



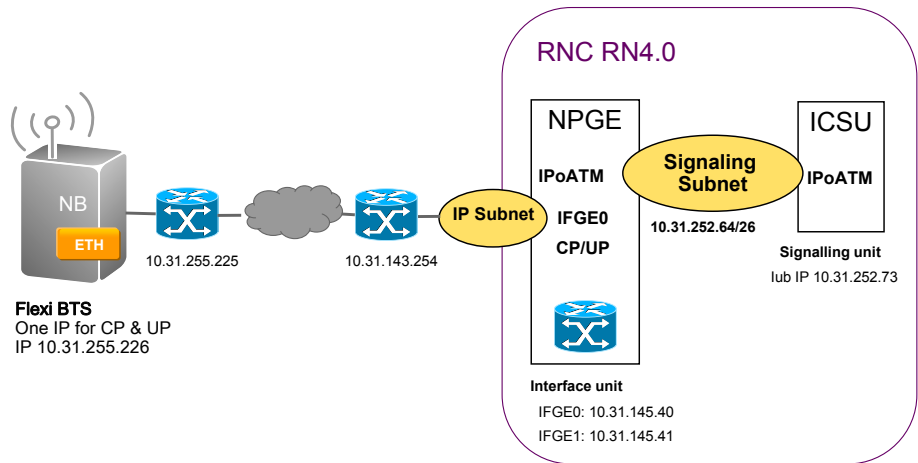
Flexi WCDMA BTS Integration

Legal notice

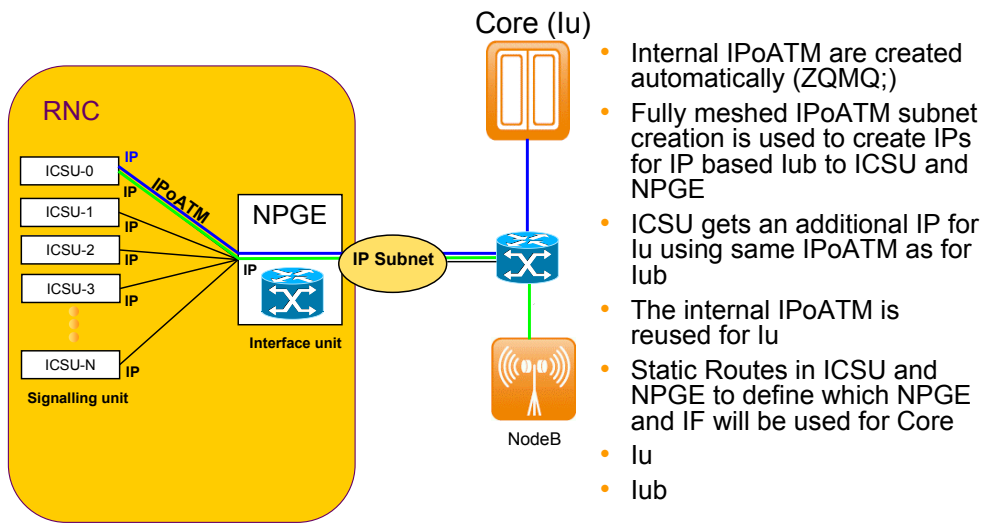
Intellectual Property Rights

All copyrights and intellectual property rights for NSN training documentation, product documentation and slide presentation material, all of which are forthwith known as NSN training material, are the exclusive property of NSN. NSN owns the rights to copying, modification, translation, adaptation or derivatives including any improvements or developments. NSN has the sole right to copy, distribute, amend, modify, develop, license, sublicense, sell, transfer and assign the NSN training material. Individuals can use the NSN training material for their own personal self-development only, those same individuals cannot subsequently pass on that same Intellectual Property to others without the prior written agreement of NSN. The NSN training material cannot be used outside of an agreed NSN training session for development of groups without the prior written agreement of NSN.

IP based lub Connectivity: MUC testbed



IP based lu / lub Connectivity



IP Addresses and BTS Id in BTS

Nokia Siemens Networks WCDMA BTS Site Manager - BTS_84 - Local connection

File View Configuration Software Tests Tools Antenna Help

BTS Hardware
TRS Hardware
Commissioning
BTS PM
IP
TRS PM

IP Addresses

Transport Address and Quality of Service Iub IP Timing Over Packet BTS Routing IP Filtering

BTS Id: 84 (1...65534)

TRF: 10.31.255.241

Subnet Mask: 255.255.255.240 / 28

BTS: 10.31.255.242

RNC: 10.31.140.40

LDAP: Port: 389

TLS for OAM Interface: Off

OAM Connection Status: Not Secured

External Equipment IP Addresses via DHCP

☐ Real Time (RTT)

☐ Battery Backup Unit (BBU)

☐ Location Measurement Unit (LMU)

☐ DHCP Client Address Range

Other IP Addresses via DHCP

Type	ID	IP Address
Select Type		

Alarms

Severity Time GMT+01:00 DST Description Source

Details

Code: Scope: Show Source

Connected to BTS, TRS OAM Iub Connected BTS Integrated to RAN TRS Commissioned

IP Addresses and BTS Id in RNC

The screenshot displays the RNC RNW Object Browser interface. The left pane shows a tree structure with 'WCDMA BTS' expanded, and 'WBS84 Flex/BTS' selected. The right pane shows the 'Parameters' tab for 'WCDMA BTS'. A red box highlights the 'BTS ID' field with the value '84'. Another red box highlights the 'BTS IP-address' field with the value '10.31.255.241'. A third red box highlights the 'IPNB object identifier' field with the value '1'. Red arrows point from these fields to labels on the right: 'BTS Id', 'BTS IP address', and 'Reference to IPNB object'. The status bar at the bottom indicates 'RNC RNW Object Browser is ready'.

Parameters	
BTS ID	84
BTS Name	FlexBTS
COCO ID	
Working WCEs	01 / 01
Alarm severity	
Radio resource ind. period	400
Load control period	2000
Scheduling period	100
OSM-DCN link status	Enabled
BTS IP-address	10.31.255.241
Net-type	FlexBTS
NBAP Communication Mode	UltraSiteBTS, FlexBTS, PicoBTS
OSM DCN secure link status	Insecure
IPNB object identifier	1
TQM object identifier	1
HSDPA14MbpsPerUser	Enabled
HSDPA x users enabled	12 users enabled

6 © Nokia Siemens Networks RA4540DEN05GLA0

IP: Transport Address and Quality of Service

IP

TRIS

FT18

1

BTS Hardware

TRIS Hardware

Commissioning

BTS PM

IP

TRIS PM

IP Addresses

Transport Address and Quality of Service

Iub IP

Timing Over Packet

BTS Routing

IP Fill...

