ERICSSON

File Descriptions for Site Configuration

Description

13/1551-LZA 701 6003/1 Uen AE

Contents

1 Overview

This document specifies the file format for the RBS configuration files. These files contain the configuration parameters that are used to configure an RBS.

This document also includes the Element Manager (EM) wizard options that correspond to the parameters in the configuration files. For more information, refer to Element Manager Wizards and Modifying Configurations. For guidelines regarding the initial RBS configuration and modifications of RBS configuration, refer to WCDMA RBS Configuration Guidelines.

There are five configuration files:

— Cabinet equipment configuration file – for configuring cabinet equipment by using the **Cabinet Equipment Configuration** wizard. This includes configuration of ETB, TUB, SCB, DUW, Sector, and Carrier HW and SW Allocations.

  Note: Cabinet equipment configuration has to be performed before the other configurations. It is normally performed at the Node Production Center (NPC), but under certain circumstances it may be necessary to rerun this configuration, for example, after running the Export and Delete tool. For more information, refer to Element Manager Wizards.

— Operation & Maintenance (O&M) access configuration file – for configuring local and remote Mub access, and network synchronization, by using the **Integrate RBS** application or the RBS **O&M Access Configuration** wizard. The configuration must be performed on site and after the cabinet equipment configuration.

— Site equipment configuration file – for configuring site equipment by using the **Integrate RBS** application or the **Site Equipment Configuration** wizard. Site equipment configuration must be performed after cabinet equipment configuration and O&M access configurations. Use the Export and Delete tool to generate the Site Equipment Configuration file before manually editing the file and reusing it for configuration.

— Modify RBS equipment configuration file – for changing an existing configuration by using the **Modify RBS Equipment Configuration** application. The file is used on site or remotely to facilitate a configuration change on an RBS during operation, for example an expansion of resources or HW upgrades.

— Autointegration RBS summary file – for defining IP addresses and file paths for O&M access and Site equipment configuration files by using **Integrate RBS**. The file is a system file, and it is fetched by the node from the Software Hardware Manager (SHM) and stored in a repository in ENM SHM.

Integrating an RBS into the radio network is described in Integrating RBSs On-Site Using EM or Integrating RBSs On-Site Using IRBS.

2 Definitions of Configuration Parameters

This chapter defines the parameters for the Document Type Definition (DTD) configuration files.

2.1 General

All files start with a format element, declaring the revision of the used file format, to enable the EM to verify that the file supports configuration of the RBS. The revision state is subject to change because of continuous development.

Table 1 Format Attributes

Attribute	Wizard Option	M/O	Type	Description
revision	The wizard option that corresponds to the attribute, written in the following way: **Name of area in wizard/Name of option**.	M	enum	Revision state of the file structure format, according to Ericsson rules for document revision handling

2.1.1 Wizard Option Column

If an EM wizard option corresponds to a parameter, it is listed in this column.

Not all parameters correspond to a wizard option. To configure those parameters, the wizard must be run using a configuration file that includes the relevant parameters.

Note: When using a configuration file as input to a configuration wizard, the file must include at least all mandatory parameters.

2.1.2 Mandatory/Optional Column

Two values are possible in the Mandatory/Optional (M/O) column:

— M – Mandatory means that the parameter with a value must always be specified. If no default value exists, the parameter and a value must be specified by the user.

— O – Optional means that the parameter can be omitted sometimes. Cases where the parameter cannot be omitted are specified in the Description column.

The configuration files described in this document show hidden parameters. Hidden parameters cannot be set or modified by the user, and are not described in this document.

2.1.3 Deprecated

Attributes can be defined as deprecated. This means that they are removed in a later SW release. If the deprecated attribute has a value, this is the ruling value, if not stated otherwise. Deprecation is labeled "Deprecated" in the description column.

2.2 Cabinet Equipment Configuration

This section describes the attributes in the cabinet equipment configuration DTD file, which corresponds to the options in the RBS EM **Cabinet Equipment Configuration** wizard.

For the DTD file, refer to DTD for Cabinet Equipment Configuration. For the examples of configuration file, refer to Example Files for Cabinet Equipment Configuration.

Note: Cabinet equipment configuration is normally performed at the Node Production Center (NPC), but under certain circumstances it can be necessary to rerun this configuration, for example after running the Export and Delete tool. For the RBS 6501, Cabinet Equipment Configuration must be performed on site.

2.2.1 Definitions

Figure 1 shows the element tree of the cabinet equipment configuration DTD file.

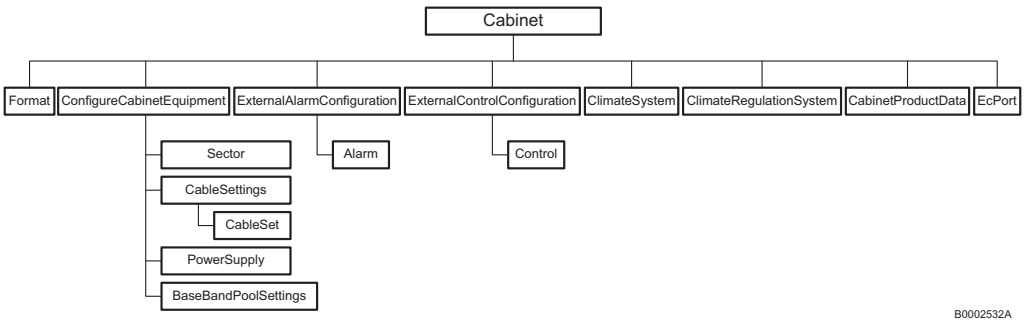

Figure 1 Element Tree for the Cabinet Equipment Configuration DTD File

Table 2 describes the definitions within the Cabinet element.

Table 2 Elements Within Cabinet Element

Element	Description	No. of Instances
<Format.../>	Holds the revision of the DTD. It follows the rules for Ericsson document revision handling.	1
<ConfigureCabinetEquipment> <...></...> </ConfigureCabinetEquipment>	See Cabinet Equipment Configuration on page 6. Specifies the cabinet equipment attributes, see Table 3. Attributes related to sector configuration, cable setting, power supply configuration, and baseband pool setting are defined in the following subelements: - Sector [0..6], see Table 4. Optional for: 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6501. Ignored for: 6301, 6302, 6320, 6601. - CableSettings [0..1]. Deprecated. --CableSet [1..6], see Table 131. For every sector defined with an RU and FU residing in an external cabinet, a CableSet element is a must. - PowerSupply [0..1], see Table 5. Optional for: 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6320, 6601. Ignored for: 6302, 6501 - BaseBandPoolSettings [0..2], see Table 131. The element is optional for backward compatibility reasons. Mandatory for: All RBS types.	1
<ExternalAlarmConfiguration> <...></...> </ExternalAlarmConfiguration>	See External Alarm Configuration on page 12. Specifies the alarm port configuration of external equipment in the following subelement: - Alarm [1..32], see Table 6. Optional for: 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6302, 6320, 6501, 6601 This is not configurable in the wizard.	0 to 1
<ExternalControlConfiguration> <...></...>	Specifies the control port configuration of external equipment in the following subelement:	0 to 1

Element	Description	No. of Instances
</ExternalControlConfiguration>	- Control [1..8], see Table 131. This is not configurable in the wizard.	
<ClimateSystem.../>	See Climate System Configuration on page 13. This element defines if standard or extended climate system is used, that is, the size of the climate system and indirectly the number of fan groups in the cabinet are determined. Optional for 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6302, 6320, 6501, 6601 Ignored for other RBSs The value Extended means 10 kW if the attribute `climateRegulationSystem` is set to TS.	0 to 1
<ClimateRegulationSystem.../>	See Climate Regulation System Configuration on page 14. This element defines the type of climate regulation system used.	0 to 1
<CabinetProductData.../>	See Table 131. This element is deprecated.	0 to 1
<EcPort.../>	See EC Port Configuration on page 14. This element defines EC port connection between the digital unit and the APC hub unit.	0 to 6

2.2.2 Cabinet Equipment Configuration

The `ConfigureCabinetEquipment` element contains attributes related to configure the cabinet equipment. The deprecated attributes are shown in Table 131.

Table 3 Attributes of the ConfigureCabinetEquipment Element

Attribute	Wizard Option	M/O	Type	Description
`rbsType`	**Other options/RBS product name**	M	enum	Defines which type of RBS to configure. Possible values: RBS3018, RBS3101, RBS3104, RBS3106, RBS3107, RBS3116, RBS3202, RBS3206M, RBS3216, RBS3303, RBS3308, RBS3402, RBS3412, RBS3418, RBS3518, RBS3922, RBS3954, RBS3954, RBS3964, RBS3967, RBS3976, RBS3984,

Attribute	Wizard Option	M/O	Type	Description
				RBS3986, RBS6101W, RBS6102W, RBS6110W, RBS6120W, RBS6131W, RBS6201V2W (with DU), RBS6201W, RBS6202W, RBS6301W, RBS6320W, RBS6501W, RBS6601W Deprecated values: RBS3018, RBS3101, RBS3104, RBS3106, RBS3107, RBS3116, RBS3202, RBS3206M, RBS3216, RBS3303, RBS3308, RBS3402, RBS3412, RBS3418, RBS3518, RBS3922, RBS3954, RBS3954, RBS3964, RBS3967, RBS3976, RBS3984, RBS3986 Maps on `productName` in MO Managed Element.
`ipAddress`	**Ethernet link/IP address**	O	string	The O&M host IP address Default value: 169.254.1.1
`subnetMask`	**Ethernet link/ Subnet mask**	O	string	The site-LAN subnet mask. Default value: 255.255.0.0.
`defaultRouter`	**Ethernet link/ Default router** (1)	O	string	The default router Maps to `hopIpAddress` in MO IpRoutingTable
`supportSystemControl`	**Other options/ Support system control**	O	enum	Defines if the node is controlling and supervising the climate, power and external alarm hardware in the cabinet. Only one node in the cabinet can control and supervise climate and power. Possible values: TRUE, FALSE Default value: TRUE
`absoluteTimeSynchEnabled`	**Other options/ Absolute time synch enabled**	O	enum	Enables the feature Absolute Time to make it possible to synchronize DUs either by using common GPS or GPS Out configuration. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: YES, NO Default value: NO
`gpsOutEnabled`	**Other options/GPS out enabled/DUW on slot 1**	O	enum	Specifies the DUW board in slot 1 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration.

Attribute	Wizard Option	M/O	Type	Description
				Possible values: TRUE, FALSE
gpsOutEnabledOnSlot2	**Other options/GPS out enabled/DUW on slot 2**	O	enum	Specifies the DUW board in slot 2 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE, FALSE
digitalBuildingBlock	**Other options/ Digital building block**	O	string	Configure the Digital Building Block (DBB) type used for the node. Possible values: SYSTEM_DEFINED, DBB22 SYSTEM_DEFINED is selected when zero or one Common Public Radio Interface (CPRI) link is configured. DBB22 is selected when two CPRI links are configured for connecting two DUWs. DBB22 is required only when the number of the cell carrier branches is greater than 16, refer to Radio Node Configurations for detailed information.
CarrierAllocationMode	**Carrier allocation options**	O	enum	Defines the allocation of carriers. Possible values: BASIC, ADVANCED Default value: BASIC If BASIC is chosen, the configuration is the same as the design base, refer to Radio Node Configurations. If ADVANCED is chosen, the cable connection information is changed according to the new requirements in Radio Node Configurations.

(1) Leave the field empty if no default router is used

Table 4 Sector Attributes

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**Sector options/ Sector**	M	enum	The sector number used to identify the sector. Possible values: 1 to 12
radioBuildingBlock	**Sector options/Radio Building Block** (1)	O	enum	Mandatory for sectors with more than 2 carriers. Refer to Hardware Configuration Data for more information about Radio Blocks.

Attribute	Wizard Option	M/O	Type	Description
				Possible values: RB1, RB1B, RB2, RB3, RB3B, RB4, RB5, RB4B, RB6, RB6B, RB7, RB7B, RB8, RB8B, RBB12_1A, RBB12_2A, RBB22_1A, RBB22_1B, RBB22_2B, RBB22_4B, RBB24_1A, RBB10_1A, RBB11_1A, RBB32_1A When set, overrides parameters `numberOfRu` and `numberOfCarriers`. For RBS 6000: RBB12_1A, RBB12_2A, RBB22_1A, RBB22_2B, RBB22_4B, RBB10_1A and RBB11_1A Deprecated value: RB1, RB1B, RB2, RB3, RB3B, RB4, RB5, RB4B, RB6, RB6B, RB7, RB7B, RB8, RB8B, RBB12_2A, RBB22_4B Conversion: RBB12_2A and RBB22_4B are converted to RBB12_1A and RBB22_2B, respectively.
`cpriLineRate`	**Sector options/Line rate** (1)	O	enum	Indicates optical or electrical link and rate (capacity) on the CPRI link. Only applicable to DUW and CPRI. Possible values: Ex2, Ex4,Ox2, Ox4, X2, X4 Conversion: Ex2 and Ox2 are converted to X2 automatically. Ex4 and Ox4 are converted to X4 automatically. Deprecated value: Ex2, Ex4, Ox2, Ox4 O = optical, E = electrical and x2 (1,2Gb/s), x4 (2,5Gb/s) The value is set for the lowest line rate used on Antenna Integrated Radio (AIR) unit or any link between any RUW, RRUW, and RRUs in the RBB.
`auUnitType`	**Sector options/Unit type** (1)	O	enum	Identifies the unit type. Possible values: RUWRUS, IRU For macro radio unit: RUWRUS.

Attribute	Wizard Option	M/O	Type	Description
				For Radio Dot: IRU. It is mandatory when `cpriLineRate` is set to X2 or X4. The value is RUWRUS if this attribute is not defined and `cpriLineRate` value is Ex2 or Ex4.

(1) This option is not available for all RBS types.

Table 5 Attributes of the PowerSupply Element

Attribute	Wizard Option	M/O	Type	Description
`configurePowerSupply`	**Power supply/ Configure power supply** (1)	O	enum	Defines if power supply is configured or not. If power supply is optional for the RBS type being configured, and if it is not configured by the Cabinet Equipment wizard, it can later be configured by the Site Equipment wizard. Possible values: YES, NO Default: YES Ignored for: 6302, 6320, 6501 Optional for: 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6601
`noOfPsu`	**Power supply/No of PSU** (1)	O	integer	The number of PSUs. Possible values: 1 6320 Possible values: 1 to 3 for 6301 Possible values: 1 to 5 for 6131, 6202, 6301, 6601 Possible values: 1 to 7 for 6101, 6102, 6110, 6120, 6201 Mandatory if `configurePowerSupply` = YES
`noOfPdu`	**Power supply/No of PDU** (1)	O	integer	The number of PDUs. Possible values: 0 to 8 Applicable for all RBS types where `supportSystemControl` = TRUE Possible value: 4 for 6131 Possible values: 0 to 4 for 6131, 6301, 6601 Possible values: 1 to 5 for 6202

Attribute	Wizard Option	M/O	Type	Description
				Possible values: 1 to 6 for 6101, 6102, 6201 Possible values: 1 to 7 for 6110 Possible values: 1 to 8 for 6120
configureBatteryBackup	**Power supply/ Configure battery backup** (1)	O	enum	Defines if battery backup is configured or not. Possible values: YES, NO Default: NO Optional for: 6102, 6110, 6120, 6131, 6201, 3116, 3216, 6101, 6301, 6202, 6601. Ignored for: 6302, 6320, 6501
batteryCapacity	**Power supply/ Battery capacity**	O	integer	The battery capacity in Ah. Mandatory if batteryBackup=YES Maps to batteryCapacityDefaultValue in MO Battery. Deprecated.
batteryType	**Optional equipment/ Battery type**	O	enum	Indicates the type of battery to which the installed battery conforms. The type is related to the capabilities of the battery. Possible values: TYPE01, TYPE02, UNKNOWN Default: TYPE01
multiplePowerSystem	**Power supply/ Multiple Power System** (1)	O	enum	Indicates if the power systems provide separate loads within the same cabinet. Possible values: TRUE, FALSE TRUE: Several power systems provide separate loads within the same cabinet. Multiple sub-racks operate individually and each of them form one power system. FALSE: All loads within the same cabinet are powered by one power system. Multiple sub-racks are internally connected by a cabinet bus bar.
noOfBpa	**Optional equipment/No of BPA**	O	integer	The number of BPA. Possible value: 1 for RBS 6101, RBS 6102, RBS 6120, RBS 6201 Default value: 0 Mandatory if configureBatteryBackup = YES.

Attribute	Wizard Option	M/O	Type	Description
				Ignored if configureBatteryBackup = NO. Applicable for all RBS types where supportSystemControl = TRUE.
noOfBfu	**Optional equipment/No of BFU**	O	integer	The number of BFUs. Possible values: 1 for 6102 w/BB Cassettle, 6202, 6301, 6601 Possible values: 1 to 2 for 6101, 6102 w/ Digital Subrack, 6201 Possible values: 1 to 4 for 6110, 6120, 6131 Default value: 1 Mandatory if configureBatteryBackup = YES. Ignored if configureBatteryBackup = NO. Applicable for all RBS types where supportSystemControl = TRUE.

(1) This option is not available for all RBS types.

2.2.3 External Alarm Configuration

The Alarm element contains the attributes for the alarm port configuration of an external equipment.

