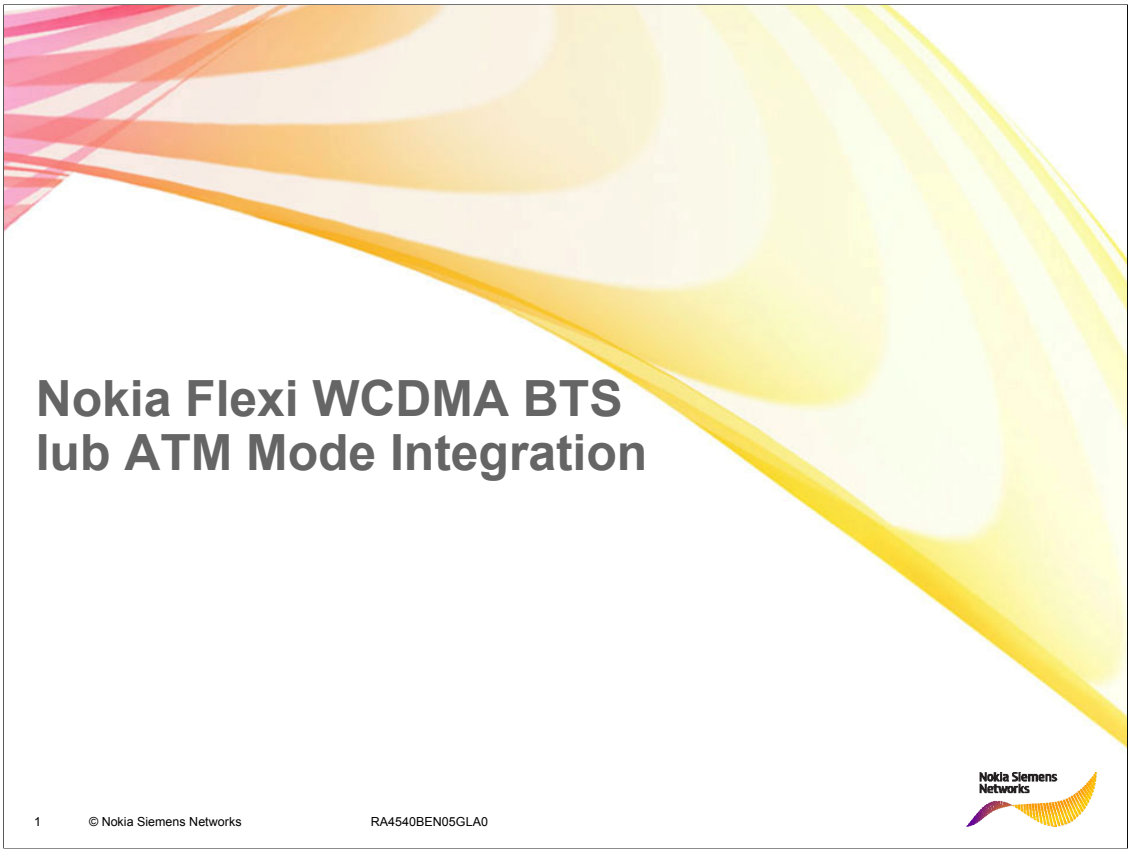
Nokia Flexi WCDMA BTS
Iub ATM Mode Integration
1
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RA4540BEN05GLA0

Flexi WCDMA BTS Integration

Legal notice

Intellectual Property Rights

Requirements for Nokia Flexi WCDMA BTS RAS Integration for ATM Iub configuration

The following BTS and Cell parameters have to be set up in accordance to their definition at the RNC:

BTS parameters

- BTS ID
- BTS IP address

LCR IDs (Local Cell Resource IDs)

CoCo (Connection Configuration)

- 1 x CNBAP (**C**ommon **N**ode **B** **A**pplication **P**rotocol)
- 1 x DNBAP (**D**edicated **N**ode **B** **A**pplication **P**rotocol)
- 1 x AAL2SIG (**A**tm **A**daptation **L**ayer **2** **SIG**nalling)
- 1-8 x AAL2UP (**A**tm **A**daptation **L**ayer **2** **U**ser **P**lane)

DCN (Data Communication Network)

- ATM settings
- IP settings

TRS

- IP address

BTS Commissioning Parameters

Displays the BTS commissioning parameters in the following sublevels:

BTS Settings

Local Cell Resources

Local Cell Settings

WCDMA Carrier Candidates

Antenna Line Settings

External Alarm and Control Settings

Authentication Settings

Modules

States

SW Configuration

TRS Commissioning Parameters

Displays the TRS commissioning parameters in the following sublevels:

Site Properties

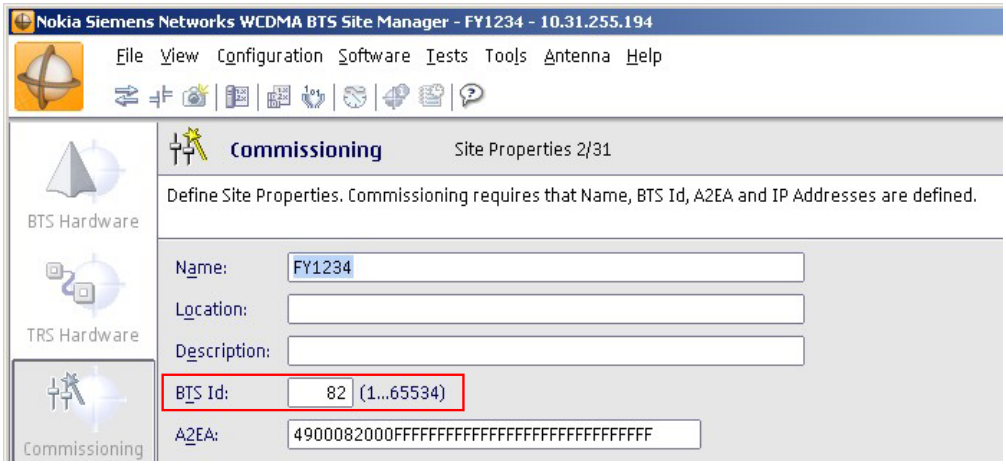
Physical Layer Configuration

Traffic Descriptors

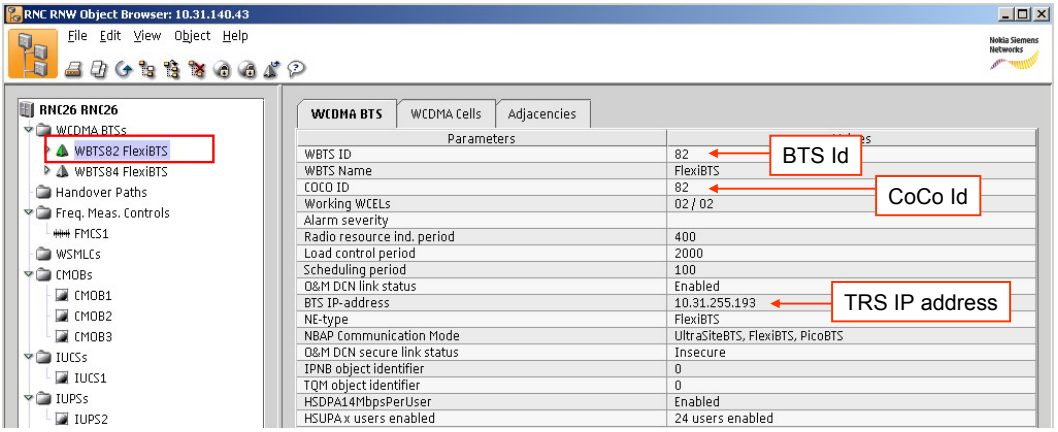
IUB Terminations to BTS

DCN Interfaces

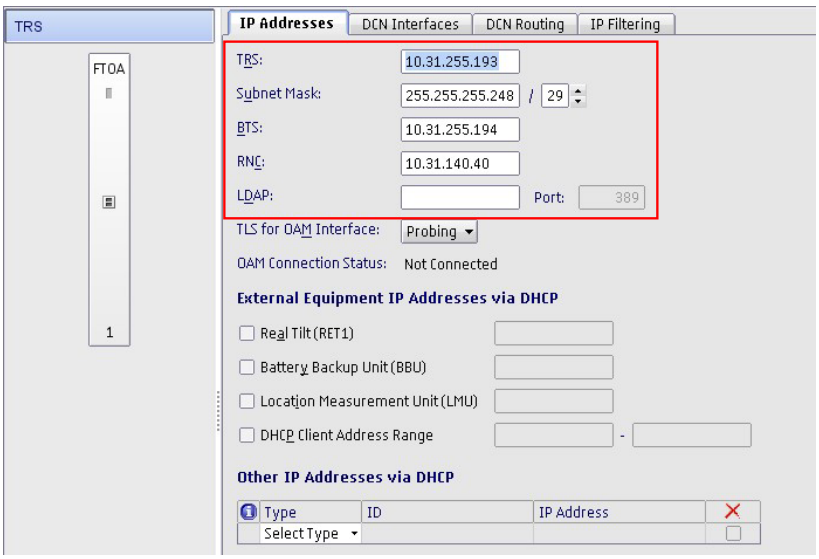
BTS Id Information in BTS Site Manager



BTS Id Information in RNC



IP Addresses in BTS Site Manager

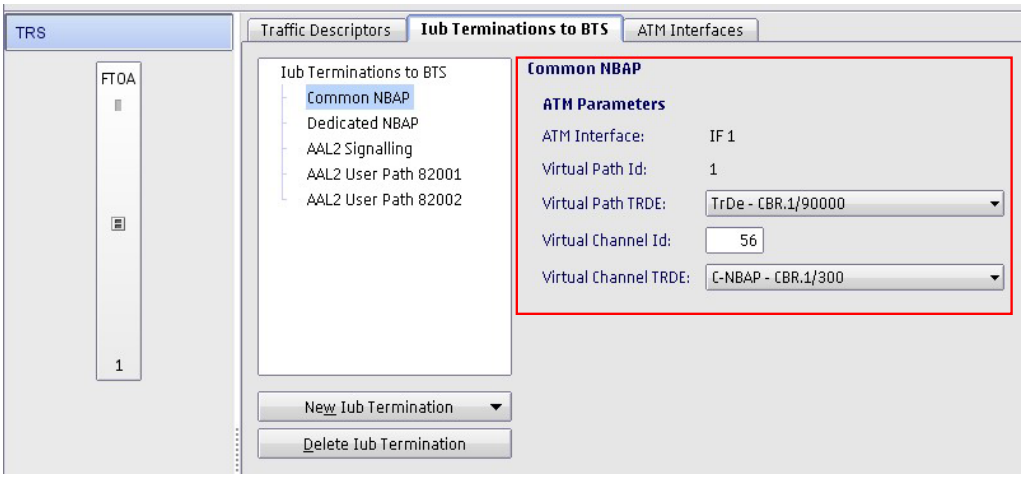


TRS IP Address in RNC

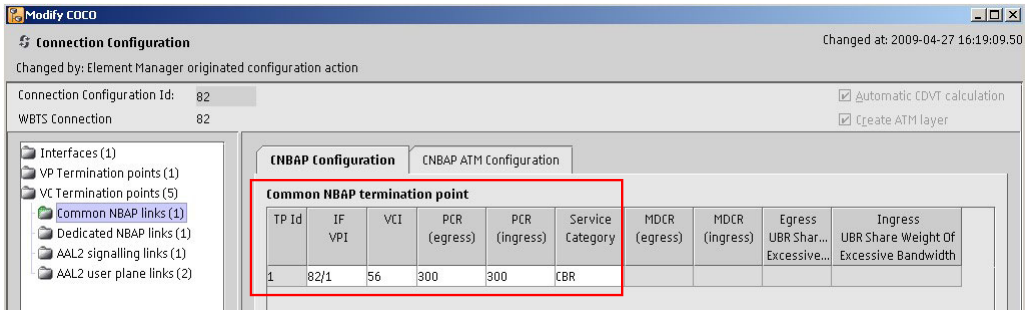
```
QRI:OMU,0:;

RNC        IPA2800                    2009-05-11  11:07:43

INTERROGATING NETWORK INTERFACE DATA

           IF        ADM                          IF    ADDR
UNIT       NAME      STATE  MTU  PRIORITY         TYPE  TYPE IP ADDRESS
---------- --------- ------ ---- ---------- ---- ---- ------------------------
OMU-0      AA82      UP     1500   -        U     L    10.31.140.40/32
                                                       ->10.31.255.193
           EL0       UP     1500   -              L    10.31.140.40/24
```