Transport Ethernet Interface

Address: 10.31.255.226 / 28

Bandwidth: 100.0 Mbps (0.5, 1.0, ..., 100.0)

☐ Include Ethernet Overhead

Quality of Service

Queue Weights (1...10000)

Per Hop Behaviour	Queue Weight
Expedited Forwarding	Strict
Assured Forwarding 4	10000
Assured Forwarding 3	1000
Assured Forwarding 2	100
Assured Forwarding 1	10
Best Effort	1

☐ VLAN Mapping in Use

VLAN Id: 0 (0...4094)

Traffic Type Settings

Traffic Type	Per Hop Behaviour	VLAN Priority	DSCP
SG1	Expedited Forwarding	6	46
SG2	Assured Forwarding 4	5	34
SG3	Assured Forwarding 3	4	26
SG4	Assured Forwarding 2	3	18

Alarms

Severity

Time GMT+01:00 DST

Description

Source

Details

Code:

Scope:

Show Source

Connected to BTS, TRS

OAM Iub Connected

BTS Integrated to RAN

TRIS Commissioned

7

© Nokia Siemens Networks

RA4540DEN05GLA0



BTS Transport IP Address in RNC: IPNB Object

Modify IPNB Changed at: 2009-04-03 13:38:5...

Changed by: Element Manager originated configuration a...

IPNB object identifier: 1

WCDMA BTS identifier: 84

Control Plane Destination Address Iub: 10.31.255.226

IP Based Route Identification: 1

Minimum SCTP port number: 49152

NBAP DSCP: 34

C-NBAP

SCTP Port Number for C-NBAP: 49152

C-NBAP connection operational state: Working

D-NBAP List

Comm. Control Port ID	SCTP Port Nr for D-NBAP	D-NBAP connection operati...
1	49153	Working

Buttons: OK, Cancel, Print..., Set Defaults, Help

Transport Ethernet IP address as configured in BTS is set in IPNB object as C-plane Destination Address for Iub.



lub IP Mode Settings: Signaling Subnet in RNC

IP signaling subnet within RNC and IP address of the ICSSU.
ICSSU IP address is received from RNC. It is not configurable on BTS side. Only signaling subnetwork in RNC must be set on BTS side.

Iub IP Mode Settings: SCTP Port Settings in BTS

The screenshot displays the 'IP' configuration window for a WCDMA BTS. The 'Iub IP' tab is selected, showing various network parameters. A red box highlights the 'Minimum SCTP Port' field, which is set to 49152. A callout box points to this field with the text: 'Minimum SCTP Port is defined in IPNB object in RNC. C-NBAP will run on port 49152 and D-NBAP on 49153.'

Parameter	Value
Far End SCTP Address	10.31.252.73
Far End SCTP Subnet	10.31.252.64 / 26
Minimum SCTP Port	49152
Minimum UDP Port	49152
CAC Committed Bit Rate	2.0 Hbps (0.4, 0.5, ..., 99.9)
Signalling Bit Rate	200 kbps (50, 100, ..., 1000)
DCN Bit Rate	50 Kbps (50, 100, ..., 1000)

Bidirectional Forwarding Detection

☐ In Use

☒ Enable BFD Alarms

Desired Minimum Transmit Interval: 500 ms

Required Minimum Receive Interval: 500 ms

Detection Multiplier: 5

Destination Address:



SCTP Port Settings in RNC: IPNB Object

Modify IPNB

IPNB

Changed at: 2009-04-03 13:38:5...

Changed by: Element Manager originated configuration a...

IPNB object identifier

1

WCDMA BTS identifier

84

Control Plane Destination Address Iub

10.31.255.226

IP Based Route Identification

1

Minimum SCTP port number

49152

NBAP DSCP

34

C-NBAP

SCTP Port Number for C-NBAP

49152

C-NBAP connection operational state

Working

D-NBAP List

Comm. Control Port ID	SCTP Port Nr for D-NBAP	D-NBAP connection operati...
1	49153	Working

Set Defaults

OK

Cancel

Print...

Help



Missmatch between SCTP Port Settings in RNC and BTS

As Minimum SCTP port in BTS configuration (51000) does not fit the setting in IPNB object (50000) the BTS is in "BTS configured" state and not in "BTS integrated to RAN" or "On Air". It is possible to modify this value in IPNB object without reset of the BTS. If the change should be done on BTS side the re-commissioning is needed!

12 © Nokia Siemens Networks RA4540DEN05GLA0

Iub IP Mode Settings: Bit Rates

IP

IP Addresses

Transport Address and Quality of Service

Iub IP

Timing Over Packet

BTS Routing

IP Filtering

Far End SCTP Address: 10.31.252.73

Far End SCTP Subnet: 10.31.252.64 / 26

Minimum SCTP Port: 49152

Minimum UDP Port: 49152

CAC Committed Bit Rate: 2.0 Mbps (0.4, 0.5, ..., 99.9)

Signalling Bit Rate: 200 Kbps (50, 100, ..., 1000)

DCN Bit Rate: 50 Kbps (50, 100, ..., 1000)

Bidirectional Forwarding Detection

☐ In Use

☒ Enable BFD Alarms

Connection Admission Control (CAC) Committed Bit Rate, Signalling Bit Rate and DCN Bit Rate are configured in BTS and in RNC. Bit rates in RNC can be checked with ZQRL; command from Man Machine Interface.