Table 6 Attributes of the Alarm Element

Attribute	Wizard option	M/O	Type	Description
portId	Not applicable	M	integer	The number of the Alarm Port to use. Possible values: For RRU or RRUW: 1 to 6 For SUP: 1 to 8 For SCU: 1 to 16
alarmSlogan	Not applicable	M	string	The alarm name. Only characters in the normal ASCII-table can be used. Exceptions: The characters "&", "<" and ">" are NOT allowed.
externalAlarmUnit	Not applicable	O	enum	Defines externalAlarmUnit, for which the alarm attributes are valid.

Attribute	Wizard option	M/O	Type	Description
				More than one alarm unit can exist in an RBS. Possible values: Scu, Sup Optional for 6201, 6320: Scu For 6601, 6302: Sup For 6501: Scu Ignored for other RBS types.
normallyOpen	Not applicable	M	enum	Defines if alarm is triggered when closing or opening the loop. Possible values: YES, NO. YES means triggered on closing.
severity	Not applicable	M	enum	The severity of the alarm. Possible values: Critical, Major, Minor or Warning
probableCause	Not applicable	M	integer	The probable cause of the alarm. For valid values, see the attribute AlmDevice::probableCause in the RBS Managed Object Model (use the integer value of a certain probableCause enum value).

2.2.4 Climate System Configuration

The ClimateSystem element defines a standard or extended climate system is used.

Table 7 Attributes of the ClimateSystem Element

Attribute	Wizard Option	M/O	Type	Description
climateSystem	**Other options/ Climate system**	M	enum	Defines if Standard or Extended climate system is used. Possible values: Standard or Extended Default value: Standard Applicable for all RBS types where supportSystemControl = TRUE. For 6102, 6110, 6120, 6201V2, 6302: Standard or Extended For 6101, 6131, 6201, 6202, 6301, 6320, 6501, 6601: Standard Ignored for other RBS types.

2.2.5 Climate Regulation System Configuration

The `ClimateRegulationSystem` element defines the type of climate regulation system used.

Table 8 Attributes of the ClimateRegulationSystem Element

Attribute	Wizard Option	M/O	Type	Description
climateRegulationSystem	**Other options/ Climate regulation system**	M	enum	Defines the type of climate regulation system that is used. Possible values: `notApplicable`, TS, DAC, or HEX Default value: `notApplicable` For 6110 or 6120: TS or DAC For 6320: DAC or HEX For all other applicable RBSs: notApplicable

2.2.6 EC Port Configuration

The `EcPort` element defines EC port connection between the digital unit and the APC hub unit.

Table 9 Attributes of the EcPort Element

Attribute	M/O	Type	Description
`unitType`	M	enum	Specifies the type of unit for which the `hubPosition` attribute or the `cascadingOrder` attribute is valid. Possible values: DUW, EXTNODE Deprecated value: CBU Applicable for all RBS types where `supportSystemControl` is set to TRUE.
`unitNumber`	M	integer	Specifies together with `unitType` the unit instance for which the `hubPosition` attribute or the `cascadingOrder` attribute is valid. Possible values: 1 or 2 Applicable for all RBS types where `supportSystemControl` is set to TRUE.
`portNumber`	O	enum	Specifies whether first or second EcPort is used for `unitType`=EXTNODE. Possible values: 1 or 2 Default value: 1

Attribute	M/O	Type	Description
			Applicable for all RBS types where `supportSystemControl` is set to TRUE.
`hubPosition`	O	enum	The hub port, to which the external node or HW unit is connected, used for addressing purposes. Possible values: A0, A2, A3, A5, A6, A7, B0, B1, D, E, EC_A, EC_B, EC_C, X, Y, Z — For macro RBS: A0, A2, A3, A5, A6, A7, B0, B1, D, E, EC_A, EC_B, EC_C — For main remote RBS: EC_A, EC_B, EC_C, X, Y, Z Applicable for all RBS types where `supportSystemControl` is set to TRUE.
`cascadingOrder`	O	enum	Represents the SUP position in the cascading chain for RBS 6601 with dual DUW where the primary DUW is DUW 11, DUW 31, or DUW 41. Possible values: 0, 1, 2, 3, 4, 5, 6, 7 When two DUWs are configured in one SUP, 0 is used for the two DUWs, which means no cascading configuration. In the case of cascading configuration, 1 represents primary DUW and 2 specifies secondary DUW.

2.3 O&M Access Configuration

This section describes the attributes in the O&M access configuration DTD file. For the DTD file, refer to DTD for O&M Access Configuration. For the examples of configuration file, refer to Example Files for O&M Access Configuration.

Note: The cabinet equipment configuration must be completed before starting the O&M access configuration.

O&M Access Configuration wizard creates a maximum of two synchronization references: default and redundant. If thee or more synchronization references are needed, for example when co-siting with GSM, the **Modify RBS Equipment Configuration** application must be run before the **O&M Access Configuration** wizard, refer to Element Manager Wizards.

When physical path terminations are added, run the **O&M Access Configuration** wizard using an input file where the synchronization references are stated.

Adding ATM ports also adds physical path terminations, refer to Element Manager Wizards.

2.3.1 Definitions

Figure 2 shows the element tree of the O&M access configuration DTD file.

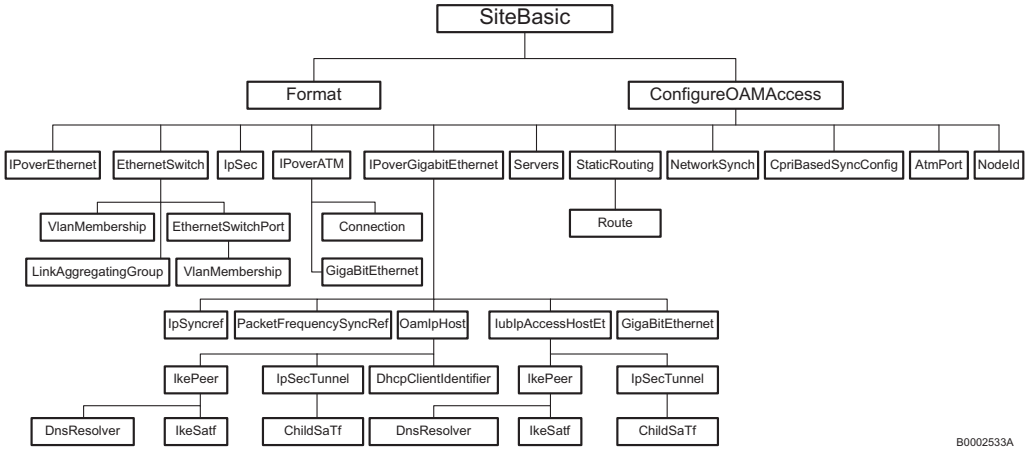

Figure 2 Element Tree for the O&M Access Configuration DTD File

Table 10 describes the definitions within the SiteBasic element.

Table 10 Elements Within SiteBasic Element

Element	Description	No. of Instances
<Format.../>	Holds the revision of the DTD. It follows the rules for Ericsson document revision handling.	1
<ConfigureOAMAccess> <...></...> </ConfigureOAMAccess>	Table 11 describes the definitions within the ConfigureOAMAccess element.	1

Table 11 Elements Within ConfigureOAMAccess Element

Element	Description	No. of Instances
<IPoverEthernet.../>	See IP over Ethernet Configuration on page 19. Specifies the attributes for the Mub IP over Ethernet connection.	1
<EthernetSwitch> <...></...> </EthernetSwitch>	See Table 132. Specifies the Ethernet switch attributes on ET-MFX. The attributes related to VLAN membership, link aggregation group and external ports on the ET-MFX are defined in the following subelements:	0 to 2

Element	Description	No. of Instances
	- VlanMembership [0..8], see Table 132. Holds the actions to add or delete a VLAN marking on the internal and the external Ethernet port on the switch. - LinkAggregationGroup, see Table 132. - EthernetSwitchPort [0..7], see Table 132. --VlanMembership [0..8], see Table 132. This element and the subelements are ignored to an RBS with DUW.	
<IPSec.../>	See IP Security Configuration on page 20. Specifies the attributes for IP security configuration type and certificate enrollment server for automatic update.	0 to 1
<IPoverATM> <...></...> </IPoverATM>	See IP over ATM Configuration on page 20. Specifies the configuration of IP over Asynchronous Transfer Mode (ATM). This element holds the following subelements: - Connection [1..4](1), see Table 14. Specifies the IP over ATM connection. - GigaBitEthernet [0..1], see Table 15. Specifies the setting of the port for the Gigabit Ethernet connection on the DU. Mandatory for: all DU-based RBSs using full IP or dual-stack. Including this element corresponds to selecting **Transport Option: atm** in the wizard.	0 to 1
<IPoverGigabitEthernet.../> <...></...> </IPoverGigabitEthernet>	See IP over Gigabit Ethernet Configuration on page 26. Specifies attributes related to configuration of IP over Gigabit Ethernet. This element holds the following subelements: - IpSyncRef [0..8], see Table 17. Specifies the IP address of an Network Time Protocol (NTP) network synchronization server. - PacketFrequencySyncRef [0..8], see Table 18. Specifies the IP address and the domain of a Precision Time	0 to 1

Element	Description	No. of Instances
	Protocol (PTP) network synchronization server. - OamIpHost [0..1], see Table 19. Specifies a separate IP over Ethernet interface for Mub. This element is relevant for IP RBSs only. -- IkePeer [0..2], see Table 20. --- DnsResolver [1 or 2], see Table 21. Specifies the Domain Name System (DNS) resolver configuration. --- IkeSaTf [0..5](2), see Table 22. -- IpSecTunnel [0 or 2], see Table 23. --- ChildSaTf [0..10](2), see Table 24. -- DhcpClientIdentifier [0..1], see Table 25. - IubIpAccessHostEt [0..1], see Table 26. Specifies the inner IP address of Iub with IP Security (IPsec) configuration. -- IkePeer [0..2], see Table 20. --- DnsResolver [1 or 2], see Table 21. --- IkeSaTf [0..5](2), see Table 22. -- IpSecTunnel [0 or 2], see Table 23. --- ChildSaTf [0..10](2), see Table 24. -GigaBitEthernet [0..1], see Table 15. Mandatory for: all DU-based RBSs using full IP or dual-stack.	
<Servers.../>	See Common Operation and Maintenance Infrastructure of Server on page 33. Specifies the Common Operation and Maintenance Infrastructure (COMINF) attributes.	0 to 1
<StaticRouting> <...></.../> </StaticRouting>	See Static Routing Configuration on page 37. This element holds the following subelement: - Route [1 to n], see Table 28. Specifies the static IP routing attributes. Including an instance of this element corresponds to selecting **Add static route** in the wizard.	1

Element	Description	No. of Instances
<NetworkSynch.../>	See Network Synchronization Configuration on page 38. Specifies the network synchronization attributes.	0 to 8
<CpriBasedSyncConfig.../>	See MSMM CPRI Based Synchronization Configuration on page 39. Specifies the attributes for `NodeGroupSyncMember` for Multistandard Mixed Mode (MSMM) CPRI Based Synchronization.	0 to 1
<AtmPort.../>	See ATM Port Configuration on page 41. Specifies configuration attributes for extra ATM ports in addition to the ATM ports used for the IP/ATM connections.	0 to many
<NodeId.../>	See Node ID Configuration on page 44. Specifies the attributes related to the node Id configuration.	0 to 1

(1) At least one Connection is required for the RBS, two is recommended.

(2) If this element has no instance, DU Radio Node generates proposals of cryptographic algorithms based on all supported algorithms.

2.3.2 IP over Ethernet Configuration

The `IPoverEthernet` element defines attributes related to the Mub IP over Ethernet connection.

Table 12 Attributes of the IPoverEthernet Element

Attribute	Wizard Option	M/O	Type	Description
ethernetIpAddress	**IP over Ethernet/IP address**	M	string	The `ethernetIpAddress` attribute states the IP address of the Ethernet link. In an IP RBS, this is the IP address used for local OaM access. In an ATM or dual-stack RBS, this is the IP address used for local and remote OaM access. The input format used by the operator is four fields of digits, separated by a dot. The address must not be a broadcast or multicast address. How to connect a client to the RBS is described in Preventive Maintenance.

Attribute	Wizard Option	M/O	Type	Description
ethernetSubnetMask	**IP over Ethernet/ Subnet mask**	M	string	The `ethernetSubnetMask` attribute states the subnet mask of the Ethernet link. The input format used by the operator is four fields of digits, separated by a dot. **Note:** The subnet mask has to be contiguous, that is, it has the Least Significant Bit (LSB) set to `0` (zero).

2.3.3 IP Security Configuration

The `IpSec` element defines the attributes for IP security configuration type and certificate enrollment server for automatic update.

Table 13 Attributes of the IpSec Element

Attribute	Wizard Option	M/O	Type	Description
`configType`	Not applicable	M	enum	Defines if the RBS shall be configured for IPsec. Possible values: — NON_IPSEC: No IPsec — IPSEC_SINGLE_LINK: B type IPsec — IPSEC_DUAL_LINK: C type IPsec
`autoUpdateCertEnrollmentServer`	Not applicable	O	string	Specifies the certificate enrollment server for automatic update. Value length: `0` to 255 characters This attribute is a full URL for the enrollment server to use or empty string to disable automatic update. The URL contains method, host, an optional port, and URI parts. If this attribute is set, automatic certificate update is performed when `certExpirWarnTime` is reached.

2.3.4 IP over ATM Configuration

The `PoverATM` element and the subelements defines the attributes related to the configuration of IP over Asynchronous Transfer Mode (ATM).

Table 14 Attributes of the Connection Element

Attribute	Wizard Option	M/O	Type	Description
name	**IP over ATM links/ Default link** and **IP over ATM links/ Redundant link** (1)	M	enum	Defines whether it is the first or second IP over ATM connection that is configured. Possible values: firstOAMatm, secondOAMatm
etbSlot	**IP over ATM Links/ETB in slot**	M	string	The slot on which the Exchange Terminal Board (ETB) to use for Mub is located. An ETB has to be configured in the slot. etbSlot is <SubrackPosition>-<Slotposition> <SubrackPosition> = Cabinet number 1-9 numbered from the right, followed by shelf character A-Z numbered from bottom, followed by shelf position 1-9 numbered from the left. <Slotposition> = Number 1.. 28 numbered from the left. The cabinet position is optional. When omitted, configured as 1st cabinet. Example: C1–2 (typical for RBS) Possible slot position: 1
terminationType	**IP over ATM Links/ Termination type**	M	enum	Type of physical termination: E1, J1, 1, STM1_ETSI, STM1_TTC, OC3, IMA_E1, IMA_J1, IMA_T1, Chan_STM1_E1, Chan_OC3_T1, IMA_Chan_STM1_E1, IMA_Chan_OC3_T1
physicalLine	**IP over ATM Links/ETB line** or **IP over ATM Links/ETB lines (IMA)** (2)	M	string	The line number on the ETB to use for the O&M connection. For IMA_xxx, there can be several numbers separated by commas. For the others, there can only be one number. Examples: IMA_xxx; 1,2,3,4; others 1 1 to 4 for E1, T1, IMA_E1, IMA_T1 5 for STM1_ETSI, STM1_TTC, OC3 1 to 63 for Chan_STM1_E1 1 to 63 IMA_Chan_STM1_E1. Max number of unlocked channels=21.

Attribute	Wizard Option	M/O	Type	Description
				Max number of IMA groups=14 1 to 84 for Chan_OC3_T1 1 to 84 for IMA_Chan_OC3_T1 Max number of unlocked channels=28. Max number of IMA groups=14
requiredNumberOfLinks	**IP over ATM Links/ Required Number of links**	O	Integer	The required number of IMA links that needs to be operational in order for the complete group to be operational. Only used if terminationType=IMA_xxx. Maps to requiredNumberOfLinks in MO ImaGroup. Possible values:1-8 Default value: 1 If the chosen value is less than the number of available links, the remaining links are used for redundancy instead of increasing capacity.
timeSlotsInFraction	**IP over ATM Links/Time slots in fraction** (3)	O	string	Slot numbers to be used: 1..31 for fractional_E1 1..24 for fractional_J1 or fractional_T1 Numbers separated by a comma. Example: 2,8,13,15,17. Only used if terminationType= fractional_xxx.
externalVpi	**IP over ATM links/VPI**	O	integer	This is the virtual path identifier for the external ATM cells. Default value is used. Same externalVpi value to be used for firstOAMatm and secondOAMatm in same physical connection. Range: 0-255, default = 1.
externalVci	**IP over ATM links/VCI**	O	integer	Virtual Channel Identifier (VCI) value for this Virtual Channel Link (VCL). Different externalVci value to be used for firstOAMatm and secondOAMatm in same physical connection. Range: 32 - 65535. If no value is specified in the XML file, the wizard calculates the value to be used. This value is 32 for firstOAMatm and 33 for secondOAMatm.

