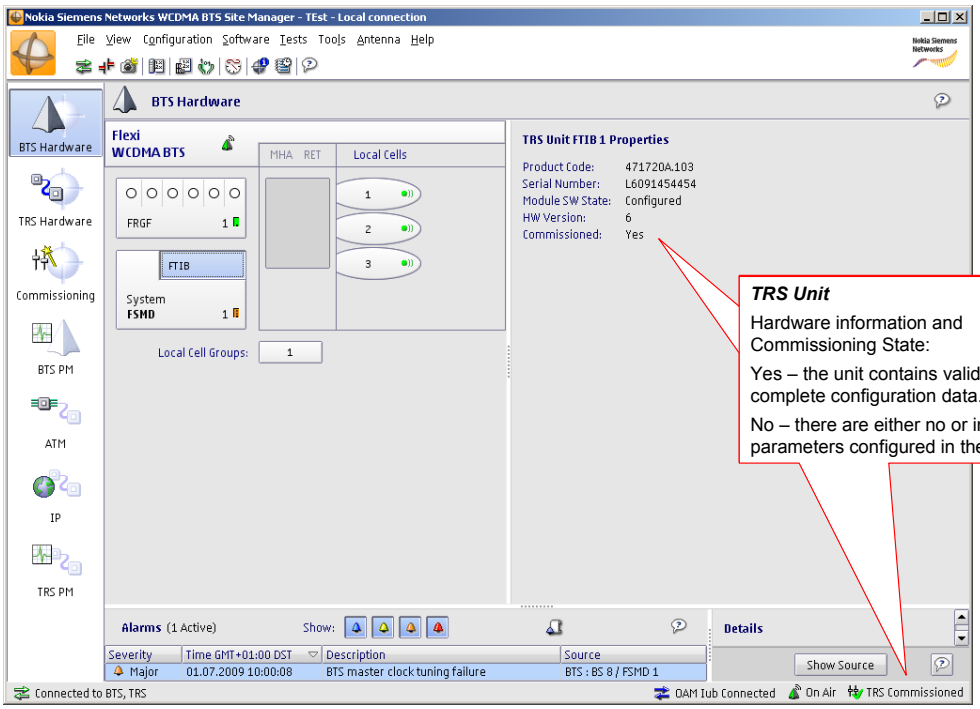
TRS Unit Properties



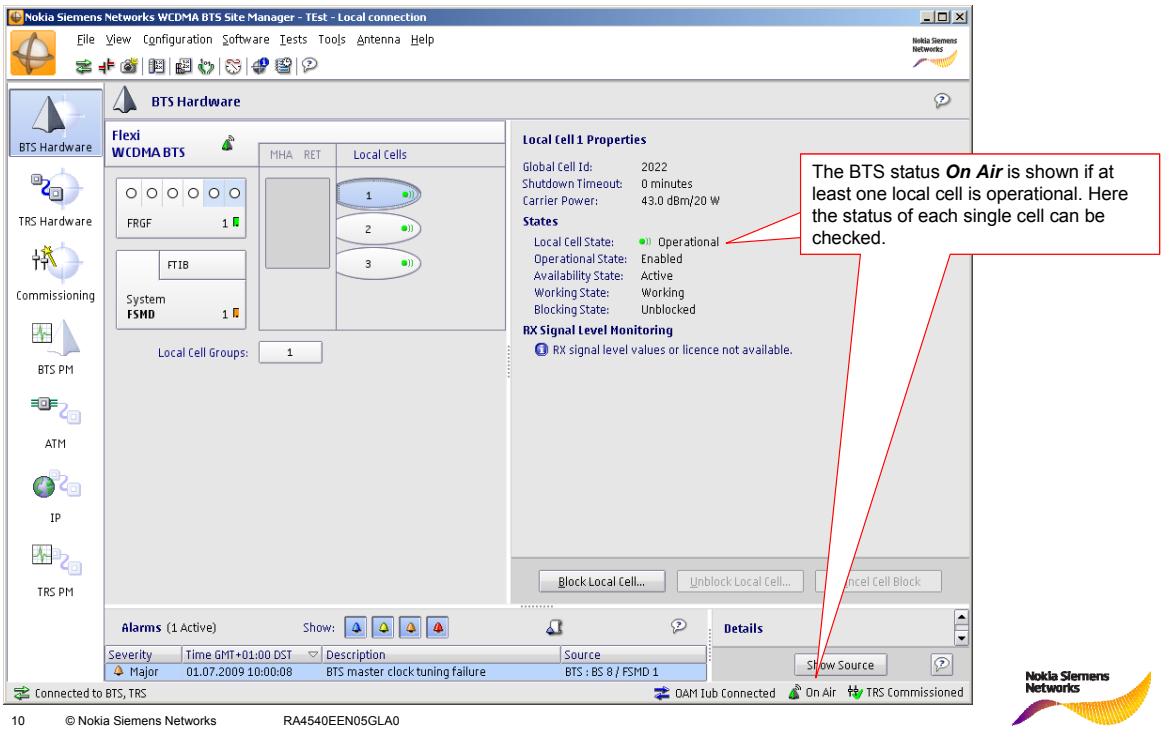
TRS Unit

Hardware information and Commissioning State:

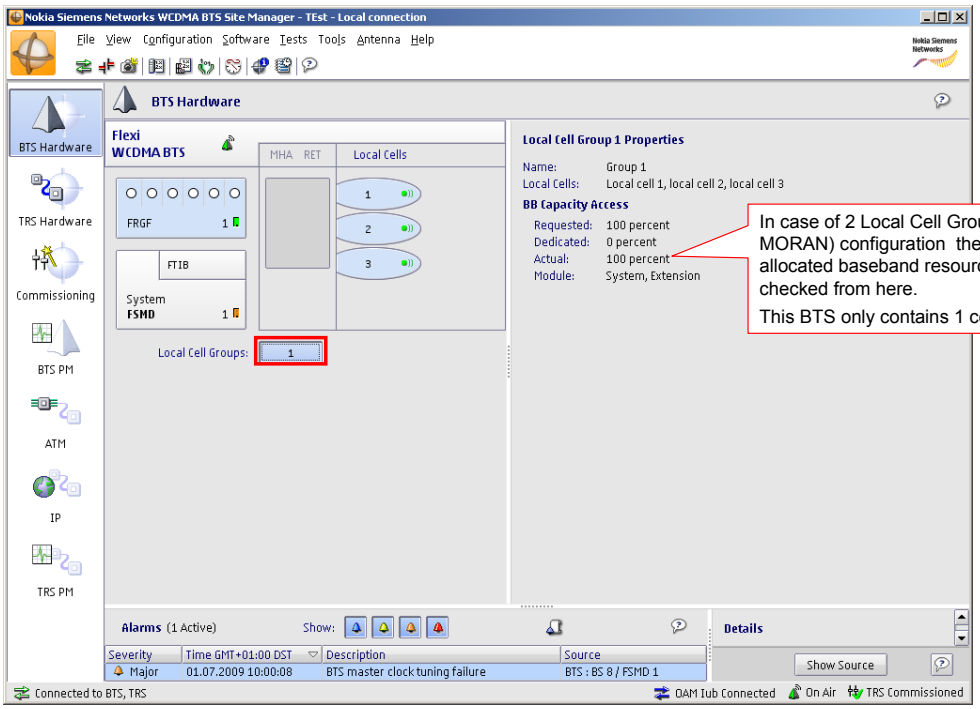
Yes – the unit contains valid and complete configuration data.

No – there are either no or incomplete parameters configured in the TRS unit.

Local Cell Properties



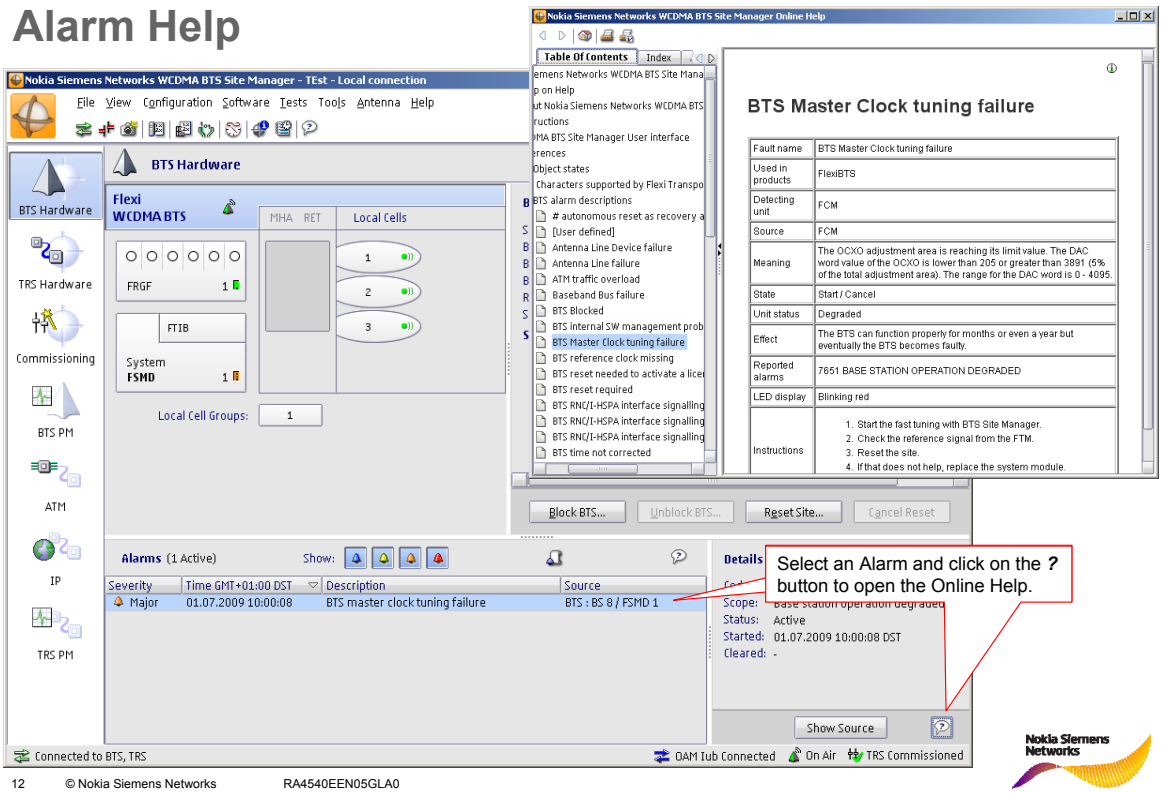
Local Cell Group Properties



In case of 2 Local Cell Groups (e.g. MORAN) configuration the group allocated baseband resources could be checked from here.

This BTS only contains 1 cell group.

Alarm Help


Nokia Siemens Networks WCDMA BTS Site Manager - TEst - Local connection
File View Configuration Software Tests Tools Antenna Help
BTS Hardware
TRS Hardware
Commissioning
BTS PM
ATM
IP
TRS PM
Flexi WCDMA BTS
MHA RET
Local Cells
FRGF 1
FTIB
System FSMD 1
Local Cell Groups: 1
Alarms (1 Active)
Show:
Severity
Time GMT+01:00 DST
Description
Source
Major
01.07.2009 10:00:08
BTS master clock tuning failure
BTS : BS 8 / FSMD 1
Details
Status: Active
Started: 01.07.2009 10:00:08 DST
Cleared: -
Show Source
Block BTS...
Unblock BTS...
Reset Site...
Cancel Reset
Connected to BTS, TRS
OAM Iub Connected
On Air
TRS Commissioned
Nokia Siemens Networks WCDMA BTS Site Manager Online Help
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BTS reference clock missing
BTS reset needed to activate a licer
BTS reset required
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BTS RNC/I-HSPA interface signalling
BTS RNC/I-HSPA interface signalling
BTS time not corrected
BTS Master Clock tuning failure
Fault name
BTS Master Clock tuning failure
Used in products
FlexiBTS
Detecting unit
FCM
Source
FCM
Meaning
The OCXO adjustment area is reaching its limit value. The DAC word value of the OCXO is lower than 205 or greater than 3891 (5% of the total adjustment area). The range for the DAC word is 0 - 4095.
State
Start / Cancel
Unit status
Degraded
Effect
The BTS can function properly for months or even a year but eventually the BTS becomes faulty.
Reported alarms
7651 BASE STATION OPERATION DEGRADED
LED display
Blinking red
Instructions
1. Start the fast tuning with BTS Site Manager.
2. Check the reference signal from the FTM.
3. Reset the site.
4. If that does not help, replace the system module.
Select an Alarm and click on the ? button to open the Online Help.
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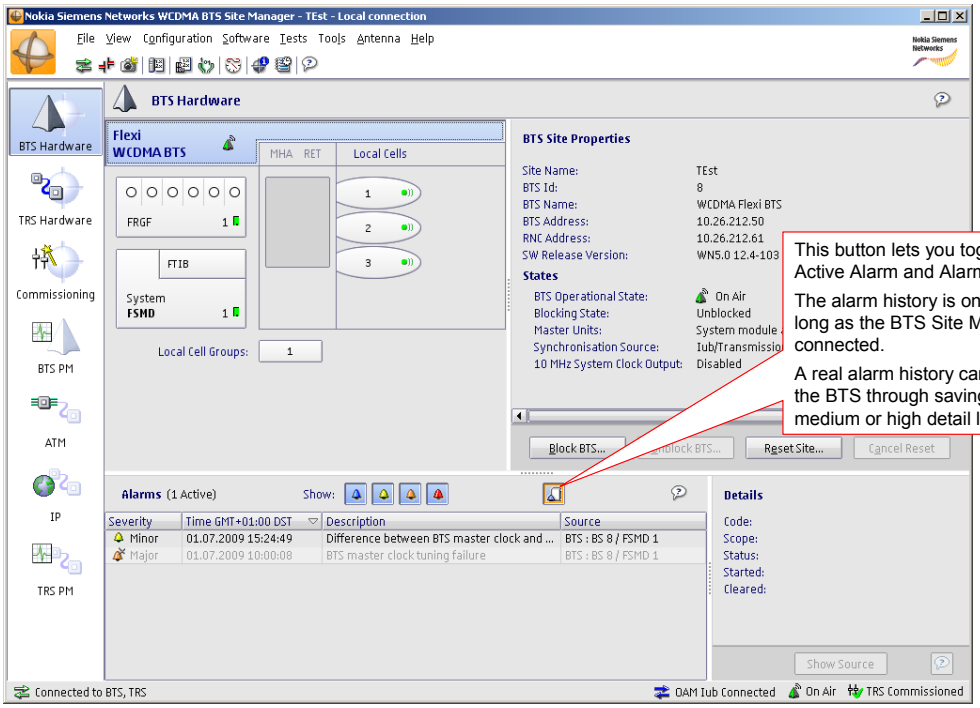
Alarm History

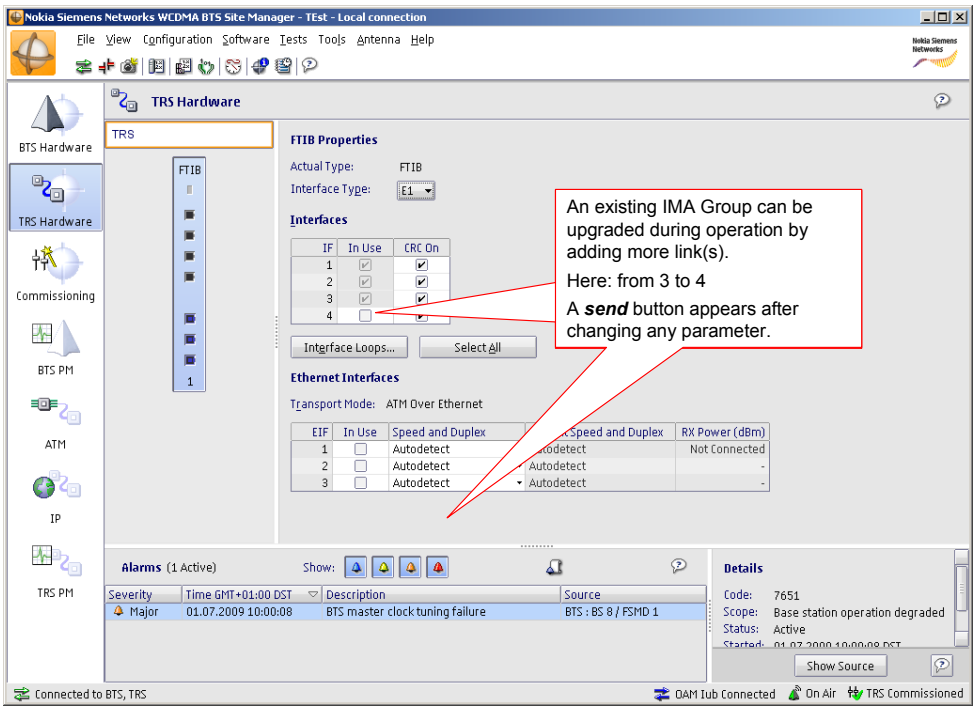


This button lets you toggle between Active Alarm and Alarm Hiistory view.

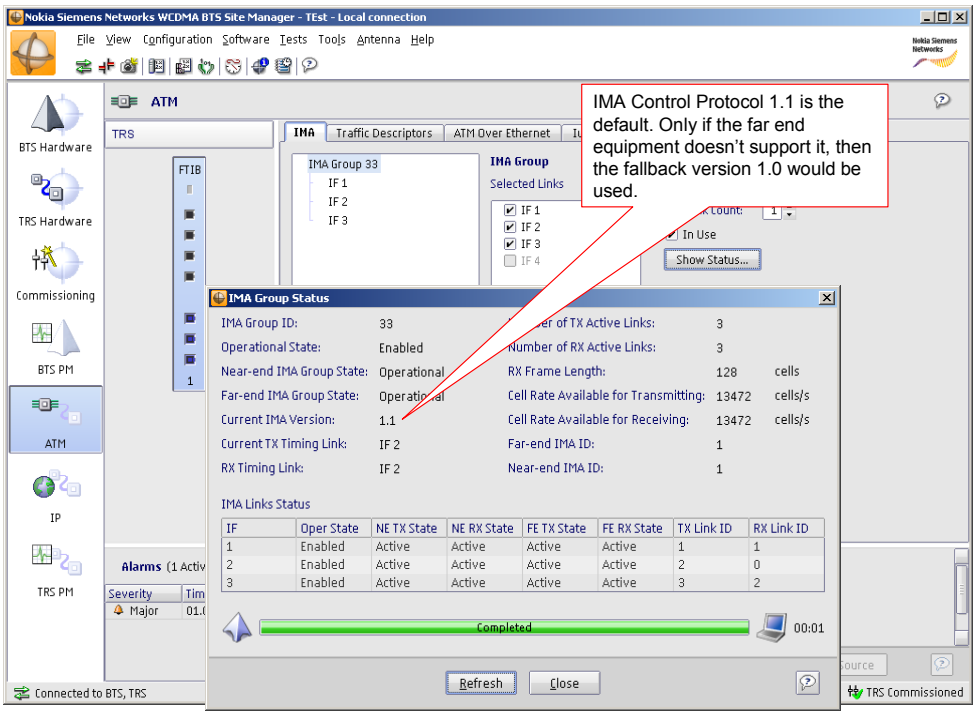
The alarm history is only available as long as the BTS Site Manager is connected.