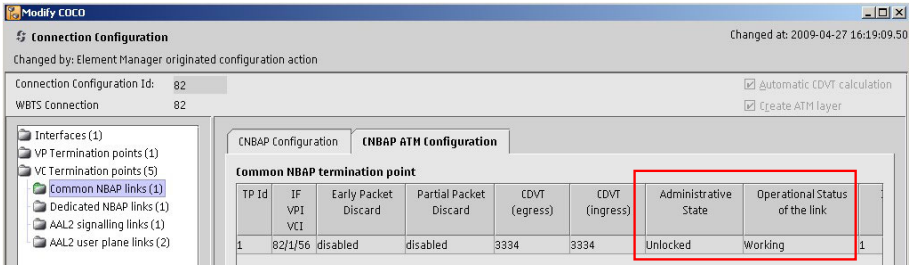
TRS IP Address

C-NBAP Settings in BTS Site Manager

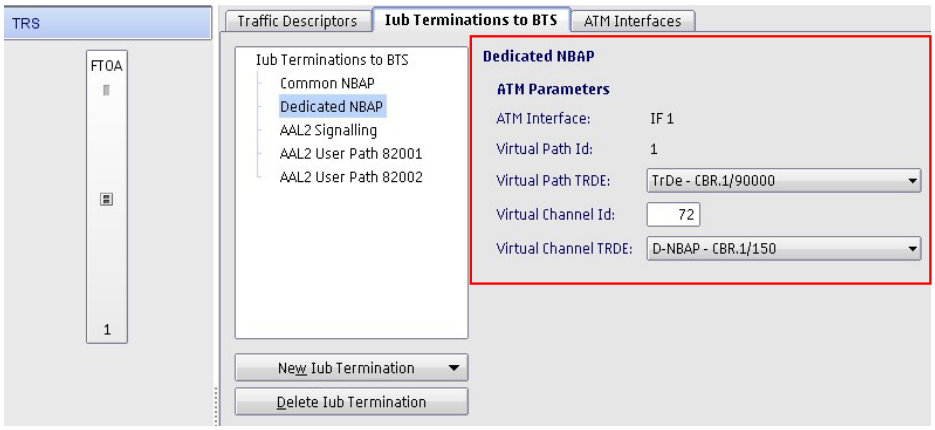


C-NBAP Settings in RNC

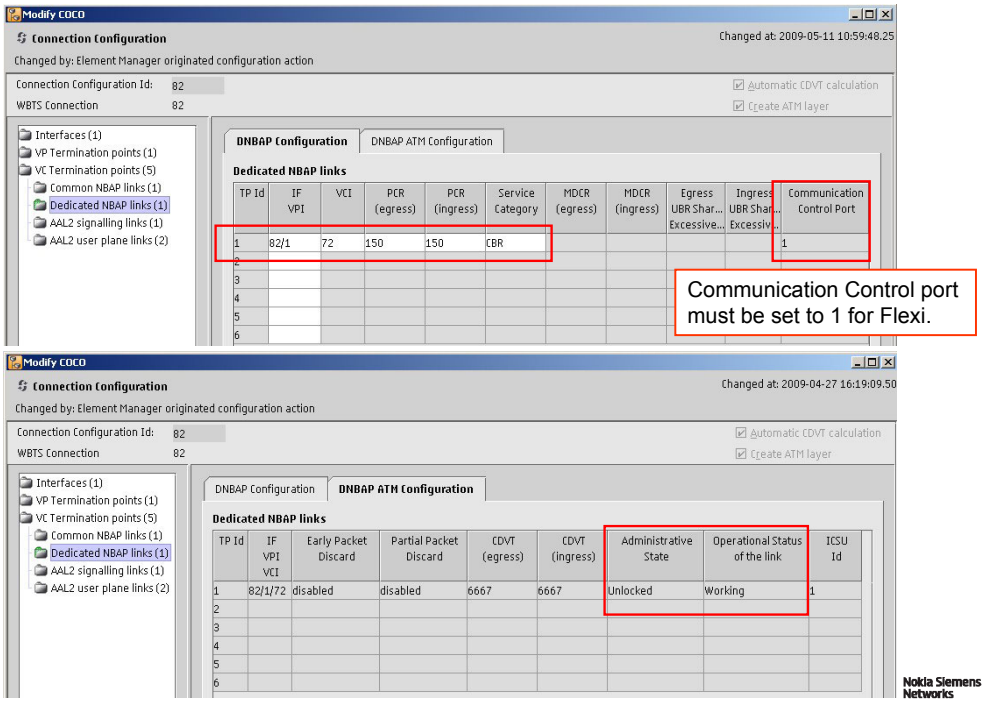




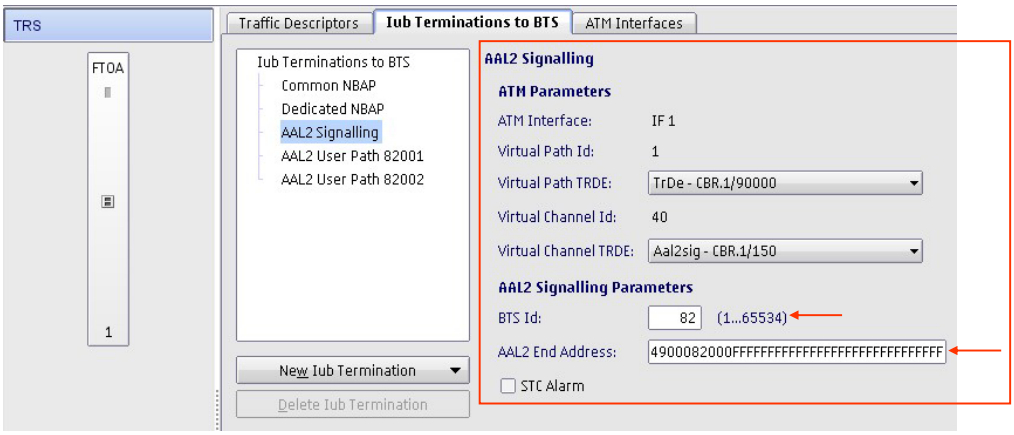
D-NBAP Settings in BTS Site Manager



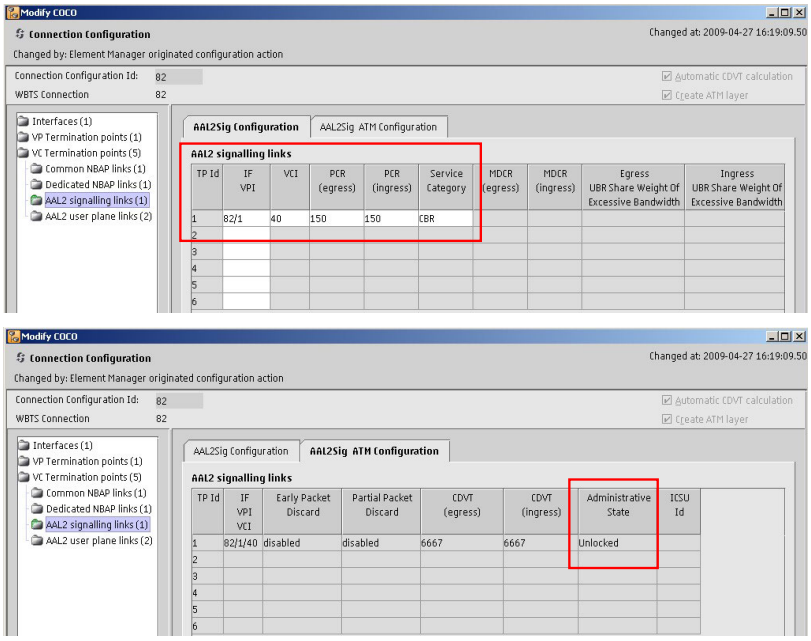
D-NBAP Settings in RNC



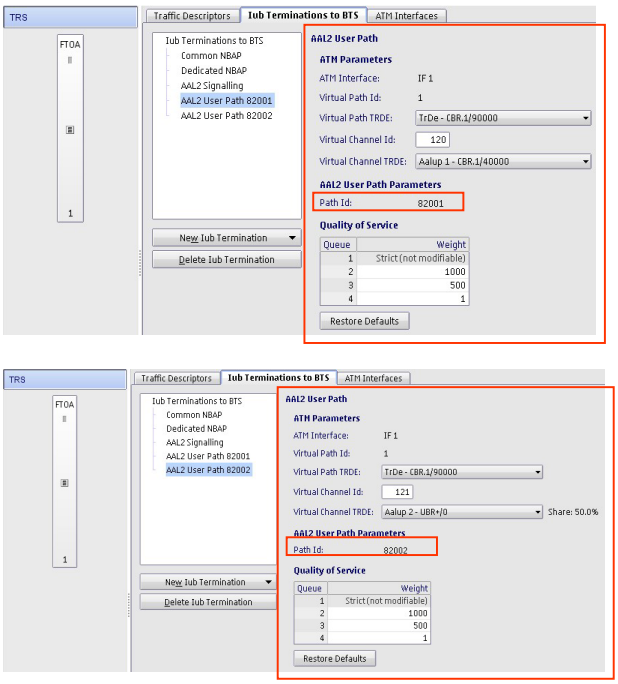
AAL2 Signaling Settings in BTS Site Manager