ICP/IP STACK DATA HANDLING COMMAND <QR>
ZQRL;

LOADING PROGRAM VERSION 13.6-0

RNC IP02800 2009-04-15 11:23:03

CONFIGURED IP BASED ROUTE

SEQ	ID	NAME	ROUTE	BU	COMMITTED	COMMITTED	COMMITTED	IFC	RATIO
					<KBPS>	STG BU	DCN BU		
					<KBPS>	<KBPS>	<KBPS>		
1	1	IUB/BTS84	20000	2000	500	0	OFF	N/A	
2	2	IUB/SUP	500000	100000	1000	100	OFF	N/A	
3	3	IUB/SUP	500000	100000	1000	100	OFF	N/A	

COMMAND EXECUTED

Alarms

Severity Time GMT+01:00 DST Description Source

Code: Scope:

Show Source

Connected to BTS, TRS

OAM Iub Connected

BTS Integrated to RAN

TRS Commissioned

Interrogating NPGE card in RNC

QRI:NPGE,;;

RNC IPA2800 2009-04-15 10:51:18

INTERROGATING NETWORK INTERFACE DATA

UNIT	IF NAME	ADM STATE	MTU	PRIORITY	IF TYPE	ADDR TYPE	IP ADDRESS
NPGE-3	IFAI22	UP	1500	-	U	P	10.31.145.40/32
	IFAI67	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.77
	IFAI68	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.76
	IFAI69	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.75
	IFAI70	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.74
	IFAI71	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.73
	IFAI72	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.72
	IFAI73	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.71
	IFAI74	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.70
	IFAI75	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.69
	IFAI76	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.68
	IFAI77	UP	1500	-	U	P	10.31.252.126/32 ->10.31.252.67
	IFAI78	UP	1500	-	U	P	10.31.145.40/32 10.31.252.126/32 ->10.31.252.66
	IFAI79	UP	1500	-	U	P	10.31.145.40/32 10.31.252.126/32 ->10.31.252.65
	IFGE0	UP	1500	-	P	P	10.31.145.40/24
	IFGE1	UP	1500	-	P	P	10.31.140.41/24
	LO0	UP	1500	-	P	P	10.31.252.126/32

IP Interface IFAI71 on NPGE-3 has an IP address 10.31.252.126 which is routed internally to the corresponding ICSU with IP Address 10.31.252.73 (in this example ICSU-8).

Physical Interfaces on NPGE IFGE0 and IFGE1 and Loopback interface LO0.

COMMAND EXECUTED



Interrogating ICSU cards in RNC

JNIT	IF NAME	ADM STATE	MTU	PRIORITY	IF TYPE	ADDR TYPE	IP ADDRESS
ICSU-0	AA510	UP	1436	-	U	L	10.31.255.97/32
						L	->10.31.145.40
						L	10.31.252.65/32
ICSU-1	AA510	UP	1436	-	U	L	->10.31.252.126
						L	10.31.255.97/32
						L	10.31.252.65/32
ICSU-2	AA510	UP	1436	-	U	L	10.31.255.98/32
						L	->10.31.145.40
						L	10.31.252.66/32
ICSU-3	AA510	UP	1436	-	U	L	->10.31.252.126
						L	10.31.255.98/32
						L	10.31.252.66/32
ICSU-4	AA510	UP	1436	-	U	L	10.31.252.67/32
						L	->10.31.252.126
						L	10.31.252.67/32
ICSU-5	AA510	UP	1436	-	U	L	10.31.252.68/32
						L	->10.31.252.126
						L	10.31.252.68/32
ICSU-6	AA510	UP	1436	-	U	L	10.31.252.69/32
						L	->10.31.252.126
						L	10.31.252.69/32
ICSU-7	AA510	UP	1436	-	U	L	10.31.252.70/32
						L	->10.31.252.126
						L	10.31.252.70/32
ICSU-8	AA510	UP	1436	-	U	L	10.31.252.71/32
						L	->10.31.252.126
						L	10.31.252.71/32
ICSU-9	AA510	UP	1436	-	U	L	10.31.252.72/32
						L	->10.31.252.126
						L	10.31.252.72/32
ICSU-10	AA510	UP	1436	-	U	L	10.31.252.73/32
						L	->10.31.252.126
						L	10.31.252.73/32
ICSU-11	AA510	UP	1436	-	U	L	10.31.252.74/32
						L	->10.31.252.126
						L	10.31.252.74/32
ICSU-12	AA510	UP	1436	-	U	L	10.31.252.75/32
						L	->10.31.252.126
						L	10.31.252.75/32

ICSU-8 own IP address
and routing to IFAI71 on
NPGE



Interrogating static routes in RNC (ZQKB;)

IP ROUTING DATA HANDLING COMMAND <QK_>
< B;

RNC IPA2800 2009-04-15 10:58:49

INTERROGATED STATIC ROUTES

UNIT	DESTINATION	GATEWAY ADDRESS	ROUTE TYPE	PREFERENCE	NBR
OMU-0	DEFAULT ROUTE	10.31.140.254	LOG	0	1
OMU-0	10.31.255.194/31	10.31.255.193	LOG	0	5
NPGE-3	DEFAULT ROUTE	10.31.145.254	PHY	0	2
ICSU-0	DEFAULT ROUTE	10.31.145.40	LOG	0	3
ICSU-1	DEFAULT ROUTE	10.31.145.40	LOG	0	4
ICSU-2	DEFAULT ROUTE	10.31.252.126	LOG	0	6
ICSU-3	DEFAULT ROUTE	10.31.252.126	LOG	0	7
ICSU-4	DEFAULT ROUTE	10.31.252.126	LOG	0	8
ICSU-5	DEFAULT ROUTE	10.31.252.126	LOG	0	9
ICSU-6	DEFAULT ROUTE	10.31.252.126	LOG	0	10
ICSU-7	DEFAULT ROUTE	10.31.252.126	LOG	0	11
ICSU-8	DEFAULT ROUTE	10.31.252.126	LOG	0	12
ICSU-9	DEFAULT ROUTE	10.31.252.126	LOG	0	13
ICSU-10	DEFAULT ROUTE	10.31.252.126	LOG	0	14
ICSU-11	DEFAULT ROUTE	10.31.252.126	LOG	0	15
ICSU-12	DEFAULT ROUTE	10.31.252.126	LOG	0	16
ICSU-8	10.31.255.226/32	10.31.252.126	LOG	0	17

COMMAND EXEC

10.31.252.126 -> IP address of NPGE-3 -> IFAI71
10.31.145.254 -> IP address of the router near to RNC





Interrogating Local Subnet in RNC (ZQML;)

ZML:;

EXECUTION STARTED

RNC IPA2800 2009-04-15 11:11:10

INTERROGATE LOCAL SUBNET

SUBNET ID	SUBNET ADDRESS	MASK LENGTH
1	10.31.252.64	26

Signaling Subnet is also configured in BTS.