A real alarm history can be fetched from the BTS through saving Snapshots of medium or high detail level.

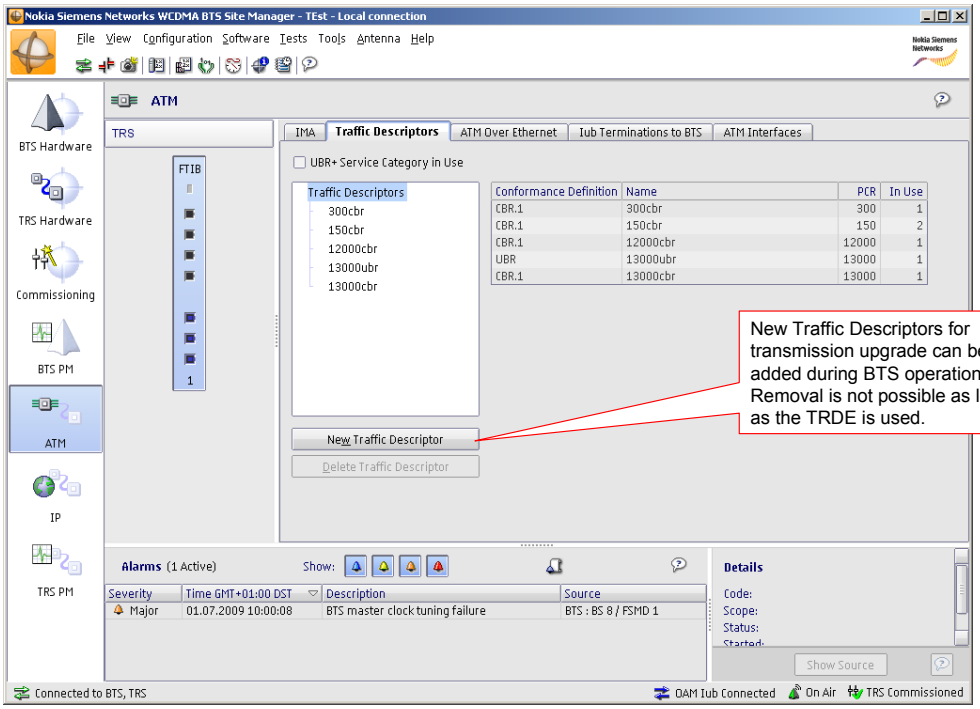
Inspect or modify TRS Hardware settings



Check IMA Group Status



Check or create Traffic Descriptors (TRDE)



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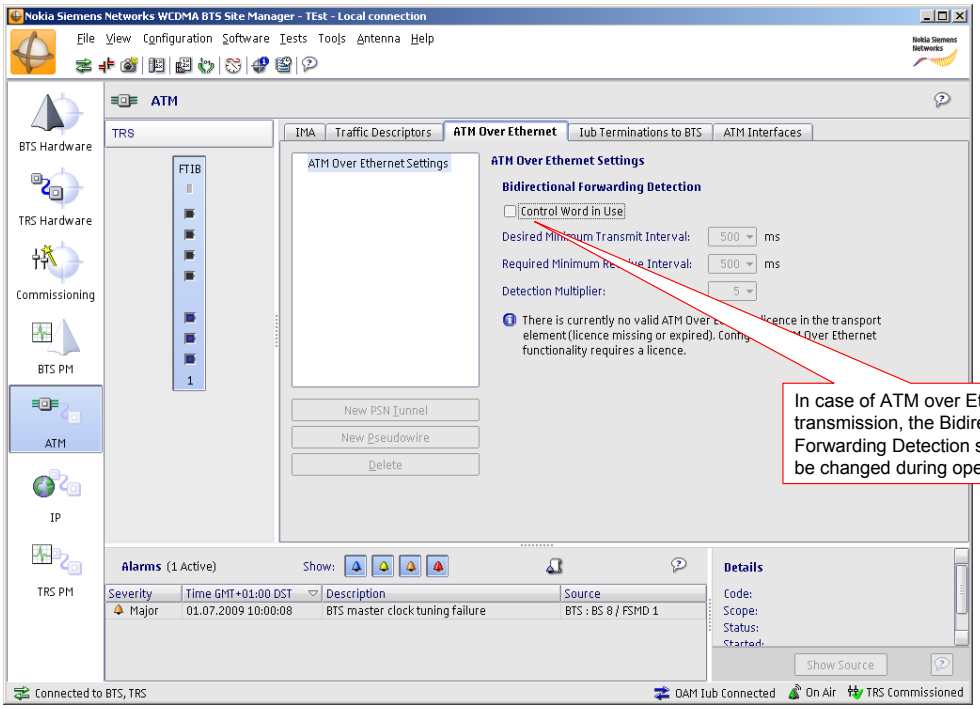
Check or Modifiy Bidirectional Forwarding Detection



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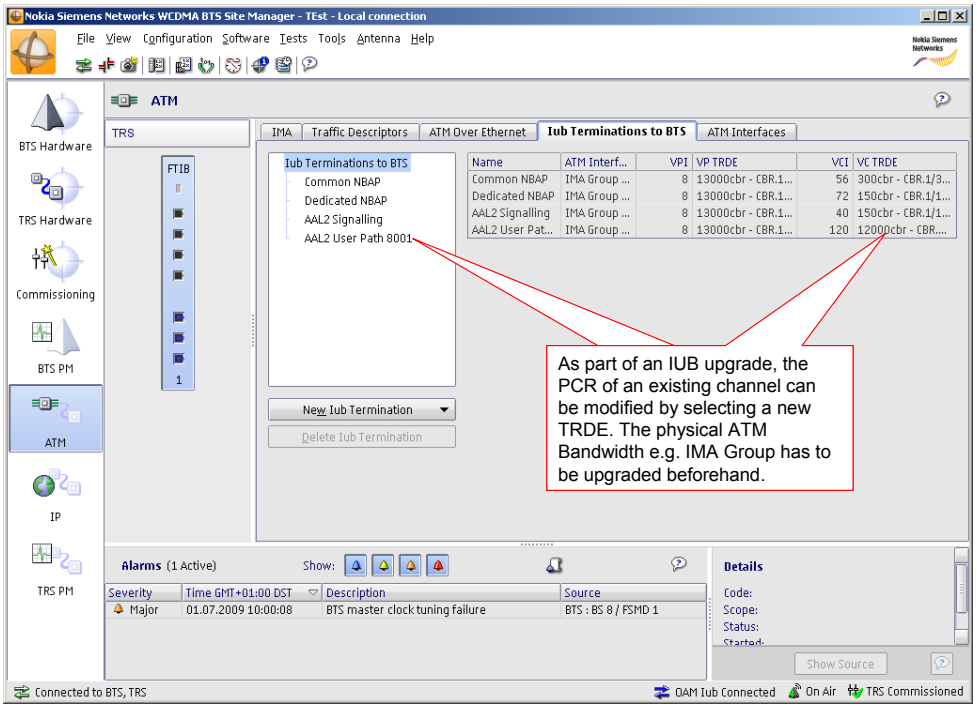
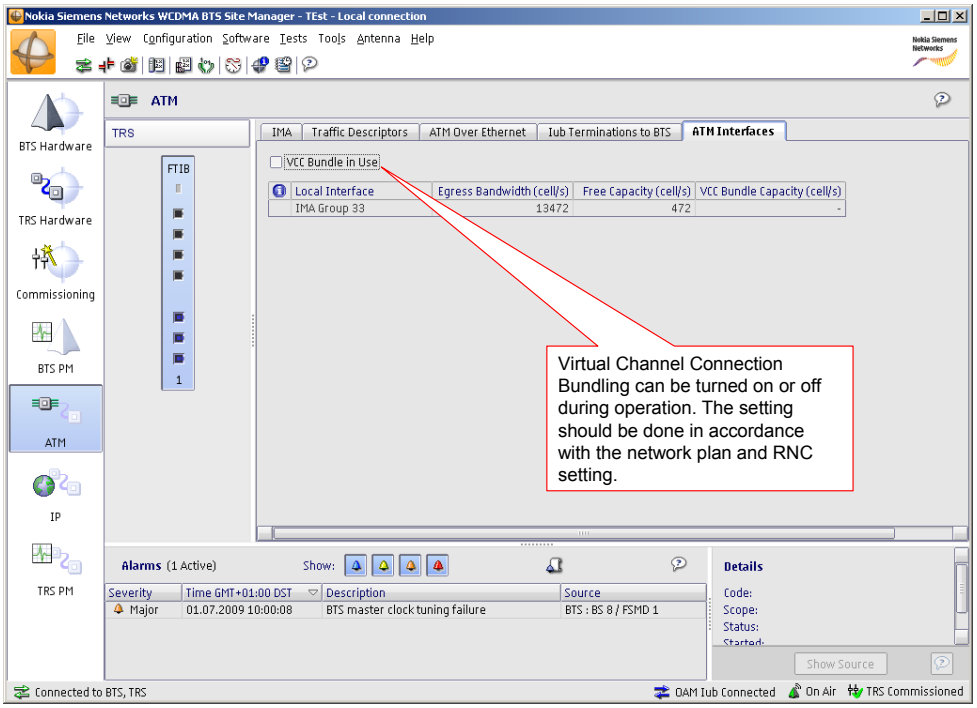
Bidirectional Forwarding Detection Select *Control Word In Use* to use the optional control word. This option is selected and disabled if an existing pseudowire has the Bidirectional Forwarding Detection in use. When the control word is used, it detects broken pseudowire connections and an alarm is raised. Bidirectional Forwarding Detection is a mechanism to monitor end-to-end operation of the each pseudowire. The check box can be selected if both termination points in the PSN tunnel support the control word usage. If you select the *Control Word In Use* check box, select the time intervals for the control word from the *Desired Minimum Transmit Interval* and *Required Minimum Receive Interval* lists (500 - 60000 µs, default 500 µs). Select also the *Detection Multiplier* (Value range is 2-10 in steps of 1). Default value is 5.

Check or modify IUB Terminations to BTS



Check or modify VCC Bundling setting



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VCC bundling

The VCC bundling means that a common peak cell rate (PCR) can be set to a group of VCCs. This means that the total traffic amount of the bundled VCCs does not exceed the PCR set. The aim of this functionality is to protect the last mile or any other bottleneck in the system. If dedicated VCCs are used to carry different traffic types, the total traffic amount does not exceed the bundle PCR, thus preventing congestion and traffic loss in the transmission network. The bundle also enables the available capacity of a VCC to be better shared with the traffic of other VCCs.

VCC bundle can be used in both downlink and uplink. The DL bundle is configured in RNC and UL bundle in BTS.

RNC

In a bundle, there can be VCCs towards only one BTS. There can be two VCC bundles defined for a BTS. Two bundles are useful if the HSDPA traffic uses different physical path than the DCH traffic like, for example, with WCDMA BTS Hybrid backhaul.

In the downlink VCC bundle, in addition to the defining MDCRs, the bandwidth share can be affected with the Excess Bandwidth Share (EBS) parameter. The parameter defines how the bandwidth is shared in congestion.

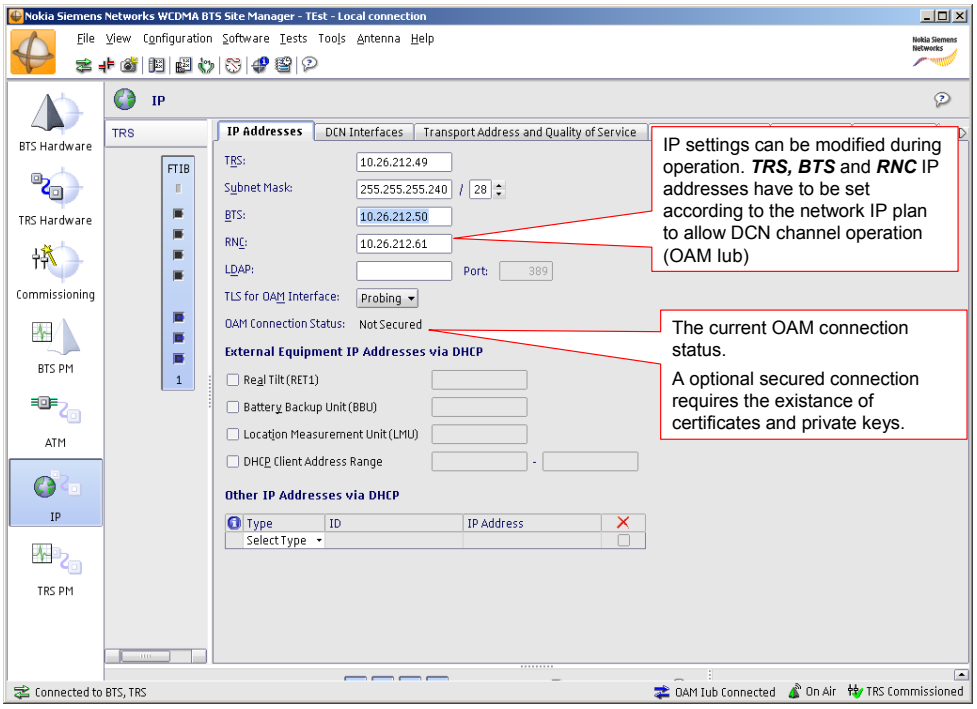
If the NRT and the HSDPA VCC are in the same VCC bundle, then they are guaranteed their MDCR rates. The share of any additional capacity on top of the MDCR is controlled by the EBS parameter.

BTS

In the uplink VCC bundle in the BTS, the EBS parameter does not exist. The bandwidth share can be affected by defining MDCRs and by using the UBRShare parameter.

In the BTS, the bundle PCR is calculated automatically. In the UL bundle, the RT DCH is scheduled first and the other traffic types get bandwidth based on the MDCRs and the UBR Share.

Check or modify IP settings

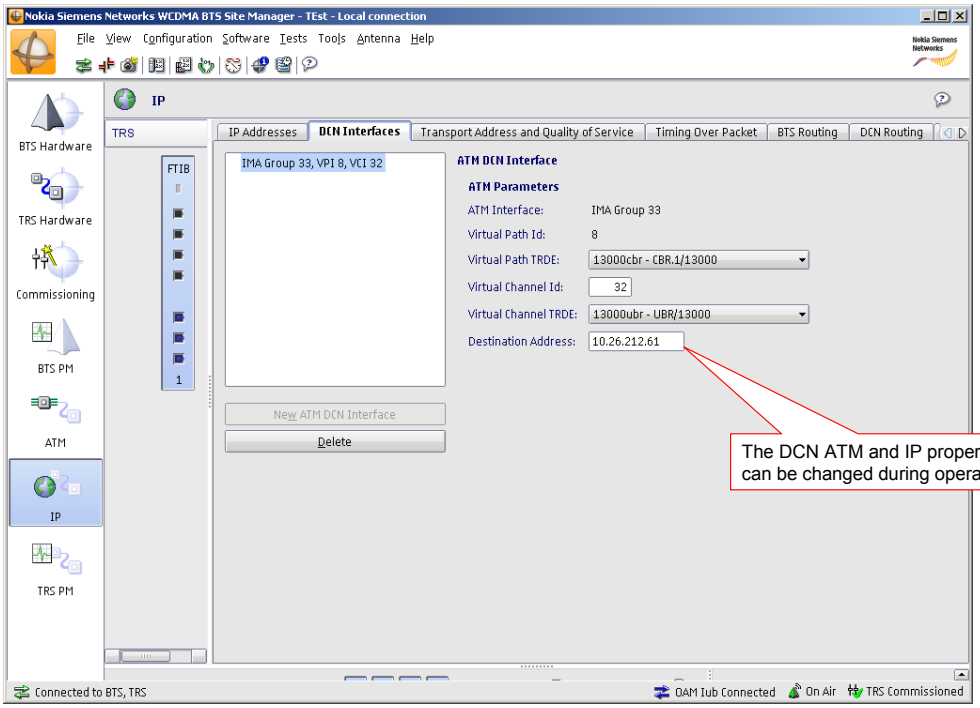


IP settings can be modified during operation. ***TRS, BTS*** and ***RNC*** IP addresses have to be set according to the network IP plan to allow DCN channel operation (OAM Iub)

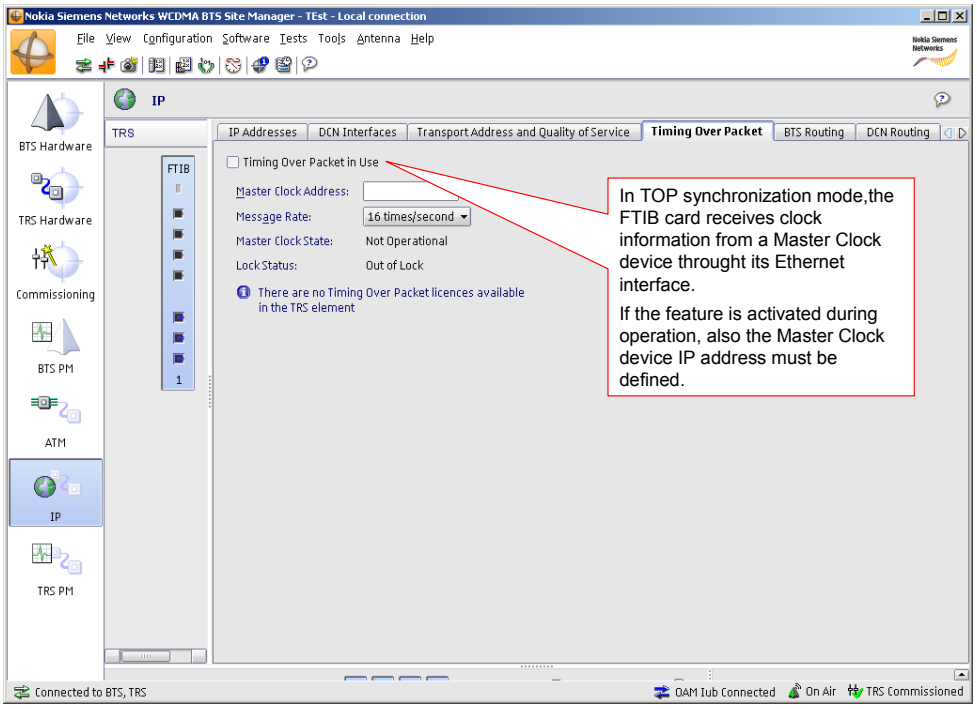
The current OAM connection status.