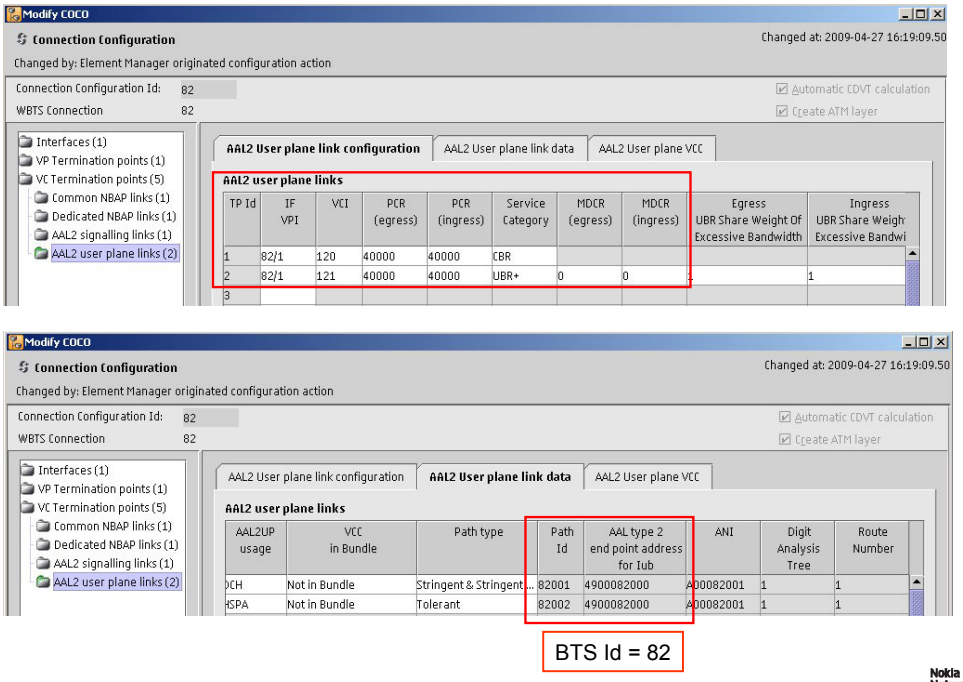
AAL2 Signaling Link



AAL2 User Path Settings in BTS Site Manager

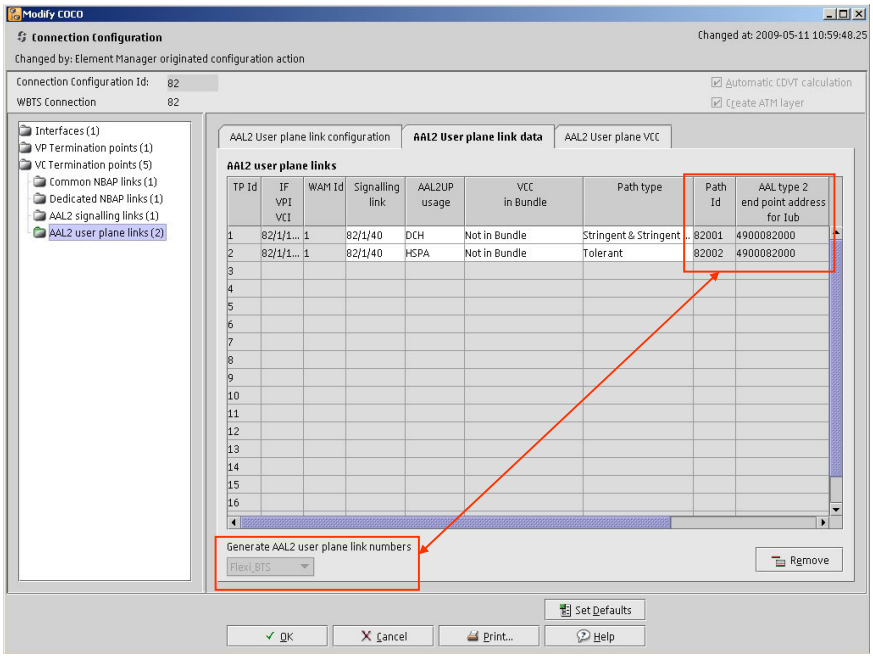


AAL2 User Plane Links in RNC

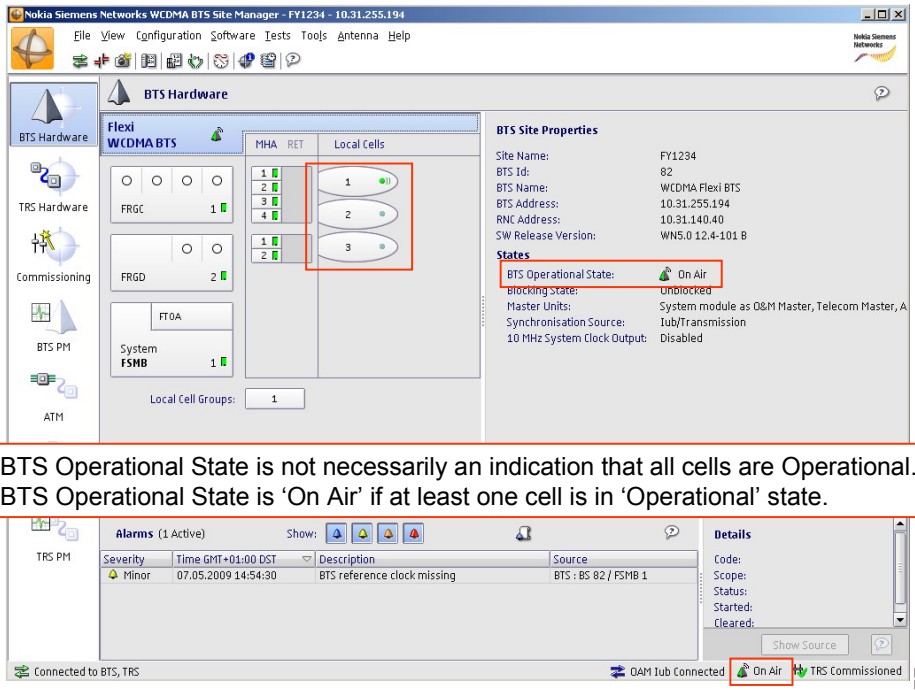


BTS Id = 82

AAL2 User Plane Links in RNC (cont)

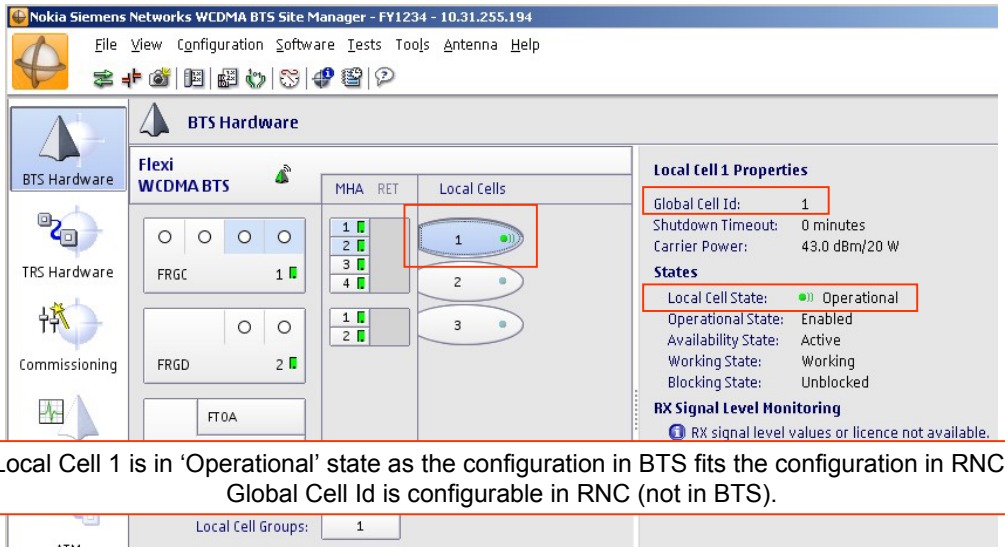


Cell and BTS Status in BTS Site Manager



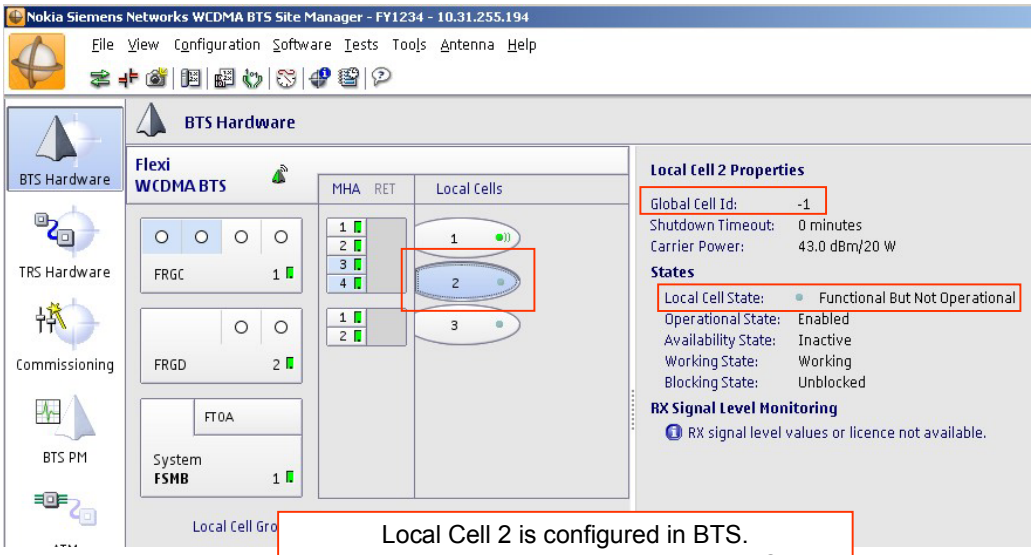
BTS Operational State is not necessarily an indication that all cells are Operational.
BTS Operational State is 'On Air' if at least one cell is in 'Operational' state.

Cell Status in BTS Site Manager



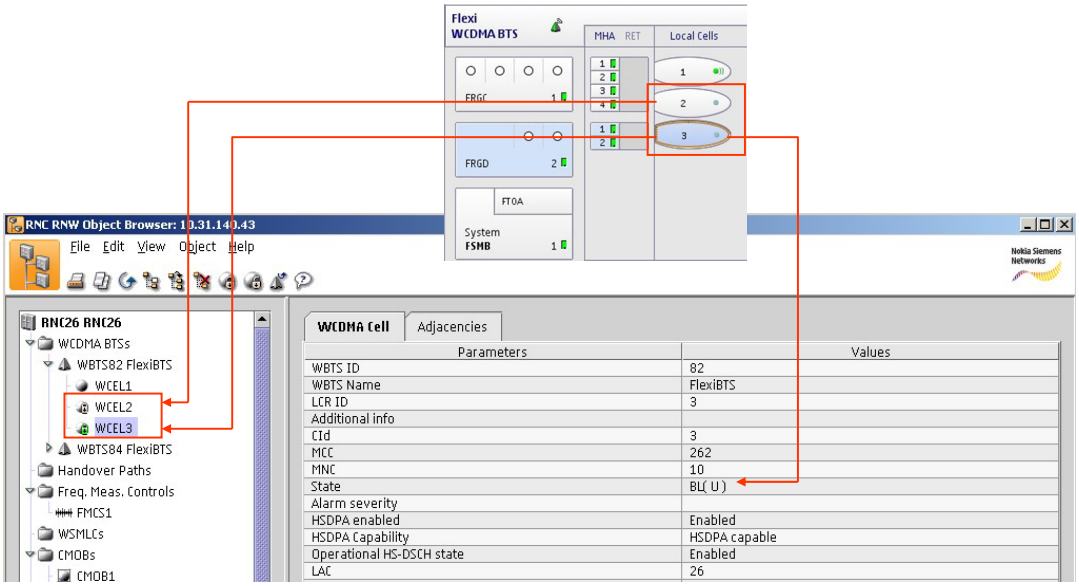
Local Cell 1 is in 'Operational' state as the configuration in BTS fits the configuration in RNC. Global Cell Id is configurable in RNC (not in BTS).