INTERROGATE LOCAL SUBNET BASED SCIP LINK PARAMS

SUBNET ID	RTO INIT	RTO MIN	RTO MAX	ASSOC MAX RETRANS	PATH MAX RETRANS	HEARTBEAT INTERVAL	SACK PERIOD
1	1000	750	2000	5	5	1000	200

COMMAND EXECUTED





Change of Administrative State on NPGE Interface

QRM:NPGE,3:IPAI71,:::::DOWN

/* EXECUTION DETERMINATION:
; .. COMMAND EXECUTION
N .. NO EXECUTION */

QRM:NPGE,3:IPAI71,:::::DOWN;;

RNC IPA2800

2009-04-15 11:39:39

CONFIGURED NETWORK INTERFACE

UNIT	IF NAME	ADM STATE	MTU	PRIORITY	IF TYPE	ADDR TYPE	IP ADDRESS
NPGE-3	IPAI71	DOWN	1500	-	U	P	10.31.252.126/32 ->10.31.252.73

COMMAND EXECUTED

IUB Links

HW Unit Link Type Link Status

FSMB 1

CNBAP	Disconnected
DNBAP	Disconnected
QAM	Connected
SAAL2	Connected

QAM Iub Connected BTS Configured TRS Commissioned

Interrogating OMU card in RNC

QRI:OMU,0:;

RNC IPA2800 2009-04-24 11:41:28

INTERROGATING NETWORK INTERFACE DATA

UNIT	IF NAME	ADM STATE	MTU	PRIORITY	IF TYPE	ADDR TYPE	IP ADDRESS
OMU-0	EL0	UP	1500	-		L	10.31.140.40/24

COMMAND EXECUTED

Nokia Siemens Networks WCDMA BTS Site Manager - BTS_04 - 10.31.255.242

File View Configuration Software Tests Tools Antenna Help

BTS Hardware

TRS Hardware

Commissioning

IP

IP Addresses Transport Address and Quality of Service lub IP Timing Over Packet BTS Routing IP Filtering

BTS Id: 04 (1...65534)

TRG: 10.31.255.241

Subnet Mask: 255.255.255.240 / 28

BTS: 10.31.255.242

RNC: 10.31.140.40

LDAP: Port: 389

BTS Routing

IP

TRIS

FTIB

1

BTS Hardware

TRIS Hardware

Commissioning

BTS PM

IP

TRIS PM

Default Gateway: 10.31.255.225

Static Routes

Destination	Netmask	Bits	Gateway
New Route			

Forwarding Table

Destination	Netmask	Gateway
10.31.255.240	255.255.255.240 / 28	BTS Subnet
10.31.255.224	255.255.255.240 / 28	
Default Gateway		10.31.255.225

Alarms

Severity Time GMT+01:00 DST Description Source

Details

Code: Scope:

Show Source

Connected to BTS, TRIS

OAM Iub Connected

BTS Integrated to RAN

TRIS Commissioned

20

© Nokia Siemens Networks

RA4540DEN05GLA0



Timing over Packet (ToP) settings

Nokia Siemens Networks WCDMA BTS Site Manager - BTS_04 - Local connection

File View Configuration Software Tests Tools Antenna Help

IP

IP Addresses Transport Address and Quality of Service Iub IP **Timing Over Packet** BTS Routing IP Filtering

Timing Over Packet In Use

Master Clock Address:

Message Rate: 16 times/second

Master Clock State: Not Operational

Lock Status: Out of Lock

There are no Timing Over Packet licences available in the TRS element

Alarms

Severity	Time GMT+01:00 DST	Description	Source
----------	--------------------	-------------	--------

Details

Code:

Scope:

Show Source

Connected to BTS, TRS

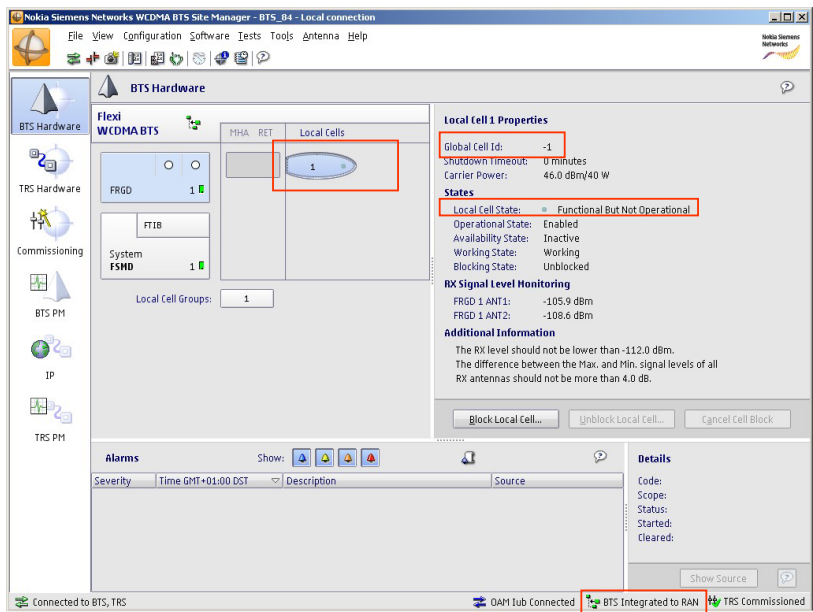
OAM Iub Connected

BTS Integrated to RAN

TRS Commissioned



Cell Locked in RNC



Cell Locked in RNC (cont)

RNC RW Object Browser: 10.31.140.43

File Edit View Object Help

RNC26 RNC26

- WCDMA BTSs
 - WBTS82 FlexiBTS
 - WBTS84 FlexiBTS
 - WCEL1**
- Handover Paths
- HOPs1
- HOP11
- Freq. Meas. Controls
 - FMCs1
 - FMCs3
 - FMC12
- WSMLCs
- CMOBs
 - CMOB1
 - CMOB2
 - CMOB3
- IUCSs
 - IUCS1
- IUPSs
 - IUPS2
- IPQMs
 - IPQM1
- IURs
- WRABs
 - WRAB1
- TQMs
 - TQM1
- WCDMA LCSEs
- WCDMA ANEs

