NOKIA

5620 SAM
Service Aware Manager

9500 MPTSUB6 Driver version 2.0.0

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Contents

1   Introduction

The *5620 SAM 9500 MPTSUB6 Driver version 2.0.0* document provides information about the MPTSUB6 driver version 2.0.0, including driver capabilities, known issues, and discovery and management instructions. The MPTSUB6 driver extends 5620 SAM management of MPT-SUB6 devices as described in section 2.1.

Installation information for the MPTSUB6 driver is found in the *5620 SAM GNE Driver Installation Guide.* Compatibility information is found in the *5620 SAM GNE Driver Compatibility Guide*. Driver documents are available on OLCS.

1.1 Obtaining technical support

Technical support engineers are available to assist you 24 hours a day, 7 days a week.
For the list of regional contact telephone and fax numbers, visit Technical Support.

2   MPTSUB6 driver version 2.0.0

2.1 Driver Capabilities

The following table lists MPTSUB6 driver version 2.0.0 capabilities. The MPTSUB6 driver extends the management capabilities of the 5620 SAM for MPT-SUB6 devices in the following applicable areas.

Table 1   **MPTSUB6 driver version 2.0.0 capabilities**

Configuration management
Radio link inventory - The driver allows 5620 SAM operators to create radio links with endpoints on MPT-SUB6 devices. Operators can also view all radio links terminating on this device by drilling down from the network topology map or network Equipment Tree representations of the MPT-SUB6 device.
Additionally, radio links associated with the MPT-SUB6 device are now included in the inventory list accessed through the Equipment Manager (Manage→Equipment→Equipment from the 5620 SAM main menu, then choose Radio link (Network) from the object type drop-down).
Radio link inventory information is also available to the 5620 SAM-O through the installation of the driver, under the following package and class *netw.RadioPhysicalLink*. The on-product help system allows users to search and view package and class information.
Radio port properties - The driver extends the 5620 SAM management of the MPT-SUB6 device to include its radio port interfaces. With the installation of the driver, a "Radio" tab is added to the Generic NE Interface properties form, allowing 5620 SAM operators to view the following generic radio port properties of the device:

- Channel Bandwidth (KHz)
- Operational Frequency (MHz)
- Band
- Sector ID
- HSU Far-end ID
- Current Tx Power (dBm)
- Current Rx Power (dBm)
- Antenna type
- Aggregate Capacity

The following five properties pertain to the radio link and differ according to the link that is present. The operator can create up to four separate radio links interconnecting the HBS and HSUs. Interfaces 101 – 104 are enabled as radio ports. The Radio panel is associated with each radio port so that operators can access the radio parameters by selecting any of the logical radio interfaces. These properties are supported only on the Radio tab of HBS, not HSU.

- RSL (dBm)
- Down-link Throughput (Mbps)
- Down-link Peak Throughput (Mbps)
- Up-link Throughput (Mbps)
- Up-link Peak Throughput (Mbps)

These properties are also available to the 5620 SAM-O under the following package and class *radioequipment.RadioPortSpecifics*. The on-product help system allows users to search and view package and class information.

Radio link discovery - The 5620 SAM extends link auto-discovery to radio links interconnecting HBS and HSUs. The HSU radio port with index 101 is connected to the HBS logical radio port matching the following criteria:

- The remote HBS has the same sectorID as the selected HSU.
- The HBS radio port index is equal to 101 + value (.1.3.6.1.4.1.4458.1000.4.1.3.0).

Radio port inventory properties – The following radio port inventory properties are displayed on the Inventory tab for the radio ports:

- Company ID
- Factory ID
- Mnemonic
- Part No
- Serial No
- Port ID
- Software Part No

These properties are also available to the 5620 SAM-O under the following package and class *radioequipment.RadioEquipmentInventory*. The on-product help system allows users to search and view package and class information.

GNE profile automation - The GNE profile for the MPT-SUB6 is automatically created when the MPTSUB6 driver is installed.

Alarm catalog integration - The MPT-SUB6 alarm catalog is automatically populated during driver installation. Operators can edit the alarm catalog to customize alarm characteristics.

NE software version display - The NE software version is displayed on the General tab of the NE Property form.

Binding GNE network interface to physical port - A "Properties" button is added to the Network Interface Properties form to show the associated Generic NE interface. If the NE does not have GNE Interfaces, the button is not available.