Cell Status in BTS Site Manager



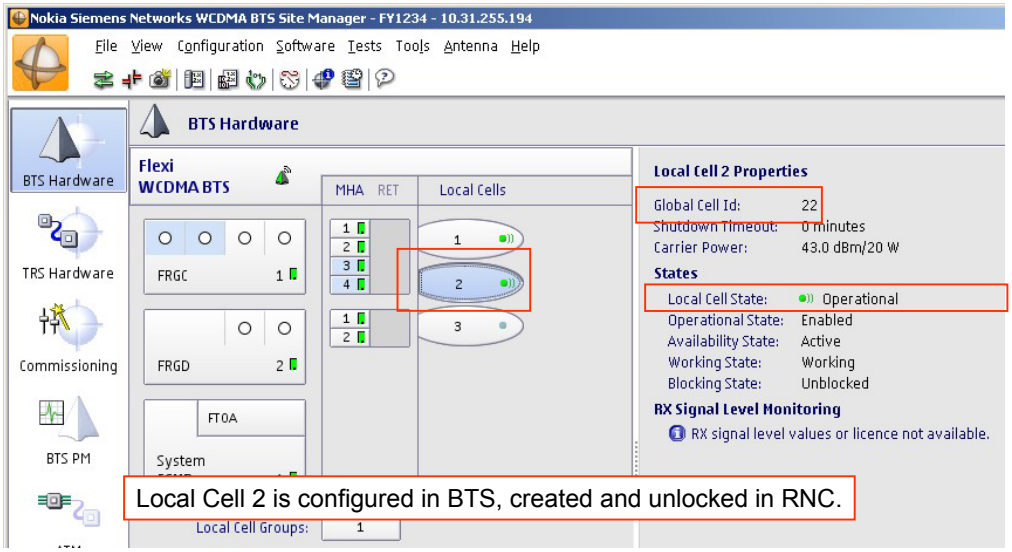
Local Cell 2 is configured in BTS.
It is either not created or locked in RNC.

Cell Status in RNC



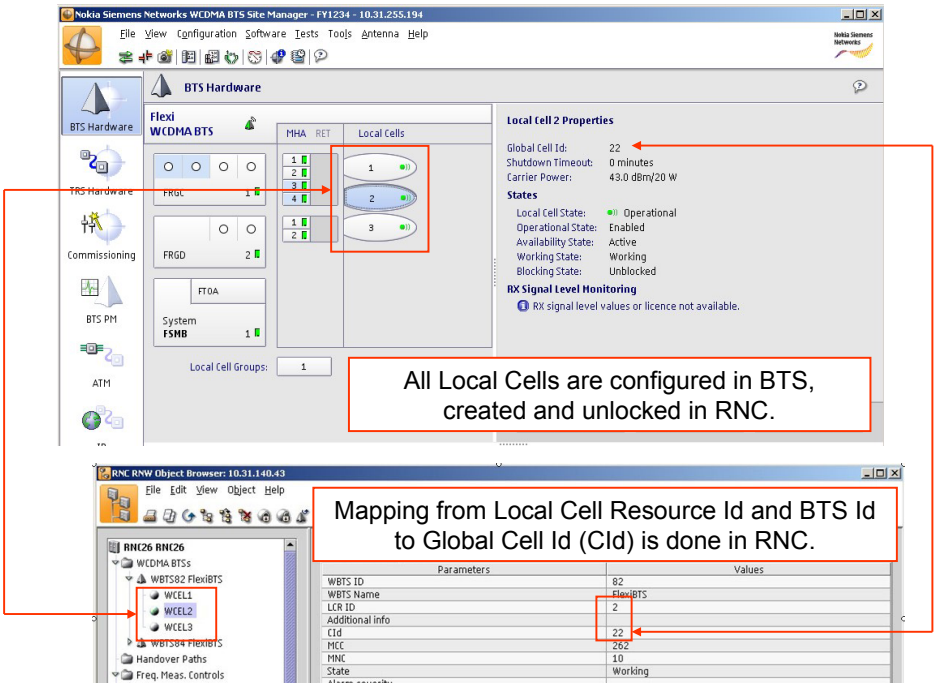
Cells with Local Cell Resource Id (LCR Id) 2 and 3 are locked in RNC

Cell Status in BTS Site Manager (cont)

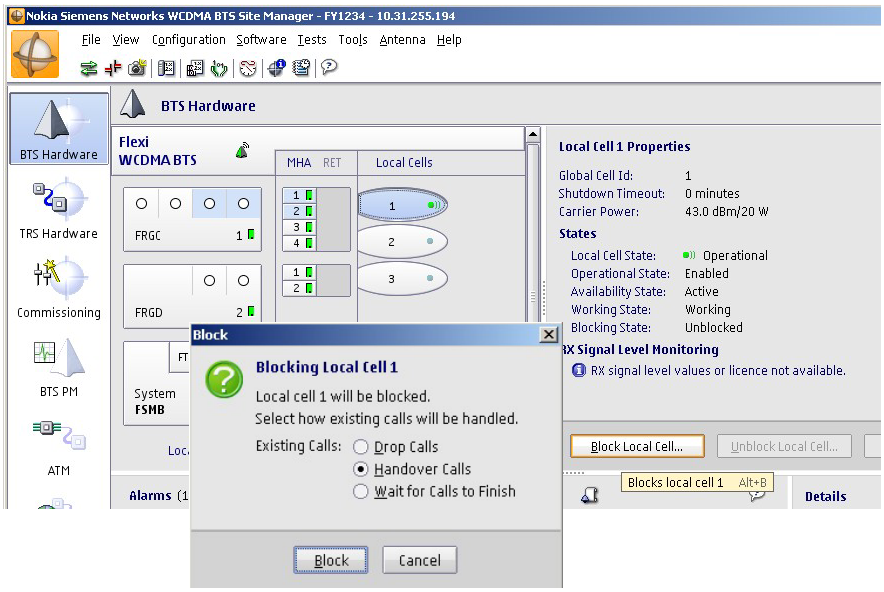


Local Cell 2 is configured in BTS, created and unlocked in RNC.

Cell Status in BTS Site Manager (cont)

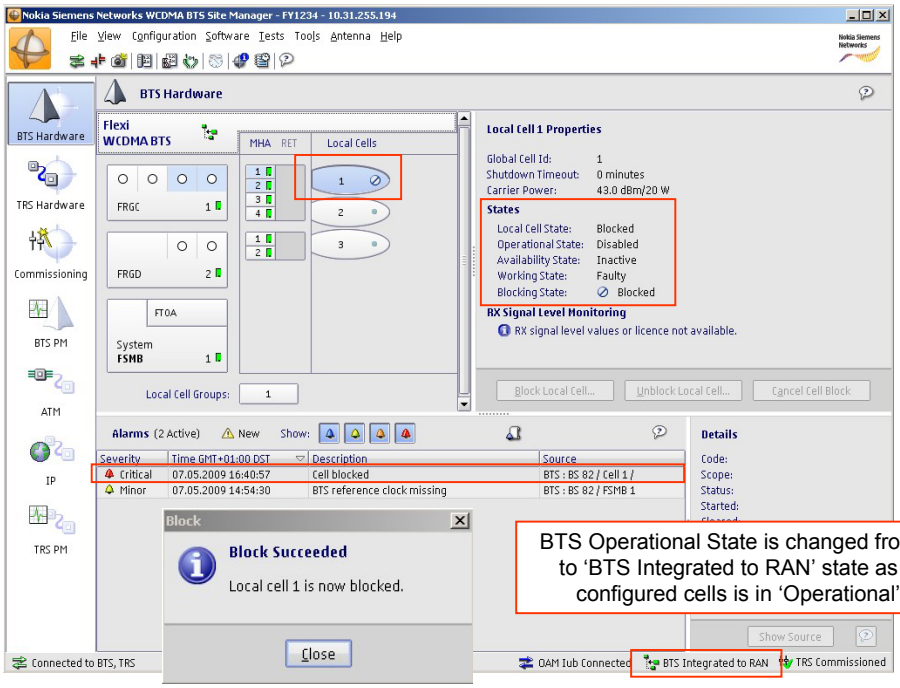


Block Cell in BTS Site Manager



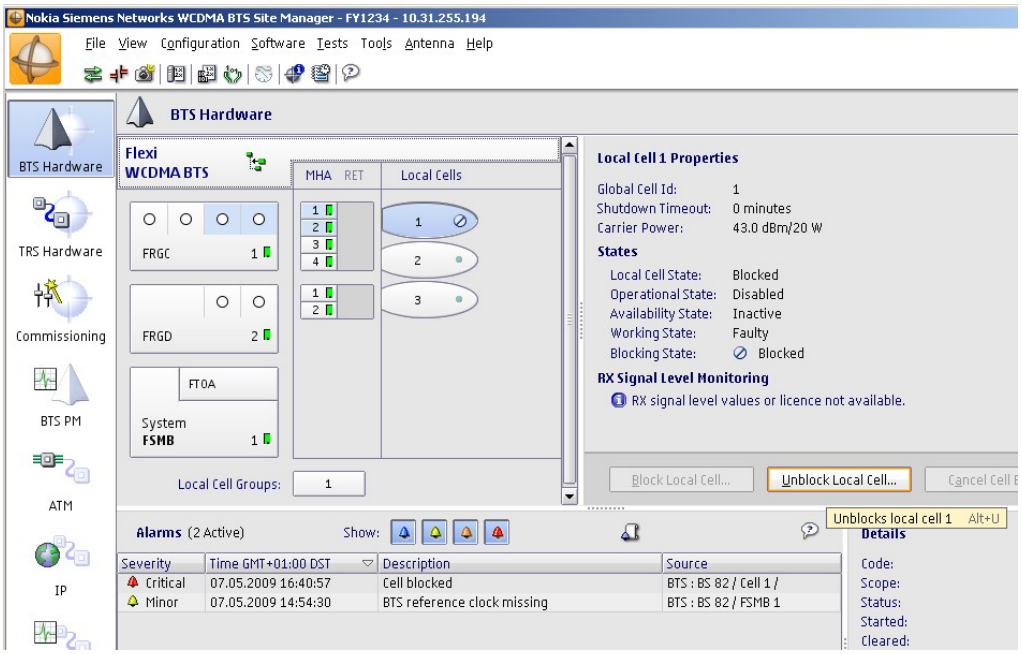
Cell Blocked in BTS can not be Unblocked in RNC!