Attribute	Wizard Option	M/O	Type	Description
vpPeakCellRate	**IP over ATM links/VP PCR**	M	integer	Sets same value for egress ATM Peak and ingress ATM Peak cell rate (cells/s). Same vpPeakCellRate value to be used for firstOAMatm and secondOAMatm in same physical link. Only positive values allowed.
atmIpAddress	**IP over ATM links/IP address**	M	string	There can be more than two IP links over the Transport Network and they must all have different IP addresses
atmSubnetMask	**IP over ATM links/Subnet mask**	M	string	The attribute atmSubnetMask states the subnet mask of the IP over ATM link (point to point link). The input format used by the operator is four fields of digits, separated by a dot. Each field consists of three digits. For a point to point link, the subnet mask 255.255.255.252 is very likely. **Note:** The subnet mask has to be contiguous, that is, it has the LSB set to 0 (zero).
vpServiceCategory	**IP over ATM links/VP Service Category**	O	enum	Possible values: CBR, UBR_PLUS Default value: CBR UBR_PLUS is recommended when IMA bandwidth adaptation at link failure is used.
vpMinimumCellRate	**IP over ATM links/VP Minimum Cell Rate**	O	integer	Mandatory when VP service category is set to UBR_PLUS. Value can be calculated based on bandwidth of minimum number of required links in IMA group. Sets same value for egress and ingress ATM minimum cell rate (cells/s). The same value for vpMinimumCellRate is used for firstOAMatm and secondOAMatm in the same physical link. Only positive values are allowed. Default value: 0
vcServiceCategory	**IP over ATM links/VC Service Category**	O	enum	Possible values: UBR, UBR_PLUS Default value: UBR_PLUS UBR_PLUS is used only if AAL2 paths on the same VPC are configured using UBR_PLUS. UBR is used in other situations so that O&M

Attribute	Wizard Option	M/O	Type	Description
				connections do not interfere with traffic handling connections.

(1) **Default link** options correspond to configuring for `firstOAMatm`. **Redundant link** options correspond to configuring for `secondOAMatm`

(2) Select **Used** for the proper ETB lines, if the termination type is IMA.

(3) Select **Active** for each time slot required.

Note: IP over ATM connection from the MP through ET-board to RAN O&M router is created by using attribute name, `etbSlot`, and `PhysicalLine`.

When 4 connections are defined for RNC, there are 2 connections named `firstOAMatm` for the active MP and 2 connections named `secondOAMatm` for the passive MP. These connections are using different physical lines.

Table 15 Attributes of the GigaBitEthernet Element

Attribute	Wizard Option	M/O	Type	Description
`gigaBitEthernetPort`	**IP over Ethernet and Transport Option Configuration/ GigaBitEthernet**	M	enum	Port for the Gigabit Ethernet connection on the DU. Possible values: TNA or TNB Default value: TNA TNA and TNB correspond to DU ports labeled TN A and TN B. Electrical port TN A (RJ45) corresponds to MOM attribute `GigaBitEthernet::portNo=2`. SFP port TN B corresponds to `GigaBitEthernet::portNo=1`.
`autoNegotiation`	**IP over Ethernet and Transport Option Configuration/ GigaBitEthernet**	O	enum	Indicates if Ethernet auto-negotiation is performed when starting the link(s). For details, refer to the `autoNegotiation` attribute in the RBS Managed Object Model. Possible values: TRUE, FALSE Default value: TRUE
`masterMode`	**IP over Ethernet and Transport Option Configuration/**	O	enum	Defines master or slave mode of the link in case `autoNegotiation` is disabled. For details, refer to the `masterMode` attribute in the RBS Managed Object Model Possible values: TRUE, FALSE Default value: TRUE

Attribute	Wizard Option	M/O	Type	Description
	GigaBitEthernet			
configuredSpeedDuplex	**IP over Ethernet and Transport Option Configuration/ GigaBitEthernet**	O	enum	Specifies the minimum acceptable operating mode for the port. Only applicable for the electrical interface port. For details, refer to the configuredSpeedDuplex attribute in the RBS Managed Object Model Possible values: ETH_100_MB_FULL, ETH_1000_MB_FULL Default value: ETH_1000_MB_FULL
emscSupport	**IP over Ethernet and Transport Option Configuration/ GigaBitEthernet**	O	enum	Specifies if the Ethernet Synchronization Message Channel (ESMC) function is enabled. For DUW 10, DUW 20, and DUW 30, applicable only for the optical interface port. For DUW 11, DUW 31, and DUW 41, applicable for both optical and electrical interface ports. Possible values: YES, NO Default value: NO
useReceivedQl	**IP over Ethernet and Transport Option Configuration/ GigaBitEthernet**	O	enum	Specifies if the Quality Level (QL) received on the Ethernet interface is used. For details, refer to the useReceivedQl attribute in the RBS Managed Object Model Possible values: TRUE, FALSE Default value: FALSE
adminQuality	**IP over Ethernet and Transport Option Configuration/ GigaBitEthernet**	O	enum	Specifies the quality level value to override the received quality level, if useReceivedQl is set to FALSE. For details, refer to the adminQuality attribute in the RBS Managed Object Model Possible values: QL_PRC, QL_SSU_A, QL_SSU_B, QL_SEC_QL_EEC, QL_PRS, QL_STU, QL_ST2, QL_TNC, QL_ST3E, QL_ST3_QL_EEC, QL_SMC, QL_UNK, QL_SEC, NOT_DEFINED Default value: NOT_DEFINED

2.3.5 IP over Gigabit Ethernet Configuration

The `IPoverGigabitEthernet` element and the subelements define the attributes related to configuration of IP over Gigabit Ethernet. The `GigaBitEthernet` element is specified in Table 15.

Table 16 Attributes of the IPoverGigabitEthernet Element

Attribute	Wizard Option	M/O	Type	Description
`etIPSynchSlot`	Not applicable	M	string	This is used to indicate the slot where the IP ET board is located which this IP host uses as its physical path. `etIPSynchSlot` is <SubrackPosition>-<Slotposition> <SubrackPosition> = Cabinet number 1-9 numbered from the right, followed by shelf character A-Z numbered from bottom, followed by shelf position 1-9 numbered from the left. <Slotposition> = Number 1.. 28 numbered from the left Example: 1A1-1 Possible slot position: 1
`syncIpAddress`	**IP Access Host ET/IP address**	M	string	The IP address of the `IpAccessHostEt` in the RBS that handles SoIP. This address can also be used for Iub user plane and control plane. The input format used by the operator is four fields of digits, separated by a dot. Each field consists of three digits. The address cannot be a broadcast or multicast address.
`syncSubnetMask`	**IP Interface/ Subnet Mask**	M	string	The subnet mask of the IP address. The input format used by the operator is four fields of digits, separated by a dot. Each field consists of three digits. The range is 255.255.240.0 to 255.255.255.252.
`defaultRouter0`	**IP Interface/ Default router 0**	M	string	The IP address of the default router which is used as the next hop for sync messages.

Attribute	Wizard Option	M/O	Type	Description
syncVid	IP Interface/VID	O	integer	This defines the VLAN identity, if any, for the SoIP. If syncVid is present for sync traffic, the range is 100–110. In element EthernetSwitch the attribute vlan=true is set. If syncVid is not present, then vlan tags are not used and in element EthernetSwitch the attribute vlan=false is set.

Table 17 Attributes of the IpSyncRef Element

Attribute	Wizard Option	M/O	Type	Description
ntpServerIpAddress	IP Sync Ref/NTP server IP address	M	string	The IP address of a Synchronization Server, used for NTP network synchronization. In the IPsec mode, the IpSynchRef MO is created under the MO IpAccescHostEt for the inner Iub IP address.

Table 18 Attributes of the PacketFrequencySyncRef Element

Attribute	Wizard Option	M/O	Type	Description
serverAddress	IP Sync Configuration/IP Sync Ref	M	string	Specifies the domain or IP address of the server, can be either IPv4 or IPv6. The input format for an IPv4 address is four fields of digits, separated by a dot. Each field consists of one to three digits. The input format for an IPv6 address is as defined in the specification RFC4291, chapter 2.2, bullet 1 and 2. A valid domain name conforms to the following: — It is composed of characters of type letters, numbers or hyphens, where hyphens can be anywhere in the middle of a name but cannot be located at the end or beginning of a name. — It cannot have spaces. — It is case insensitive. — It can include dots for the use of sub domains.

Attribute	Wizard Option	M/O	Type	Description
				If this PacketFrequencySyncRef MO refers to an IpAccessHostEt MO, the IP address in this attribute must be of the same format as the referenced IpAccessHostEt MO. Lock before modify: Yes.
ptpDomain	IP Sync Configuration/IP Sync Ref	M	long	Specifies the PTP domain. Has to be a unique number among the configured packetTimeSyncRef and packetFrequencySyncRef MOs. The attribute administrativeState must be set to LOCKED before modifying this attribute.

Table 19 Attributes of the OamIpHost Element

Attribute	Wizard Option	M/O	Type	Description
oamIpAddress	IP Host Link Configuration/IP Host Link	O	string	For an IP RBS, this is the IP address used for remote OaM access. Maps to ipAddress in MO IpHostLink. For initial configuration of an IP RBS, the IP address for IpHostLink must not be in the same subnet as Ethernet link IP address. For more information, see ethernetipAddress Table 12. The input format used by the operator is four fields of digits, separated by a dot. Each field consists of three digits. It must not be a broadcast or multicast address.
outerOamIpAddressHostEt	IP Host Link Configuration/IP Host Link	O	string	Specifies the outer IP address for O&M. Maps to ipAddress in MO IpAccessHostEt.
oamSubnetMask	IP Host Link Configuration/IP Host Link	M	string	The subnet mask of the IP address. The input format used by the operator is four fields of digits, separated by a dot. Each field consists of three digits. The range is 255.255.240.0 to 255.255.255.252.
oamDefaultRouter0	IP Host Link Configur	M	string	The IP address of the default router.

Attribute	Wizard Option	M/O	Type	Description
	ation/IP Host Link			
oamVid	IP Host Link Configuration/IP Host Link	M	string	The Virtual LAN identity of the host.
configurationMode	IP Host Link Configuration/IP Host Link	O	enum	The method of IP address configuration. Possible values: MANUAL or DHCP Default value: MANUAL If the configurationMode attribute is set to DHCP, the IpAccessHostEt and IpHostLink instances of an RBS must not reference to the same IpInterface instance.
dnsAutoConfig	IP Host Link Configuration/IP Host Link	O	enum	Indicate whether the DNS server address is assigned using DHCP Possible values: FALSE or TRUE Default value: FALSE This field is used only when the configurationMode attribute is set to DHCP.

Table 20 Attributes of the IkePeer Element

Attribute	Wizard Option	M/O	Type	Description
peerIpAddress	Not applicable	M	string	Specifies the outer IP address of the peer node. Two instances of the IkePeer MO can have the same value for this attribute. In this case, they must not use the same outer IpAccessHostEt MO.
peerIdFqdn	Not applicable	M	string	Specifies the fully qualified domain name for the peer node. Specification: RFC 952
peerIdType	Not applicable	M	enum	Specifies the type of peer identifier. If the value specifies any type of address, all types of peer identities must have values.
peerIpv4Address	Not applicable	M	string	Specifies the IPv4 address for the peer node.

Attribute	Wizard Option	M/O	Type	Description
				If the idType attribute specifies an IPv4 address and peerIpv4Address is not set, the value of the peerIpAddress attribute is used.
ownIdFqdn	Not applicable	M	string	Specifies the fully qualified domain name for the local node. Specification: RFC 952
ownIdType	Not applicable	M	string	Specifies the type of identity that is used. When this attribute is set to AUTOMATIC, idFqdn and ipv4Address cannot be set and empty strings are returned if ownIdentity is read.
ownIpv4Address	Not applicable	M	string	Specifies the IPv4 address for the local node. If the idType specifies an IPv4 address and this field is empty, the value of the peerIpAddress attribute is used.

Table 21 Attributes of the DnsResolver Element

Attribute	Wizard Option	M/O	Type	Description
dnsServerAddress	Not applicable	O	string	Specifies a list of configured IP addresses to domain name servers. The addresses are included in the usedDnsServerAddresses attribute after any automatically configured addresses. Dependencies: At least one address is specified, if addresses are not automatically configured (dnsServerAutoConfig = false).
dnsServerAutoConfig	Not applicable	O	boolean	Specifies whether DNS server addresses are automatically configured. Possible values: true or false Dependencies: This attribute is set to true only if the referenced IpAccessHostEt MO refers to a VpnInterface MO with configurationMode = IKE or to an IpInterface MO with configurationMode = DHCP.
defDomainName	Not applicable	O	string	Specifies the default domain name.
dscp	Not applicable	O	long	Specifies the DSCP for the outgoing IP packets that carry DNS request messages.

Attribute	Wizard Option	M/O	Type	Description
isSubDomainName	Not applicable	O	boolean	Specifies whether to use subsets of the fully qualified domain name in DNS lookups.

Table 22 Attributes of the IkeSaTf Element

Attribute	Wizard Option	M/O	Type	Description
diffieHellmanGroup	Not applicable	M	enum	Specifies a Diffie-Hellman group. Possible values: GROUP_2, GROUP_14,GROUP_19, GROUP_20
encryptionAlgorithm(1)	Not applicable	M	enum	Specifies an encryption algorithm. Possible values: AES_CBC_128, AES_CBC_256, ALG_3DES_CBC, AES_128_GCM_128, AES_256_GCM_128
integrityAlgorithm(1)	Not applicable	M	enum	Specifies an algorithm for integrity check. Possible values: AES_XCBC_MAC_96, HMAC_MD5_96, HMAC_SHA_1_96, HMAC_SHA2_256_128, AES_GCM
pseudoRandomFunction	Not applicable	M	enum	Specifies the type of pseudorandom function. Possible values: AES_XCBC_PRF128, HMAC_SHA1, HMAC_MD5, HMAC_SHA2_256

(1) To use the AES-GCM algorithm, both the encryptionAlgorithm and integrityAlgorithm must be set to the value for AES-GCM.

Table 23 Attributes of the IpSecTunnel Element

Attribute	Wizard Option	M/O	Type	Description
ProtocolType	Not applicable	M	enum	The protocol that is part of the traffic selector which specifies the traffic allowed through the tunnel. Only one element in this sequence is supported. If a second element is added, it is currently not used. Minimum length: 1
tsLocalIpAddress	Not applicable	M	string	Specifies the IP address for the local node. The IP address range is expressed by an IP address and a mask. Example:

Attribute	Wizard Option	M/O	Type	Description
				IPv4 address = 15.16.17.18 and mask = 16 indicates that the local node is located in the network segment between 15.16.0.0 and 15.16.255.255.
tsLocalIpAddressMask	Not applicable	M	long	Specifies the mask for the IP address of the local node. The IP address range is expressed by an IP address and a mask. Example: IPv4 address = 15.16.17.18 and mask = 16 indicates that the local node is located in the network segment between 15.16.0.0 and 15.16.255.255.
tsRemoteIpAddress	Not applicable	M	string	Specifies the IP address for the remote node. The IP address range is expressed by an IP address and a mask. Example: IPv4 address = 15.16.17.18 and mask = 16 indicates that the remote node is located in the network segment between 15.16.0.0 and 15.16.255.255.
tsRemoteIpAddressMask	Not applicable	M	long	Specifies the mask for the IP address of the remote node. The IP address range is expressed by an IP address and a mask. Example: IPv4 address = 15.16.17.18 and mask = 16 indicates that the remote node is located in the network segment between 15.16.0.0 and 15.16.255.255.
pfs	Not applicable	M	boolean	Specifies if Perfect Forward Secrecy (PFS) is enabled. Possible values: TRUE, FALSE. Default value: FALSE.

Table 24 Attributes of the ChildSaTf Element

Attribute	Wizard Option	M/O	Type	Description
encryptionAlgorithm(1)	Not applicable	M	enum	Specifies a child Security Association (SA) encryption algorithm.

Attribute	Wizard Option	M/O	Type	Description
				Possible values: NULL, AES_CBC_128, AES_CBC_256, ALG_3DES_CBC, AES_128_GCM_128(2), AES_256_GCM_128(2)
integrityAlgorithm(1)	Not applicable	M	enum	Specifies an algorithm for integrity check. Possible values: AES_XCBC_MAC_96, HMAC_SHA_1_96, HMAC_MD5_96, HMAC_SHA2_256_128, AES_GCM(2)

(1) To use the AES-GCM algorithm, both the encryptionAlgorithm and integrityAlgorithm must be set to the value for AES-GCM.

(2) This algorithm is not supported for Child SAs on the DU Radio Nodes with DUW 10, DUW 20 or DUW 30.

Table 25 Attributes of the DhcpClientIdentifier Element

Attribute	Wizard Option	M/O	Type	Description
clientIdentifier	Not applicable	O	string	A configured client identifier value. This field is used only when clientIdentifierType is set to MANUAL. If clientIdentifierType is set to MANUAL, the value of the clientIdentifier must not be an empty string.
clientIdentifierType	Not applicable	M	enum	Specifies whether dhcpClientIdentifier is configured manually, automatically generated, or not used at all. Possible values: AUTOMATIC, AUTOMATIC_MAC, AUTOMATIC_SERIAL_NUMBER , MANUAL ,NO_CLIENT_IDENTIFIER

Table 26 Attributes of the IubIpAccessHostEt Element

Attribute	Wizard Option	M/O	Type	Description
ipAddressHostEt	**IP Sync Configuration/IP Access Host ET**	M	string	Specifies the inner IP address for Iub.