Service management

Not applicable

Tunnel management

Not applicable

Network assurance
Not applicable

Service assurance
Performance management - The driver extends 5620 SAM performance management to the MPT-SUB6 device so that statistics related to the GNE can be viewed through the 5620 SAM GUI. See section 2.5. Statistics are also available to the 5620 SAM-O; see the *5620 SAM Statistics Management Guide.*
Alarm resynchronization – Since traps do not have a sequence ID to detect trap gaps, the "auto resynch of alarm table" based on the trap gap is not supported. The 5620 SAM performs the following for auto alarm table resync: 1. Before a resync of the alarm table, the 5620 SAM fetches the attribute that contains the "table last change time (or counter)" from the NE. This action is performed every polling interval.   2. The 5620 SAM compares the value of the last NE change with the value stored in the 5620 SAM for that alarm table.   3. Only if the NE value is different from the value stored in the 5620 SAM will the entire alarm table be resynchronized.   OR After connectivity is restored, you can perform a manual full node resync from the 5620 SAM to fetch the current alarms present on the NE at that moment.   To ensure that alarm table resync occurs after NE connection is lost with the 5620 SAM and a trap sequence number mismatch exists between the 5620 SAM and NE, you can modify the Polling Interval attribute. Choose Administration→Mediation→MIB Entry Policies→fm.CurrentAlarmEntry. For better performance, it is recommended to select 5 min for the Polling Interval.   Note: For two consecutive polling intervals - If the NE connection is lost and then re-established, and if there are any trap losses in the 5620 SAM, but the alarm is in the NE alarm table (step 2 above is satisfied), then alarm table resync occurs (step 3 above). If an alarm is raised and cleared in between the interval of a connection lost and re-established from the 5620 SAM, the 5620 SAM does not detect the alarm.
Alarm reporting – The 5620 SAM supports the reporting of all alarms present in the automatically generated alarm catalog.

Device life cycle management
Not applicable

2.2 Closed issues

This section lists closed issues for the MPTSUB6 driver.

Table 2   **MPTSUB6 closed issues**

PTS number	Description	Version Introduced
SAMPTS-139846	5620 SAM allows the creation of a radio link between HSU's	MPTSUB6 1.0.0
SAMPTS-151429	MPT-SUB6 Aggregate Rx History Data Stats- 15m (Ethernet Equipment) Total Received Correct Frames does not show it is in MBytes	MPTSUB6 1.1.0
SAMPTS-151443	MPT-SUB6 Aggregate Tx History Data Stats- 15Min (Ethernet Equipment) statistics "Total Transmitted Octets" should show it is in MBytes as per the RADWIN Manager performance monitoring value	
SAMPTS-151823	Not collecting 96 Entries for On Demand for all and Schedule stats is not working for RSL/TSL stats. Observed toomanyitemstoPoll Alarm on HBS.	MPTSUB6 1.0.0

PTS number	Description	Version Introduced
SAMPTS-154242	History - 24 Hr stats on interface 101 shows a delay of 1 day	
SAMPTS-154250	Min and Max RSL values are swapped	
SAMPTS-154470	View Alarmed Object does not work	MPTSUB6 1.1.0
SAMPTS-154808	MPT-SUB6 Alarm Traps not processed on the 5620 SAM	
SAMPTS-157997	HSU Far End ID value is not displayed correctly	
SAMPTS-159802	For a PTMP setup, only interface 101 for HBS is listed for radio link creation.	MPTSUB6 1.2.0
SAMPTS-161399	Node software version is not updated in the 5620 SAM after node software upgrade	MPTSUB6 1.3.0

2.3 Outstanding issues

This section lists current open problems that customers must be aware of before deploying the MPTSUB6 driver into a live network or lab environment.

Table 3   **MPTSUB6 outstanding issues**

PTS number	Description	Workaround	Version introduced
SAMPTS-153954	RSL, Estimated throughput in the DL direction, Peak throughput in the DL direction, Estimated throughput in the UL direction, Peak throughput in the UL direction values reported by HBS are incorrect.		MPTSUB6 1.3.0

2.4 Limitations

This section lists current limitations for the MPTSUB6 driver.

Table 4   **MPTSUB6 limitations**

Restrictions	Version introduced
Radio link fault management is not handled due to a node issue. The radio link always remains green even though the related link is down.	MPTSUB6 1.0.0
MPT-SUB6 Band is not in sync with Radwin Manager	MPTSUB6 1.0.0
Link discovery does not work in case of any fault/link updating scenarios	MPTSUB6 1.3.0

2.5 Discovery and management

This section describes how to discover and use the MPT-SUB6 in the 5620 SAM after driver installation. See the *5620 SAM GNE Driver Installation Guide* for information about installing a driver.

Procedure 1   MPT-SUB6 post-installation configuration

The following procedure provides information specific to MPT-SUB6 device configuration and discovery. The *5620 SAM User Guide* chapter "Device commissioning and management" should be consulted for full procedural details.

Create mediation policies and configure a discovery rule

1. Use the 5620 SAM to create an SNMPv1 mediation policy that specifies "public" as the Community String value. See the *5620 SAM User Guide* for information about creating mediation policies.

2. Use the 5620 SAM to create an SNMPv1 mediation policy that specifies "netman" as the Community String value. See the *5620 SAM User Guide* for information about creating mediation policies

3. Use the 5620 SAM to configure a discovery rule for the MPT-SUB6 that specifies the following mediation policies. See the *5620 SAM User Guide* for information about creating discovery rules.

   - Read Access Mediation Policy and Trap Access Mediation Policy - mediation policy created in step 1
   - Write Access Mediation Policy - mediation policy created in step 2

Perform configuration management tasks using the device EMS

4. Right-click on the MPT-SUB6 icon on the 5620 SAM topology map and choose Alternate Element Manager. The device EMS opens to allow configuration.