A optional secured connection requires the existance of certificates and private keys.

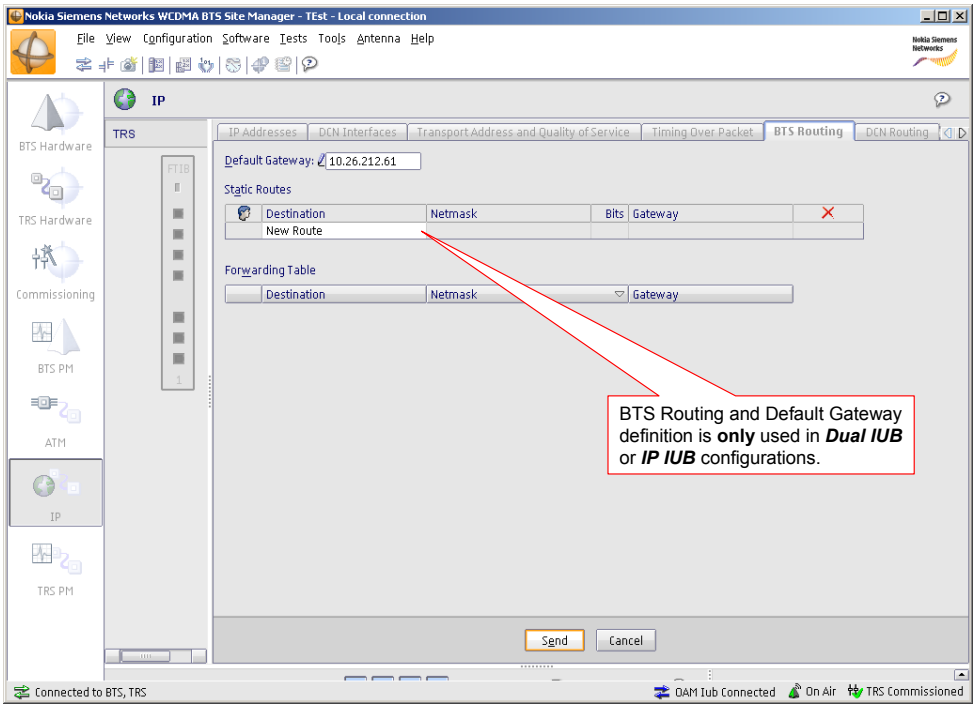
Check or modify the DCN Interface



Inspect or modify Timing Over Packet settings



Inspect or modify BTS Routing

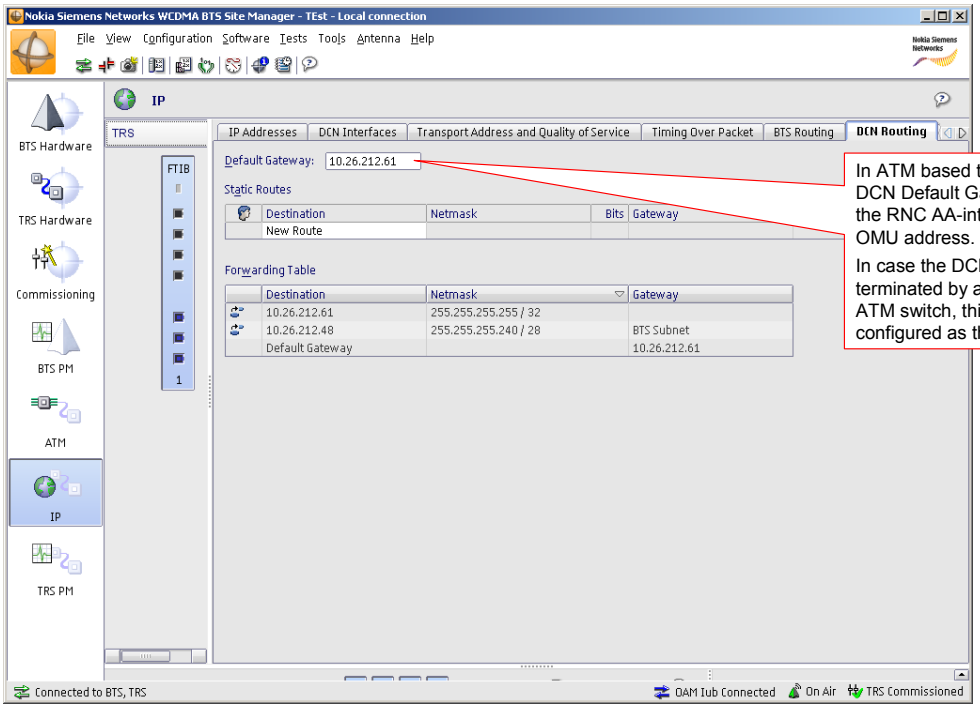


Flexi WCDMA BTS has an integrated IP router which has to be configured. Nokia Siemens Networks WCDMA BTS Site Manager allows configuration of static routes so that the BTS can route the packets to different destination addresses over Transport Ethernet interface.

In Dual-Iub mode, BTS routing table is used to configure Default Gw/Static Routes required for the Transport Etherent interface only, specifically for remote RNC Userplane address, BFD and ToP functionalities.

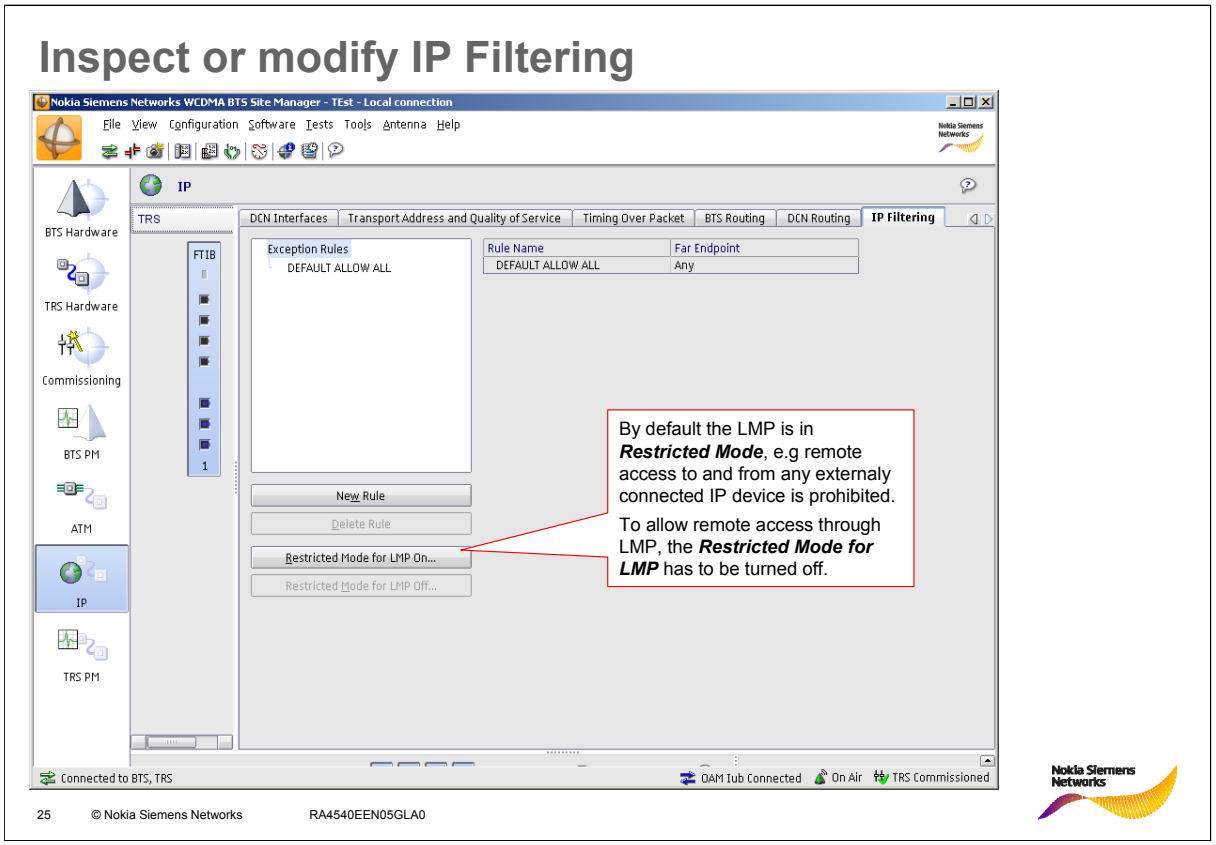
In IP-Iub mode, BTS routing table is used to configure Default Gw/Static Routes required for Transport Etherent interface and LMP of TRS, specifically for RNC Userplane address , BFD, ToP, NBAP(SCTP) traffic, Management traffic (TCP/IP), LDAP, CMP server and CR server functionalities. It is also used to configure routing table for LMP network.

Inspect or modify DCN Routing



Flexi WCDMA BTS has an integrated IP router which has to be configured for the O&M connection RNC.

Nokia Siemens Networks WCDMA BTS Site Manager allows configuration of static routes so that the BTS can route the packets to different destination addresses over the data communication network (DCN). DCN Routing table is configurable in ATMoE and Dual Iub Transport modes of the BTS.



IP address based filtering

Flexi WCDMA BTS provides the filter service for IP packets from and to the attached site support equipment like e.g. webcams, battery backup units or external GPS receivers. These devices are typically rather simple without any own IP packet filter or firewall. Thus, the site support equipment would be directly accessible if it was not protected by a packet filter in front. Hence, Flexi WCDMA BTS provides the IP packet filter service to protect the equipment from harmful network traffic and the network from unintended traffic from the site support equipment.

In WN5.0 the packet filtering is done based on the far-end IP addresses. Any IP packets from/to any site support equipment which is not targeted to/originated by any of the given far-end IP addresses will be dropped.The filtering is done based on IP addresses only, neither ports nor protocols are taken into account. Furthermore, there is not distinction between the support equipment. Any far-end with granted access is allowed to access any attached site support equipment on any port and with any IP protocol. No site support equipment can be accessed by default.

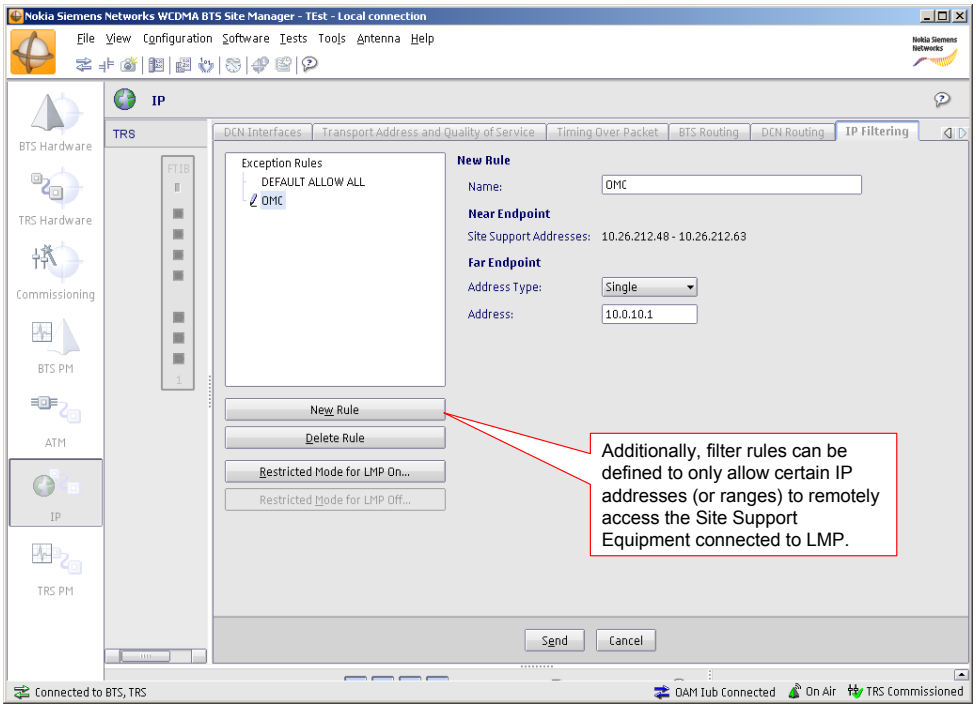
Rule sets configurations

Flexi WCDMA BTS supports only one rule set configuration in the IP Filtering settings .This rule is for LMP subnet. The traffic shall be allowed from/to the site support addresses from the remote IP addresses configured in the filtering rule set on the system.These remote IP addresses can be configured as "Single IPs", "Range IPs" (must be a subnet) or "All" which allows traffic from any remote network. If the site support equipment IP address is beyond the LMP subnet range, it can accessed by adding appropriate filter rules and route entries.

DCN restricted mode

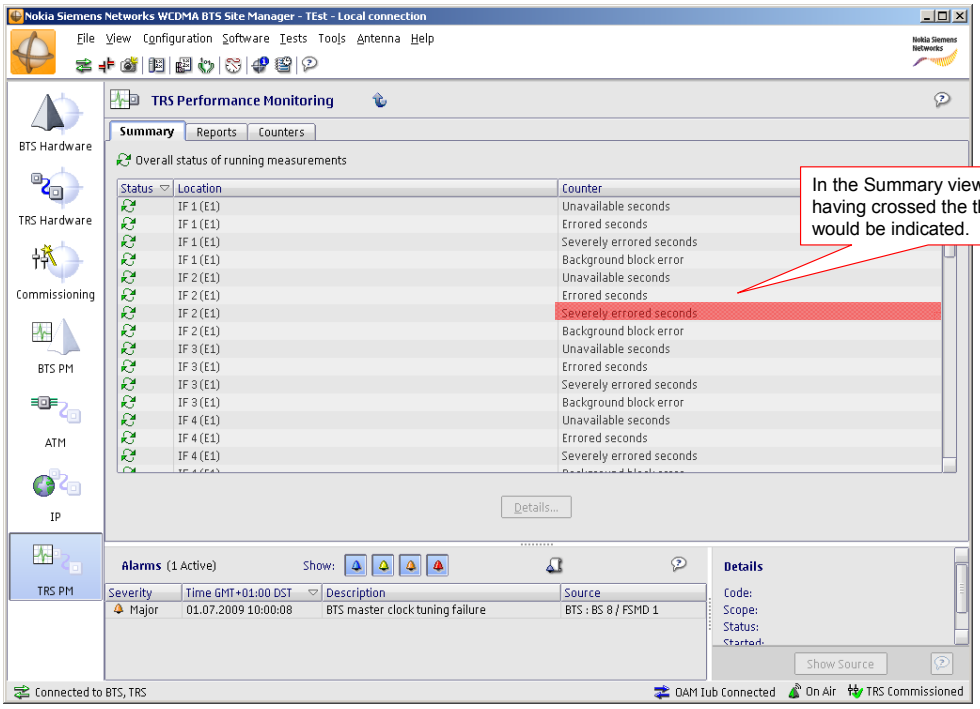
Traffic between site support addresses (LMP) and DCN networks is blocked by default, whereas all types of traffic between Flexi WCDMA BTS/TRS management IP subnet and DCN networks are allowed. Enabling and disabling the restricted mode for LMP is supported for backward compatibility. Access from site support addresses to DCN network is blocked when 'DCN Restricted Mode' is enabled.

Configure IP Filtering Rules

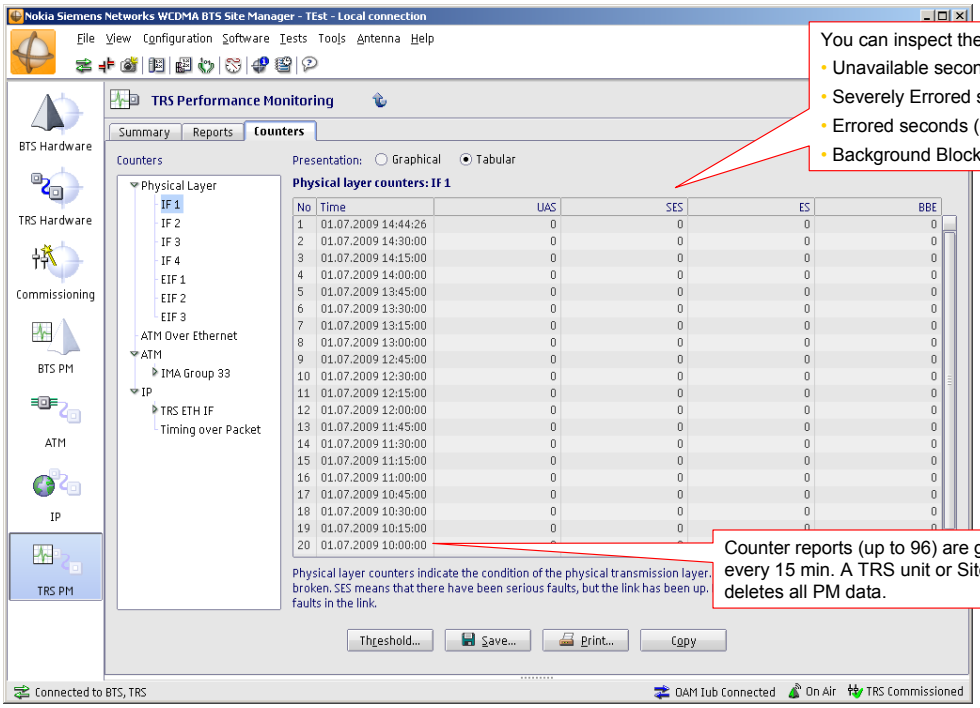


Additionally, filter rules can be defined to only allow certain IP addresses (or ranges) to remotely access the Site Support Equipment connected to LMP.