2.3.6 Common Operation and Maintenance Infrastructure of Server

The Servers element defines the COMINF attributes.

Table 27 Attributes of the Servers Element

Attribute	Wizard Option	M/O	Type	Description
isDefaultDomainName	**Server configuration/Use Default Domain Name**	O	enum	YES or NO, default = NO. YES means that default domain is used and that the attribute `defaultDomainName` needs a value.
defaultDomainName	**Server configuration/Default Domain Name**	O	string	Contains default domain name. A valid domain name consists of one or more labels separated by dots ("."). Valid characters for a label to be limited to letters 'a' - 'z', 'A' - 'Z', digits '0' - '9', the character '-' ("dash"). Character case to be preserved. Labels to start with a letter. Total length of a label is not to exceed 255 characters.
dnsServerIpAddress	**Server configuration/DNS Server**	O	string	The Domain Name System (DNS) IP address. Range: `000.000.000.000` to 255.255.255.255.
dhcpServerPrimaryIpAddress	**Server configuration/Primary DHCP Server**	O	string	IP addresses to the Dynamic Host Configuration Protocol (DHCP) server, used by the DHCP Relay Agent. Default is an empty array. Can be a list of 1 to 10, but only 2 is used, see below: `dhcpServerPrimaryIpAddress` has to be set before `dhcpServerSecondaryIpAddress`.
dhcpServerSecondaryIpAddress	**Server configuration/Secondary DHCP Server**	O	string	IP addresses to the DHCP server, used by the DHCP Relay Agent. This address must be added if the configuration includes a redundant server. Default = an empty array. Can be a list of 1 to 10, but only 2 is used, see below: `dhcpServerPrimaryIpAddress` has to be set before `dhcpServerSecondaryIpAddress`.
singleLogonServer	**Server configuratio**	O	string	A list of node names or IP addresses of the Single Logon Servers (SLS). The list uses

Attribute	Wizard Option	M/O	Type	Description
	n/Logon Server (SLS)			commas to separate the single log on server addresses, for example "SLS1,SLS2,SLS3". These addresses consist of the URLs to the concerned SLS servers. The attribute is read by Element Management application to find the single log on server in the network.
documentServerWebAddress	**Server configuration/Document Server (ALEX)**	O	string	The URL for the Active Library Explorer server containing the CPI library. On the server specified, ensure that there is only one version of a documentation library for each number of the revision state (R-state). Example 1: R4B and R5B are allowed. Example 2: R5A and R5B are not allowed.
primaryNtpServerIpAddress	**NTP primary server/ Server address**	O	string	The IP address of the Network Time Protocol (NTP) server. **Note:** The Network Synchronization Server is set in Table 17.
primaryNtpServiceActive	**NTP primary server/ Service active**	O	enum	YES or NO, default = NO. Use YES to get the time settings for the primary server from the NTP server.
secondaryNtpServerIpAddress	**NTP secondary server/ Server address**	O	enum	Alternative NTP server IP address. **Note:** The Network Synchronization Server is set in Table 17.
secondaryNtpServiceActive	**NTP secondary server/ Service active**	O	string	YES or NO, default = NO. Use YES to get the time settings for the secondary server from the NTP server.
localTimeZone	**Time/Local time zone**	O	string	This value states the time zone in which the node is located. This attribute is needed by management application to convert Universal Time Coordinated (UTC) time from a log or NTP service to local time. It does not change the real time clock on the node. This is only necessary to set if no NTP server has been activated. The time zone is represented by three characters, example GMT.

Attribute	Wizard Option	M/O	Type	Description
				Available options are: TimeZone ID Offset GMT (Greenwich Mean Time) 0 UTC (Coordinated Universal Time) 0 ECT (Central European Standard Time) + 1 EET (Eastern European Time) + 2 ART (Eastern European Time) + 2EAT (Eastern African Time) + 3 MET (Iran Time) + 3.5 NET (Armenia Time) + 4 PLT (Pakistan Time) + 5 IST (India Standard Time) + 5.5 BST (Bangladesh Time) + 6 VST (Indochina Time) + 7 CTT (China Standard Time) + 8 JST (Japan Standard Time) + 9 CST (Central Standard Time) + 9.5 EST (Eastern Standard Time) + 10 AET (Eastern Standard Time) + 10 SST (Solomon Is. Time) + 11 NST (New Zealand Standard Time) + 12 CAT (Central Alaska Time) - 1 AGT (Argentina Time) - 3 BET (Brazil Time) - 3 CNT (Newfoundland Standard Time) - 3.5 PRT (Atlantic Standard Time) - 4 IET (Eastern Standard Time) - 5 ACT (Central Standard Time) - 6 PNT (Mountain Standard Time) - 7 MST (Mountain Standard Time) - 7 PST (Pacific Standard Time) - 8 AST (Alaska Standard Time) - 9

Attribute	Wizard Option	M/O	Type	Description
				HST (Hawaii Standard Time) - 10 MIT (West Saoma Time) - 11 Reference: http://www.greenwichmeantime.com
Not applicable	**Time/Time** **Time/Day** **Time/Month** **Time/Year** **Time/Set time**	N/A	N/A	There are no attributes that correspond to these wizard options. They are only available if no NTP server is set as active. If setting time by changing these options, click **Set time**.
daylightSavingTime	**Time/ Daylight saving time**	O	enum	This attribute states whether daylight saving time is used on this node. It is used by the management application and does not change the real time clock on the node. YES or NO, default = NO.
ossCorbaNameServerAddress	**Server configuration/ CORBA name server address**	O	string	The IP address or the hostname to the CORBA name server that is used to resolve the OSS notification service. The decimal representation of the IP address is in a four-part dotted-decimal format, where each field consists of one to three digits. See the following examples: OssNameServerAddress.example.com 251.45.0.32 Mandatory for RBS 6501. Not used by other RBS types.
ossCorbaNameServerPort	**Server configuration/ CORBA name server port**	O	integer	The port of the CORBA name server that is used to resolve the OSS notification service. Mandatory for RBS 6501. Not used by other RBS types.

2.3.7 Static Routing Configuration

The `StaticRouting` element and the subelement define the static IP routing attributes

Table 28 Attributes of the Route Element

Attribute	Wizard Option	M/O	Type	Description
routeIpAddress	**Static Routing/Dest IP Address**	M	string	Used to add a new route to the routing table. It can be indicated if the route is to be redistributed. The protocol information is set to static when this action is performed.
routeSubnetMask	**Static Routing/Dest Subnet mask**	M	string	Used to add a new route to the routing table. It can be indicated if the route is to be redistributed. The protocol information is set to static when this action is performed.
hopIpAddress	**Static Routing/ Next hop IP address**	M	string	Used to add a new route to the routing table. It can be indicated if the route is to be redistributed. The protocol information is set to static when this action is performed.
routeMetric	**Static Routing/ Route Metric**	M	integer	Used to add a new route to the routing table. It can be indicated if the route is to be redistributed. The protocol information is set to static when this action is performed.
redistribute	**Static Routing/ Redistribute**	M	string	YES or NO

2.3.8 Network Synchronization Configuration

The `NetworkSynch` element defines the network synchronization attributes.

Table 29 Attributes of the NetworkSynch Element Specific for the RBS

Attribute	Wizard Option	M/O	Type	Description
synchSlot	**Network Synchronization/Slot**	M	string	The slot with the board to use for Network Synch. Network Synch can be based on DU. `synchSlot` is identified with <SubrackPosition>-<Slotposition>. <SubrackPosition> = Cabinet number 1-9, numbered from the right, followed by shelf character A-Z, numbered from bottom, followed by shelf position 1-9, numbered from the left.

Attribute	Wizard Option	M/O	Type	Description
				<Slotposition> = Number 1-28 numbered from the left Example: 1A1-1 synchSlot is identified with <Slotposition>. Possible slot position: 1
synchPort	**Network Synchronization/Port**	M	Integer	synchPort refers to a logical port and cannot be mapped to a physical port on the hardware. synchPort is in range of 1-10 1 to 4 means the PhysPathTerms 5 means the GpsSyncRef (1) 6 means the TuSyncRef (1) 7 to 8 means IpSyncRef (synchPort represents the RDN ID of an IpSyncRef) or PacketFrequencySyncRef (synchPort represents the RDN ID of a PacketFrequencySyncRef) 9 means STM-1 (Os155SpiTtp) 10 means GigabitEthernet, that is, gigabit Ethernet is used as a transport method for synchronization.
synchPriority	**Network Synchronization/Priority**	M	integer	Range 1 to 8.(2)

(1) Allowed if gpsOutEnabled is set to FALSE.

(2) If a new synch source in the Modfiy wizard is given the same synchPriority as an existing synch source already has, the existing synch source disappears. If this is not intended, the existing synch source must first be moved to another synchPriority. This is important to be aware of when migrating between ATM and IP.

2.3.9 MSMM CPRI Based Synchronization Configuration

The CpriBasedSyncConfig element defines the attributes for NodeGroupSyncMember for MSMM CPRI based synchronization.

Table 30 Attributes of the CpriBasedSyncConfig Element

Attribute	Wizard Option	M/O	Type	Description
configureCpriBasedSync	Not applicable	O	enum	Possible values: YES, NO Default value: YES Set to YES to enable MSMM CPRI Synchronization to configure Set to NO to disable MSMM CPRI Synchronization to configure or to delete the `NodeGroupSyncMember` MO
administrativeState	Not applicable	O	string	Possible values: LOCKED, UNLOCKED Default value: LOCKED Set to LOCKED to disable MSMM CPRI based synchronization. Set to UNLOCKED to enable MSMM CPRI based synchronization. Maps to `administrativeState` in `NodeGroupSyncMember` MO if `configureCpriBasedSync` is set to YES. Ignore if `configureCpriBasedSync` is set to NO.
selectionMode	Not applicable	O	enum	Specifies the mode for identifying a Synchronization Provider. Possible value: — REFERENCE_AND_NODE_PRIORITY: Indicates the enhanced mode. Reference priority is used firstly to identify the Synchronization Provider, which is the node with the best time reference. If multiple nodes in a node group have the same reference priority, node priority is then used to identify the Synchronization Provider. — NODE_PRIORITY: Indicates the reduced mode. Only node priority is used to identify the Synchronization Provider. Default value: NODE_PRIORITY
syncNodePriority	Not applicable	M	long	Range: 1 to 15 Specifies the priority value of the node used in the automatic selection algorithm for Node Group synchronization.

Attribute	Wizard Option	M/O	Type	Description
				Every node in a Node Group must have a unique value. Maps to `syncNodePriority` in `NodeGroupSyncMember` MO, if `configureCpriBasedSync` is set to YES. Ignore if `configureCpriBasedSync` is set to NO.
syncRiPortCandidate	Not applicable	M	string	Specifies a list of Radio Interface (RI) ports that are candidates to be used as synchronization reference when the node takes a synchronization receiver role. The port is selected automatically and is indicated in the attribute `syncRiPortStatus`. Possible values: For single DUW configurations: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F For dual DUW configurations with DBB 21: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU2_A, BU2_B, BU2_C, BU2_D, BU2_E For dual DUW configurations with DBB 22: BU1_A, BU1_B, BU1_C, BU1_D, BU2_A, BU2_B, BU2_C, BU2_D MinimumLength: 1 Maps to `syncRiPortCandidate` in `NodeGroupSyncMember` MO, if `configureCpriBasedSync` is set to YES. Ignore if `configureCpriBasedSync` is set to NO.

2.3.10 ATM Port Configuration

The `AtmPort` element defines the configuration attributes for extra ATM ports in addition to the ATM ports used for the IP/ATM connections.

Table 31 Attributes of the AtmPort Element

Attribute	Wizard Option	M/O	Type	Description
`etbSlot`	ATM ports/ETB slot	M	string	The slot on which the ETB to use for Mub is located. `etbSlot` is <SubrackPosition>-<Slotposition>

Attribute	Wizard Option	M/O	Type	Description
				<SubrackPosition> = Cabinet number 1-9 numbered from the right, followed by shelf character A-Z numbered from bottom, followed by shelf position 1-9 numbered from the left. <Slotposition> = Number 1-28 numbered from the left Example: 1A1-1 The cabinet position is optional. When omitted, configured as first cabinet. Possible slot position: 1
terminationType	ATM ports/ Termination type	M	enum	Type of physical termination: E1, J1, T1, STM1_ETSI, STM1_TTC, OC3, IMA_E1, IMA_J1, IMA_T1, Chan_STM1_E1, Chan_OC3_T1, IMA_Chan_STM1_E1, IMA_Chan_OC3_T1
physicalLine	ATM ports/ETB lines	M	string	The line number on the ETB to use for the O&M connection. For IMA_xxx, there can be several numbers separated by commas. For the others, there can only be one number. Examples: IMA_xxx; 1,2,3,4; others 1 1 to 4 for E1, T1, IMA_E1, IMA_T1 5 for STM1_ETSI, STM1_TTC, OC3 1 to 63 for Chan_STM1_E1 1 to 63 IMA_Chan_STM1_E1. Max number of unlocked channels=21. Max number of IMA groups=14 1 to 84 for Chan_OC3_T1 1 to 84 for IMA_Chan_OC3_T1 Max number of unlocked channels=28. Max number of IMA groups=14
timeSlotsInFraction	ATM ports/ Time slots	O	string	Slot numbers to use: 1 to 31 for fractional_E1 1 to 24 for fractional_J1 or fractional_T1 Numbers separated by a comma. Example: 2,8,13,15,17

Attribute	Wizard Option	M/O	Type	Description
				Only used if terminationType= fractional_xxx.
requiredNumberOfLinks	ATM ports/ Required number of links	O	integer	The required number of IMA links that needs to be operational in order for the complete group to be operational. Maps to requiredNumberOfLinks in MO ImaGroup. Possible values: 1-8 Default value: 1
Not applicable	ATM ports/IP ATM Link and ATM ports/ Exists on node	N/A	N/A	These options are read-only in the wizard and cannot be changed.
vpServiceCaterogory	IP over ATM links/VP Service Category	O	enum	UBR_PLUS is recommended when "IMA bandwidth adaptation at link failure" is used. Possible values: CBR, UBR_PLUS Default value: CBR
vpMinimumCellRate	IP over ATM links/VP MCR	O	Integer	Required when VP service category is UBR_PLUS. Value can be calculated based on bandwidth of minimum number of required links in IMA group. Sets same value for egress and ingress ATM minimum cell rate (cells/s). Use the same vpMinimumCellRate value for firstOAMatm and secondOAMatm in same physical link. Only positive values are allowed. Default value: 0
vcServiceCategory	IP over ATM links/VC Service Category	O	enum	UBR_PLUS is used only if AAL2 paths on the same VPC are configured using UBR_PLUS. UBR is used in other situations so that O&M connections do not interfere with traffic handling connections. Possible values: UBR, UBR_PLUS Default value: UBR_PLUS

2.3.11 Node ID Configuration

The `NodeId` element defines the attributes related to node ID configuration.

Table 32 Attributes of the NodeId Element

Attributes	Wizard Option	M/O	Type	Description
nodeIdType	Not applicable	M	enum	Specifies the type of the RBS node ID. Possible values: EMPTY, FDN, IP_Address, HWID
nodeIdValue	Not applicable	M	string	Specifies the value of the RBS node ID. During automatic integration, the value is supplied in the O&M access configuration file by setting `nodeIdType` to FDN and `nodeIdValue` to the string representation of the Full Distinguished Name (FDN) of the RBS in ENM Network Resource Model (NRM) format.

2.4 Site Equipment Configuration

This section describes the attributes in the site equipment configuration DTD file, which correspond to the options in the **RBS EM Site Equipment Configuration** wizard. For the DTD file, refer to DTD for Site Equipment Configuration. For the examples of configuration file, refer to Example Files for Site Equipment Configuration.

2.4.1 Definitions

Figure 3 shows the element tree of the site equipment configuration DTD file.

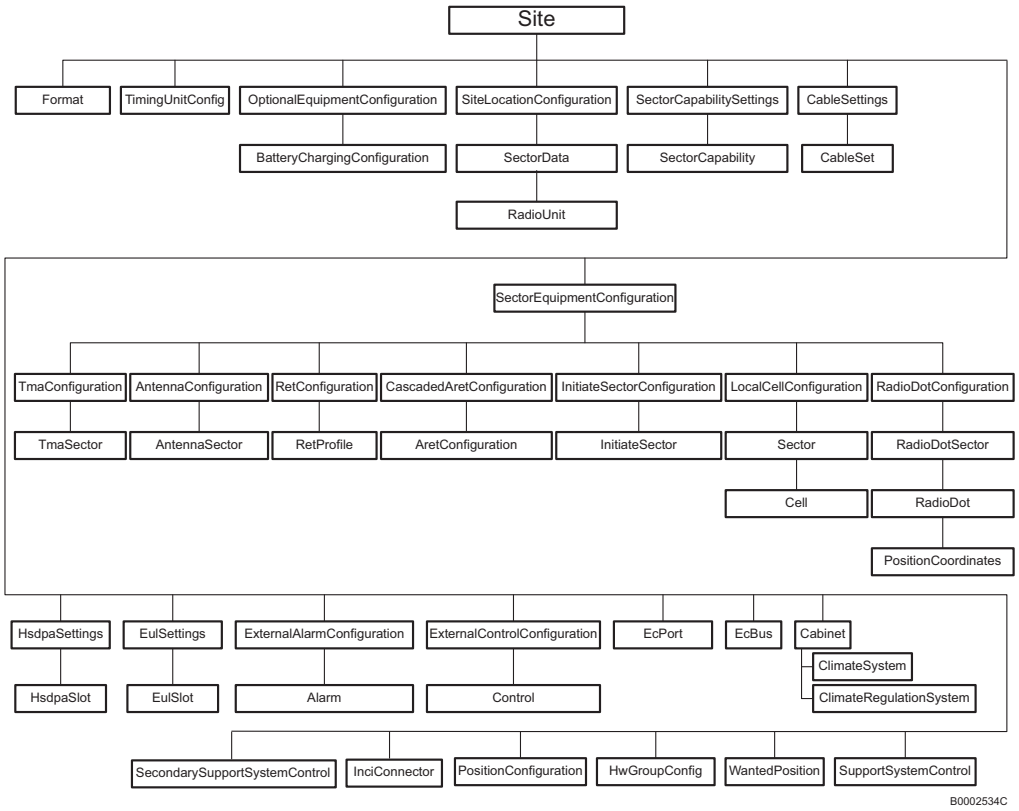

Figure 3 Element Tree for the Site Equipment Configuration DTD File

Table 33 describes the definitions within the Site element.