Block Cell in BTS Site Manager (cont)



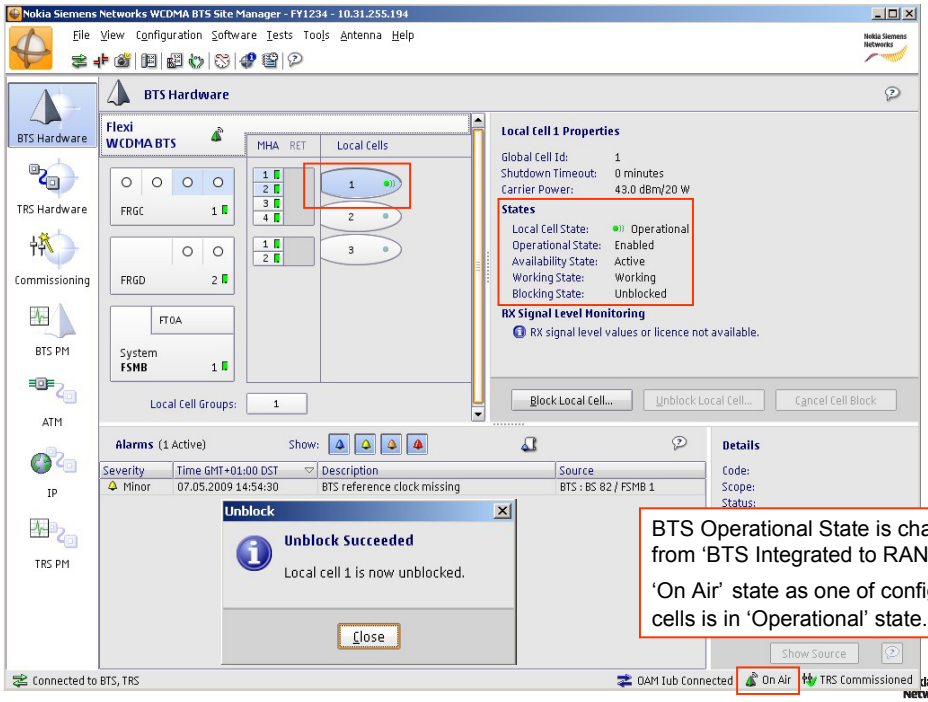
BTS Operational State is changed from 'On Air' to 'BTS Integrated to RAN' state as none of configured cells is in 'Operational' state.

Unblock Cell in BTS Site Manager

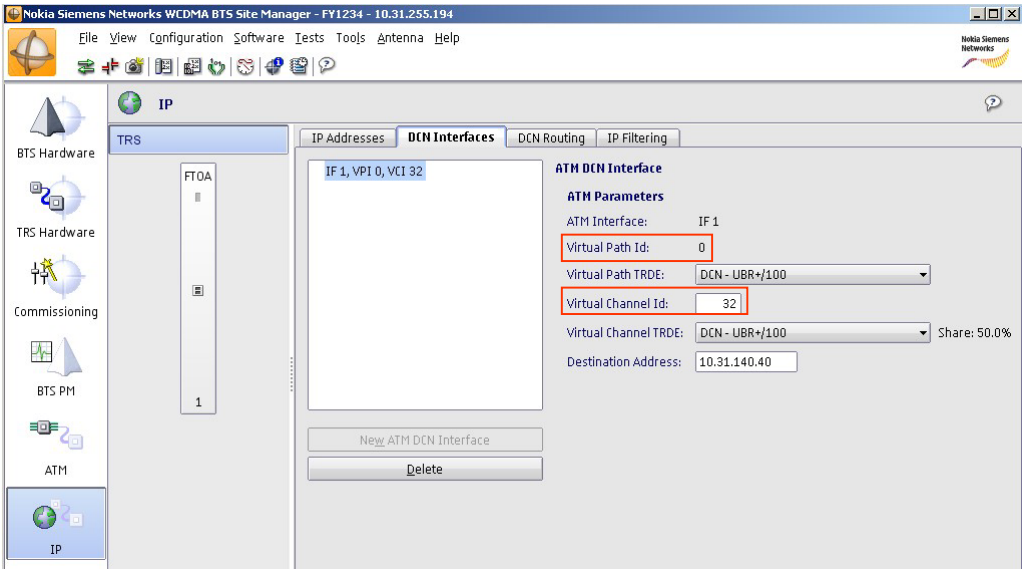


  RA4540BEN05GLA0

Unblock Cell in BTS Site Manager (cont)



DCN Interfaces in BTS Site Manager

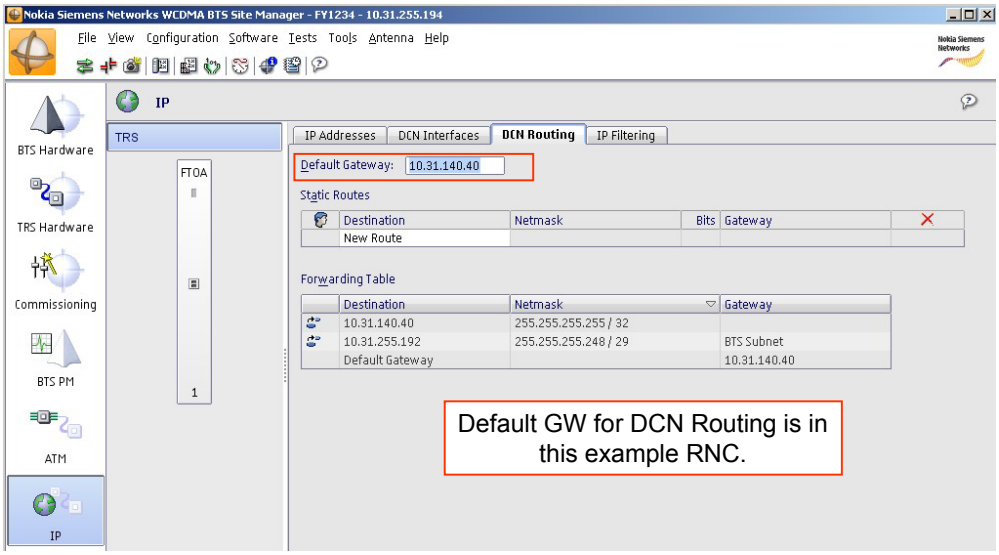


DCN Interfaces in RNC

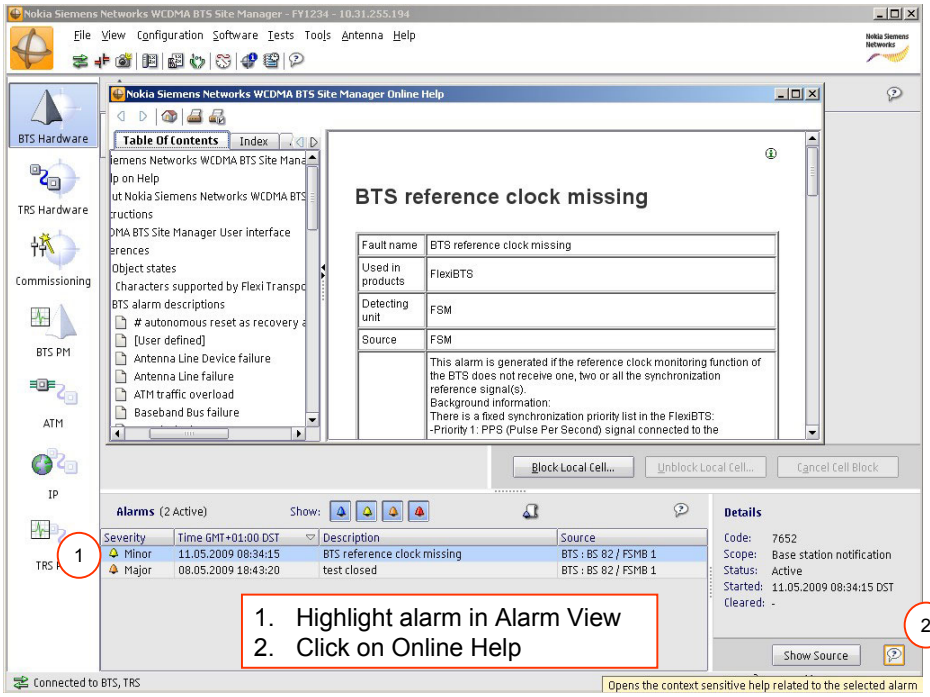
```
< ZQMI;

LOADING PROGRAM VERSION 8.19-15

EXECUTION STARTED

RNC       IPA2800                    2009-05-11  11:07:04

INQUIRED TCP/IP ATM INTERFACE

EXTERNAL TERMINATION POINT(S):

                                                                  OPER     ADMIN
UNIT&INDEX TYPE IP INT    ATM IF VPI   VCI     ENC METHOD  USAGE   STATE    STATE
---------- ---- -------- ------ ----- -----  ----------  ------  -------- -----
OMU-0       LOG  AA82          82     0    32  LLC/SNAP     IPOAM   RUN      UP

COMMAND EXECUTED
```