TRS Performance Monitoring: Summary



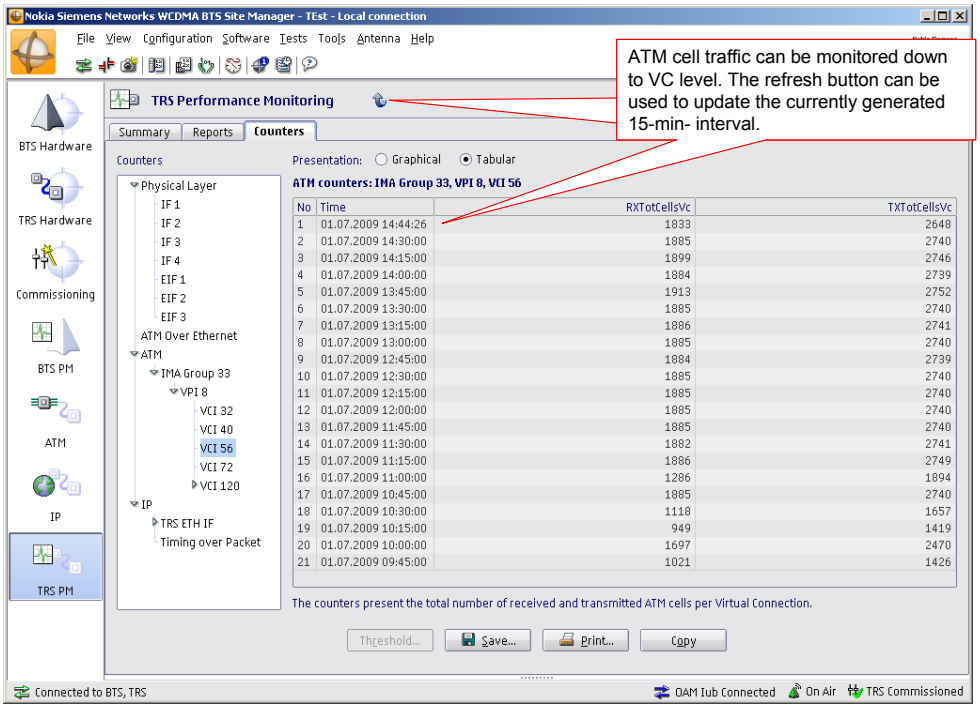
TRS Performance Monitoring: Physical Layer Counters



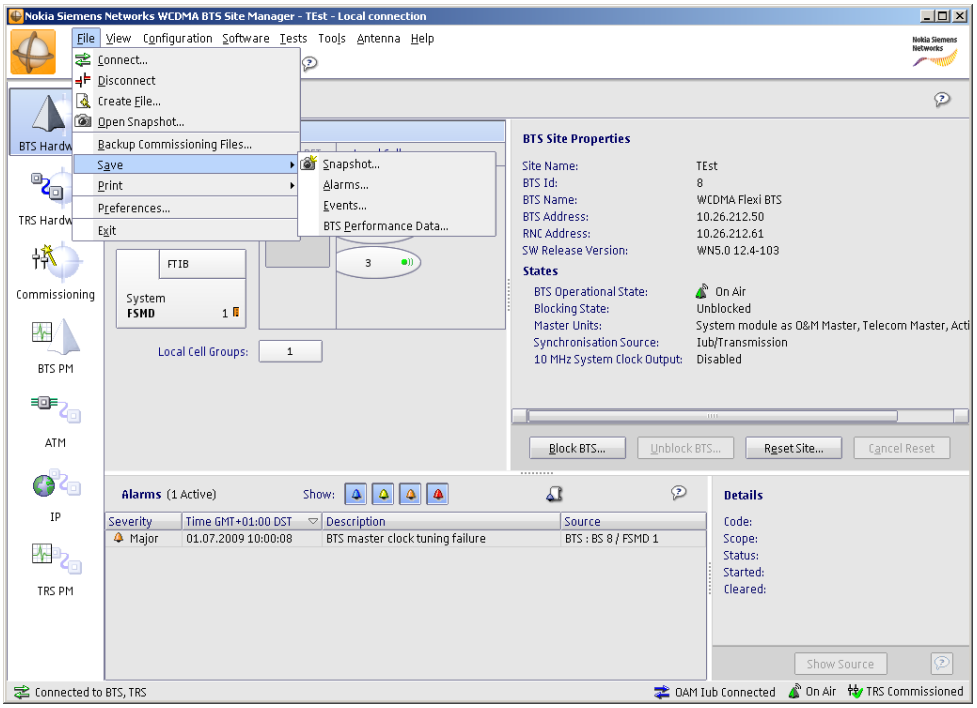
You can inspect the following counters:
- Unavailable seconds (UAS)
- Severely Errored seconds (SES)
- Errored seconds (ES)
- Background Block Errors (BBE)

Counter reports (up to 96) are generated every 15 min. A TRS unit or Site reset deletes all PM data.

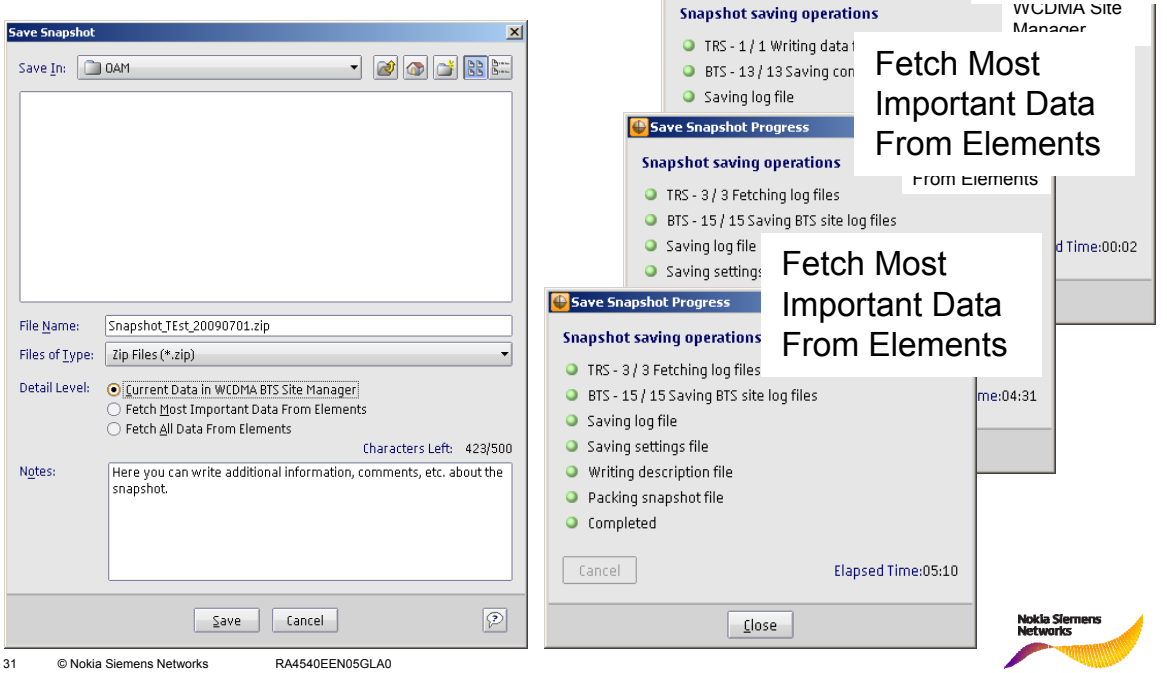
TRS Performance Monitoring: ATM Counters



Saving information from the BTS…



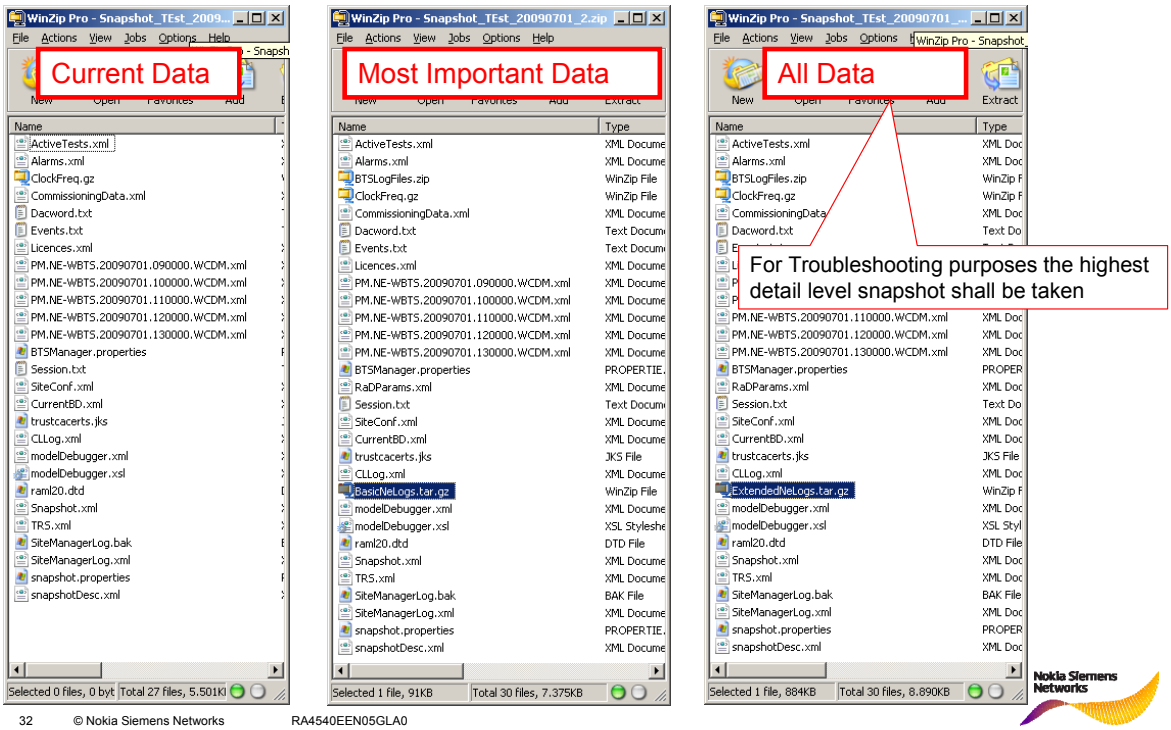
Saving Snapshot



The snapshot file can be saved in the connected mode and it contains the current status of elements and WCDMA BTS Site Manager: used HW configuration, logs, alarms, HW and SW version information, for example.

Remember to attach the logs when raising a Resolve case to Tier3.

Snapshot Detail Levels



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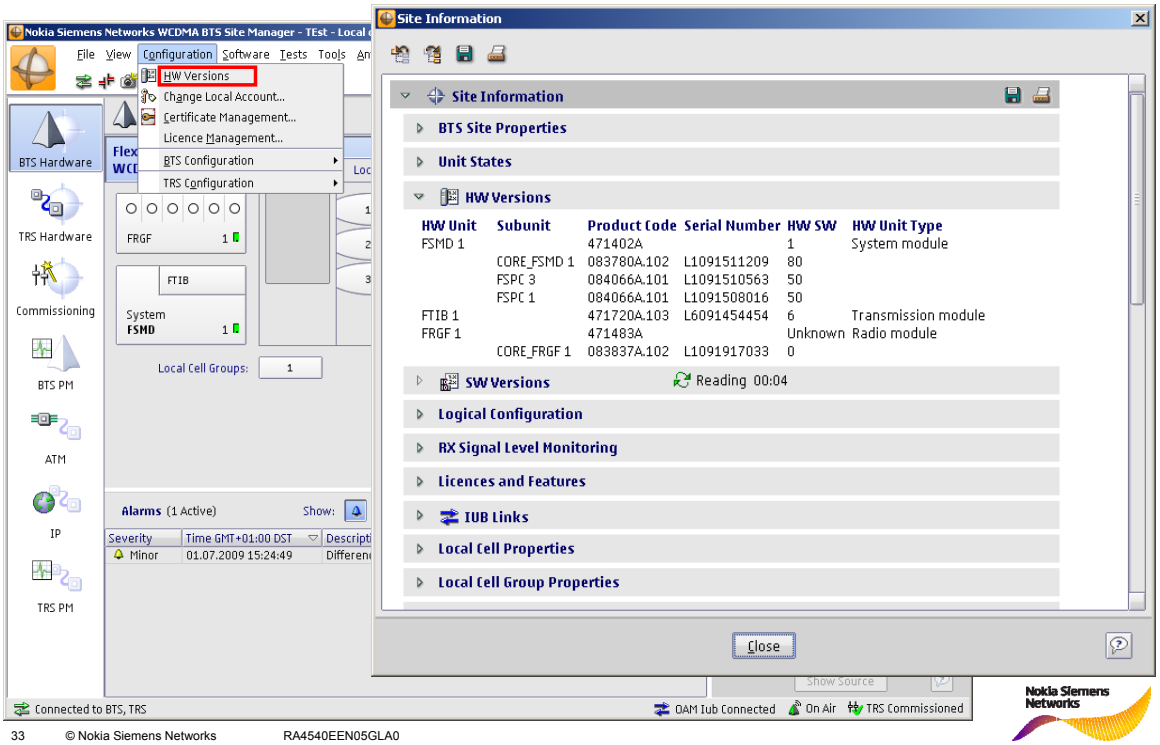
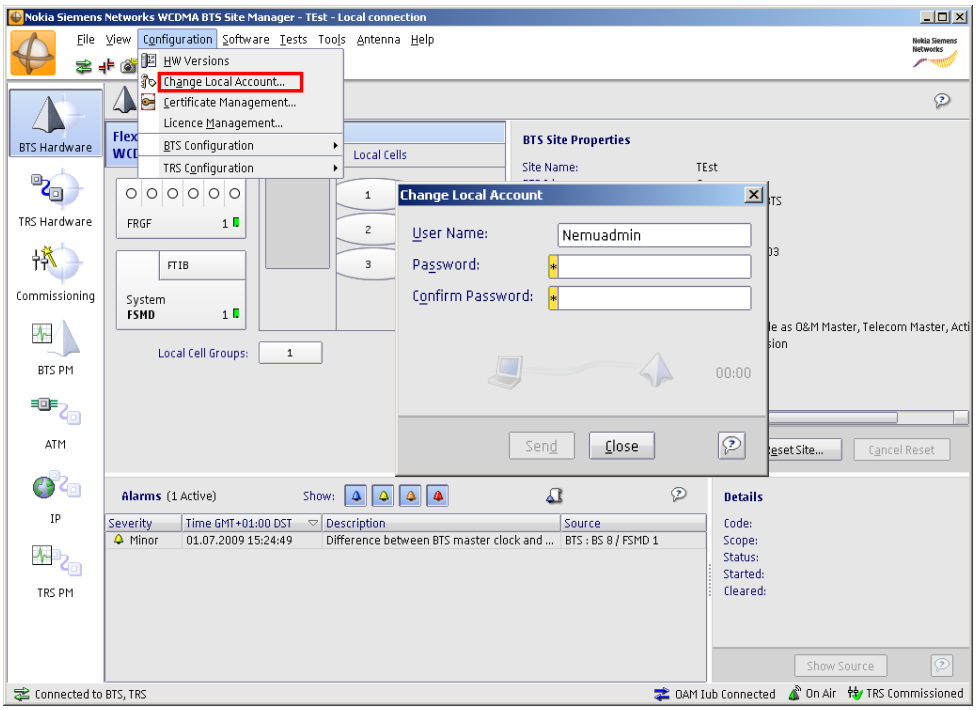
Check or save Hardware Information



Hardware information of all detected units and manually added passive units is available as part of the Site Information file.

Change Local Account



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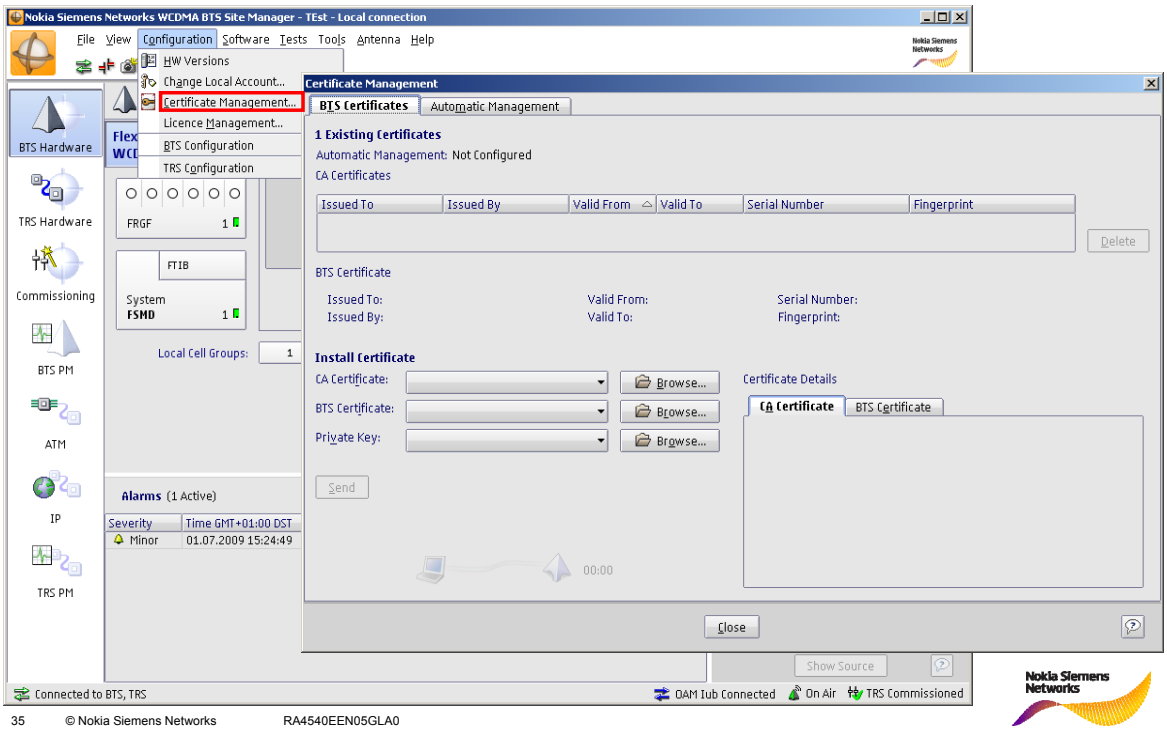
Local user account

Local account information is stored directly in Flexi WCDMA BTS. No DCN connection is required for logging in with the local account. Therefore, it can be used for example for troubleshooting or during local management operations. The use of the local account is not limited to connections via the local management port (LMP), however. It is also possible to use the local account when logging in remotely.

Only one local user can exist on a Flexi WCDMA BTS. It always has superuser privileges, which means that any management operation is allowed for the local user account.

If the local user account password is lost, it can be reset to default by resetting the transmission sub-module of the Flexi WCDMA BTS to factory defaults. This can only be done via local management port, therefore a site visit is required in this case. For resetting the transmission sub-module to factory defaults, the default username and password (Nemuadmin/nemuuser) can be used.