WCDMA Cell Adjacencies

Parameters

WBTS ID	84	BTS Id in RNC
WBTS Name	FlexiBTS	
LCR ID	1	
Additional Info		
Cid	2	Global Cell Id in RNC
MCC	262	
MNC	10	
State	BL(U)	Cell is locked in RNC
Alarm severity		
HSDPA enabled	Enabled	
HSDPA Capability	HSDPA capable	
Operational HS-DSCH state	Enabled	
LAC	26	
SAC	26	
SACB	0	
RAC	26	
UARFCN	10588	
DL scrambling code	32	
URA identity 1	84	
SCCPCHs	1	
RT FMCS ID	3	
NRT FMCS ID	3	
RT FMCI ID	2	
NRT FMCI ID	2	
NRT FMCS ID		
HSUPA enabled	Enabled	
E-DCH Capability	Enabled	
Operational E-DCH state	Enabled	
HSPA FMCS identifier	3	
HSPA FMCS identifier for AMR multi-service	3	
Sector ID	0	
Eb/N0 parameter set identifier	1	
Frame timing offset of a cell	0	

Unlock Cell in RNC

The screenshot displays the 'Nokia Siemens Networks WCDMA BTS Manager' application. The main window is titled 'BTS Hardware' and shows a tree view on the left with 'Flexi WCDMA BTS' selected. The central pane shows 'Local Cells' with a single cell '1' highlighted. The right pane shows 'Local Cell 1 Properties' with fields for 'Global Cell Id: 2', 'ShutdownTimeSec: 0 minutes', and 'Carrier Power: 46.0 dBm/40 W'. Below this, the 'Status' section shows 'Local Cell State: Operational', 'Operational State: Enabled', 'Availability State: Active', 'Working State: Working', and 'Blocking State: Unblocked'. The 'RX Signal Level Monitoring' section shows 'FRGD 1 ANT1: -105.9 dBm' and 'FRGD 1 ANT2: -108.4 dBm'. The 'Additional Information' section contains a note about RX level differences. At the bottom, a status bar shows 'Connected to BTS, TRS' and 'On Air' with a green arrow icon. A red box highlights the 'On Air' status.

BTS state is "On Air" at least one cell is in "Operational" state.



Unlock Cell in RNC (cont)

RNC RW Object Browser: 10.31.140.43

File Edit View Object Help

RNC26 RNC26

WCDMA BTSs

WBTSS82 FlexiBTS

WBTSS84 FlexiBTS

WCEL1

Handover Paths

HOPB1

HOPB1

Freq. Meas. Controls

FMCS1

FMCS3

FMCI2

WSMLCs

CMOBs

CMOB1

CMOB2

CMOB3

IUCSs

IUCS1

IUPSs

IUPS2

IPQMs

IPQM1

IURs

WRABs

WRAB1

TQMs

TQM1

WCDMA LCSEs

WCDMA ANEs

WCDMA Cell

Adjacencies

Parameters

Parameters	
WBTS ID	84
WBTS Name	FlexiBTS
LCR ID	1
Additional info	
Cid	2
MCC	262
MNC	10
State	Working
Alarm severity	
HSDPA enabled	Enabled
HSDPA Capability	HSDPA capable
Operational HS-DSCH state	Enabled
LAC	26
SAC	26
SACB	0
RAC	26
UARFCN	10588
DL scrambling code	32
URA identity 1	84
SCCPCHs	1
RT FMCS ID	3
NRT FMCS ID	3
RT FMCI ID	2
NRT FMCI ID	2
RT FMCG ID	
NRT FMCG ID	
HSUPA enabled	Enabled
E-DCH Capability	Enabled
Operational E-DCH state	Enabled
HSPA FMCS identifier	3
HSPA FMCS identifier for AMR multi-service	3
Sector ID	0
EbN0 parameter set identifier	1
Frame timing offset of a cell	0

Cell is unlocked in RNC



The screenshot displays the Nokia Siemens Networks BTS Manager software interface. The main window is titled "BTS Hardware" and shows a tree view on the left with "BTS Hardware" selected. The central pane displays "Flexi WCDMA BTS" with a table of cells. The "Local Cells" tab is active, showing a table with columns "MHA", "RET", and "Local Cells". A red rectangle highlights the cell "1" in the "Local Cells" column, which has a checkmark in the "RET" column. To the right, the "Local Cell 1 Properties" panel shows various parameters: Global Cell Id: 4, Shutdown Timeout: 0 minutes, Carrier Power: 46.0 dBm/40 W. The "Status" section shows "Local Cell State: Blocked" (highlighted with a red rectangle) and "Operational State: Disabled". Below this, the "RX Signal Level Monitoring" section shows "FRGD 1 ANT1: -106.0 dBm" and "FRGD 1 ANT2: -108.7 dBm". The "Additional Information" section states: "The RX level should not be lower than -112.0 dBm. The difference between the Rmax. and Min. signal levels of all RX antennas should not be more than 4.0 dB." At the bottom, the "Alarms" section shows a critical alarm: "Cell blocked" at 20.04.2009 16:27:25. A red rectangle highlights the text "Cell Blocked in BTS can not be Unblocked in RNC!" in the bottom right corner.



Cell Blocked in BTS (cont)

RNC RNW Object Browser: 10.31.140.43

File Edit View Object Help

WCDMA Cell

Parameters	Values
WBTS ID	84
WBTS Name	FlexiBTS
LCR ID	1
Additional info	
Cid	2
MCC	262
MNC	10
State	BL(B M Ub)
Alarm severity	Critical
HSDPA enabled	Enabled
HSDPA Capability	BL-WBTS (blocked because the BTS has sent disabled state information)
Operational HS-DSCH state	Not
LAC	26
SAC	26

Cell Blocked in BTS can not be Unblocked in RNC!



Unlock Cell in BTS

Nokia Siemens Networks WCDMA BTS Manager - BTS: 64 - Local connection

File View Configuration Software Tests Tools Antenna Help

BTS Hardware

Flexi WCDMA BTS

MHA RET Local Cells

Local Cell 1 Properties

Global Cell Id: 4
Shutdown Timeout: 0 minutes
Carrier Power: 46.0 dBm/40 W

States

Local Cell State: **Operational**
Operational State: Enabled
Availability State: Active
Working
Unblocked

Monitoring

Local cell 1 is now unblocked.