DCN settings in RNC

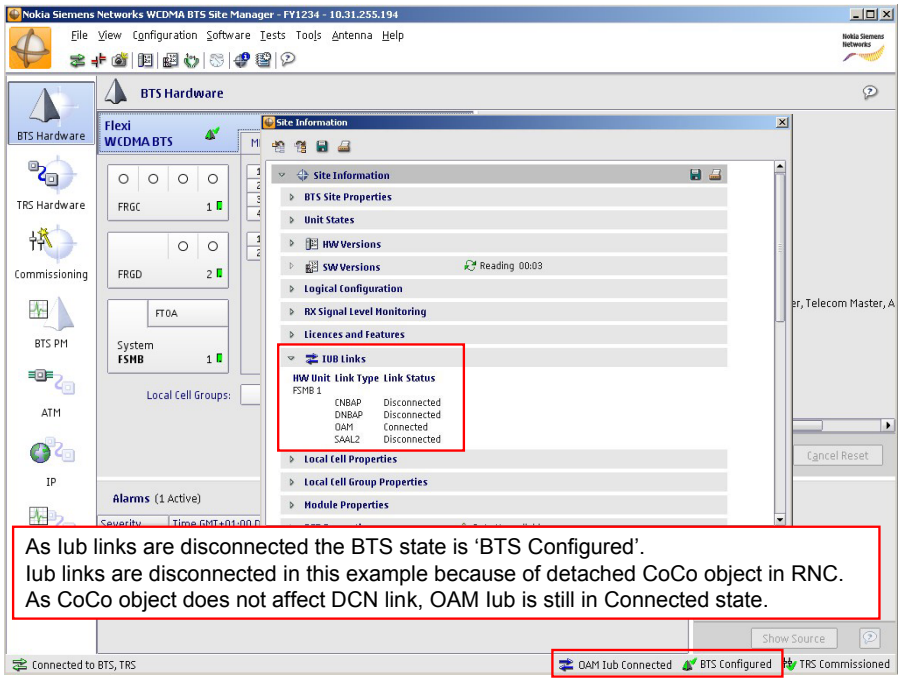
DCN Routing in BTS Site Manager



Get Alarm Details in BTS Site Manager

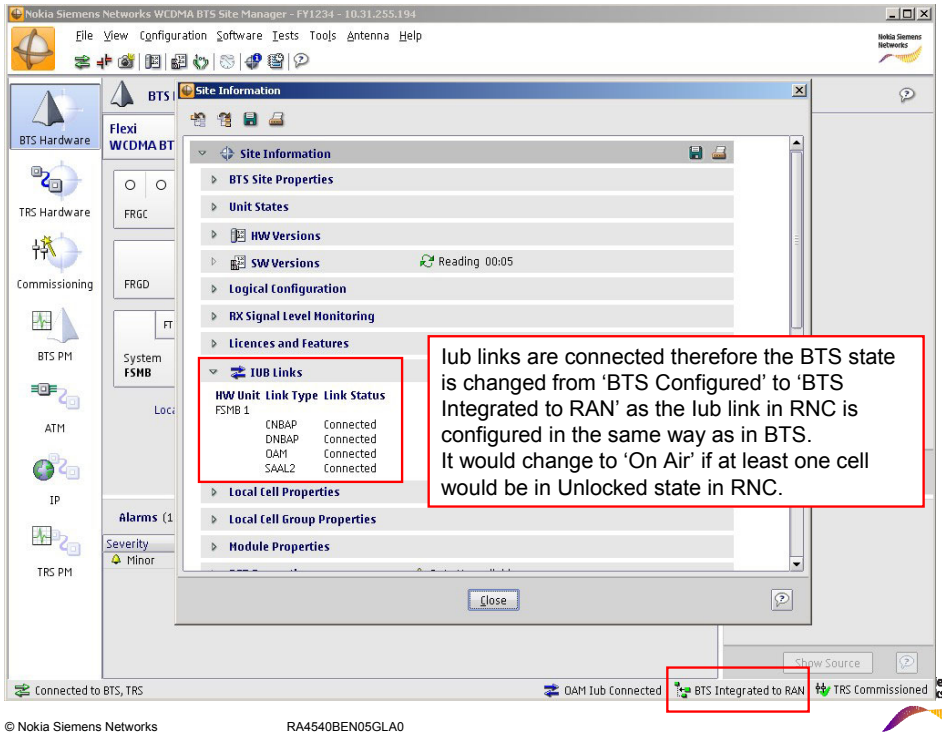


Iub Links Disconnected



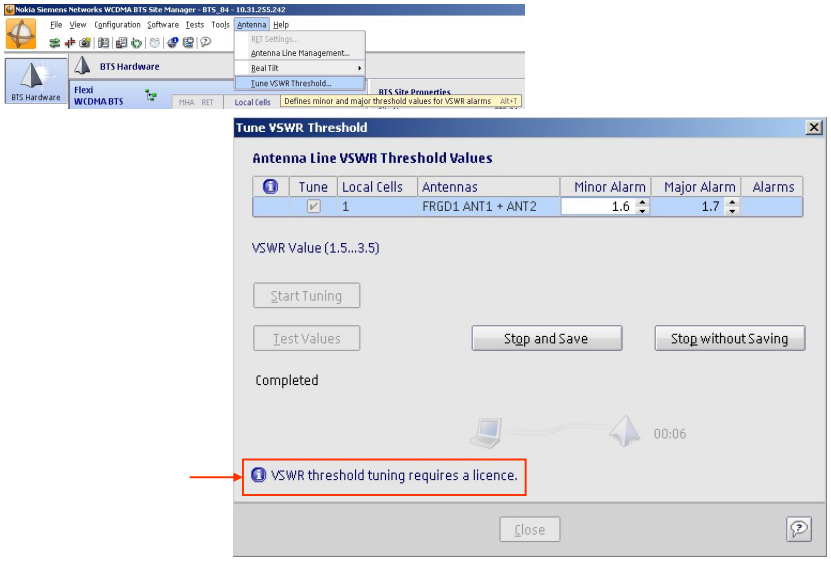
As Iub links are disconnected the BTS state is ‘BTS Configured’.
Iub links are disconnected in this example because of detached CoCo object in RNC.
As CoCo object does not affect DCN link, OAM Iub is still in Connected state.

Iub Links Connected



Iub links are connected therefore the BTS state is changed from 'BTS Configured' to 'BTS Integrated to RAN' as the Iub link in RNC is configured in the same way as in BTS.
It would change to 'On Air' if at least one cell would be in Unlocked state in RNC.

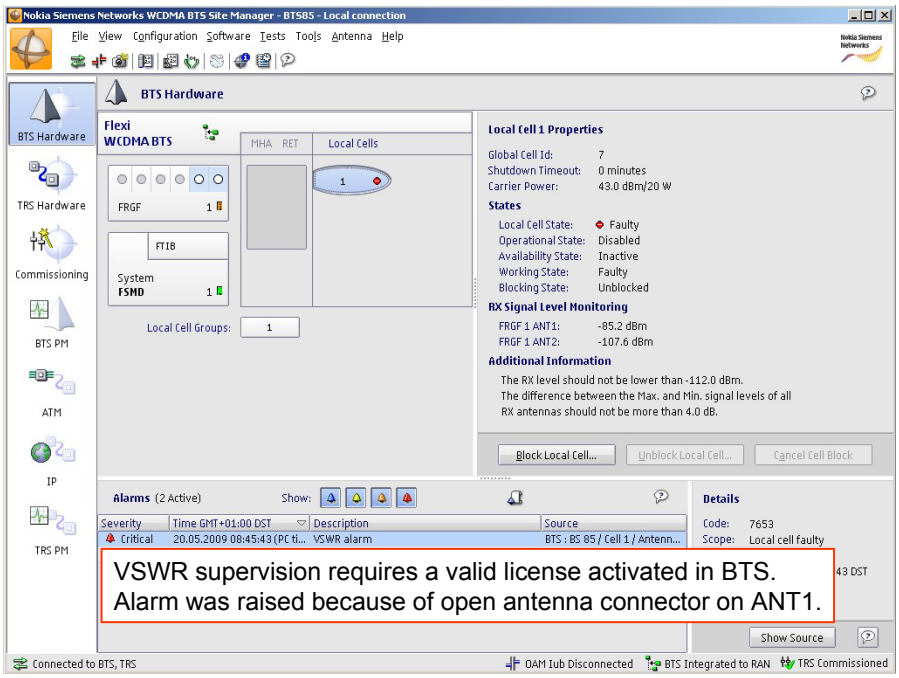
VSWR Threshold Tuning



Start tuning: system calculates thresholds.
Change threshold manually and **Test Values** becomes active.
After the test is finished it is possible to stop tuning with or without saving.

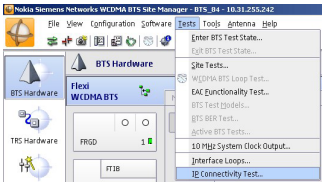
VSWR threshold tuning requires a valid license installed in Flexi WCDMA BTS (Antenna Line Supervision License Key).

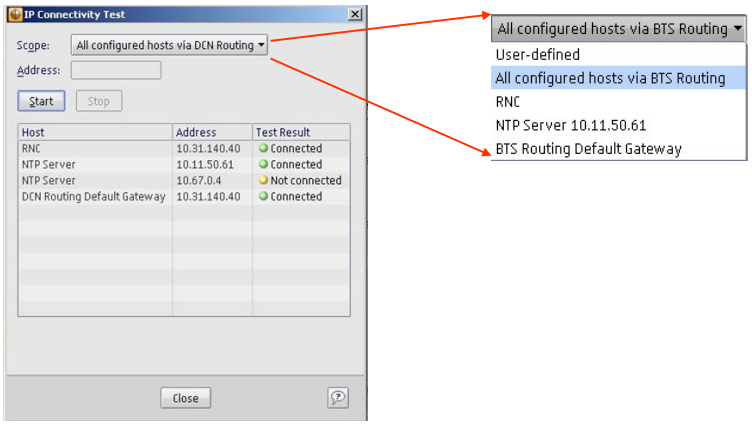
VSWR Alarm



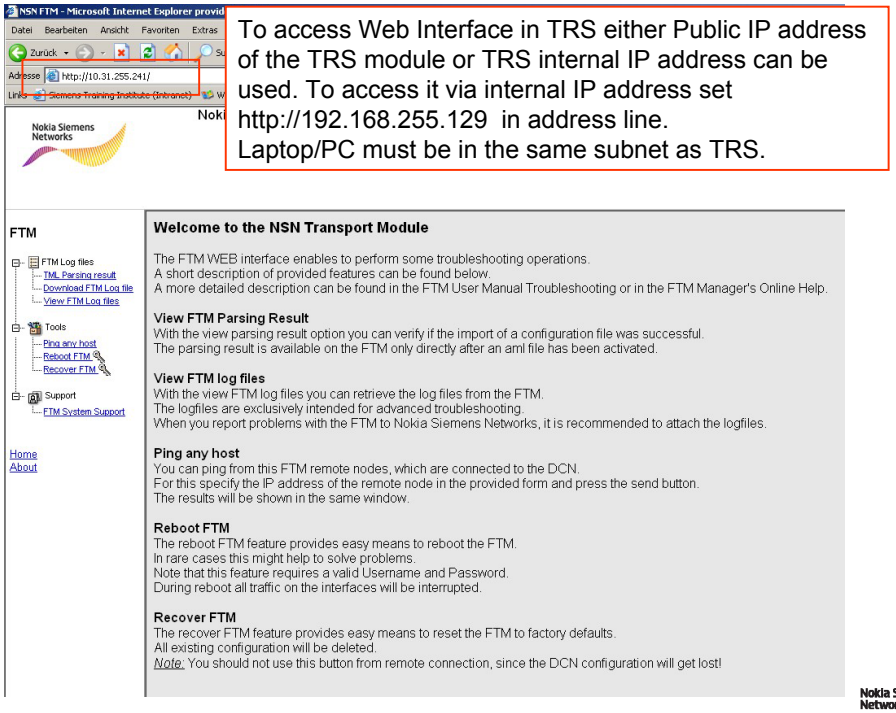
VSWR threshold tuning requires a valid license installed in Flexi WCDMA BTS (Antenna Line Supervision License Key).

IP Connectivity Test





TRS Web Interface



To access Web Interface in TRS either Public IP address of the TRS module or TRS internal IP address can be used. To access it via internal IP address set http://192.168.255.129 in address line. Laptop/PC must be in the same subnet as TRS.