Check or install Certificates



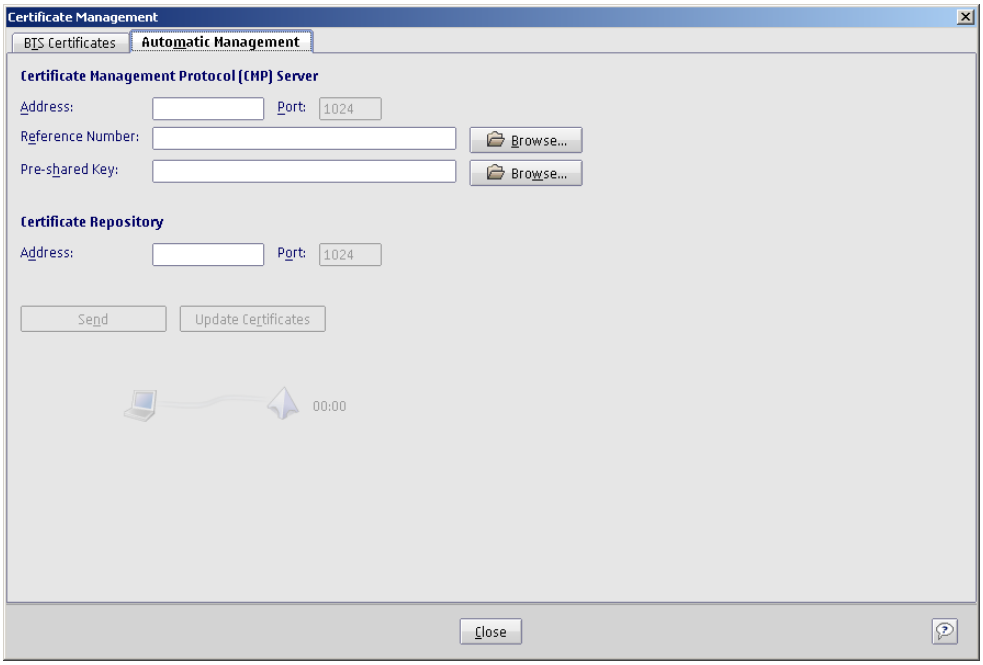
Configuring BTS keys and certificates manually

The CA and BTS certificates as well as BTS private keys must be created from Certificate Authority. All of these have to be stored in the local machine where the Site Manager is installed. These certificates can be configured into the BTS in three ways : (1) CA certificate configuration first , (2)then, BTS certificate and private key configuration, or (3) CA and BTS certicates and BTS private key altogether.

Steps

- In BTS Site Manager, select *Configuration* and then *Certificate management*.
- Browse to the location where the BTS certificates and keys are stored.
- Select the *Send* button to install and store the certificates into the BTS.

Inspect or configure Automatic Certificate Management



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A Certificate Management Protocol (CMP) is used to fetch the CA signed BTS certificate and CA certificates automatically and to perform it in a secure manner. To do so BTS must be configured with:

Reference Number (RefNum) and Pre Share Key (PSK).

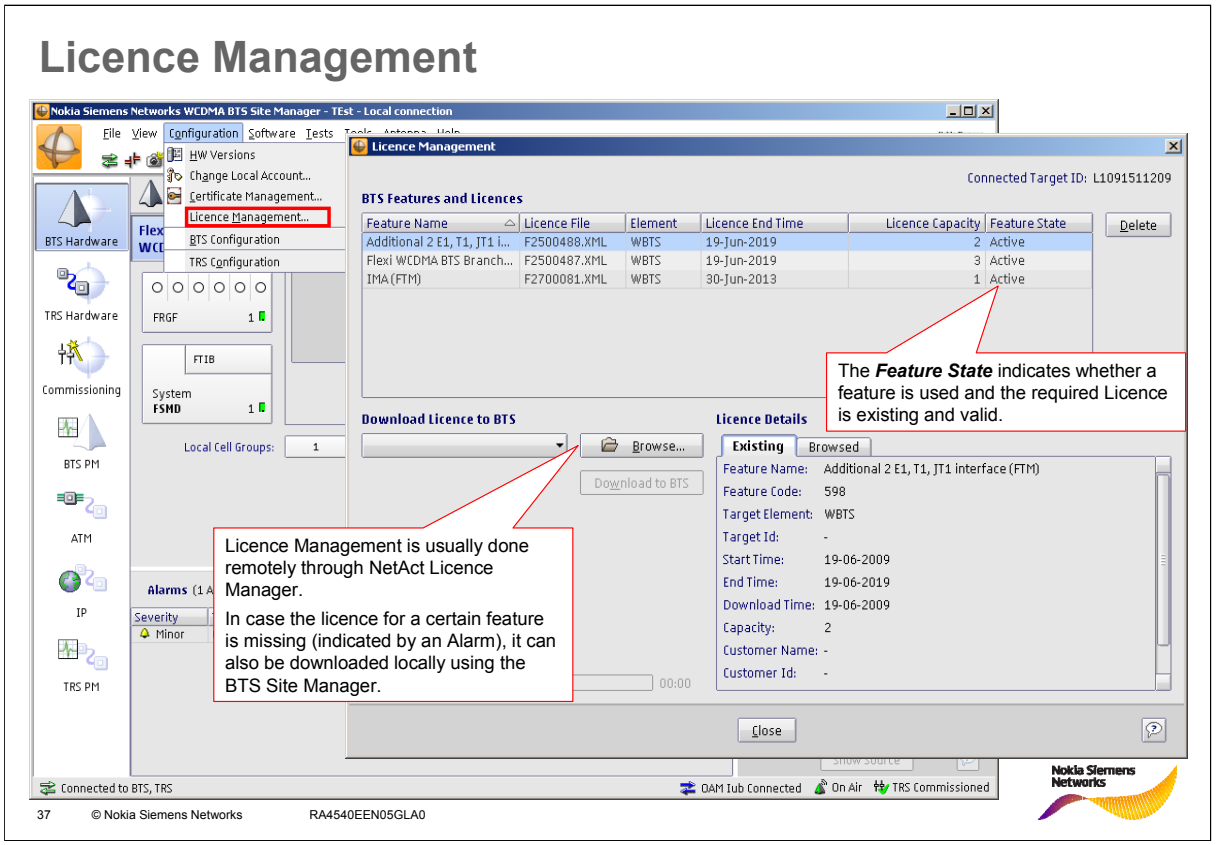
CMP server IP address and TCP port number.

Certificate repository (CR) IP address and TCP port number.

RefNum and PSK are used for the initial encryption of CMP messages between the CMP client and CMP server. At the initial configuration these values shall be made out-of-band and using the Site Element Manager the values are downloaded over a local connection. The CMP server IP address and TCP port number is configured using the Element Manager or by deploying a BTS Site Configuration File or via the NMS. This configuration is used by the BTS embedded CMP client to exchange messages with the CMP server. The CR IP address and TCP port number is configured using the Element Manager, by deploying a BTS Site Configuration File or via the NMS. This configuration is used by the BTS embedded CMP client to retrieve the CA certificate from the certificate repository (CR). The CA certificate retrieval uses the LDAPv3 protocol.

PSK and RefNum must be generated in the same CMP server which will be used to get BTS and CA certificates. These values also need to be made available for the CMP server in order to allow the establishment of a secure CMP message exchange.

Configuring CMP and CR server IP addresses and PSK and RefNum triggers to take CMP into use for this particular BTS. This causes the creation of a new private and public keypair, followed by a CMP Initialize sequence to obtain a valid and CA signed BTS certificate as well as the CA certificate to be used by the BTS.



BTS Features and Licences

The ***BTS Features and Licences*** table shows all the optional features that require licences.

Feature Name The *Feature Name* column shows the name of the licenced feature. If a licence file contains licences for many features, those are shown in own rows.

Licence File The *Licence File* column shows the name of the licence file or the text 'No Licence' if there is no licences for the feature.

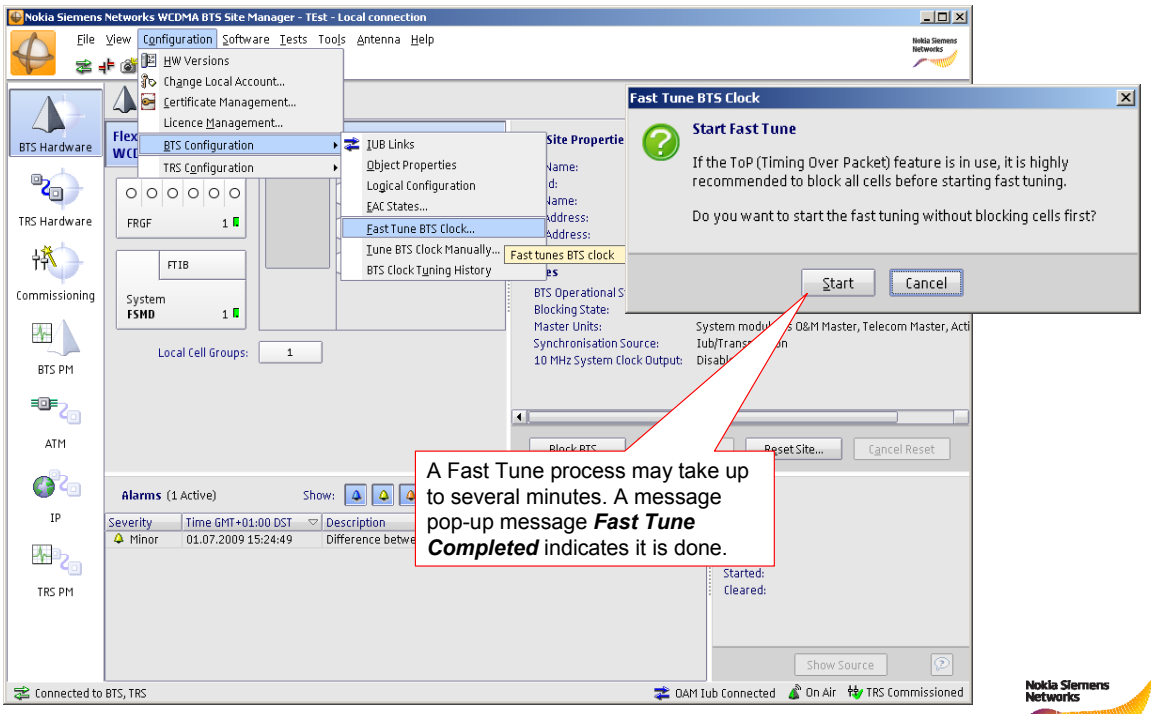
Element The *Element* column shows the network element the licence is for.

Licence End Time The *Licence End Time* column shows the end time of the licence validity period.

Licence Capacity The *Licence Capacity* column shows the extra capacity that licence provides for the specified feature (only for capacity licences).

Feature State The *Feature State* column shows the status of the licence: Active, Inactive, Expired or - (if there is no licence for the feature).

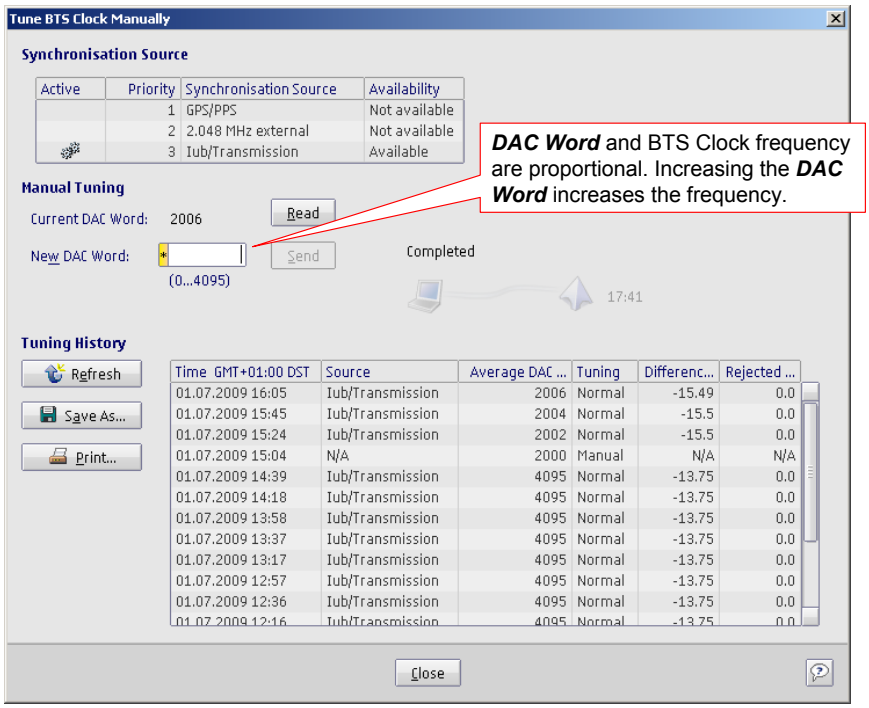
Clock supervision and adjustment: Fast Tune



If the reference clock signal (IUB, GPS or external 2048 KHz) has been disadjusted due to a transmission network fault, the local BTS Clock might be disadjusted accordingly. After recovery of the reference clock, the BTS clock may differ quite much from the reference (see alarm ***Difference between BTS master clock and reference frequency***).

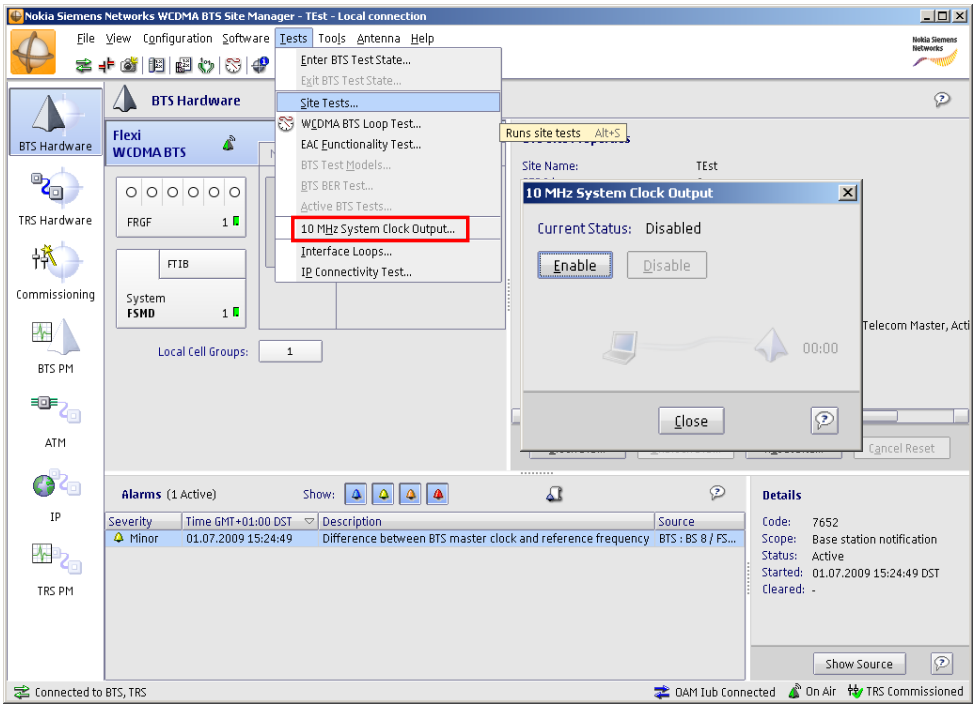
In order to quickly re-synchronize back to the corrected reference clock, the ***Fast Tune*** process can be used.

Clock supervision and adjustment: Manual Tuning



In order to test the BTS Clock accuracy, it can be adjusted manually. Therefore connect a frequency counter to the FSMx Sync Out interface. The Testclk frequency (FSMx ***Sync Out***) shall be adjustable to 10 MHz +/- 0.1 Hz.

10 MHz System Clock Output



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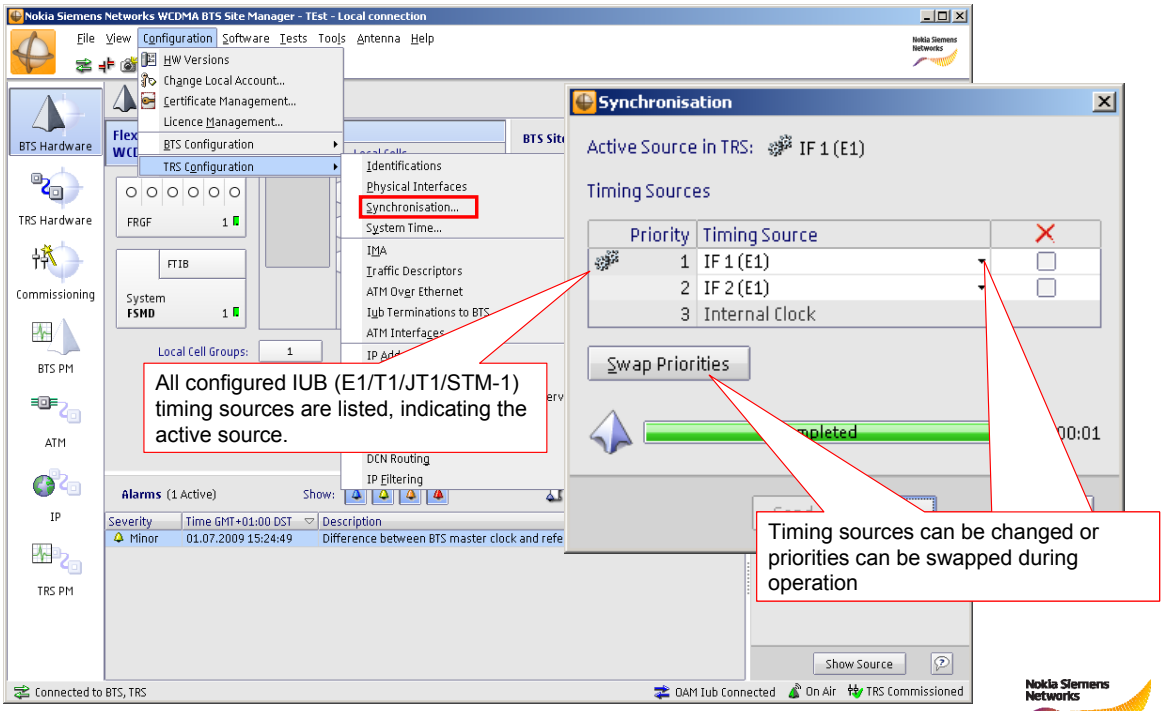
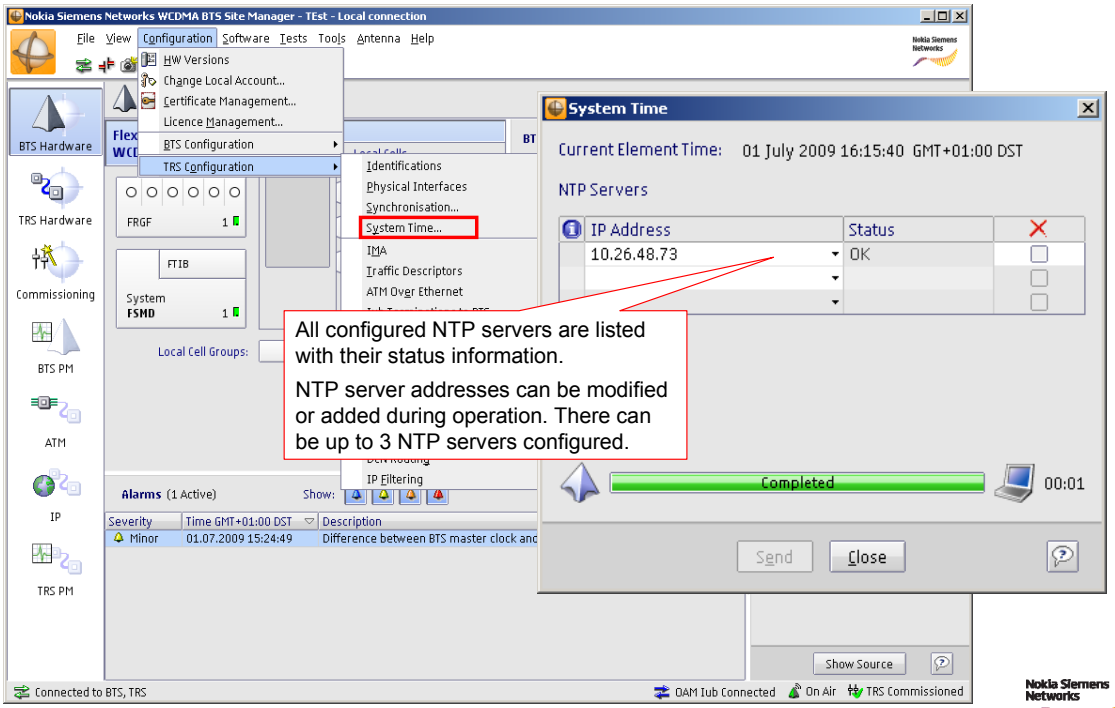
In case the BTS clock frequency is to be measured with an external Frequency counter, the appropriate 10 MHz clock output (***FSMx Sync Out***) needs to be enabled first.