Block Local Cell... Unblock Local Cell... Cancel Cell Block

Alarms

Severity Time GMT+01:00 DST Description Source

Details

Code:
Scope:
Status:
Started:
Cleared:

Connected to BTS, TRS

DAM Iub Connected On Air TRS Commissioned

28 © Nokia Siemens Networks RA4540DEN05GLA0



RX Signal Level Monitoring

BTS Hardware

Flexi WCDMA BTS

TRF Hardware

Commissioning

BTS PM

IP

FRGD

FTTB

System

FSMD

Local Cell Groups

1

MHA

RET

Local Cells

1

Local Cell 1 Properties

Global Cell Id: 4

Shutdown Timeout: 0 minutes

Carrier Power: 46.0 dBm/40 W

States

Local Cell State: Operational

Operational State: Enabled

Availability State: Active

Working State: Working

Blocking State: Unblocked

RX Signal Level Monitoring

FRGD 1 ANT1: -106.0 dBm

FRGD 1 ANT2: -108.8 dBm

Additional Information

The RX level should not be lower than -112.0 dBm.

The difference between the Max. and Min. signal levels of all RX antennas should not be more than 4.0 dB.

Alarm Level

-112dBm

Difference < 4dB

Rx 2

Rx 1

RX Signal Level Monitoring feature requires a valid license which must be activated in BTS.
Rx signal level is measured every minute.

Alarm is raised if one of thresholds is exceeded

Alarms (1 Active)

Show Alarms:

Severity	Time GMT+02:00 DST	Description	Source
Critical	Sep 22, 2007 7:29:32 AM	Rx signal level less than -112dBm	BTS : BS 4 / ANT 1

Alarms (2 Active)

Show:

Severity	Time GMT+01:00 DST	Description	Source
Major	20.05.2009 09:05:45 (PC U...	Rx signal level failure	BTS : BS 85 / Cell 1 / Antenn...
Major	20.05.2009 09:05:45 (PC U...	Rx signal level failure	BTS : BS 85 / Cell 1 / Antenn...

RX Signal Level Monitoring (cont)

Nokia Networks WCDMA BTS Site Manager - BTS185 - Local connection

File View Configuration Software Tests Tools Antenna Help

BTS Hardware

Flexi WCDMA BTS

MHA RET Local Cells

FRGF 1

FTIB

System FSMD 1

Local Cell Groups: 1

Local Cell 1 Properties

Global Cell Id: 7
 Shutdown Timeout: 0 minutes
 Carrier Power: 43.0 dBm/20 W

States

Local Cell State: ● Operational
 Operational State: Enabled
 Availability State: Active
 Working State: Working
 Blocking State: Unblocked

RX Signal Level Monitoring

FRGF 1 ANT1: ⚠ -102.9 dBm
 FRGF 1 ANT2: ⚠ -107.7 dBm

Additional Information

The RX level should not be lower than -112.0 dBm.
 The difference between the Max. and Min. signal levels of all RX antennas should not be more than 4.0 dB.

Alarms (2 Active)

Severity	Time GMT+01:00 DST	Description	Source
Major	20.05.2009 09:05:45 (PC t...	Rx signal level failure	BTS : BS 85 / Cell 1 / Antenn...
Major	20.05.2009 09:05:45 (PC t...	Rx signal level failure	BTS : BS 85 / Cell 1 / Antenn...

Details

Code: 7654
 Scope: Local cell operation degraded
 Status: Active
 Started: 20.05.2009 09:05:45 DST
 Cleared: -

Connected to BTS, TRS

DAM Link Disconnected On Air TRS Commissioning

VSWR Threshold Tuning

Tune VSWR Threshold

Tune	Local Cells	Antennas	Minor Alarm	Major Alarm	Alarms
<input checked="" type="checkbox"/>	1	FRGD1 ANT1 + ANT2	1.6	1.7	

VSWR Value (1.5...3.5)

Start Tuning

Test Values

Stop and Save

Stop without Saving

Completed

00:06

VSWR threshold tuning requires a licence.

Close

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.

31 © Nokia Siemens Networks RA4540DEN05GLA0

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

VSWR Alarm

VSWR Alarm

Nokia Siemens Networks WCDMA BTS Site Manager - BTS85 - Local connection

File View Configuration Software Tests Tools Antenna Help

BTS Hardware

Flexi WCDMA BTS

MHA RET Local Cells

FRGF 1

FTIB

System FSHD 1

Local Cell Groups: 1

Local cell 1 Properties

Global Cell Id: 7
Shutdown Timeout: 0 minutes
Carrier Power: 43.0 dBm/20 W

States

Local Cell State: Faulty
Operational State: Disabled
Availability State: Inactive
Working State: Faulty
Blocking State: Unblocked

RX Signal Level Monitoring

FRGF 1 ANT1: -85.2 dBm
FRGF 1 ANT2: -107.6 dBm

Additional Information

The RX level should not be lower than -112.0 dBm.
The difference between the Max. and Min. signal levels of all RX antennas should not be more than 4.0 dB.

Block Local Cell... Unblock Local Cell... Cancel Cell Block

Alarms (2 Active)

Severity	Time GMT+01:00 DST	Description	Source
Critical	20.05.2009 08:45:43 (PC U...)	VSWR alarm	BTS: BS 85 / Cell 1 / Antenn...

Details

Code: 7653
Scope: Local cell faulty

VSWR supervision requires a valid license activated in BTS.
Alarm was raised because of open antenna connector on ANT1.

43 DST

Show Source

Connected to BTS, TRS

QAPI Iub Disconnected

BTS Integrated to RAN

TRS Commissioned

32 © Nokia Siemens Networks RA4540DEN05GLA0

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



IP Connectivity Test

File

View

Configuration

Software

Tests

Tools

Antenna

Help

Enter BTS Test State...

Exit BTS Test State...

Site Tests...

WCDMA BTS Loop Test...

EAC Functionality Test...

BTS Test Models...

BTS RSR Tests...

Activate BTS Tests...

10 MHz System Clock Output...

Interface Loops...

IP Connectivity Test...