Table 33 Elements Within Site Element

Element	Description	No. of Instances
<Format.../>	Holds the revision of the DTD. It follows the rules for Ericsson document revision handling.	1
<TimingUnitConfig.../>	See Timing Unit Configuration on page 49. Holds synchronization related attributes.	0 to 1
<OptionalEquipmentConfiguration> <...></.../> </ OptionalEquipmentConfiguration>	See Optional Equipment Configuration on page 50. Specifies the optional equipment attributes, see Table 35. Battery charging related attributes are defined in the following subelement: - BatteryChargingConfiguration [0..1], see Table 100	0 to 7
<SiteLocationConfiguration...> <...></.../>	See Site Location Configuration on page 56. Specifies site location attributes, see Table 36. The location related attributes of a	0 to 1

Element	Description	No. of Instances
</SiteLocationConfiguration>	sector are defined in the following subelement: - SectorData [1..12], see Table 37 -- RadioUnit [1...3], see Table 38 For every sector defined in the Cabinet Equipment configuration there must be a SectorData element.(1)	
<SectorCapabilitySettings> <...></...> </SectorCapabilitySettings>	See Sector Capability Settings on page 58. Specifies the sector related attributes in the following subelement: - SectorCapability [1..many], see Table 39 New sectors are defined for RBS-types that are not predefined in factory. Optional for all RBSs with DU. Only RBS types with optical radio interface are configured. Ignored for: all other RBS types.	0 to 1
<CableSettings> <...></...> </CableSettings>	Deprecated. Specifies attributes related to the RF cable set and the digital cable set in the following subelement: - CableSet [1..6], see Table 133	0 to 1
<SectorEquipmentConfiguration> <...></...> </SectorEquipmentConfiguration>	See Sector Equipment Configuration on page 63. Specifies the attributes for the sector equipment configuration in the following subelement: - TmaConfiguration [0..1] (No attributes to define) -- TmaSector [1..12], see Table 40. For every sector defined in the Cabinet Equipment configuration, a `TmaSector` element must be exist.(1) - AntennaConfiguration [1..1] (No attributes to define) -- AntennaSector [1..12], see Table 41. For every sector defined in the Cabinet Equipment configuration there must be an AntennaSector element.(1) - RetConfiguration [0..1] (No attributes to define) -- RetProfile [1..many], see Table 42. For every sector defined in the Cabinet	0 to 1

Element	Description	No. of Instances
	Equipment configuration, at most one `RetProfileRetProfile` to the configuration by default. - CascadedAretConfiguration [0..1] (No attributes to define) element exists for each antenna and RET combination. The wizard adds 27 instances of -- AretConfiguration [1..many]. see Table 43. One cascade chain for each sector can be specified. -InitiateSectorConfiguration [0..1] (No attributes to define) -- InitiatedSector [1..12], see Table 44. For every `InitiatedSector` element, an `AntennaSector` and a `TmaSector` element must be defined.(1) - LocalCellConfiguration [1..1], see Table 45. When configuring a node in flexible carrier allocation mode, put the `carrierAllocationMode` attribute to Flexible. This attribute has to be included in the site configuration file. -- Sector [1..12], see Table 46. For every `Sector` element, an `InitiatedSector` element must be defined.(1) element exists for each antenna and RET combination. The wizard adds 27 instances of--- Cell [1..8], see Table 47 - RadioDotConfiguration [0..1] (No attributes to define) -- RadioDotSector [1..12], see Table 48 ---RadioDot [1..8], see Table 49 ----PositionCoordinates [1..1], see Table 50 Mandatory for all RBS types.	
<HsdpaSettings> <...></...> </HsdpaSettings>	See HSDPA Settings on page 101. Specifies HSDPA related attributes, see Table 51. Attributes related to HSDPA configurations for a TX board or DU are defined in the following subelement: - HsdapSlot [0..4], see Table 52 This element is only used when HSDPA is created.	0 to 1

Element	Description	No. of Instances
<EulSettings> <...></...> </EulSettings>	See EUL Settings on page 102. Specifies Enhanced Up-Link (EUL) related attributes in the following subelement: - EulSlot [0..1], see Table 53 This element is only used when EUL is created.	0 to 1
<ExternalAlarmConfiguration> <...></...> </ExternalAlarmConfiguration>	See External Alarm Configuration on page 103. The attributes related to the alarm port configuration of the external equipment are defined in the following subelement: - Alarm [1..32], see Table 55 Optional for all RBS types. This is not configurable in the wizard.	0 to 7
<ExternalControlConfiguration> <...></...> </ExternalControlConfiguration>	See External Control Configuration on page 104. The attributes related to the control configuration of an external equipment are defined in the following subelement: - Control [1..8], see Table 57 Optional for all RBS types. This is not configurable in the wizard.	0 to 7
<EcPort.../>	See EC Port Configuration on page 105. Defines EC cable connection between the digital unit and the APC hub unit, see Table 58. Applicable for all RBS types where supportSystemControl=true	0 to 6
<EcBus.../>	See EC Bus Configuration on page 107. Holds the attributes related to EC Buses.	0 to 7
<Cabinet> <...></...> </Cabinet>	See Cabinet Configuration on page 107. Holds the attributes for a cabinet in Table 60. This element contains the following sub-elements: (). - ClimateSystem [0..1], see Table 61 - ClimateRegulationSystem [0..1], see Table 62	0 to 7
<SupportSystemControl.../>	See Support System Control on page 109. Defines if the node is controlling and supervising the climate, power and external alarm hardware in the cabinet.	0 to 1

Element	Description	No. of Instances
	Only one node in the cabinet can control and supervise the climate and power.	
<WantedPosition.../>	See Wanted Position Settings on page 109. Specifies the wanted position of the node expected location. If the node is located in a different location not the wanted position, an alarm is raised.	0 to 1
<HwGroupConfig.../>	See Hardware Group Configuration on page 110. Holds the attributes for a hardware group.	0 to 1
<PositionConfiguration.../>	See Position Configuration on page 110. Holds the attributes for configuring the position of antennas or radio units.	0 to 1
<InciConnector.../>	See Inter-Node Connectivity Configuration on page 111. Holds the attributes for configuring the inter-node connectivity. Defines if the DU radio node shares a remote radio cabinet with another radio node through CPRI.	0 to many
<SecondarySupportSystemControl.../>	See Secondary Support System Control on page 112. If the element is defined, the MO `EquipmentSupportFunction` = 2 is created.	0 to 1

(1) The SectorData ,TmaSector, AntennaSector, InitiatedSector and Sector elements all handle part of the sector configuration. The elements are connected with the sectorNumber attribute.

2.4.2 Timing Unit Configuration

The `TimingUnitConfig` element defines synchronization related attributes.

Table 34 Attributes of the TimingUnitConfig Element

Attribute	Wizard Option	M/O	Type	Description
gpsOutEnabled	**Optional equipment/GPS Out enabled/DUW on Slot 1**	O	enum	Specifies the DUW board in slot 1 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE, FALSE Default value: FALSE
gpsOutEnabledOnSlot2	**Optional equipment/GPS Out**	O	enum	Specifies the DUW board in slot 2 to generate GPS signals to be used by other DU Boards.

Attribute	Wizard Option	M/O	Type	Description
	enabled/DUW on Slot 2			Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE, FALSE Default value: FALSE
absoluteTimeSynchEnabled	**Optional equipment / Absolute Time Synch enabled**	O	enum	Enables the feature Absolute Time to make it possible to synchronize DUs either by using common GPS or GPS Out configuration. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: YES, NO Default value: NO

2.4.3 Optional Equipment Configuration

The `OptionalEquipmentConfiguration` element defines attributes related to an optional equipment configuration. The deprecated attributes are shown in Table 133.

Table 35 Attributes of the OptionalEquipmentConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
`cabinetNumber`	Not applicable	O	enum	Indicates the cabinet which power or battery is configured for. Possible values: 1 to 7 Default value: 1
`noOfPsu`	**Optional equipment/ Number of PSU**	O	integer	The number of PSUs. Possible values: 1 to 7 Possible values: 1 to 3 for RBS 6301 Possible values: 1 to 4 for Power 6306, Power 6610 Possible values: 1 to 5 for RBS 6131, RBS 6202, RBS 6301, RBS 6601. Possible values: 1 to 7 for RBS 6110, RBS 6120, RBS 6201 Mandatory if `configurePowerSupply` = YES

Attribute	Wizard Option	M/O	Type	Description
noOfPdu	**Optional equipment/No of PDU**	O	integer	The number of PDUs. Possible values: 1 to 8. Applicable for all RBS types where supportSystemControl = TRUE Possible value: 4 for RBS 6131 Possible values: 1 to 4 for RBS 6131, RBS 6202, RBS 6301, RBS 6601, Power 6610 Possible values: 1 to 5 for RBS 6202 Possible values: 1 to 6 for RBS 6101, RBS 6201, RBS 6102 Possible values: 1 to 7 for RBS 6110 Possible values: 1 to 8 for RBS 6120 Ignore for Power 6306.
batteryCapacity	**Optional equipment/ Battery capacity**	O	integer	The battery capacity in Ampere hours (Ah). Range: 0 – 9999, default = 60. Mandatory if useExternalBatteryBackup = YES, or configureBatteryBackup = YES.
configureSau	**Optional equipment/ Configure external alarm control unit (SAU)**	O	enum	Defines if a System Alarm Unit (SAU) is configured or not. Possible values: YES, NO Default: NO YES means that a SAU is configured. Optional for 6201, 6102, 6110, 6120, 6131, 6601, 6101, 6202, 6301, 6320 Ignored for other RBS types.
configureClimate	Not applicable	O	enum	Indicates if a climate function can be configured or not. Possible values: YES, NO Default: YES
configurePowerSupply	**Optional equipment/ Configure power supply**	O	enum	Defines if Ericsson power supply is configured or not. Possible values: YES, NO Default: NO YES means that Ericsson power supply is configured.

Attribute	Wizard Option	M/O	Type	Description
				If power supply is configured by the Cabinet Equipment wizard, the value NO is not allowed in the Site Equipment wizard. If power supply is not configured by the Cabinet Equipment wizard, both values (NO, YES) are allowed in the Site Equipment wizard. Optional for: 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6601 Ignored for: 6301, 6320, 6501
configureBatteryBackup	**Optional equipment/ Configure battery backup**	O	enum	Defines if Ericsson battery backup is configured or not. Possible values: YES, NO. YES means that Ericsson battery backup is used. Optional for: 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6601. Ignored for: 6320, 6501
noOfBfu	**Optional equipment/No of BFU**	O	integer	The number of BFUs. Possible values: 1 to 4 Possible value: 1 for RBS 6202, RBS 6301, RBS 6601, Power 6306, Power 6610 Possible values: 1 to 2 for RBS 6101, RBS 6102, RBS 6201 Possible values: 1 to 4 for RBS 6110, RBS 6120, RBS 6131 Default value: 1 Mandatory if configureBatteryBackup = YES. Ignored if configureBatteryBackup = NO. Applicable for all RBS types where supportSystemControl = TRUE.
batteryType	**Optional equipment/ Battery type**	O	enum	Indicates the type of battery to which the installed battery conforms. The type is related to the capabilities of the battery. Possible values: TYPE01, TYPE02, UNKNOWN Default: TYPE01

Attribute	Wizard Option	M/O	Type	Description
gpsOutEnabled[1]	**Optional equipment/GPS Out enabled/DUW on Slot 1**	O	enum	Specifies the DUW board in slot 1 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE , FALSE
gpsOutEnabledOnSlot2[1]	**Optional equipment/GPS Out enabled/DUW on Slot 2**	O	enum	Specifies the DUW board in slot 2 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE, FALSE
smokeDetector	**Optional equipment / Smoke Detector**	O	enum	Detects the smoke or fire signals. Possible values: TRUE , FALSE
absoluteTimeSynchEnabled[1]	**Optional equipment / Absolute Time Synch enabled**	O	enum	Enables the feature Absolute Time to make it possible to synchronize DUs either by using common GPS or GPS Out configuration. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: YES, NO Default value: NO
sharedBattery	**Optional equipment / Shared battery**	O	enum	Indicates if the RBS shares a battery with another RBS or other power consumers on the site. The value of this attribute has a great impact on the system behavior. If sharedBattery is set to TRUE, minimumBackupTime is mandatory and minimumStateOfHealth is not available. Possible values: TRUE, FALSE Default: TRUE
chargingMode	**Optional equipment / Charging mode**	O	enum	Specifies the battery charging mode. If the charging mode is USER_DEFINED, the charging algorithm and parameters must be specified. Possible values: AUTOMATIC, USER_DEFINED Default: AUTOMATIC

Attribute	Wizard Option	M/O	Type	Description
testMode	**Optional equipment / Test mode**	O	enum	Specifies the battery test mode. The following attributes are relevant if testMode is set to CONFIGURED: — testStartDay, testStartTime, and testStartMonths are mandatory. — If sharedBattery is set to TRUE, minimumBackupTime is mandatory. — If sharedBattery is set to FALSE, minimumStateOfHealth is mandatory. Possible values: AUTOMATIC, CONFIGURED, DISABLED Default: DISABLED
minimumStateOfHealth	**Optional equipment / Minimum state of health**	O	integer	Specifies the minimum value of State-of-Health. If the estimated battery capacity is lower than this value, an alarm is triggered. This attribute is mandatory when sharedBattery is set to FALSE. Possible values: 0 to 100 Default: 70 Units: 1%
minimumBackupTime	**Optional equipment / Minimum backup time**	O	integer	Specifies a minimum backup time the battery supplies. This attribute is mandatory when sharedBattery is set to TRUE. An alarm is triggered if the measured backup time is shorter than minimumBackupTime. Possible values: 0 to 10080 Default: 60 Units: 1 min
testStartDay	**Optional equipment / Test start day**	O	integer	Specifies the date when a periodic battery test starts(2). This attribute is mandatory when testMode is set to CONFIGURED. Possible values: 1 to 31 Default: 25
testStartTime	**Optional equipment / Test start time**	O	string	Specifies the time when a periodic battery test is initiated. This attribute is mandatory when testMode is set to CONFIGURED.

Attribute	Wizard Option	M/O	Type	Description
				Format: HH: MM, 24-hour format Default: 01:00
testStartMonths1	**Optional equipment / Test start months/JAN**	O	enum	Corresponds to the months from January to December respectively. Possible values: YES, NO YES means the month in which a periodic battery test is performed. This attribute is mandatory when testMode is set to CONFIGURED. Default value: — The testStartMonths3 and testStartMonths9 are set to YES — The others are set to NO.
testStartMonths2	**Optional equipment / Test start months/FEB**	O	enum	
testStartMonths3	**Optional equipment / Test start months/MAR**	O	enum	
testStartMonths4	**Optional equipment / Test start months/APR**	O	enum	
testStartMonths5	**Optional equipment / Test start months/MAY**	O	enum	
testStartMonths6	**Optional equipment / Test start months/JUN**	O	enum	
testStartMonths7	**Optional equipment / Test start months/JUL**	O	enum	
testStartMonths8	**Optional equipment / Test start months/AUG**	O	enum	
testStartMonths9	**Optional equipment / Test start months/SEP**	O	enum	
testStartMonths10	**Optional equipment / Test start months/OCT**	O	enum	
testStartMonths11	**Optional equipment /**	O	enum	

Attribute	Wizard Option	M/O	Type	Description
	Test start months/NOV			
testStartMonths12	**Optional equipment / Test start months/DEC**	O	enum	
batteryInstallationDate	**Optional equipment / Battery installation date**	O	string	Specifies the date when the batteries are installed as backup batteries of the RBS. This attribute must be a date before configuring batteries test. Format: YYYYMMDD Default: 00000000
noOfBpa	**Optional equipment/No of BPA**	O	integer	The number of BPA. Possible value: 1 for RBS 6101, RBS 6102, RBS 6120, RBS 6201 Default value: 0 Mandatory if configureBatteryBackup = YES. Ignored if configureBatteryBackup = NO. Applicable for all RBS types where supportSystemControl = TRUE.