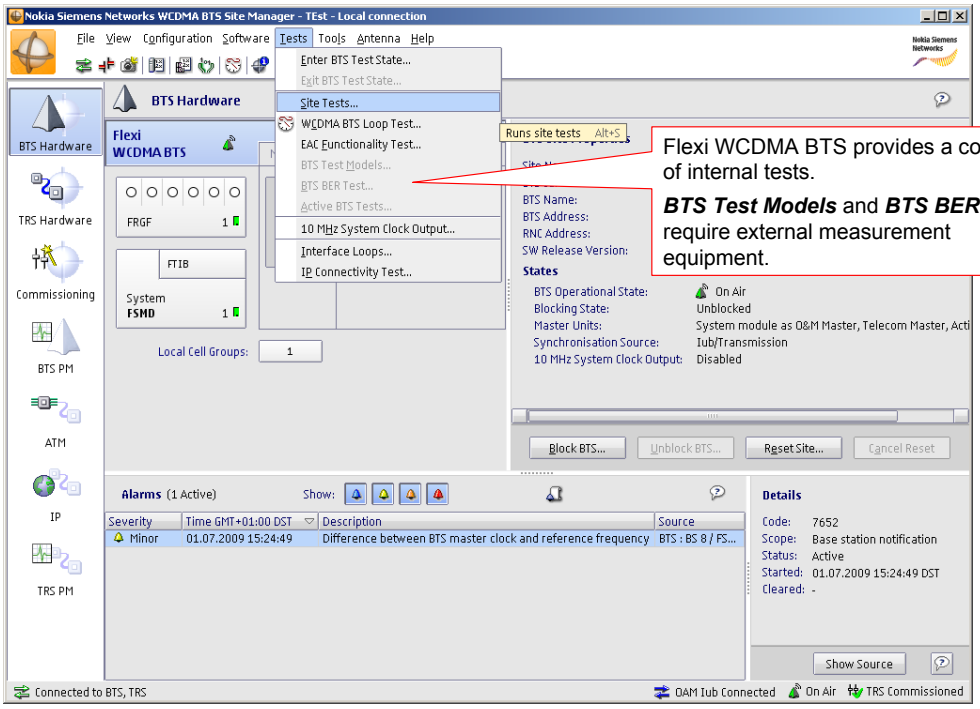
Inspect or modify Synchronization



Inspect or modify System Time

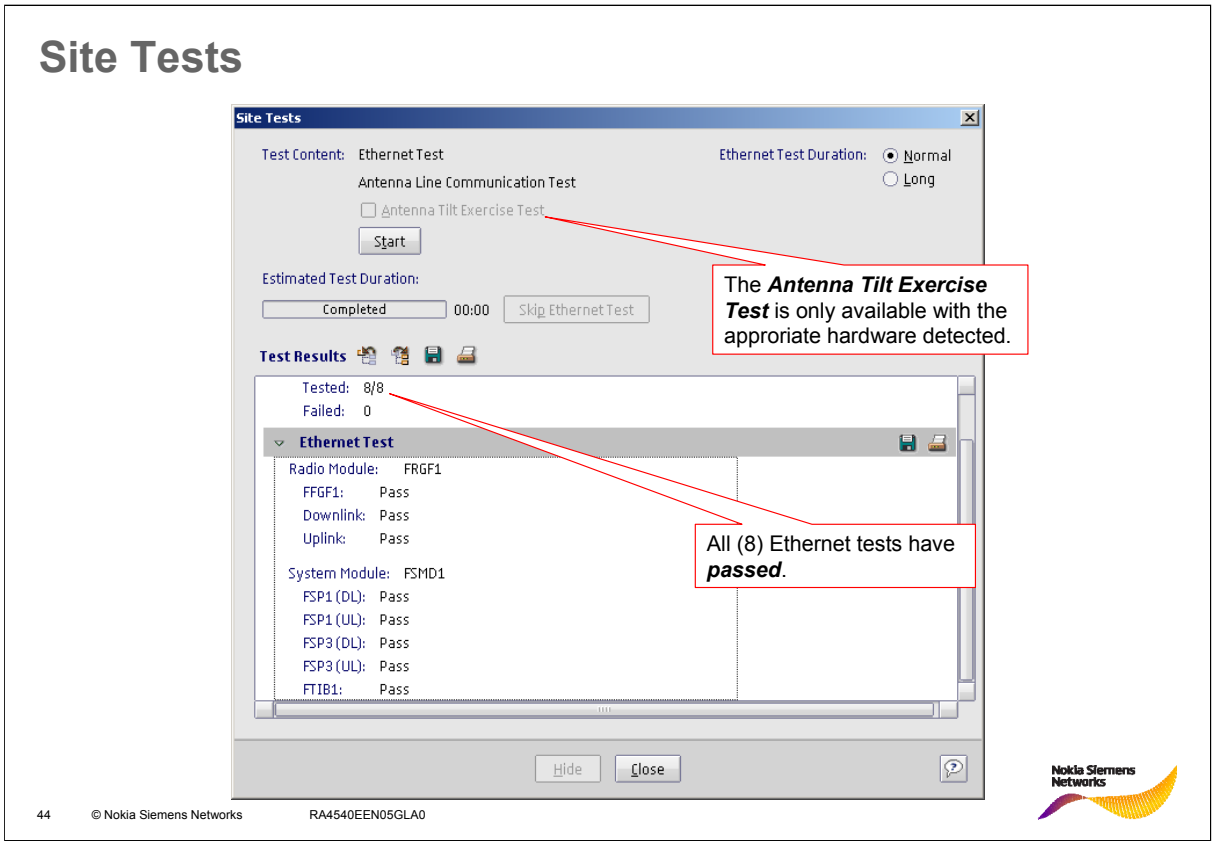


Tests…



Flexi WCDMA BTS provides a couple of internal tests.

BTS Test Models and ***BTS BER Test*** require external measurement equipment.



The Ethernet test is used to validate Ethernet interfaces of the System Module and Baseband extension module HW resources. The Antenna Line Communication test validates interfaces to all detected 3GPP antenna line devices (RET, for example). The Antenna Tilt Exercise means testing antenna tilt control mechanics for all detected tilt HW resources. The test drives the tilt motor from end-to-end and returns to the original place.

The test results displays the following information:

Waiting for results indicates that the test has been started but the results are not ready yet.

Pass indicates that the test is passed according to the test success limit (defined in the BTS Site Manager properties file).

Fail indicates that the test is failed according to the test success limit (defined in the BTS Site Manager properties file).

Not Tested indicates that, for example, a unit is commissioned but not detected.

Test Summary The *Test Summary* level shows the number of the completed, untested and failed tests for the Ethernet test, Antenna Line Communication test, and Antenna Tilt Exercise test (if it was selected to be executed).

Ethernet Test The *Ethernet Test* level shows the results for the tested modules:

Flexi System Module (FSM): test results for each Flexi BTS Signal Processing (FSP) unit and Flexi Transport Submodule (FT).

Flexi Radio Modules (FR): test results for Uplink and Downlink, and for each filter (FF) belonging to the FR.

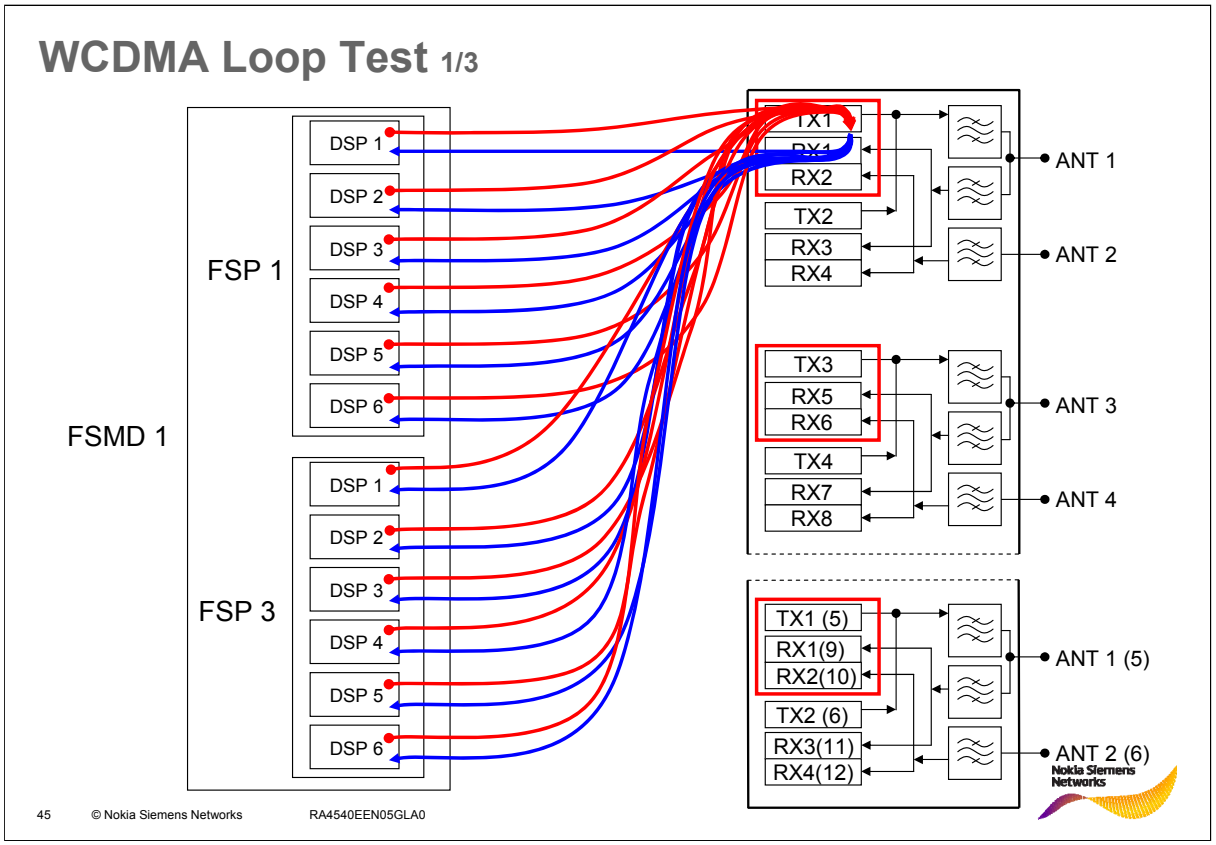
Flexi Power module (FP).

Flexi Baseband Extension Modules (FSM): test results for Flexi BTS Control and Multiplexing (FCM) unit and for each Flexi BTS Signal Processing (FSP) unit.

Antenna Line Communication Test The Antenna Line Communication Test level shows the results for the tested modules:

Flexi Radio Modules (FR): test results for all detected RETs and other antenna line devices.

Antenna Tilt Exercise Test The Antenna Tilt Exercise Test level shows the results for tested modules: Flexi Radio Modules (FR): tilt angles and test results for all detected RETs. If there are failed tests, the reasons for the failure are also displayed.



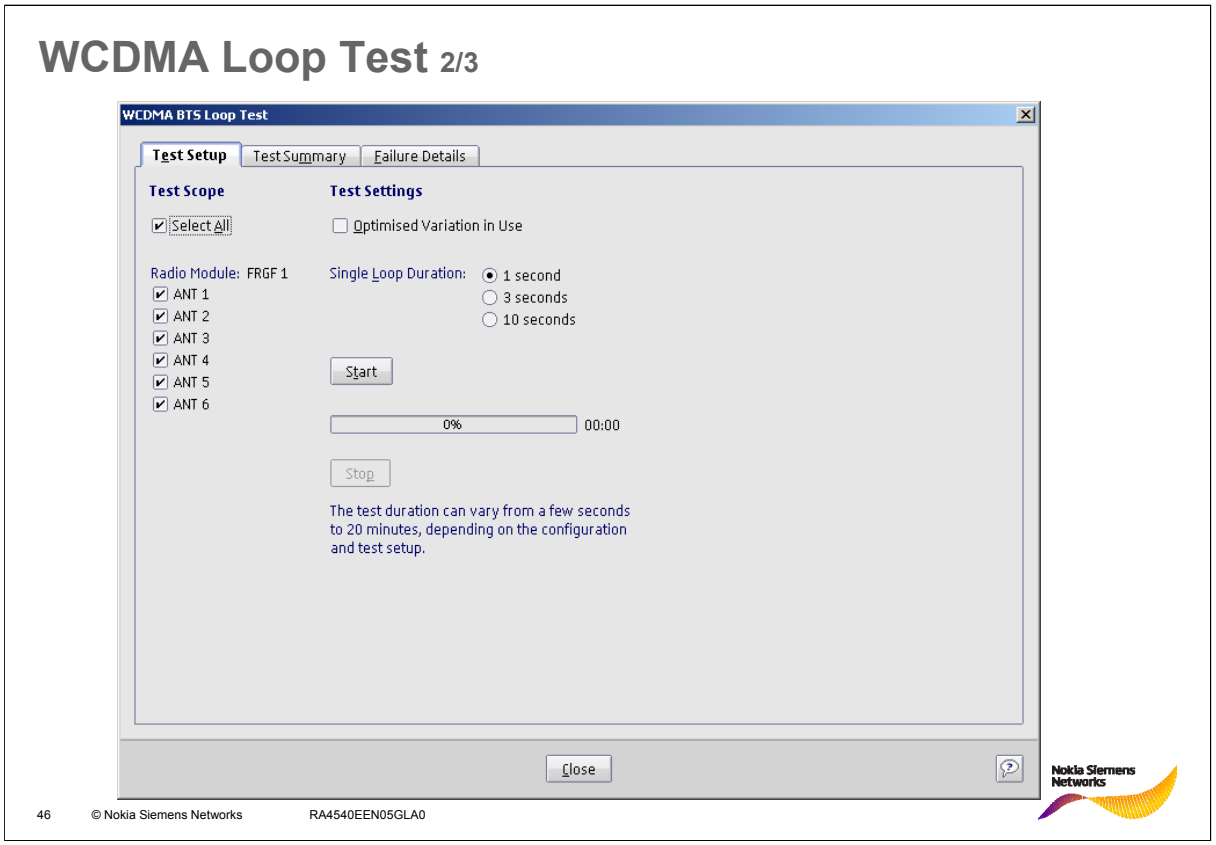
Example configuration 1+1+1, the red framed TX and RX belong to the configuration, component numbering for Dual PA and Single PA Modules, Triple PA Module in ().

Selection of tests is done by selecting antennas (see next page).

Example: Selection of **Antenna 1 only** will suppose the following components for the test:

The total number of tests can be calculated from No. of DSPs x no. of RXs (belonging to the configuration and connected to the selected antenna(s)).

12 DSPs X 1 RX = 12 test loops



The WCDMA loop test can be performed to verify commissioning, integration or reconfiguration, or to find a cause for a problem. The test can be executed when the operational state of the BTS is ***On Air'***or ***Test dedicated***. If the SW update is in progress or radio modules are in 'Initialising' state, the test cannot be run.

In the *Test Setup* tab you can select which units to run the test with and how many test sequences (duration for a single loop) to run, and define if you want to use the optimised variation.

Note that **all Remote Radio Heads do not support WCDMA BTS loop test**.

Test Scope

Select the *Select All* check box if you want to test all antenna connectors, or select the appropriate check boxes to test the antenna connectors for radio modules individually.