BTS Hardware

Flexi WCDMA BTS

FRSD

FTTB

BTS Hardware

TRX Hardware

IP Connectivity Test

Scope: All configured hosts via BTS Routing

Address: 10.31.252.73

Routing: ☐ DCN ☒ BTS

Start

Stop

Host	Address	Test Result
RNC	10.31.140.40	Connected
NTP Server	10.11.50.61	Connected
BTS Routing Default Gateway	10.31.255.225	Connected

Close

?

All configured hosts via BTS Routing

User-defined

All configured hosts via BTS Routing

RNC

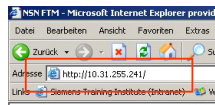
NTP Server 10.11.50.61

BTS Routing Default Gateway





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.

FTM

- FTM Log files
 - [FTM Parsing result](#)
 - [Download FTM Log file](#)
 - [View FTM Log files](#)
- Tools
 - [Ping any host](#)
 - [Reboot FTM](#)
 - [Recover FTM](#)
- Support
 - [FTM System Support](#)

[Home](#)
[About](#)

Welcome to the NSN Transport Module

The FTM WEB interface enables to perform some troubleshooting operations. A short description of provided features can be found below. A more detailed description can be found in the FTM User Manual Troubleshooting or in the FTM Manager's Online Help.

View FTM Parsing Result

With the view parsing result option you can verify if the import of a configuration file was successful. The parsing result is available on the FTM only directly after an ami file has been activated.

View FTM log files

With the view FTM log files you can retrieve the log files from the FTM. The logfiles are exclusively intended for advanced troubleshooting. When you report problems with the FTM to Nokia Siemens Networks, it is recommended to attach the logfiles.

Ping any host

You can ping from this FTM remote nodes, which are connected to the DCN. For this specify the IP address of the remote node in the provided form and press the send button. The results will be shown in the same window.

Reboot FTM

The reboot FTM feature provides easy means to reboot the FTM. In rare cases this might help to solve problems. Note that this feature requires a valid Username and Password. During reboot all traffic on the interfaces will be interrupted.

Recover FTM

The recover FTM feature provides easy means to reset the FTM to factory defaults. All existing configuration will be deleted.

Note: You should not use this button from remote connection, since the DCN configuration will get lost!



TRS Web Interface: Ping any Host

NSN FTM - Microsoft Internet Explorer provided by NSN

Datei Bearbeiten Ansicht Favoriten Extras ?

Zurück Zurück Suchen Favoriten

Adresse <http://10.31.255.241/>

Links Siemens Training Institute (Intranet) Windows Marketplace

Nokia Siemens Networks Flexi Transport

FTM

- FTM Log files
 - [TML Parsing result](#)
 - [Download FTM Log file](#)
 - [View FTM Log files](#)
- Tools
 - [Ping any host](#)
 - [Reboot FTM](#)
 - [Recover FTM](#)
- Support
 - [FTM System Support](#)

[Home](#)
[About](#)

Ping

You can ping from this FTM any other remote IP node which is connected via the DCN.
To do so, specify the IP address of the remote node in the form below and press ENTER or the PING button.
The results will be shown in the lower window.

Please specify the host IP-Address:

PING Reset Input



Ping from TRS to NPGE IFGE0 in RNC

The screenshot shows the NSN FTM web interface in a Microsoft Internet Explorer browser. The address bar shows <http://10.31.255.241/>. The page title is "Nokia Siemens Networks Flexi Transport". The left sidebar contains a tree view with "FTM" selected, showing sub-items like "FTM Log files", "Tools", and "Support". The main content area has a "Ping" section with instructions: "You can ping from this FTM any other remote IP node which is connected via the DCN. To do so, specify the IP address of the remote node in the form below and press ENTER or the PING button. The results will be shown in the lower window." Below this is a form labeled "Please specify the host IP-Address:" with a text input field containing "10.31.145.40". A red arrow points from a text box "IP address of NPGE0 -> IFGE0 in RNC" to this input field. There are "PING" and "Reset Input" buttons. The bottom section, titled "Ping result for host ip=10.31.145.40", displays the following text:

```
PING 10.31.145.40 (10.31.145.40) 56(84) bytes of data:
64 bytes from 10.31.145.40: icmp_seq=1 ttl=252 time=2.25 ms
64 bytes from 10.31.145.40: icmp_seq=2 ttl=252 time=1.66 ms
64 bytes from 10.31.145.40: icmp_seq=3 ttl=252 time=1.15 ms
64 bytes from 10.31.145.40: icmp_seq=4 ttl=252 time=2.65 ms

--- 10.31.145.40 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 2997ms
rtt min/avg/max/ndev = 1.150/1.930/2.657/0.575 ms

ping ready ...
```





Ping from NPGE IFGE0 to TRS

```
QRX:NPGE,3:IP=10.31.255.241:PING;; IP address of TRS
RNC      IPA2800      2009-04-23 17:32:28
PING, SENDING UNIT: NPGE-3
PING 10.31.255.241 <10.31.255.241>: 56 data bytes
64 bytes from 10.31.255.241: icmp_seq=0 ttl=61 time=10.000 ms

--- 10.31.255.241 ping statistics ---
1 packets transmitted, 1 packets received, 0% packet loss
round-trip min/avg/max = 10.000/10.000/10.000 ms
COMMAND EXECUTED
```



Ping from TRS to RNC OMU

NSN FTM - Microsoft Internet Explorer provided by NSN

File Edit View Favorites Tools Help

Address http://10.31.255.241/

Links Siemens Training Institute (Intranet) Windows Marketplace

Nokia Siemens Networks

Nokia Siemens Networks Flexi Transport

FTM

FTM Log Files

Download FTM Log File

View FTM Log Files

Tools

Ping any host

Reboot FTM

Recover FTM

Support

FTM System Support

Home

About

Ping

You can ping from this FTM any other remote IP node which is connected via the DCN.
To do so, specify the IP address of the remote node in the form below and press ENTER or the PING button.
The results will be shown in the lower window.

Please specify the host IP-Address:

10.31.140.40

PING Reset Input

IP address of RNC OMU

Ping result for host ip=10.31.140.40

PING 10.31.140.40 (10.31.140.40) 56(84) bytes of data:
64 bytes from 10.31.140.40: icmp_seq=1 ttl=254 time=2.73 ms
64 bytes from 10.31.140.40: icmp_seq=2 ttl=254 time=2.15 ms
64 bytes from 10.31.140.40: icmp_seq=3 ttl=254 time=1.64 ms
64 bytes from 10.31.140.40: icmp_seq=4 ttl=254 time=1.16 ms

--- 10.31.140.40 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 2997ms
rtt min/avg/max/mdev = 1.167/1.927/2.738/0.584 ms

ping ready ...