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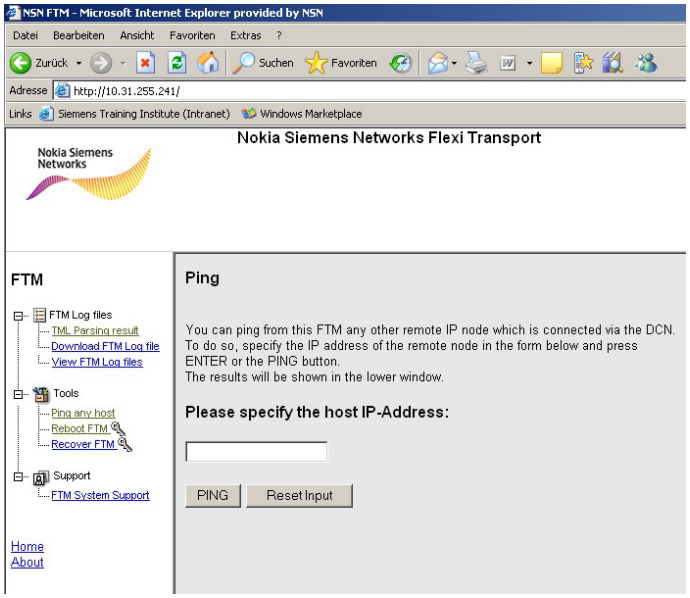
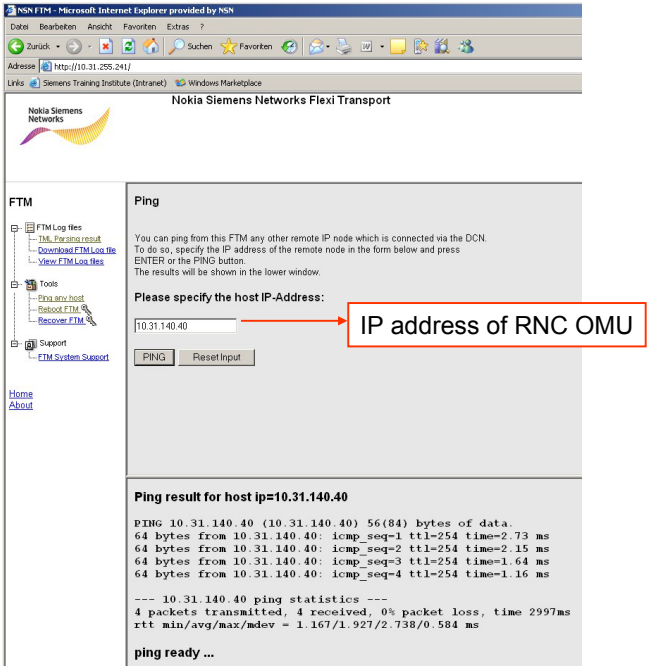
TRS Web Interface: Ping any Host



Ping from TRS to RNC OMU

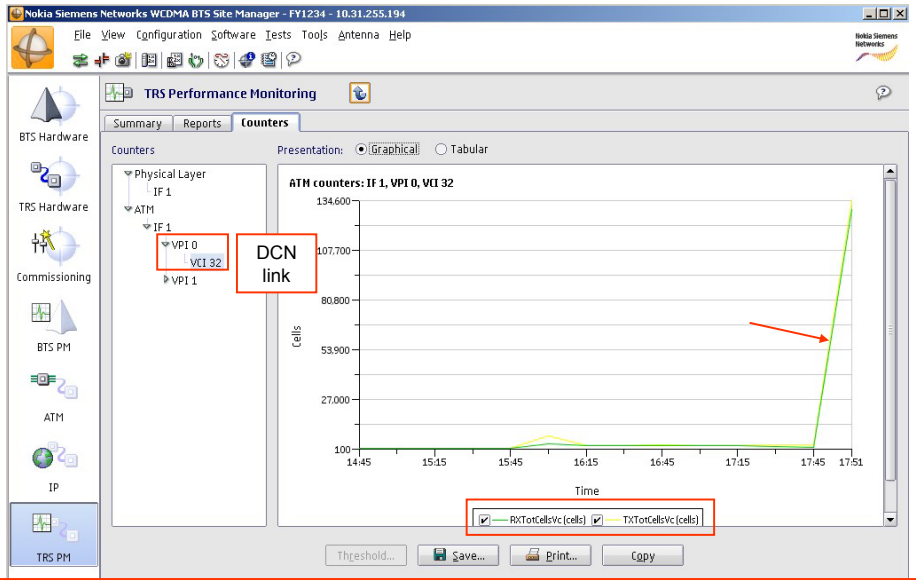


Ping from RNC OMU to TRS

```
QRX:OMU,0:IP=10.31.255.193:PING:S=8000,C=5,;

RNC       IPA2800                    2009-05-07  17:51:16

PING, SENDING UNIT: OMU-0
PING 10.31.255.193 (10.31.255.193): 8000 data bytes
8008 bytes from 10.31.255.193: icmp_seq=0 ttl=64 time=13.511 ms
8008 bytes from 10.31.255.193: icmp_seq=1 ttl=64 time=9.852 ms
8008 bytes from 10.31.255.193: icmp_seq=2 ttl=64 time=9.889 ms
8008 bytes from 10.31.255.193: icmp_seq=3 ttl=64 time=9.869 ms
8008 bytes from 10.31.255.193: icmp_seq=4 ttl=64 time=9.883 ms

----10.31.255.193 PING Statistics----
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 9.852/10.601/13.511 ms

COMMAND EXECUTED
```

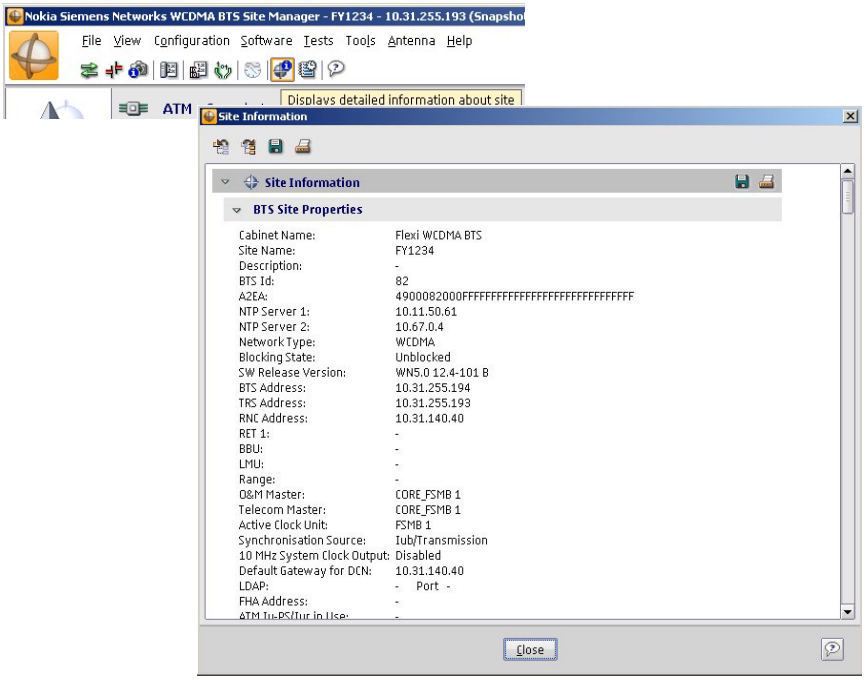
TRS IP address

TRS Performance Monitoring on DCN Link

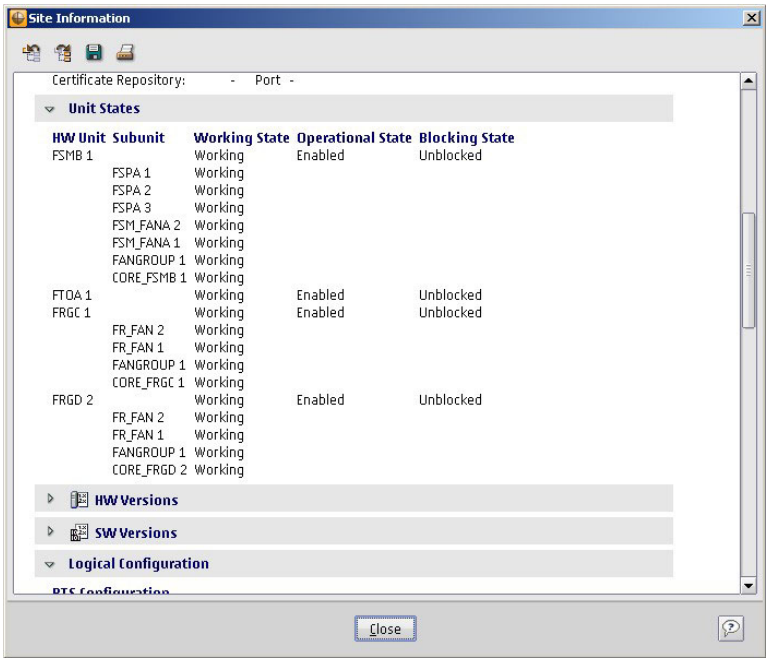


Due to many ping messages sent from RNC the total number of received and sent cells is increased on DCN link.