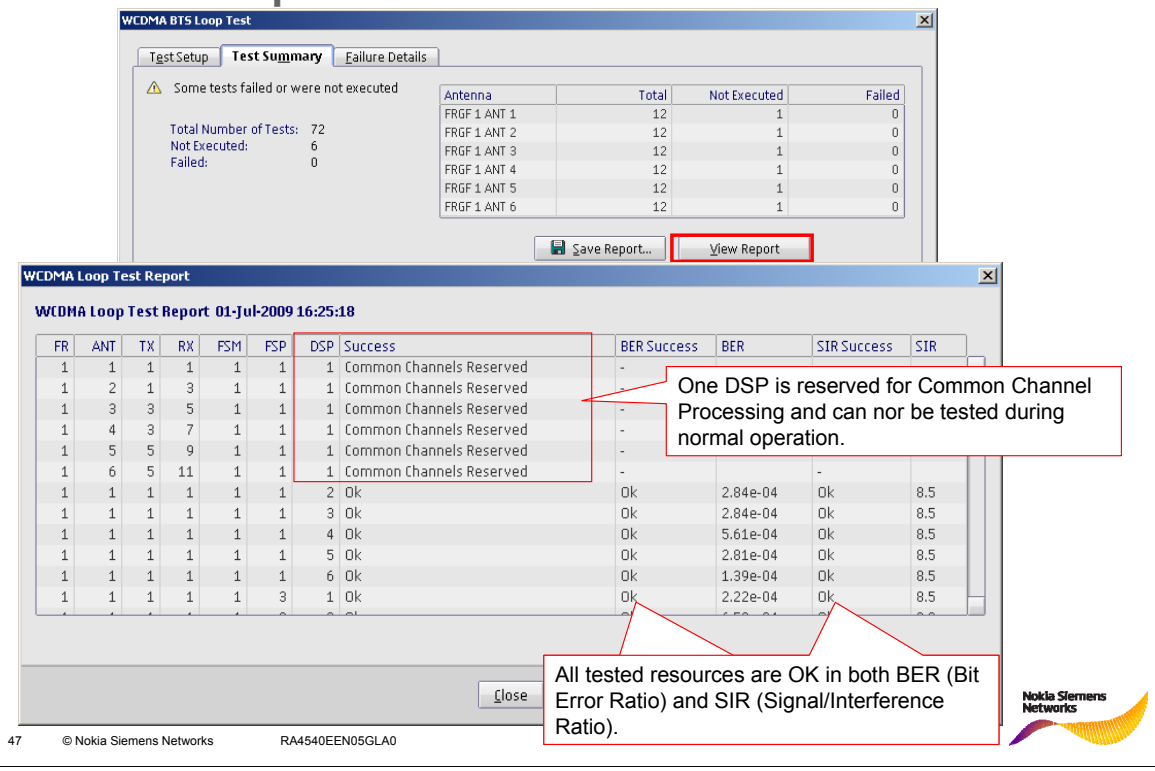
Optimised Variation In Use

Select *Optimised Variation In Use* if you want it to be used to optimise the variation of units in elementary tests, so that not all combinations will conduct the elementary test. Excluding variations, which would be excessive from viewpoint of required test coverage, optimises the amount of required elementary tests. Passing over excessive variations will significantly **reduce the time** necessary to complete the test.

Single Loop Duration

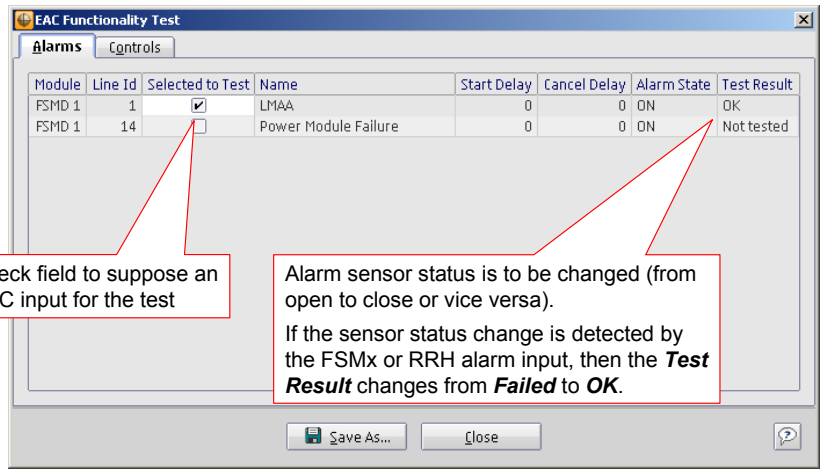
Select the *Single Loop Duration* by clicking the appropriate option: 1 second (default), 3 seconds or 10 seconds.

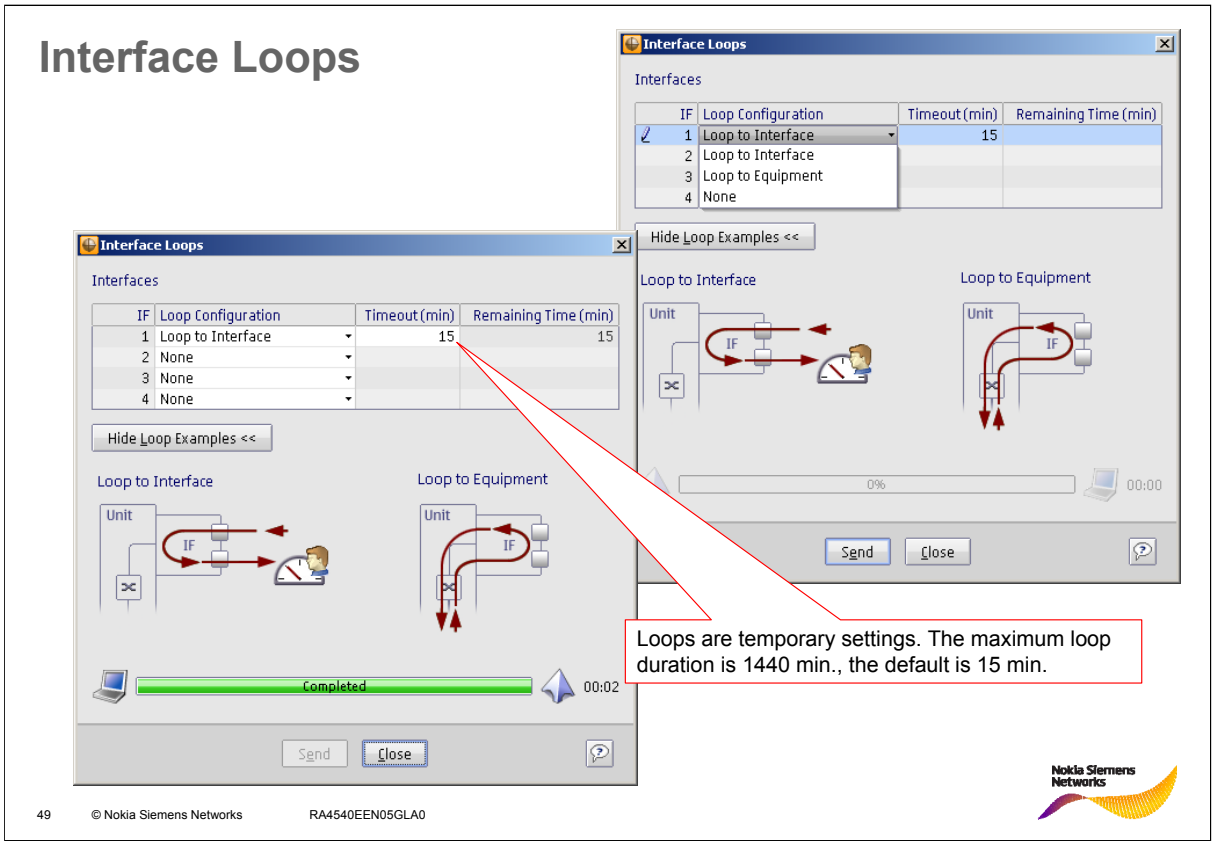
WCDMA Loop Test 3/3



Additional resources would be reserved for HSDPA (at least one DSP).

EAC Functionality Test





Note: Making Loops during normal operation will disconnect the BTS from the RNC, calls will be dropped and the remote OAM supervision will be lost.

Purpose

In the ***Interface Loops*** dialog box you can test the physical layer functionality and internal functionality of the TRS. Typically an external signal generator is used at the other end of the physical connection that generates traffic, and traffic is looped back to the generator that can measure traffic and detect CRC errors and lost packets, for example. Also the equipment internal performance monitoring notices errors in the traffic.

The following loopbacks can be configured on PDH interfaces:

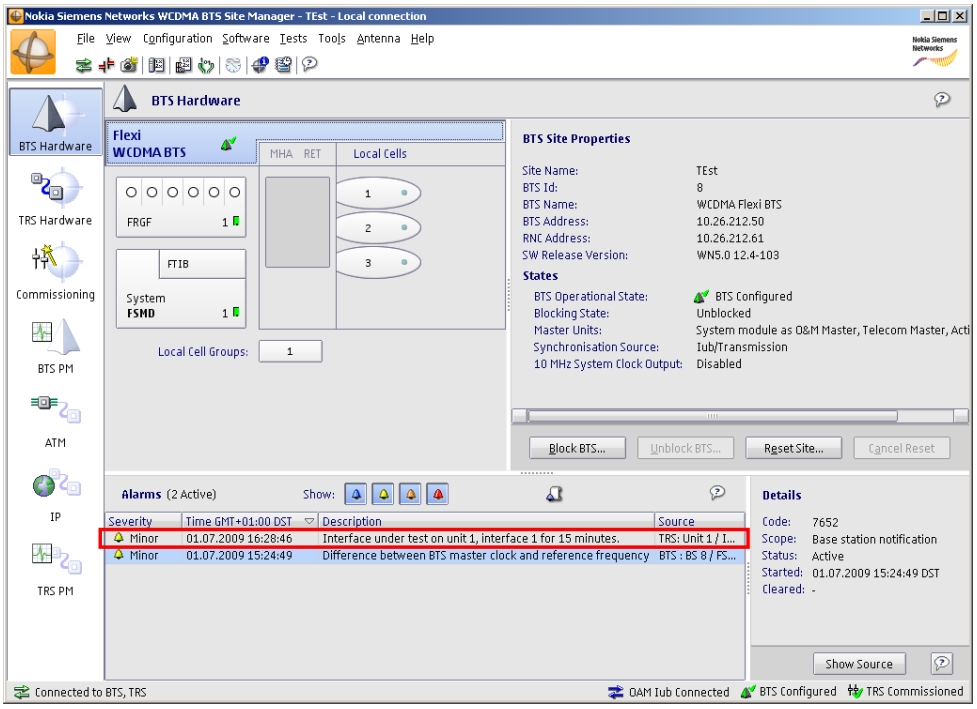
Loop to interface - the incoming signal is looped back to the output in the interface

→Used when a BER test is run from the far end

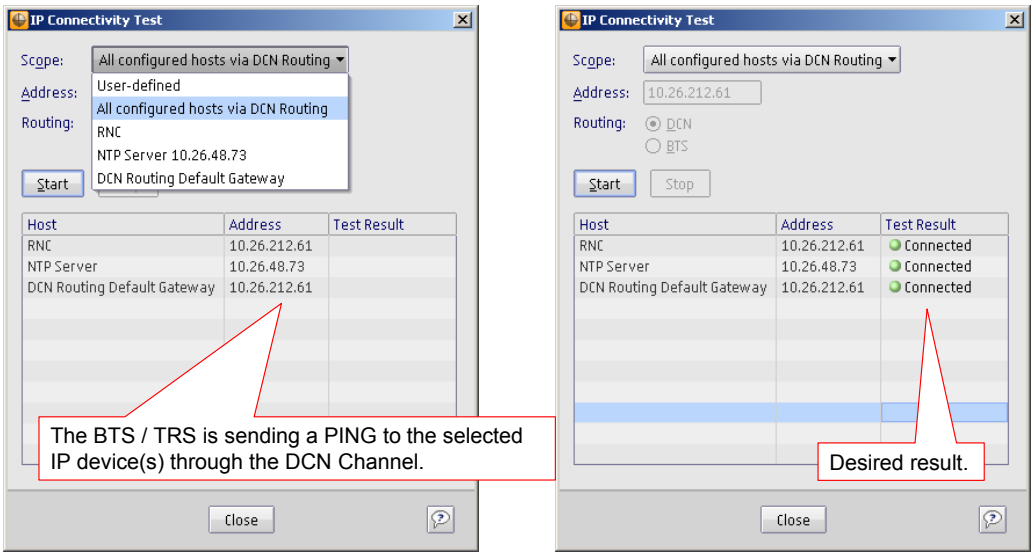
Loop to equipment - the outgoing signal is looped back to the equipment in the interface.

→ Triggers the BTS to go into ***Integrated to RAN*** state without an RNC connection, when all IUB Terminations are configured and working.

Interface Loop Alarm



IP connectivity Test



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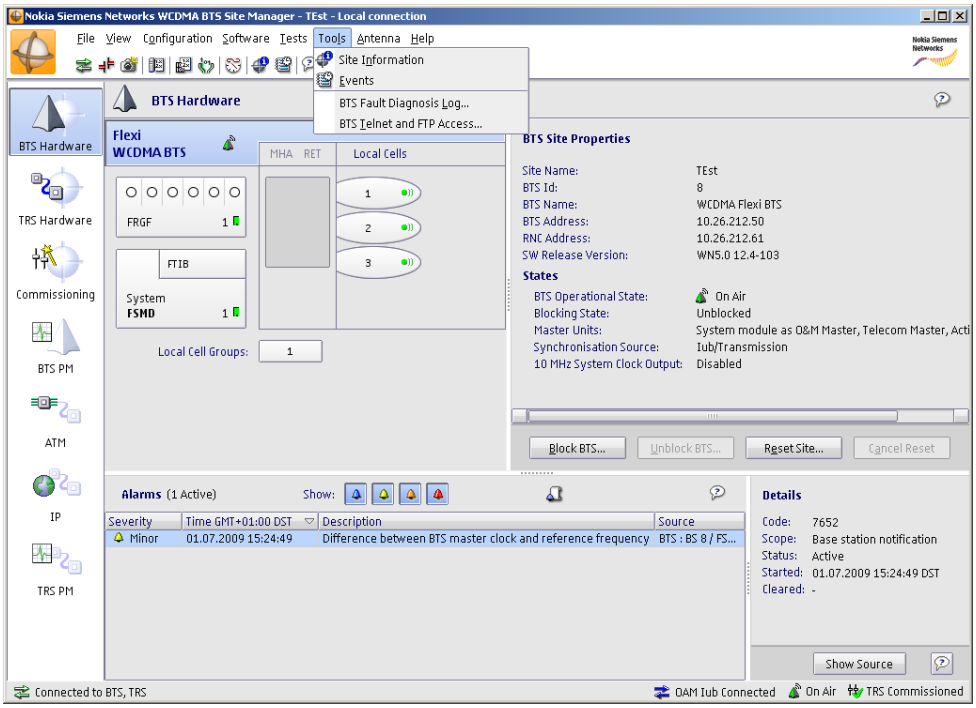
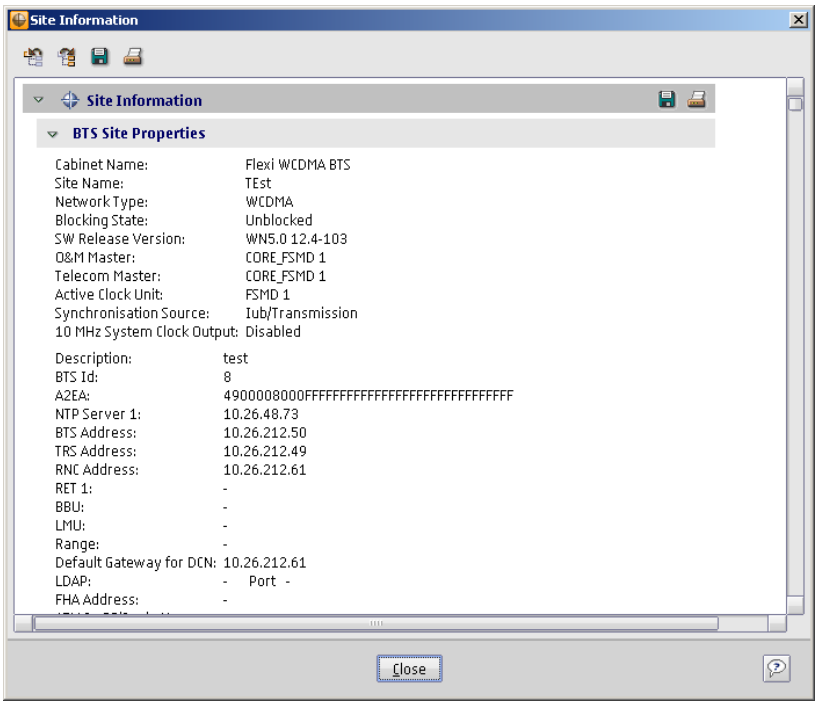
Select the hosts to be pinged from the *Scope* drop-down list. The options are the following:

- User-defined address (default)
- All configured hosts via DCN Routing
- All configured hosts via BTS Routing
- All configured hosts via BTS and DCN Routing
- RNC
- NTP Server (three addresses)
- LDAP
- Timing over Packet
- CMP Server
- PSN Tunnel Remote IP
- Certificate Repository
- BFD
- BTS Routing Default Gateway
- DCN Routing Default Gateway

Tools



Tools → Site Information



Site Information

Choosing the *Tools → Site Information* menu item opens the Site Information dialog box, where you can view information about the BTS site, local cells, units, HW versions, SW versions, IUB links, logical configuration, licences, BTS tuning history and commissioning parameters.

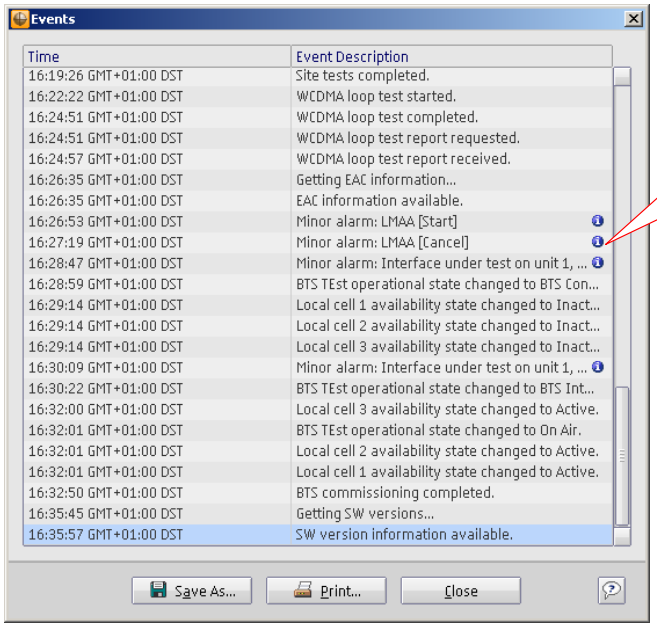
Also choosing the *SW Versions* menu item on the *Software* menu, or the *Object Properties*, *HW Versions*, *IUB Links*, *Logical Configuration* or *BTS Tuning History* menu item on the *Configuration → BTS Configuration* menu opens this dialog box.

The dialog box is split in the sublevels, which you can expand or collapse by clicking the arrow. You can expand all levels at the same time by clicking the butt or collapse all levels by clicking the button.

You can save the information by clicking the button. The default file name is SiteInformation_<Site name>_<yyyymmdd>.txt. The default location is the folder where you have saved the previous files or your default working folder (My Documents, for example).

You can print the information by clicking the button.

Tools → Events



For some Events there is additional Information availabby clicking on the button.

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Events

Choosing the *Tools → Events* menu item or clicking the Events button on the toolbar opens the Events dialog box. The dialog box displays messages received from the BTS, and user-activated events. The user-activated events are all operations that cause some actions in the BTS: blocking or unblocking objects, and requesting SW versions, for example. Also the most important messages received from the BTS are displayed in the Events dialog box.