(1) Only valid when cabinetNumber is set to 1 and the element TimingUnitConfig does not exist. Otherwise, the attribute is ignored and attributes of element TimingUnitConfig are configured instead.

(2) The value of this attribute must be a valid date in the month specified by testStartMonths.

2.4.4 Site Location Configuration

The SiteLocationConfiguration element defines attributes related to specify the site location.

Table 36 Attributes of the SiteLocationConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
siteName	**Site data/Site**	O	string	The location and name of the RBS
logicalName	**Site data/ Logical name**	O	string	
lmtPorts	Not applicable	O	enum	Disable or enable the LMT A and LMT B ports to restrict the access to the node that is placed in public area. Possible values: LOCKED, UNLOCKED

Attribute	Wizard Option	M/O	Type	Description
				Default value: UNLOCKED

Table 37 Attributes of the SectorData Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**Sector data configuration/ Sector n**	M	enum	The sector number used to identify the sector. Possible values: 1 to 12. For 6501: 1 to 6 For other RBS 6000 types: 1 to 12
latitude	**Sector data configuration/ Latitude**	O	string	The latitude of the sector. If X = latitude in degrees (0 to 90), the value is calculated by inserting X into the following formula: (X/90) × 8388608
latHemisphere	**Sector data configuration/ Lat hemispher**	O	enum	The hemisphere the antenna is located in. Possible values: N or NORTH, S or SOUTH.
longitude	**Sector data configuration/ Longitude**	O	string	The longitude of the sector. If X = longitude in degrees (−180 to 180), the value is calculated by inserting X into the following formula: (X/360) × 16777216
geoDatum	**Sector data configuration/ Geo datum**	O	string	Default: WGS84
beamDirection	**Sector data configuration/ Beam direction**	O	string	Beam direction in the form of degrees. 000 = North 090 = East 180 = South 270 = West Dependencies: Sector::beamDirection can be set to a valid angle between 000 and 359 only if the Psi-Coverage configuration does not apply. Otherwise, if Sector::sectorConfiguration = PSI_COVERAGE, set the attribute to N/A so that SectorAntenna::beamDirection is used instead.
height	**Sector data configuration/ Height**	O	string	Antenna height over ground (cm).

Attribute	Wizard Option	M/O	Type	Description
noiseFigure	**Sector data configuration/ Noise figure**	O	integer	Indicates the wanted noise figure for the uplink receiver chain. Possible values: `-1`, `20` to `70` Default value: `-1` Units: `0.5` dB
sectorGroup	**Sector data configuration/ Sector group**	O	integer	Sectors belonging to the same sector group are assumed to cover the same geographical area. Mandatory when configuring feature Dual-Band HSDPA Multi-Carrier. Possible values: `-1`, `1` to `3` Default value= `-1` (N.A)

Table 38 Attributes of the RadioUnit Element

Attribute	Wizard Option	M/O	Type	Description
radioUnitNumber	**Sector data configuration/ Mixed Mode Configuration/ Radio Unit**	M	enum	Identifies the radio units configured for the sector. Possible values: `1` to `3`
IsSharedWithExternalMe	**Sector data configuration/ Mixed Mode Configuration/ Sector n**	O	boolean	Defines if the radio unit is shared with an external managed element. Possible values: `TRUE`, `FALSE` Default value: `FALSE` **Note:** If the radio unit is shared by multiple RATs, the mixed mode parameter must be enabled on all RATs. Restrictions: `IsSharedWithExternalMe` cannot be set to `TRUE` in a cascaded sector.

2.4.5 Sector Capability Settings

The `SectorCapabilitySettings` element defines attributes related to specify a sector. The deprecated attributes are shown in Table 133.

Table 39 Attributes of the SectorCapability Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**Sector options/ Frequency band n/Sector** or **Sector options/ Sector**	M	enum	The sector number used to identify the sector. For 6501: 1 to 6 For other RBS 6000 types: 1 to 12
cabinetNumber	Not applicable	O	enum	Identifies the cabinet where the radio unit is located. Valid for the macro radio sector and IRU. Possible values: 0 to 7 **Note:** 0 indicates that the IRU used by a sector is located in a remote IRU enclosure.
radioBuildingBlock	**Sector options/ Radio Building Block**	O	enum	Mandatory for sectors with more than 2 carriers. Refer to Hardware Configuration Data for more information about Radio Blocks. Possible values: RB1, RB3, RB4, RRB01, RRB02, RRB02B, RRB03, RRB04, RRB05, RRB06, RRB06C, RRB06D, RBB10_1A, RBB11_1A, RBB12_1A, RBB12_1C, RBB12_1D, RBB12_1E, RBB12_1F, RBB12_2A, RBB12_2B, RBB12_2C, RBB14_1A, RBB14_2A, RBB22_1A, RBB22_1B, RBB22_1C, RBB22_1F, RBB22_1G, RBB22_2A, RBB22_2B, RBB22_2E, RBB22_4B, RBB24_1A, RBB24_1B, RBB24_1C, RBB24_2B, RBB42_4A, RBB22_2C, RBB32_1A, RBB42_1B, RBB42_2D, RBB44_1B, RBB44_1D, RBB44_2C. When set, overrides parameters numberOfRu. For RBS 6101, 6102, 6201, 6301, 6302, 6601: RBB14_1A, RBB24_1B For RBS 6601, 6101, 6102, 6202, 6301, 6302, 6120, 6201: RBB44_1D, RBB22_1F, RBB22_1G

Attribute	Wizard Option	M/O	Type	Description
				For RBS 6101, 6102, 6110, 6120, 6201, 6202, 6301, 6302, 6320, and 6601: RBB12_1E, RBB12_1F For RBS 6101, 6102, 6110, 6120, 6201, 6202, 6301, 6302, 6501, and 6601: RBB24_1C For RBS 6000: RBB10_1A, RBB11_1A, RBB12_1A, RBB12_2A, RBB14_2A, RBB22_1A, RBB22_1B, RBB22_1C, RBB22_2A, RBB22_2B, RBB22_2E (1), RBB22_4B, RBB24_1A (2), RBB24_2B, RBB32_1A, RBB42_1B, RBB42_2D. For information about `radioBuildingBlock` parameters when transferring a site configuration from an RBS 3018, 3412, 3418 or 3518 to an RBS 6601, refer to Transferring RBS 3000 Site Configurations. Deprecated value: RB1, RB3, RB4, RBB12_2A, RBB22_2C, RBB22_4B, RBB42_4A Conversion: RBB12_2A, RBB22_2C, RBB22_4B, RBB42_4A are converted to RBB12_1A, RBB22_1B, RBB22_2B, and RBB42_2D, respectively.
`cpriLineRate`	**Sector options/ Line rate** (3)	O	enum	Indicates optical or electrical link and rate (capacity) on the CPRI link. Only applicable to DUW and CPRI. Possible values: Ex2, Ex4, Ox2, Ox4, X2, X4 Conversion: Ex2 and Ox2 are converted to X2 automatically. Ex4 and Ox4 are converted to X4 automatically. Deprecated value: Ex2, Ex4, Ox2, Ox4 O = optical, E = electrical and x2 (1,2Gb/s), x4 (2,5Gb/s) The value is set for the lowest line rate used on AIR unit or any link between any RUW, RRUW, and RRUs in the RBB.
`numberOfCarriers`	**Sector options/ Frequency band n/No of carriers**		enum	The maximum number of carriers that the HW supports. Possible values: 1 to 2

Attribute	Wizard Option	M/O	Type	Description
				Deprecated.
primaryPortId	**Sector options/ Primary port id** (3)	O	enum	Specifies the optical port used for a sector on the OBIF board or DU. If two ports are used for a sector, only the first port is specified. Possible values: A, B, C, D, E, F, BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F, BU2_A, BU2_B, BU2_C, BU2_D, and BU2_E Mandatory for remote radio building blocks (RRB) if configurationGroup AB3, ABC2, or A6 is specified, and for all DU configurations (RBB) with more than one internal radio connected to a DU port. Not applicable for other configurations. Possible values for OBIF: A, B, C, D, E, F Possible values for primary DU: BU1_A – BU1_F Possible values for secondary DU: BU2_A – BU2_E
secondaryPortId	**Sector options/ Secondary port id** (3)	O	enum	Specifies the second optical port used for sector on the DUW board. Mandatory for all DUW configurations (RBBxy) with more than a single radio unit connected to a DUW port, for example RBB22_2A. Not applicable for other configurations. Possible values: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F, BU2_A, BU2_B, BU2_C, BU2_D, and BU2_E Values BU1_A – BU1_F are valid when connected to primary DUW. Values BU2_A – BU2_E are valid when connected to secondary DUW.
sectorSequenceNumber	**Sector options/ Sector sequence** (3)	O	enum	Specifies the order of a cascaded sector on an optical link, counting from the Main Unit. Mandatory for remote radio building blocks (RRB) if configurationGroup AB3, ABC2, or A6 is specified, and for all DU configurations (RBB) with more than a single sector connected to a DU port. Not applicable for other configurations.

Attribute	Wizard Option	M/O	Type	Description
				Possible values: 1, 2, 3, 4, 5, 6 For auUnitType set to AIR and radioBuildingBlock set to RBB44_1D, the applicable value can be 1, 2, 3. For radioBuildingBlock set to the value other than RBB44_1D, the only applicable value is 1.
auUnitType	**Sector options/ Unit Type**	O		Identifies the unit type. Possible values: RRUWRRUS, RRU22, AIR (4), RUWRUS, or IRU For macro radio unit: RUWRUS. For main-remote radio unit: RRUWRRUS, RRU22. For AIR 2488, AIR 4455: RRUWRRUS For other AIR types: AIR. For Radio Dot: IRU. It is mandatory when cpriLineRate is set to X2 or X4. The value is RUWRUS if this attribute is not defined and cpriLineRate value is Ex2 or Ex4. The value is RRUWRRUS if this attribute is not defined and cpriLineRate value is Ox2 or Ox4. Dependency: When auUnitType is set to RUWRUS or IRU, cpriLineRate, primaryPortId, and cabinetNumber must be set.
radioSharedBySector	**Sector options/ Radio shared by**	O	enum	Identifies a sector sharing the external radio belonging to another sector which is being configured. Possible values: 1– 12 Mandatory for the remote radio building block RBB22_2E.

(1) This RBB only supports the Cross-Sector Antenna Sharing Redundancy feature.

(2) When RBB24_1A is used for AIR, one sector antenna with four antenna branches is created. In the case of other configurations using RBB24_1A, two sector antennas with two antenna branches under each sector antenna are created.

(3) If RBS 6000 with DUW

(4) If AIR is selected, only one sector antenna is configured. Except for the electricalTilt, all the attributes related to the TMA and RET can be ignored.

2.4.6 Sector Equipment Configuration

The `SectorEquipmentConfiguration` element and the subelements defines attributes related to a sector configuration. The deprecated attributes are shown in Table 133.

Table 40 Attributes of the TmaSector Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**TMA Confiugu ration/ Sector n**	M	enum	The sector number used to identify the sector. Possible values: 1 to 12. Maps to sectorId in MO Sector. For 6501: 1 to 6 For other RBS 6000 types: 1 to 12
tmaType	**Sector antenna configur ation/ Sector n/TMA type**	O	enum	Defines which type of antenna equipment that is to be used. Possible values: NONE, TMA, RET, TMF, ASC, ATMA, and ATMA_AND_TMA. If a RET Interface Unit (RIU) is used to control the RETU, use TMAor NONE. Deprecated value: RET Conversion: RET is to be converted to `tmaType=ASC`, `configureRet=YES`
tmaType2	**Sector antenna configur ation/ Sector n/TMA type**	O	enum	Defines which type of antenna equipment that is used, at second SectorAntenna. Possible values: NONE, TMA, ASC, ATMA, and TMF[MRS.W12.706] Only `tmaType2=tmaType` allowed
tmaType3	**Sector antenna configur ation/ Sector n/TMA type**	O	enum	Defines which type of antenna equipment that is used, at third SectorAntenna. Possible values: TMF or NONE Only `tmaType3=tmaType` allowed Only possible to use in a ψ-Coverage configuration
typeOfRet	**Sector antenna configur ation/ Sector n/RET type**	O	enum	Defines if RET is used or not. If RET is used, it defines if the type is Ericsson RET (RETU) or 3GPP/AISG RET (ARETU). Possible values: NONE, RETU, ARETU, ARETU_CASCADE Default value: NONE Value NONE means that no RET is used.

Attribute	Wizard Option	M/O	Type	Description
				Value RETU means that the Retu AuxPlugIn_Unit is to be created with auType=AuxPIU_AuType: RETU. Value ARETU means that the Retu AuxPlugIn_Unit is to be created with auType=AuxPIU_AuType: ARETU Value ARETU_CASCADE means that a cascaded ARETU chain is configured.
typeOfRet2	**Sector antenna configuration/ Sector n/RET type**	O	enum	Defines if RET is used or not, at second SectorAntenna. Possible values: NONE, RETU, ARETU, ARETU_CASCADE Default value: NONE
typeOfRet3	**Sector antenna configuration/ Sector n/RET type**	O	enum	If RET is used, it defines if the type is 3GPP/AISG RET (ARETU) or NONE. Possible values: NONE, ARETU Default value: NONE Only applicable for ψ-Coverage configuration
riuInstalled	**Sector Antenna Configuration/ Sector n/Riu Installed**	O	enum	Defines if the RET unit must use a RIU or not. Possible values: YES, NO Only applicable for Main/Remote configurations where `tmaType`=NONE or TMA for Sector. If no parameter is specified the system selects values in the following manner: YES if: — External radio and only (A)RET. — RUW/FU/AIU and only (A)RET. — External TMA and (A)RET. NO if: — ASC/ATMAU and (A)RET.
riuInstalled2	**Sector Antenna Configuration/ Sector n/Riu Installed**	O	enum	Defines if the RET unit must use a RIU or not. Possible values: YES, NO Only applicable for Main/Remote configurations where `tmaType`=NONE or TMA for Sector. If no parameter is specified the system selects values in the following manner:

Attribute	Wizard Option	M/O	Type	Description
				YES if: — External radio and only (A)RET. — RUW/FU/AIU and only (A)RET. — External TMA and (A)RET. NO if: — ASC/ATMAU and (A)RET.
internalPower	**TMA configuration/ Sector n/ Internal power**	O	enum	Defines if the external TMA is to be powered from the RBS or not. Possible values: YES or NO Default value: NO. YES means powered from RBS. Mandatory if `tmaType` = TMA. For `tmaType` = ATMA_AND_TMA only YES possible. For NONE, ASC, and ATMA the parameter is ignored.
internalPower2	**TMA configuration/ Sector n/ Internal power**	O	enum	Defines if the external TMA is to be powered from the RBS or not. Possible values: YES or NO Default value: NO. YES means powered from RBS. Mandatory if `tmaType` = TMA. For `tmaType` = ATMA_AND_TMA only YES possible. For NONE, ASC, and ATMA the parameter is ignored.
dcVoltage	**TMA configuration/ DcVoltage**	O	enum	Indicates the antenna system voltage supplied by the radio unit from antenna feeder to the external TMA. Mandatory when `internalPower` = YES Possible values: DC_17V_OR_DC_30V (1) (2), DC_12V Default: DC_17V_OR_DC_30V
dcVoltage2	**TMA configuration/ DcVoltage**	O	enum	Indicates the antenna system voltage supplied by the radio unit from antenna feeder to the external TMA. Mandatory when `internalPower` = YES Possible values: DC_17V_OR_DC_30V (1), DC_12V Default: DC_17V_OR_DC_30V

Attribute	Wizard Option	M/O	Type	Description
ulGain	**TMA configuration/ Sector n/DL traffic delay A (0.1 ns)**	O	integer	Internal uplink gain in the form of tenths of dB. Range: 0 to 360. This attribute with `ulAttenuation` in `AntFeederCable` MO affects the reported result of RSSI in `pmAverageRssi`. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
ulGain2	**TMA configuration/ Sector n/DL traffic delay A (0.1 ns)**	O	integer	Internal uplink gain in the form of tenths of dB. Range: 0 to 360. This attribute with `ulAttenuation` in `AntFeederCable` MO affects the reported result of RSSI in `pmAverageRssi`. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
dlTrafficDelayA	**TMA configuration/ Sector n/UL gain (0.1 dB)**	O	integer	Internal downlink traffic delay in branch A in the form of tenths of nanoseconds.(3) Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
ulTrafficDelayA	**TMA configuration/ Sector n/UL traffic delay A (0.1 ns)**	O	integer	Internal uplink traffic delay in branch A in the form of tenths of nanoseconds. Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
dlTrafficDelayB	**TMA configuration/ Sector n/DL traffic delay B (0.1 ns)**	O	integer	Internal downlink traffic delay in branch B in the form of tenths of nanoseconds.(3) Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
ulTrafficDelayB	**TMA configuration/ Sector n/UL traffic**	O	integer	Internal uplink traffic delay in branch B in the form of tenths of nanoseconds. Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.