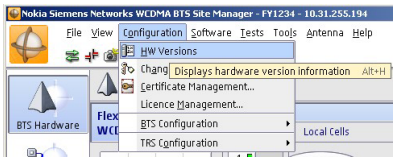
BTS Site Properties in Site Information

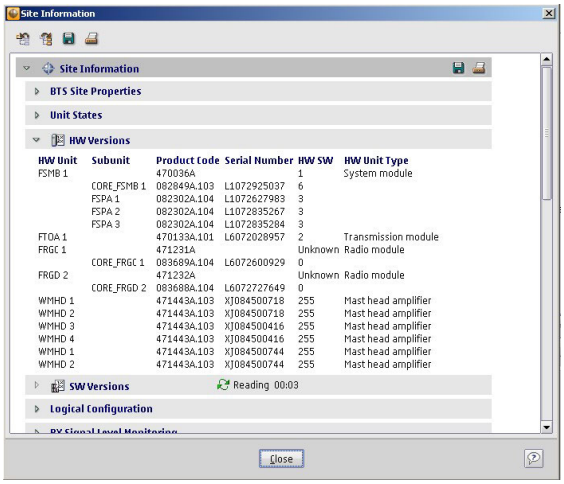


Site Information: Unit States

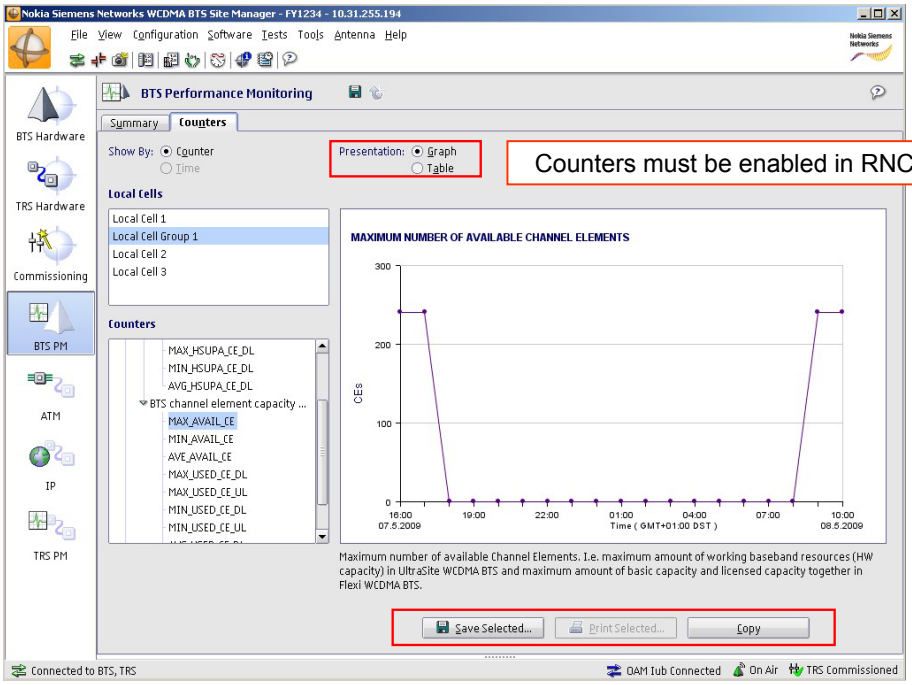


Site Information: Display HW Versions



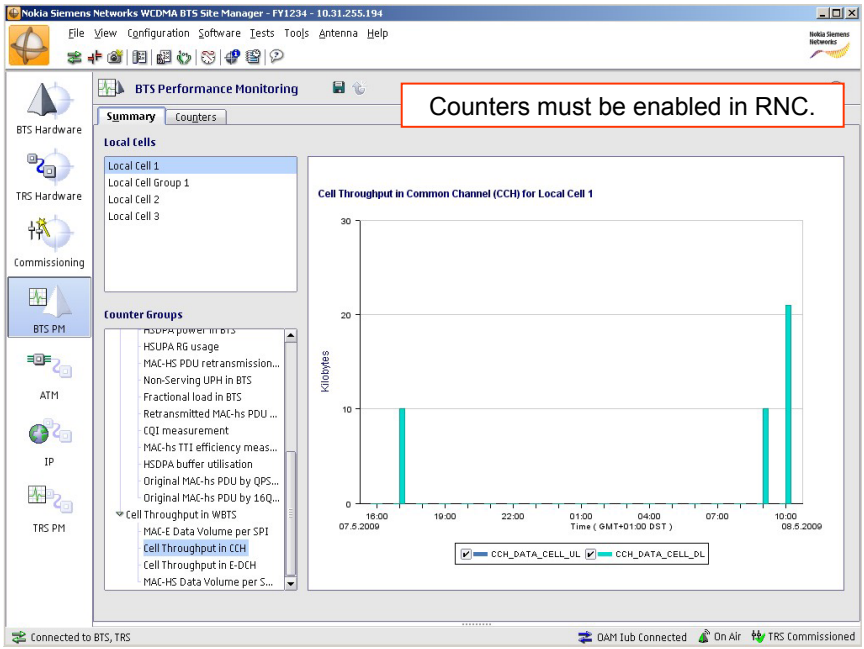


BTS Performance Measurement

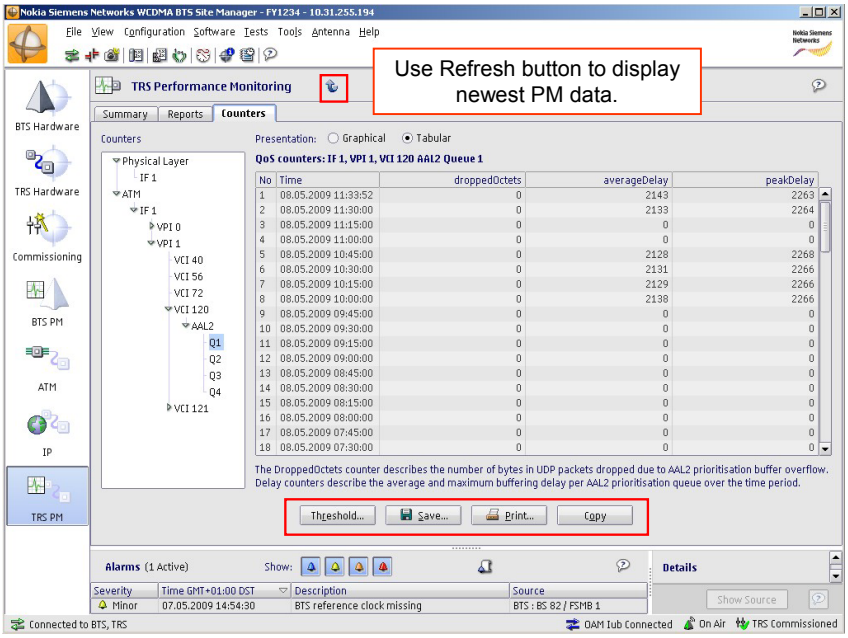


Counters must be enabled in RNC.

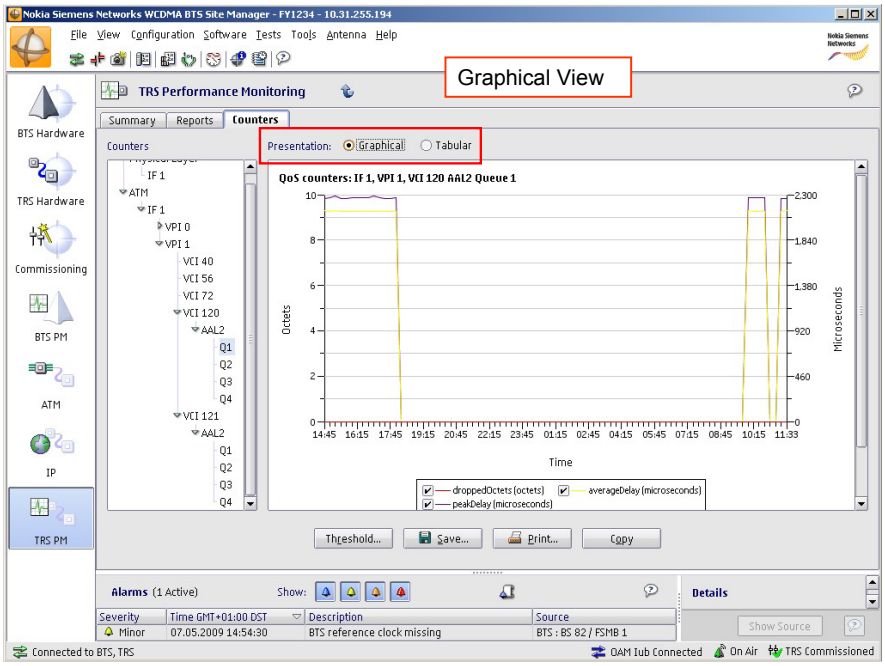
BTS Performance Measurement (cont)



TRS Performance Measurement



TRS Performance Measurement (cont)



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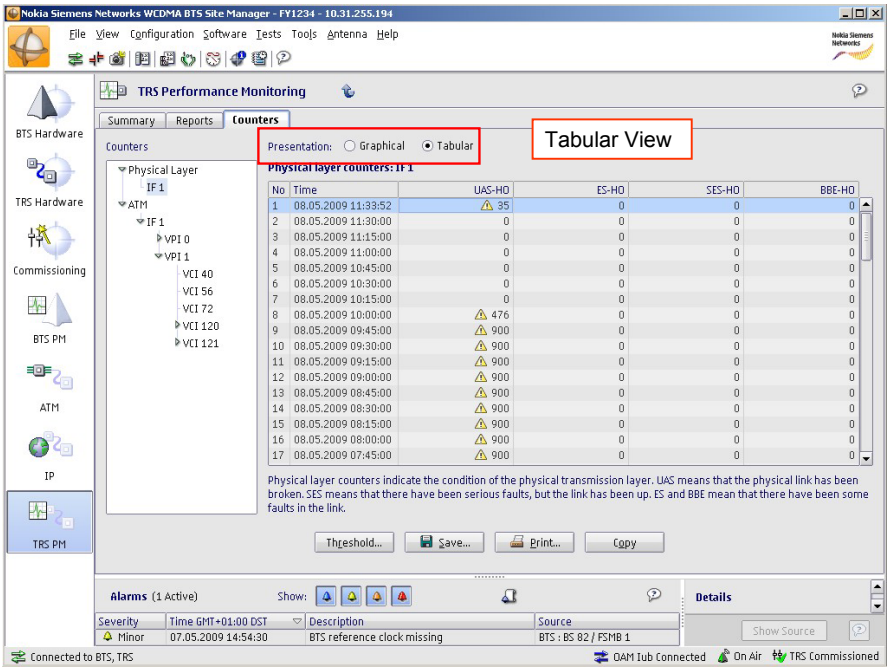
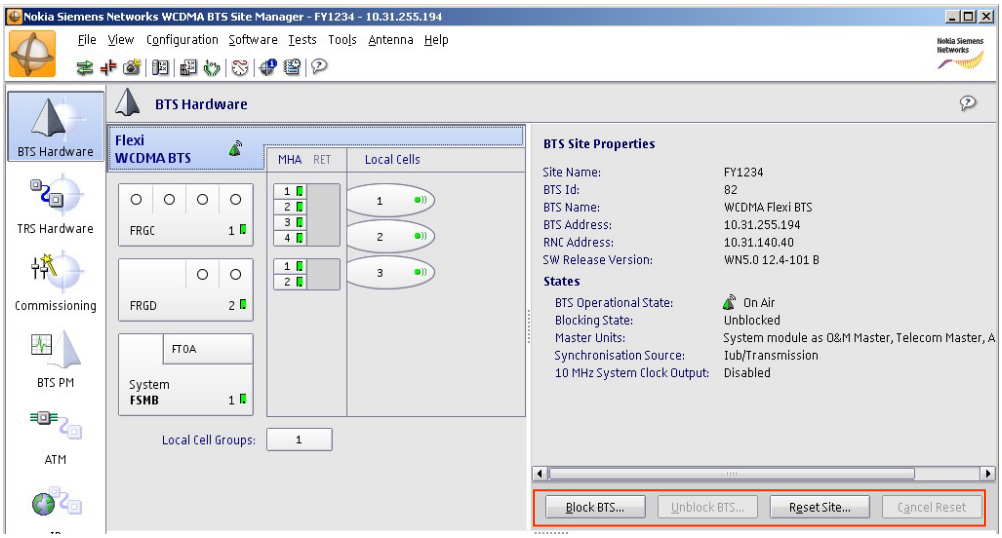
TRS Performance Measurement (cont)

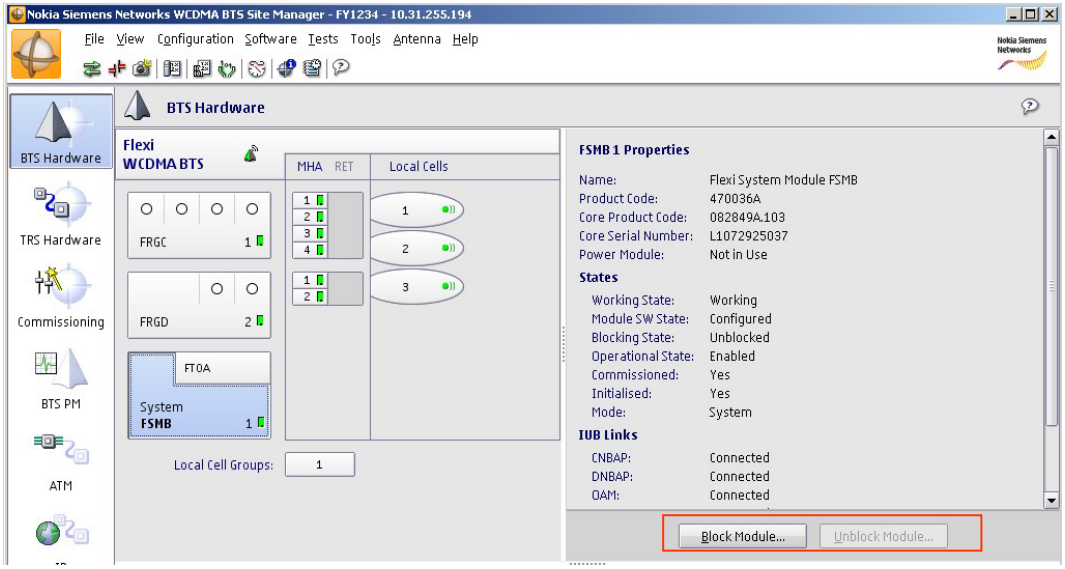


Block BTS, Reset Site



Block BTS/Unblock BTS => Reset BTS
Reset Site => Reset BTS and TRS

Block/Unblock Module



'Block Module' and 'Unblock Module' will reset the selected HW (e.g. System Module or Radio Module).
TRS Submodule can be rebooted from TRS Web Interface (Reboot TRS).

GPS Synchronisation Option