If you want to save the event information, choose the *File → Save → Events* menu item to open the *Save Events* dialog box, where you can specify the location and filename for the file. The default file name is Events_<Site name>_<yyyymmdd>.txt. The default location is the folder where you have saved the previous events files or your default working folder (My Documents, for example).

To print the event information, choose the *File → Print → Events* menu item to open the *Print Events* dialog box, where you can specify the print settings.

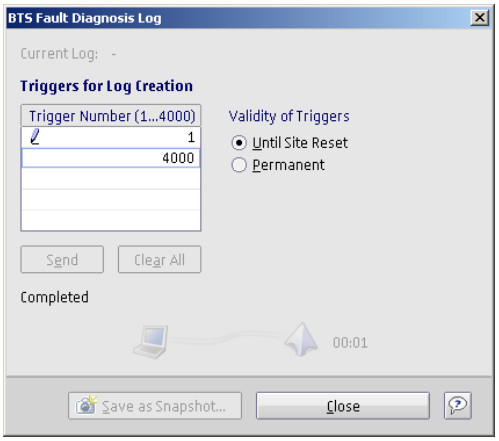
Time

The *Time* column shows the current clock time of the BTS. The time format is HH:MM:SS GMT <±> HH:MM <DST>. The time zone and DST values are defined during commissioning.

Event Description

The *Event Description* column shows the description of the event. If there is the icon in a row, clicking it opens the Event Information dialog box, where you can view detailed information on the event.

Tools → BTS Fault Diagnosis Log



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BTS Fault Diagnosis Log

Choosing the *Tools → BTS Fault Diagnosis Log* menu item opens the BTS Fault Diagnosis Log dialog box, where you can define settings for the BTS fault diagnosis log. The BTS Fault Diagnosis Log is a troubleshooting tool for saving the BTS runtime log when one of the five predefined alarms occurs.

The BTS Fault Diagnosis Log is purely troubleshooting tool for **Nokia Siemens Networks support personnel**.

Current Log

Shows the current BTS fault diagnosis log if the log is available.

Trigger Number (1…4000)

Enter the trigger numbers (raw alarm numbers) in the *Trigger Number (1…4000)* column. You can define five triggers. The icon indicates that the value has been modified but it has not been sent to the BTS site yet.

Validity of Triggers

Select the *Validity of Triggers* by clicking the appropriate option: Until Site Reset or Permanent. The validity defines whether the settings are valid up to the next site reset or permanently.

Send

Click *Send* to send the log settings to the BTS site and take them in use. The progress bar shows the progress of the operation.

Clear All

Click *Clear All* to clear the log settings in the dialog box. Clicking this button does not update the log settings information in the BTS site.

Save as Snapshot…

Click *Save As Snapshot* to open the Save Snapshot dialog box, where you can save the BTS fault diagnosis log as one of the files when saving a snapshot. This button is enabled if the BTS fault diagnosis log is available.

Clicking the *Save As Snapshot* button closes the *BTS Fault Diagnosis Log* dialog box.

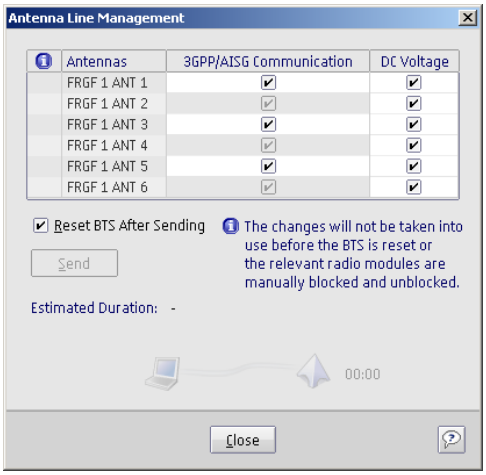
Tools → Enabling Telnet and FTP Access

Enabling Telnet and FTP access

Purpose

For troubleshooting, it might be necessary to enable telnet and FTP access to the BTS. By default, these protocols are blocked and BTS Site Manager can be used to enable these protocols in the BTS. Telnet and FTP capabilities will remain enabled as long as BTS Site Manager remains connected or the access is disabled again.

Antenna → Antenna Line Management



Antenna Line Management

Choosing the **Antenna → Antenna Line Management** menu item opens the Antenna Line Management dialog box where you define antenna line parameters.

If the same device is seen by different antennas you might need to disable 3GPP/AISG communication manually. This may happen, for example, if the device has two 3GPP/AISG capable ports which are connected to different 3GPP/AISG capable antenna connectors of the radio module.

Antennas

Lists all antennas.

3GPP/AISG communication

Select or unselect checkbox in the *3GPP/AISG communication* column to enable or disable 3GPP/AISG communication for the appropriate antenna.

DC voltage

Select or unselect checkbox in the *DC voltage* column to enable or disable antenna line DC Voltage. When antenna line DC voltage is disabled any commissioned values are overridden. When antenna line DC voltage is enabled commissioned values are in use.

Reset BTS after sending

The *Reset BTS after sending* checkbox is selected by default. To reset the BTS later, for example after commissioning, unselect the checkbox.

Send

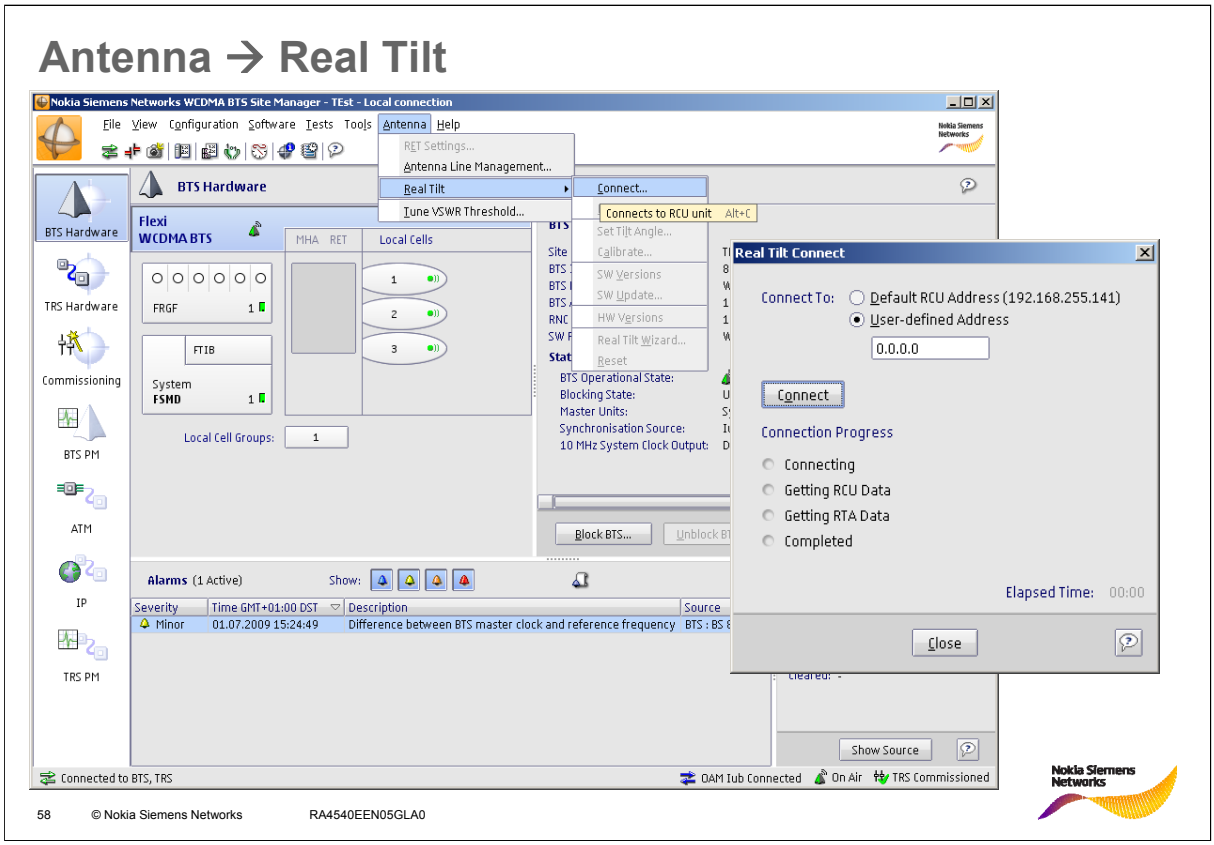
Click *Send* to send the changes to BTS. This button is enabled when the values have been changed.

Estimated duration

Estimated duration and the progress of the operation are displayed. States: Sending/Resetting/Waiting antenna data/Completed/Failed.

Close

Click *Close* to close the dialog.



Connecting to RCU

Purpose

You can perform the Real Tilt operations with WCDMA BTS Site Manager: set tilt angle, calibrate antennas, monitor used HW and SW, update SW and commission the Real Tilt Control Unit (RCU).

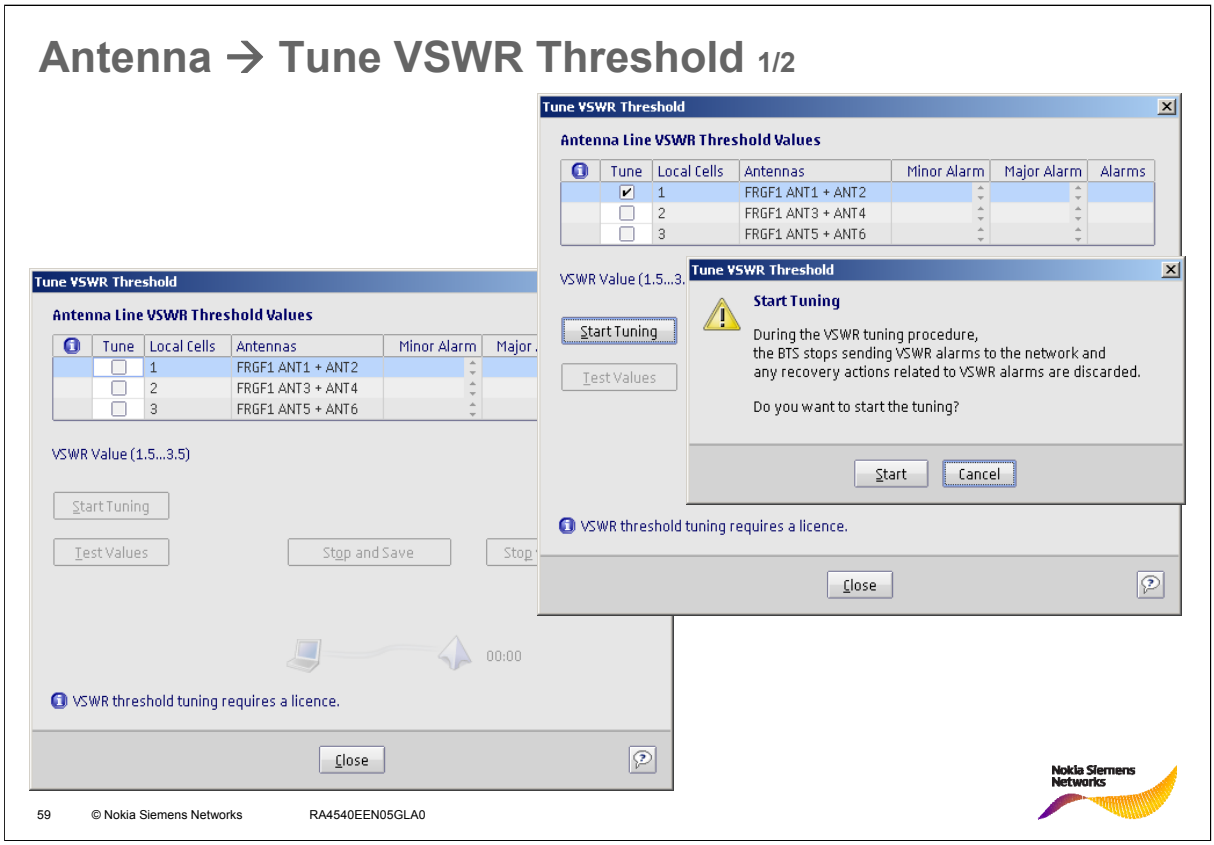
In the ***Real Tilt Connect*** dialog box you can establish a connection to RCU.

Steps

- Choose the Antenna → Real Tilt → Connect menu item to open the Real Tilt Connect dialog box.
- Select Default RCU Address or User-defined Address by clicking the appropriate option.
- If you select the *User-defined Address* option, enter the Host IP address in the field.
- Click the Connect button to establish the connection to the RCU.
- The *Real Tilt Connect* progress dialog box displays the progress of the ongoing operation.

Expected outcome

The menu items on the *Antenna → Real Tilt* submenu are enabled.



Tune VSWR Threshold

Choosing the *Antenna → Tune VSWR Threshold* menu item opens the Tune VSWR Threshold dialog box, where you can tune VSWR alarm threshold values for antenna filters inside RF modules.

The VSWR treshold tuning is used for defining values when an alarm notification needs to be sent for a minor problem of an antenna line condition (decreased condition) and for a major problem condition (cell blocking). The VSWR threshold tuning can be also used (indirectly) to find out the actual VSWR value by changing the values and monitoring alarms.

Note: You need to have a valid licence for the VSWR Threshold Tuning feature.

Antenna Line VSWR Threshold Values

Tune

Select the check boxes in the *Tune* column to define filters to be tuned.

Local Cells

The *Local Cells* column shows the cells where the filter belongs to.

Antennas

The *Antennas* column shows the RF module within the filter is, and the antenna lines connected to the filter.

Minor Alarm

Select or enter the threshold value for a minor VSWR alarm activation in the *Minor Alarm* column (1.5 - 3.5). As soon as the actual VSWR value is equal to or greater than this threshold value, the filter activates the alarm. The threshold value for the minor alarm have to be less than the value for the major alarm.

A cell in the Minor Alarm column is enabled and displays the threshold value after the you have selected the filter for tuning and started the tuning successfully.

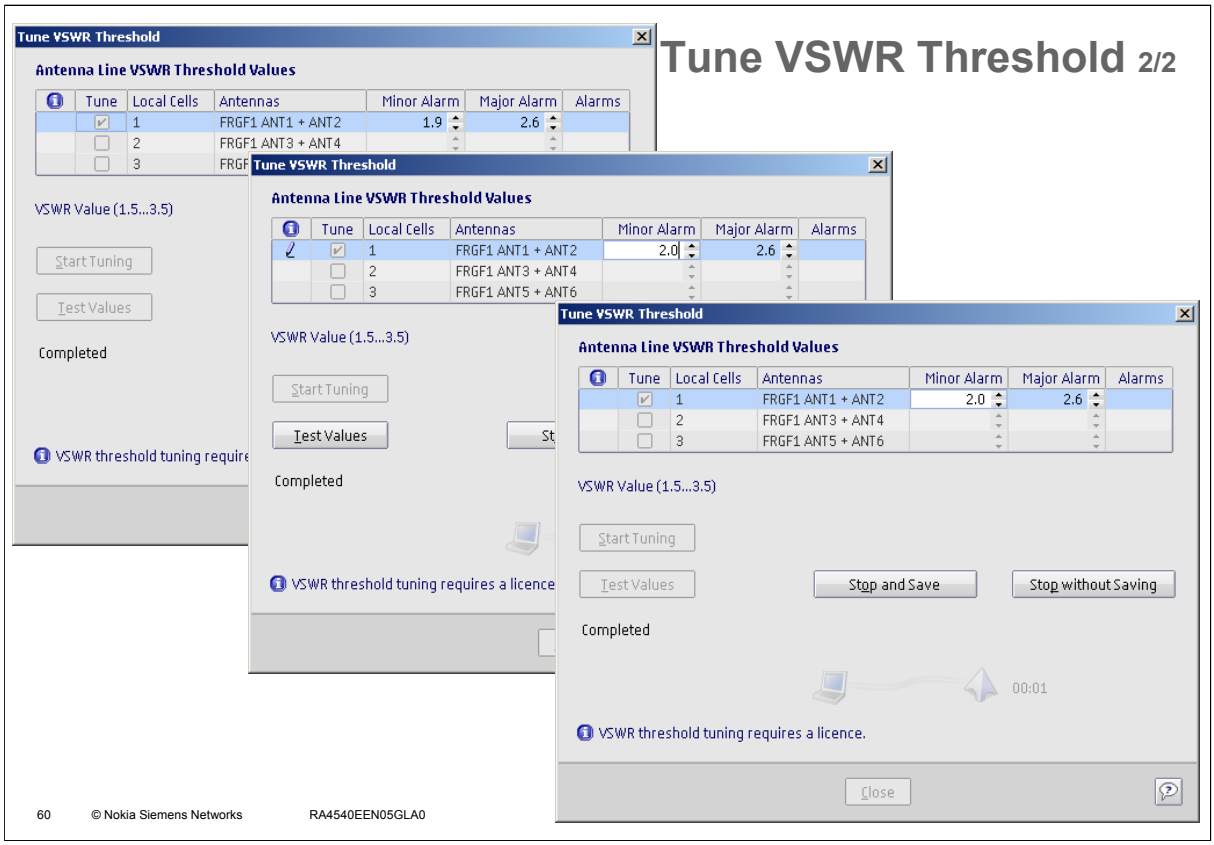
Major Alarm

Select or enter the threshold value for a major VSWR alarm activation in the *Major Alarm* column (1.5 - 3.5). As soon as the actual VSWR value is equal to or greater than this threshold value, the filter activates the alarm. The threshold value for the major alarm have to be less than or equal to Minor Alarm value

A cell in the Major Alarm column is enabled and displays the threshold value after the you have selected the filter for tuning and started the tuning successfully.

Alarms

The *Alarms* column shows the states of VSWR alarms for each filter.



Start Tuning

Click *Start Tuning* button to start tuning for the selected filters. This button is disabled if no filters has been selected to be tuned. A progress bar shows the progress of starting the tuning.

Note: When the tuning mode is activated by clicking the *Start Tuning* button, sending alarms to the NetAct from the selected antenna lines is blocked. Alarms will not be sent until the tuning is stopped by clicking the *Stop and Save* or *Stop without Saving* button.

Test Values

Click *Test Values* to send the new VSWR threshold values in the BTS and take them temporarily in use. This button is disabled if no VSWR threshold values has been changed. A progress bar shows the progress of testing the values.

Stop and Save

Click *Stop and Save* to stop tuning and take the changed VSWR values permanently in use in the BTS. This button is disabled if tuning is not ongoing. A progress bar shows the progress of stopping tuning.

Stop without Saving

Click *Stop without Saving* to stop tuning and discard any changes made to the VSWR threshold values in the BTS. The original threshold values will be taken in use. This button is disabled if tuning is not ongoing. A progress bar shows the progress of stopping tuning.