Ping from RNC OMU to TRS

```
< QRX:OMU,0:IP=10.31.255.241:PING;; IP address of TRS
LOADING PROGRAM VERSION 13.6-0
RNC          IPA2800          2009-04-24  13:23:04
PING, SENDING UNIT: OMU-0
PING 10.31.255.241 <10.31.255.241>: 56 data bytes
64 bytes from 10.31.255.241: icmp_seq=0 ttl=63 time=2.337 ms
----10.31.255.241 PING Statistics----
1 packets transmitted, 1 packets received, 0% packet loss
round-trip min/avg/max = 2.337/2.337/2.337 ms
COMMAND EXECUTED
```



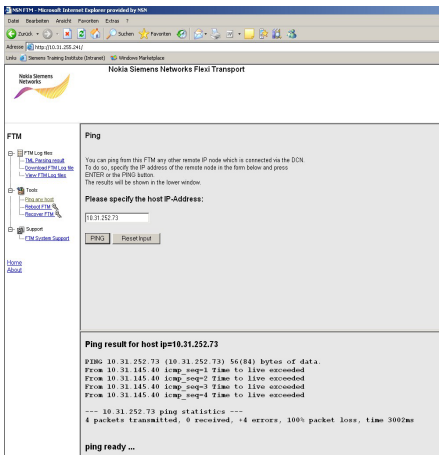
Ping from RNC (NPGE IFGE0) to Transport Ethernet Interface on TRS

```
< QRX:NPGE,3:IP=10.31.255.226:PING;;
LOADING PROGRAM VERSION 13.6-0
RNC          IPA2800          2009-04-23  17:35:57
PING, SENDING UNIT: NPGE-3
PING 10.31.255.226 <10.31.255.226>: 56 data bytes
64 bytes from 10.31.255.226: icmp_seq=0 ttl=61 time=0.005 ms
--- 10.31.255.226 ping statistics ---
1 packets transmitted, 1 packets received, 0% packet loss
round-trip min/avg/max = 0.005/0.005/0.005 ms
COMMAND EXECUTED
```

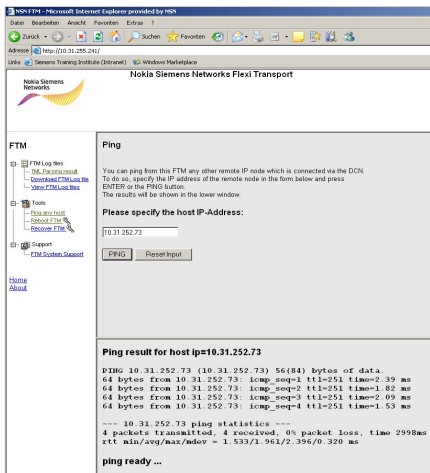
IP address of the Transport Ethernet Interface on TRS



Ping from TRS to ICSU-8 in RNC



Signaling network in RNC NOT configured.



Signaling network in RNC configured.





Ping from ICSU-8 in RNC to TRS and Transport Ethernet Interface

```
QRX:ICSU,8:IP=10.31.255.226;;
```

```
RNC      IPA2800
```

IP address of the Transport Ethernet Interface on TRS

```
PING, SENDING UNIT: ICSU-8
```

```
PING 10.31.255.226 <10.31.255.226>: 56 data bytes
```

```
64 bytes from 10.31.255.226: icmp_seq=0 ttl=60 time=1.461 ms
```

```
----10.31.255.226 PING Statistics----
```

```
1 packets transmitted, 1 packets received, 0% packet loss
```

```
round-trip min/avg/max = 1.461/1.461/1.461 ms
```

```
COMMAND EXECUTED
```

```
ICP/IP STACK DATA HANDLING COMMAND <QR>
```

```
<
```

```
MAIN LEVEL COMMAND <____>
```

```
< QRX:ICSU,8:IP=10.31.255.241;;
```

IP address of TRS

```
LOADING PROGRAM VERSION 13.6-0
```

```
RNC      IPA2800
```

```
2009-04-24 13:31:24
```

```
PING, SENDING UNIT: ICSU-8
```

```
PING 10.31.255.241 <10.31.255.241>: 56 data bytes
```

```
64 bytes from 10.31.255.241: icmp_seq=0 ttl=60 time=2.888 ms
```

```
----10.31.255.241 PING Statistics----
```

```
1 packets transmitted, 1 packets received, 0% packet loss
```

```
round-trip min/avg/max = 2.888/2.888/2.888 ms
```

```
COMMAND EXECUTED
```



GPS Synchronisation Option

The screenshot displays the 'Nokia Siemens Networks WCDMA BTS Site Manager - BTS_84 - Local connection' window. The interface is divided into several sections:

- Left Sidebar:** Contains navigation icons for BTS Hardware, TRS Hardware, Commissioning, BTS PM, IP, and TRS PM.
- Main Window:**
 - BTS Hardware:** Shows a tree view with 'Flexi WCDMA BTS' selected. Below it, there are fields for 'FRGD' (set to 1) and 'FTIB'. A 'System' section shows 'FSMD' set to 1. A 'Local Cell Groups' field is set to 1.
 - BTS Site Properties:**
 - General:** BTS Name: BTS_84, BTS Id: 84, BTS Name: WCDMA Flexi BTS, BTS Address: 10.31.255.242, RNC Address: 10.31.140.40, SW Release Version: WN5.0 12.4-87 A.
 - States:**
 - BTS Operational State: BTS Integrated to RAN
 - Blocking State: Unblocked
 - Master Units: System module as O&M Master, Telecom Master, A
 - Synchronisation Source:** GPS/PPS (highlighted with a red box)
 - 10 MHz System Clock Output: Disabled
- Bottom Section:**
 - Alarms:** A table with columns for Severity, Time GMT+01:00 DST, Description, and Source. The table is currently empty.
 - Details:** A section for additional information with fields for Code, Scope, Status, Started, and Cleared.

At the bottom of the window, there are buttons for 'Block BTS...', 'Unblock BTS...', 'Reset Site...', and 'Cancel Reset'.