   Note: The EMS is only available if the 5620 SAM client is on a Windows station. In addition, the EMS manager must be installed in the location pointed to by the default Alternate Element Manager in the GNE profile.

View statistics

5. Click on the Statistics tab of the MPT-SUB6 interface properties form to view statistics as required.

   NOTE 1: It is recommended that you schedule historical data statistics only, and collect current data statistics on demand. For example, History Data Stats - 15 min returns the same information as Current Data Stats collected for the same 15 minute interval, therefore, it is redundant to schedule Current Data Stats. Scheduling Current Data Stats may result in an error message. Scheduling Interface Additional Stats (Generic NE) is not supported and may result in stopping the collection of other statistics.

   NOTE 2: The plotting of statistics is supported for Interface Stats (Generic NE).

The following counters are supported on Radio interfaces 101 – 104 on HBS.

Interface type	Statistic type
Radio (index 101-104)	Aggregate Rx History Data Stats – 15 min
	Aggregate Rx History Data Stats – 24 hr
	Aggregate Tx History Data Stats - 15 min
	Aggregate Tx History Data Stats - 24 Hr
	Hop Current Data stats – 15 min
	Hop History Data Stats - 15 min
	Hop History Data Stats - 24 Hr
	RSL Hop Current Data stats – 15 min
	RSL Hop History Data Stats - 15 min
	RSL Hop History Data Stats - 24 Hr
	TSL Hop Current Data stats – 15 min
	TSL Hop History Data Stats - 15 min
	TSL Hop History Data Stats - 24 Hr
Ethernet (index 1 and index 2)	Aggregate Rx History Data Stats - 15 min
	Aggregate Rx History Data Stats - 24 Hr
	Aggregate Tx History Data Stats - 15 min
	Aggregate Tx History Data Stats - 24 Hr
	Hop Current Data stats – 15 min
	Hop History Data Stats - 15 min
	Hop History Data Stats - 24 Hr
Note: On Ethernet interfaces with indices 1(ETH) and 2(ETH), the Interface Stats (Generic NE) are also applicable.	

On HSU, the following counters are supported only on interface 101.

Interface type	Statistic type
Radio (index 101)	Hop Current Data stats – 15 min
	Hop History Data Stats - 15 min
	Hop History Data Stats - 24 Hr
	RSL Hop Current Data stats – 15 min
	RSL Hop History Data Stats - 15 min
	RSL Hop History Data Stats - 24 Hr
	TSL Hop Current Data stats – 15 min
	TSL Hop History Data Stats - 15 min
	TSL Hop History Data Stats - 24 Hr
Ethernet (index 1)	Aggregate Rx History Data Stats - 15 min
	Aggregate Rx History Data Stats - 24 Hr
	Aggregate Tx History Data Stats - 15 min
	Aggregate Tx History Data Stats - 24 Hr

Ethernet (index 1 and index 2)	Hop Current Data stats – 15 min
	Hop History Data Stats - 15 min
	Hop History Data Stats - 24 Hr
Note: On Ethernet interfaces with indices 1(ETH) and 2(ETH), the Interface Stats (Generic NE) are also applicable.	

View the automatically created GNE profile

6. Choose Administration→Generic NE Manager from the 5620 SAM main menu. The Generic NE Manager form opens.

7. Choose Generic NE Profile (Generic NE) and click Search. A list of GNE profiles appears.

8. Select a GNE profile and click Properties. The Generic NE Profile (Edit) form opens with the General tab displayed.

9. Click on the Interface Types, Other MIBs, and Translators tabs to view information about the GNE profile.

10. Close the form.

View or modify the automatically created alarm catalog

11. Choose Administration→Generic NE Manager from the 5620 SAM main menu. The Generic NE Manager form opens.

12. Choose Generic NE Alarm Catalogue (Trap to Alarm Mapper) and click Search. A list of alarm catalogs appears.

13. Click on the Trap Configuration tab and select the alarm catalog.

14. Modify the alarm properties as required and close the form.

To assign the alarm catalog to the appropriate GNE profile, see the section "GNE commissioning" in the *5620 SAM User Guide.*

Procedure 2   MPTSUB6 driver replacement

1. Install the MPTSUB6 driver. See the 5620 SAM GNE Driver Installation Guide.

2. Choose Administration→Generic NE Manager from the 5620 SAM main menu. The Generic NE Manager form opens.

3. Select Generic NE Profile (Generic NE) from the dropdown menu and click Search. A list of Generic NE Profiles appears.

4. Select the Generic NE Profile you want to modify and click Properties. The Generic NE Profile (Edit) form opens.

5. In the Driver Module panel, click Select and assign the new version of the driver.

6. Click Apply.

NOTE: There may be multiple Generic NE profiles that use the same type of driver if the driver manages multiple types of NEs, i.e. NEs with a different sysObjectId. In this case, repeat the procedure for each Generic NE profile using the same driver.

7. Close the forms.