Attribute	Wizard Option	M/O	Type	Description
	delay B (0.1 ns)			
dlTrafficDelayC	**TMA configuration/ Sector n/DL traffic delay C(0.1 ns)**	O	integer	Internal downlink traffic delay in branch C in the form of tenths of nanoseconds.(3) Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
ulTrafficDelayC	**TMA configuration/ Sector n/UL traffic delay C(0.1 ns)**	O	integer	Internal uplink traffic delay in branch C in the form of tenths of nanoseconds. Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
dlTrafficDelayD	**TMA configuration/ Sector n/DL traffic delay D(0.1 ns)**	O	integer	Internal downlink traffic delay in branch D in the form of tenths of nanoseconds.(3) Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
ulTrafficDelayD	**TMA configuration/ Sector n/UL traffic delay D(0.1 ns)**	O	integer	Internal uplink traffic delay in branch D in the form of tenths of nanoseconds. Range: 0 to 2000. Recommended value: 300. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
dlAttenuation	**TMA configuration/ Sector n/DL attenuation (0.1 dB)** (4)	O	integer	Internal downlink attenuation in the form of tenths of dB. Range: 0 to 500. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.
dlAttenuation2	**TMA configuration/ Sector n/DL**	O	integer	Internal downlink attenuation in the form of tenths of dB. Range: 0 to 500. Mandatory if TMA or ATMA_AND_TMA is used, otherwise ignored.

Attribute	Wizard Option	M/O	Type	Description
	attenuation (0.1 dB) [4]			
tmaDegradedSupported	**TMA configuration/Sector n/TMA degraded supported**	O	enum	Indicates whether the TMA supports reporting of degraded functionality, refer to Managed Object Model (MOM) RBS. Possible values: YES, NO Default: NO Mandatory if tmaType=TMA For tmaType=ATMA_AND_TMA only NO possible. For NONE, ASC, and ATMA the parameter is ignored. Not valid for configurations with FU 2100.
tmaDegradedSupported2	**TMA configuration/Sector n/TMA degraded supported**	O	enum	Indicates whether the TMA supports reporting of degraded functionality, refer to Managed Object Model (MOM) RBS. Possible values: YES, NO Default: NO Mandatory if tmaType=TMA For tmaType=ATMA_AND_TMA only NO possible. For NONE, ASC, and ATMA the parameter is ignored. Not valid for configurations with FU 2100.
currentLowSupervision_A	**TMA configuration/Sector n/TMA degraded supported**	O	enum	Specifies if supervision of low current is turned on or off for antenna branch A. Possible values: ON, OFF Default value ON
currentLowSupervision_B	**TMA configuration/Sector n/TMA degraded supported**	O	enum	Specifies if supervision of low current is turned on or off for antenna branch B. Possible values: ON, OFF Default value ON
currentLowSupervision_C	**TMA configuration/Sector**	O	enum	Specifies if supervision of low current is turned on or off for antenna branch C. Possible values: ON, OFF

Attribute	Wizard Option	M/O	Type	Description
	n/TMA degraded supported			Default value ON
currentLowSupervision_D	**TMA configuration/ Sector n/TMA degraded supported**	O	enum	Specifies if supervision of low current is turned on or off for antenna branch D. Possible values: ON, OFF Default value ON
currentLowLimA	**TMA configuration/ Sector n/ Current low lim A (mA)**	O	integer	Indicates the lower current limit when LNA failure is reported for branch A, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
currentLowLimB	**TMA configuration/ Sector n/ Current low lim B (mA)**	O	integer	Indicates the lower current limit when LNA failure is reported for branch B, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
currentLowLimC	**TMA configuration/ Sector n/ Current low lim C (mA)**	O	integer	Indicates the lower current limit when LNA failure is reported for branch C, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
currentLowLimD	**TMA configuration/ Sector n/ Current low lim D (mA)**	O	integer	Indicates the lower current limit when LNA failure is reported for branch D, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
currentHighLimA	**TMA configuration/ Sector n/ Current**	O	integer	Indicates the higher current limit when LNA failure is reported for branch A, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES

Attribute	Wizard Option	M/O	Type	Description
	high lim A (mA)			Not valid for configurations with FU 2100.
currentHighLimB	**TMA configuration/ Sector n/ Current high lim B (mA)**	O	integer	Indicates the higher current limit when LNA failure is reported for branch B, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
currentHighLimC	**TMA configuration/ Sector n/ Current high lim C (mA)**	O	integer	Indicates the higher current limit when LNA failure is reported for branch C, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
currentHighLimD	**TMA configuration/ Sector n/ Current high lim D (mA)**	O	integer	Indicates the higher current limit when LNA failure is reported for branch D, refer to Managed Object Model (MOM) RBS.[5] Mandatory if `tmaDegradedSupported` = YES Not valid for configurations with FU 2100.
dlAttenuation_ATMA	**TMA configuration/ Sector n/DL attenuation (0.1 dB)** [6]	O	integer	Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma` is {0, 0}, otherwise ignored.
dlAttenuation_ATMA2	**TMA configuration/ Sector n/DL attenuation (0.1 dB)** [6]	O	integer	Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma2` is {0, 0}, otherwise ignored.
dlTrafficDelay	**TMA configuration/ Sector n/DL traffic**	O	integer	Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma` is {0, 0}, otherwise ignored.[3]

Attribute	Wizard Option	M/O	Type	Description
	delay (0.1 ns)			
dlTrafficDelay2	**TMA configuration/ Sector n/DL traffic delay (0.1 ns)**	O	integer	Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma2` is {0, 0}, otherwise ignored.[3]
ulTrafficDelay	**TMA configuration/ Sector n/UL traffic delay (0.1 ns)**	O	integer	Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma` is {0, 0}, otherwise ignored.
ulTrafficDelay2	**TMA configuration/ Sector n/UL traffic delay (0.1 ns)**	O	integer	Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma2` is {0, 0}, otherwise ignored.
bandsOfAtma	**Sector Antenna Configuration/ Sector n/ Bands of ATMA**	O	integer	Specifies the two frequency bands that an ATMA supports in the RF A port. Default value: {0,0} Example: — {1,5} means that the ATMA supports Band 1 and Band 5. — {0,0}, {1,0}, {0,5}, or {1,1} means that the ATMA is single band. Mandatory if `tmaType`=ATMA is selected, otherwise ignored.
bandsOfAtma2	**Sector Antenna Configuration/ Sector n/ Bands of ATMA**	O	integer	
dlAttenuationPerBand	**TMA configuration/ Sector n/DL attenuation per**	O	integer	Specifies the DL attenuation for each band in a multi-band ATMA. Default value: {2,2}

Attribute	Wizard Option	M/O	Type	Description
	band (0.1 dB)			Example: If `bandsOfAtma` = {1,5} and `dlAttenuationPerBand` = {2,5}, the DL attenuation with band 1 is 2 and the DL attenuation with band 5 is 5. Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma` or `bandsOfAtma2` is not {0, 0}, otherwise ignored.
dlAttenuationPerBand2	**TMA configuration/ Sector n/DL attenuation per band (0.1 dB)**	O	integer	
dlTrafficDelayPerBand	**TMA configuration/ Sector n/DL traffic delay per band (0.1 ns)**	O	integer	Specifies the DL traffic delay for each band in a multi-band ATMA. Default value: {100,100} Example: If `bandsOfAtma` = {1,5} and `dlTrafficDelayPerBand` = {110,120}, the DL traffic delay with band 1 is 110 and the DL traffic delay with band 5 is 120. Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma` or `bandsOfAtma2` is not {0, 0}, otherwise ignored.
dlTrafficDelayPerBand2	**TMA configuration/ Sector n/DL traffic delay per band (0.1 ns)**	O	integer	
ulTrafficDelayPerBand	**TMA configuration/ Sector n/UL traffic delay per band (0.1 ns)**	O	integer	Specifies the UL traffic delay for each band in a multi-band ATMA. Default value: {350,350} Example: If `bandsOfAtma` = {1,5} and `ulTrafficDelayPerBand` = {340,360}, the UL traffic delay with band 1 is 340 and the UL traffic delay with band 5 is 360. Mandatory if `tmaType`=ATMA is selected and `bandsOfAtma` or `bandsOfAtma2` is not {0, 0}, otherwise ignored.
ulTrafficDelayPerBand2	**TMA configuration/ Sector n/UL traffic delay per band (0.1 ns)**	O	integer	

(1) RBS system decides the value supplied to TMA depending on the frequency band.
(2) If a low voltage TMA, such as a 12 V TMA is mounted, it can be damaged. Check the DC voltage specification of the TMA before configuration.
(3) It can be necessary to verify correct value when configuring for TX diversity.
(4) The first option with this name in the list.
(5) When calculating the current limits, the actual antenna configuration must be considered. The current limits depend on whether both Branch A and B are used for the TMA power supply or only Branch B is used. For more information about suitable threshold values, refer to the manufacturers documentation for the external TMA used.
(6) The second option with this name in the list.

Table 41 Attributes of the AntennaSector Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**Sector antenna configuration/ Sector n**	M	enum	The sector number used to identify the sector. Possible values: 1 to 12. For RBS 6501: 1 to 6 For other RBS 6000 types: 1 to 12
antennaInstalled	Not applicable	O	enum	Defines if the antenna is to be configured or not. Possible values: YES.
antennaType	**Sector antenna configuration/ Sector n/ Antenna type**	O	integer	Specifies the type of antenna. Range: -1 to 100. Value -1 is reserved for built-in integrated antenna. Values 0 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types. Refer to RETU Configuration Data for more information. This parameter is ignored if element CascadedAretConfiguration is specified.
antennaType2	**Sector antenna configuration/ Sector n/ Antenna type**	O	integer	Specifies the type of antenna. Range: 1 to 100. Values 1 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types.

Attribute	Wizard Option	M/O	Type	Description
				Refer to RETU Configuration Data for more information. This parameter is ignored if element CascadedAretConfiguration is specified.
antennaType3	**Sector antenna configuration/ Sector n/ Antenna type**	O	integer	Specifies the type of antenna. Range: 1 to 100. Values 1 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types. Refer to RETU Configuration Data for more information. This parameter is ignored if element CascadedAretConfiguration is specified.
mechanicalTilt	**Sector antenna configuration/ Sector n/ Mechanical tilt (deg)**	O	integer	The antenna tilt relative to a vertical plane defined in the form of tenths of degrees. Maps to `mechanicalAntennaTilt` in MO AntennaBranch. Default: `0` This parameter is ignored if element CascadedAretConfiguration is specified.
mechanicalTilt2	**Sector antenna configuration/ Sector n/ Mechanical tilt (deg)**	O	integer	The antenna tilt relative to a vertical plane defined in the form of tenths of degrees. Maps to `mechanicalAntennaTilt` in MO AntennaBranch. Default: `0` This parameter is ignored if element CascadedAretConfiguration is specified.
mechanicalTilt3	**Sector antenna configuration/ Sector n/ Mechanical tilt (deg)**	O	integer	The antenna tilt relative to a vertical plane defined in the form of tenths of degrees. Maps to `mechanicalAntennaTilt` in MO AntennaBranch. Default: `0` This parameter is ignored if element CascadedAretConfiguration is specified.

Attribute	Wizard Option	M/O	Type	Description
electricalTilt	**Sector antenna configuration/ Sector n/ Electrical tilt (deg)**	O	integer	Only relevant if RET is used. The antenna loob tilt relative to the orthogonal of the antenna. Must be a positive value. Maps to `electricalAntennaTilt` in MO RetDevice. Default: `0` This parameter is ignored for the following cases: — The CascadedAretConfiguration element is specified. — The verticalBeamWidthMode is set to WIDE_VBW and no alarm appears.
electricalTilt2	**Sector antenna configuration/ Sector n/ Electrical tilt (deg)**	O	integer	Only relevant if RET is used. The antenna loob tilt relative to the orthogonal of the antenna. Must be a positive value. Maps to `electricalAntennaTilt` in MO RetDevice. Default: `0` This parameter is ignored for the following cases: — The CascadedAretConfiguration element is specified. — The verticalBeamWidthMode2 is set to WIDE_VBW and no alarm appears.
electricalTilt3	**Sector antenna configuration/ Sector n/ Electrical tilt (deg)**	O	integer	Only relevant if RET is used. The antenna loob tilt relative to the orthogonal of the antenna. Must be a positive value. Maps to `electricalAntennaTilt` in MO RetDevice. Default: `0` This parameter is ignored for the following cases: — The CascadedAretConfiguration element is specified.

Attribute	Wizard Option	M/O	Type	Description
				— The verticalBeamWidthMode3 is set to WIDE_VBW and no alarm appears.
verticalBeamWidthMode	**Sector antenna configuration/ Sector n/ Vertical beamwidth mode**	O	enum	Specifies the mode of vertical beamwidth. Maps to `verticalBeamWidthMode` in MO `RetDevice` Possible values: DEFAULT, WIDE_VBW Default: DEFAULT WIDE_VBW needs HWAC license CXC 401 2285.
verticalBeamWidthMode2	**Sector antenna configuration/ Sector n/ Vertical beamwidth mode**	O	enum	Specifies the mode of vertical beamwidth. Maps to `verticalBeamWidthMode` in MO `RetDevice` Possible values: DEFAULT, WIDE_VBW Default: DEFAULT WIDE_VBW needs HWAC license CXC 401 2285.
verticalBeamWidthMode3	**Sector antenna configuration/ Sector n/ Vertical beamwidth mode**	O	enum	Specifies the mode of vertical beamwidth. Maps to `verticalBeamWidthMode` in MO `RetDevice` Possible values: DEFAULT, WIDE_VBW Default: DEFAULT WIDE_VBW needs HWAC license CXC 401 2285.
uniqueHwId	**Sector antenna configuration/ Sector n/Unique hardware id**	O	string	Specifies the unique identity of an ARETU in an AIR unit. Only relevant if `typeOfRet` is set to ARETU. The `uniqueHwId` attribute contains enough number of significant characters or digits to be unique among the ARETs in the sector. The `uniqueHwId` attribute of the ARETU can be set according to the data fetched by the Device Scan action. For more information about Device Scan, refer to Manage Hardware Equipment.

Attribute	Wizard Option	M/O	Type	Description
				Maps to `uniqueHwId` in MO `AuxPlugInUnit`.
sectorOutputPower	**Sector antenna configuration/ Sector n/Sector output power**	O	integer	The parameter specifies the maximum total output power of the Transmit Power Amplifier (TPA) device in a radio. The radio unit does not always support all power values within the value range. If set to a power value higher than the supported one, the power is rounded down to the highest supported power, and the power truncated alarm is raised. However, when reading the attribute, the configured value is always presented. The currently available maximum output power for each carrier within the corresponding sector can be read through the `Carrier::maxDlPowerCapability` attribute. Possible values: `-1`, `1` to `240` (W) Default: `-1` Value `-1` means that the output power is set by RBS to the lowest supported power of radio unit, that is, `20` W for a single TX radio unit, `10` W for a dual TX radio unit, 5 W for a quad TX radio unit, and 125 mW for a micro radio unit. Preconditions: No cell setup using the TPA device is allowed. The TPA device must be part of an auxiliary unit (RUW, RRUW, or AIR type). The TPA device must have the configurable output power capability. For a single TX radio unit: — Capacity license for `40` W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between `20` and `40` — Capacity licenses for `40` and `60` W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between `40` and `60`

Attribute	Wizard Option	M/O	Type	Description
				— Capacity licenses for 40, 60, and 80 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between 60 and 80 — Capacity licenses for 40, 60, 80, and 100 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between 80 and 100 — Capacity licenses for 40, 60, 80, 100, and 120 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between 100 and 120 — Capacity licenses for 40, 60, 80, 100, 120, and 140 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 120 and 140 — Capacity licenses for 40, 60, 80, 100, 120, 140, and 160 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 140 and 160 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, and 180 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 160 and 180 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, 180, and 200 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 180 and 200 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, 180, 200, and 220 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 200 and 220 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, 180, 200, 220,

Attribute	Wizard Option	M/O	Type	Description
				and 240 W PA required when the value of TpaDevice::maxTotalOutputPower is between 220 and 240 For a multiple TX radio unit: — Capacity licenses for 40, 60, 80, 100, 120, 140, and 160 W PA required when the attribute TpaDevice::maxTotalOutputPower is set to 40 for a quad TX radio unit — Capacity licenses for 40, 60, 80, 100, and 120 W PA required when the attribute TpaDevice::maxTotalOutputPower is set to 60 for a dual TX radio unit — Capacity licenses for 40, 60, 80, and 100 W PA required when the attribute TpaDevice::maxTotalOutputPower is set to 30 for a three TX radio unit — Capacity licenses for 40, 60, 80, 100 and 120 W PA required when the attribute TpaDevice::maxTotalOutputPower is set to 30 for a quad TX radio unit Dependencies: — If no capacity license is available, the attribute value can be set up to 20 for a single TX radio unit, up to 10 for a dual TX radio unit and up to 5 for a quad TX radio unit. — Only one of the attributes TpaDevice::maxTotalOutputPower and TpaDevice::maxTotalOutputPowerLow can be set to a value that differs from the undefined value for this TPA device. If both attributes are set to the undefined value, the output power is set by the RBS to

Attribute	Wizard Option	M/O	Type	Description
				the lowest power supported by the unit.
sectorOutputPowerLow	**Sector antenna configuration/ Sector n/Low sector output power**	O	integer	The parameter specifies the maximum total output power of the TPA device for a low power radio unit. The currently available maximum output power for each carrier within the corresponding sector can be read through the `Carrier::maxDlPowerCapability` attribute. Possible values: -1, 1 to 50000 (mW) Default: -1 Value -1 means that the output power is set by RBS to the lowest supported power of the radio unit, that is, 20 W for a single TX radio unit, 10 W for a dual TX radio unit, 125 mW for a micro radio unit, and 50 mW for an IRU in a Radio Dot System. Preconditions: — Cells cannot be set up with the TPA device. — The TPA device must be part of an auxiliary unit of the RUW or RRUW type in a micro radio unit and of the IRU in a Radio Dot System. — The TPA device must be equipped with the configurable output power capability. Dependencies: — Only one of the attributes `TpaDevice::maxTotalOutputPower` and `TpaDevice::maxTotalOutputPowerLow` can be set to a value that differs from the undefined value for this TPA device. If both attributes are set to the undefined value, the output power is set by the RBS to the lowest power supported by the unit. — The `TpaDevice::maxTotalOutputPowe`

Attribute	Wizard Option	M/O	Type	Description
				rLow attribute cannot be modified when theTpaDevice::txPowerPersistentLock attribute is set to true.
lockSectorOutputPowerLow	**Sector antenna configuration/ Sector n/Tx power persistent lock**	O	boolean	lockSectorOutputPower = false Determines if sectorOutputPowerLow can be changed. When set to true, sectorOutputPowerLow change is rejected. Note: Only applicable to mRBS. Once set to true, there is no possibility to change value back to false.
dlFeederAttenuationBranchA	**Branch A/DL attenuation (0.1 dB)**	O	Integer	Downlink electrical attenuation of cables and filters in antenna branch A, B, C, D, E, or F. (1) (2) (3) (4) Each element represents the value for one 5 MHz bandwidth in a frequency range. Applicable to single-band radios. Range: -500 to 500 (-50..50 dB)(5) Default value: -1 Maps to dlAttenuation in MO AntFeederCable.
dlFeederAttenuationBranchB	**Branch B/DL attenuation (0.1 dB)**	O	Integer	
dlFeederAttenuationBranchC	**Branch C/DL attenuation (0.1 dB)**	O	Integer	
dlFeederAttenuationBranchD	**Branch D/DL attenuation (0.1 dB)**	O	Integer	
dlFeederAttenuationBranchE	**Branch E/DL attenuation (0.1 dB)**	O	Integer	
dlFeederAttenuationBranchF	**Branch F/DL attenuation (0.1 dB)**	O	Integer	
ulFeederAttenuationBranchA	**Branch A/UL attenuation (0.1 dB)**	O	Integer	Uplink electrical attenuation of cables and filters in antenna branch A, B, C, D, E, or F.(1) (3) (4) Each element represents the value for one 5 MHz bandwidth in a frequency range. Applicable to single-band radios. Range: -500 to 500 (-50..50 dB) (5) Default value: -1 Maps to ulAttenuation in MO AntFeederCable.
ulFeederAttenuationBranchB	**Branch B/UL attenuation (0.1 dB)**	O	Integer	
ulFeederAttenuationBranchC	**Branch C/UL attenuation (0.1 dB)**	O	Integer	
ulFeederAttenuationBranchD	**Branch D/UL attenuation (0.1 dB)**	O	Integer	

Attribute	Wizard Option	M/O	Type	Description
ulFeederAttenuationBranchE	**Branch E/UL attenuation (0.1 dB)**	O	Integer	
ulFeederAttenuationBranchF	**Branch F/UL attenuation (0.1 dB)**	O	Integer	
dlFeederDelayBranchA	**Branch A/DL delay (0.1 ns)**	O	Integer	Internal downlink traffic delay in antenna branch A, B, C, D, E, or F in the form of tenths of nanoseconds.(1) (6) (3) (4) Each element represents the value for one 5 MHz bandwidth in a frequency range. Applicable to single-band radios. Range: 0 to 800000 (5) Default value: -1 Maps to `electricalDlDelay` in MO `AntFeederCable`.
dlFeederDelayBranchB	**Branch B/DL delay (0.1 ns)**	O	Integer	
dlFeederDelayBranchC	**Branch C/DL delay (0.1 ns)**	O	Integer	
dlFeederDelayBranchD	**Branch D/DL delay (0.1 ns)**	O	Integer	
dlFeederDelayBranchE	**Branch E/DL delay (0.1 ns)**	O	Integer	
dlFeederDelayBranchF	**Branch F/DL delay (0.1 ns)**	O	Integer	
ulFeederDelayBranchA	**Branch A/UL delay (0.1 ns)**	O	Integer	Internal uplink traffic delay in antenna branch A, B, C, D, E, or F in the form of tenths of nanoseconds.(1) (3) (4) Each element represents the value for one 5 MHz bandwidth in a frequency range. Applicable to single-band radios. Range: 0 to 800000(5) Default value: -1 Maps to `electricalUlDelay` in MO `AntFeederCable`.
ulFeederDelayBranchB	**Branch B/UL delay (0.1 ns)**	O	Integer	
ulFeederDelayBranchC	**Branch C/UL delay (0.1 ns)**	O	Integer	
ulFeederDelayBranchD	**Branch D/UL delay (0.1 ns)**	O	Integer	
ulFeederDelayBranchE	**Branch E/UL delay (0.1 ns)**	O	Integer	
ulFeederDelayBranchF	**Branch F/UL delay (0.1 ns)**	O	Integer	
dlAttenuationPerFqRangeBranchA	**Branch A/DL attenuation (0.1 dB)**	O	Integer	Downlink electrical attenuation of cables and filters in antenna branch A, B, C, D, E, or F.(1) Each element represents the value for one full frequency range. Applicable to single-band radios and dual-band radios. Range: -500 to 500 (-50..50 dB)(7) Default value: -1 Maps to `dlAttenuationPerFqRange` in MO `AntFeederCable`.
dlAttenuationPerFqRangeBranchB	**Branch B/DL attenuation (0.1 dB)**	O	Integer	
dlAttenuationPerFqRangeBranchC	**Branch C/DL attenuation (0.1 dB)**	O	Integer	
dlAttenuationPerFqRangeBranchD	**Branch D/DL attenuation (0.1 dB)**	O	Integer	

Attribute	Wizard Option	M/O	Type	Description
dlAttenuationPerFqRangeBranchE	**Branch E/DL attenuation (0.1 dB)**	O	Integer	
dlAttenuationPerFqRangeBranchF	**Branch F/DL attenuation (0.1 dB)**	O	Integer	
ulAttenuationPerFqRangeBranchA	**Branch A/UL attenuation (0.1 dB)**	O	Integer	Uplink electrical attenuation of cables and filters in antenna branch A, B, C, D, E, or F. (1) Each element represents the value for one full frequency range. Applicable to single-band radios and dual-band radios. Range: -500 to 500 (-50..50 dB)(7) Default value: -1 Maps to `ulAttenuationPerFqRange` in MO `AntFeederCable`.
ulAttenuationPerFqRangeBranchB	**Branch B/UL attenuation (0.1 dB)**	O	Integer	
ulAttenuationPerFqRangeBranchC	**Branch C/UL attenuation (0.1 dB)**	O	Integer	
ulAttenuationPerFqRangeBranchD	**Branch D/UL attenuation (0.1 dB)**	O	Integer	
ulAttenuationPerFqRangeBranchE	**Branch E/UL attenuation (0.1 dB)**	O	Integer	
ulAttenuationPerFqRangeBranchF	**Branch F/UL attenuation (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchA	**Branch A/DL delay (0.1 dB)**	O	Integer	Internal downlink traffic delay in antenna branch A, B, C, D, E, or F in the form of tenths of nanoseconds.(1) Each element represents the value for one full frequency range. Applicable to single-band radios and dual-band radios. Range: `0` to `800000`(7) Default value: -1 Maps to `electricalDlDelayPerFqRange` in MO `AntFeederCable`.
dlDelayPerFqRangeBranchB	**Branch B/DL delay (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchC	**Branch C/DL delay (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchD	**Branch D/DL delay (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchE	**Branch E/DL delay (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchF	**Branch F/DL delay (0.1 dB)**	O	Integer	
ulDelayPerFqRangeBranchA	**Branch A/UL delay (0.1 dB)**	O	Integer	Internal uplink traffic delay in antenna branch A, B, C, D, E, or F in the form of tenths of nanoseconds.(1) Each element represents the value for one full frequency range.
dlDelayPerFqRangeBranchB	**Branch B/UL delay (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchC	**Branch C/UL delay (0.1 dB)**	O	Integer	

Attribute	Wizard Option	M/O	Type	Description
dlDelayPerFqRangeBranchD	**Branch D/UL delay (0.1 dB)**	O	Integer	Applicable to single-band radios and dual-band radios. Range: 0 to 800000[7] Default value: -1 Maps to `electricalUlDelayPerFqRange` in MO `AntFeederCable`.
dlDelayPerFqRangeBranchE	**Branch E/UL delay (0.1 dB)**	O	Integer	
dlDelayPerFqRangeBranchF	**Branch F/UL delay (0.1 dB)**	O	Integer	
fqBandHighEdgeBranchA	**Antenna branch A/FQ band high edge (0.1MHz)**	O	integer	Denotes the high edge of the downlink frequency band. Maps to `fqBandHighEdge` in MO AntennaBranch. Defines the TX frequency band of branch A. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandHighEdgeBranchA` is identical to the value of `fqBandHighEdgeBranchB` and within the specified Instantaneous Bandwidth (IBW) for the product. Units: 0.1 MHz
fqBandLowEdgeBranchA	**Antenna branch A/FQ band low edge (0.1MHz)**	O	integer	Denotes the low edge of the downlink frequency band. Maps to `fqBandLowEdge` in MO AntennaBranch. Defines the TX frequency band of branch A. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandLowEdgeBranchA` is identical to the value of `fqBandLowEdgeBranchB`

Attribute	Wizard Option	M/O	Type	Description
				and within the specified IBW for the product. Units: 0.1 MHz
fqBandHighEdgeBranchB	**Antenna branch B/FQ band high edge (0.1MHz)**	O	integer	Denotes the high edge of the downlink frequency band. Maps to `fqBandHighEdge` in MO AntennaBranch. Defines the TX frequency band of branch B. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandHighEdgeBranchA` is identical to the value of `fqBandHighEdgeBranchB` and within the specified IBW for the product. Units: 0.1 MHz
fqBandLowEdgeBranchB	**Antenna branch B/FQ band low edge (0.1MHz)**	O	integer	Denotes the low edge of the downlink frequency band. Maps to `fqBandLowEdge` in MO AntennaBranch. Defines the TX frequency band of branch B. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandLowEdgeBranchA` is identical to the value of `fqBandLowEdgeBranchB` and within the specified IBW for the product. Units: 0.1 MHz

Attribute	Wizard Option	M/O	Type	Description
fqBandHighEdgeBranchC	**Antenna branch A/FQ band high edge (0.1MHz)**	O	integer	Denotes the high edge of the downlink frequency band. Maps to `fqBandHighEdge` in MO AntennaBranch. Defines the TX frequency band of branch C. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandHighEdgeBranchC` is identical to the value of `fqBandHighEdgeBranchD` and within the specified Instantaneous Bandwidth (IBW) for the product. Units: 0.1 MHz
fqBandLowEdgeBranchC	**Antenna branch A/FQ band low edge (0.1MHz)**	O	integer	Denotes the low edge of the downlink frequency band. Maps to `fqBandLowEdge` in MO AntennaBranch. Defines the TX frequency band of branch C. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandLowEdgeBranchC` is identical to the value of `fqBandLowEdgeBranchD` and within the specified IBW for the product. Units: 0.1 MHz
fqBandHighEdgeBranchD	**Antenna branch B/FQ band high edge (0.1MHz)**	O	integer	Denotes the high edge of the downlink frequency band. Maps to `fqBandHighEdge` in MO AntennaBranch.

Attribute	Wizard Option	M/O	Type	Description
				Defines the TX frequency band of branch D. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandHighEdgeBranchC` is identical to the value of `fqBandHighEdgeBranchD` and within the specified IBW for the product. Units: 0.1 MHz
fqBandLowEdgeBranchD	**Antenna branch B/FQ band low edge (0.1MHz)**	O	integer	Denotes the low edge of the downlink frequency band. Maps to `fqBandLowEdge` in MO AntennaBranch. Defines the TX frequency band of branch D. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandLowEdgeBranchC` is identical to the value of `fqBandLowEdgeBranchD` and within the specified IBW for the product. Units: 0.1 MHz
fqBandHighEdgeBranchE	**Antenna branch A/FQ band high edge (0.1MHz)**	O	integer	Denotes the high edge of the downlink frequency band. Maps to `fqBandHighEdge` in MO AntennaBranch. Defines the TX frequency band of branch E. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the

Attribute	Wizard Option	M/O	Type	Description
				UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandHighEdgeBranchE` is identical to the value of `fqBandHighEdgeBranchF` and within the specified Instantaneous Bandwidth (IBW) for the product. Units: 0.1 MHz
fqBandLowEdgeBranchE	**Antenna branch A/FQ band low edge (0.1MHz)**	O	integer	Denotes the low edge of the downlink frequency band. Maps to `fqBandLowEdge` in MO AntennaBranch. Defines the TX frequency band of branch E. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for `fqBandLowEdgeBranchE` is identical to the value of `fqBandLowEdgeBranchF` and within the specified IBW for the product. Units: 0.1 MHz
fqBandHighEdgeBranchF	**Antenna branch B/FQ band high edge (0.1MHz)**	O	integer	Denotes the high edge of the downlink frequency band. Maps to `fqBandHighEdge` in MO AntennaBranch. Defines the TX frequency band of branch F. The frequency band edge denoted by `fqBandHighEdge` and `fqBandLowEdge` must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for

Attribute	Wizard Option	M/O	Type	Description
				fqBandHighEdgeBranchE is identical to the value of fqBandHighEdgeBranchF and within the specified IBW for the product. Units: 0.1 MHz
fqBandLowEdgeBranchF	**Antenna branch B/FQ band low edge (0.1MHz)**	O	integer	Denotes the low edge of the downlink frequency band. Maps to fqBandLowEdge in MO AntennaBranch. Defines the TX frequency band of branch F. The frequency band edge denoted by fqBandHighEdge and fqBandLowEdge must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. When configuring for TX diversity, it is recommended that the value for fqBandLowEdgeBranchE is identical to the value of fqBandLowEdgeBranchF and within the specified IBW for the product. Units: 0.1 MHz
beamDirection	**Sector Data configuration/ Beam direction**	O	string	Beam direction in the form of degrees. 000 = North 090 = East 180 = South 270 = West Dependencies: SectorAntenna::beamDirection can be set to a valid angle between 000 and 359 only if the Psi-Coverage configuration (Sector::sectorConfiguration = PSI_COVERAGE) applies. Otherwise, set the attribute to N/A so that Sector::beamDirection is used instead.
beamDirection2	**Sector Data configuration/ Beam direction**	O	string	Beam direction in the form of degrees. 000 = North 090 = East 180 = South 270 = West Dependencies: SectorAntenna::beamDirection2 can be set to a valid angle between 000 and 359 only if the Psi-Coverage configuration

Attribute	Wizard Option	M/O	Type	Description
				(`Sector::sectorConfiguration` = PSI_COVERAGE) applies. Otherwise, set the attribute to N/A so that `Sector::beamDirection` is used instead.
beamDirection3	**Sector Data configuration/ Beam direction**	O	string	Beam direction in the form of degrees. `000` = North `090` = East `180` = South `270` = West Dependencies: `SectorAntenna::beamDirection3` can be set to a valid angle between `000` and 359 only if the Psi-Coverage configuration (`Sector::sectorConfiguration` = PSI_COVERAGE) applies. Otherwise, set the attribute to N/A so that `Sector::beamDirection` is used instead.
maxTilt	Not applicable	M	integer	Specifies the maximum electrical antenna tilt value. (8)
maxTilt2	Not applicable	M	integer	Specifies the maximum electrical antenna tilt value. (8)
maxTilt3	Not applicable	M	integer	Specifies the maximum electrical antenna tilt value. (8)
minTilt	Not applicable	M	integer	Specifies the minimum electrical antenna tilt value. (8)
minTilt2	Not applicable	M	integer	Specifies the minimum electrical antenna tilt value. (8)
minTilt3	Not applicable	M	integer	Specifies the minimum electrical antenna tilt value. (8)

(1) For instructions on how to calculate feeder and jumper attenuation and delay values, refer to WCDMA Antenna System Test Instruction.

(2) In the 3×1 RBS configuration with Transmitter (TX) diversity and 60 W output power per carrier branch, set the attenuation for the antenna feeder cables to a minimum of 0.8 dB. For 80 W output power per carrier branch, set the attenuation to a minimum of 2 dB. For 100 W output power per carrier branch, set the attenuation to a minimum of 3 dB. This ensures that the maximum power capability is not higher than 50 dBm, as supported by the NBAP protocol.

(3) If a built-in integrated antenna is used in the sector, this attribute must be set to -1.

(4) When `auUnitType` is set to AIR, this attribute is ignored for all the RBBs supporting AIR except the RBB11_1A. For RBB 11_1A, only the delays and attenuations for RXB antenna feeder cable are required.

(5) Inserted as a comma separated list of values. The list can contain 1 or 15 elements depending on the bandwidth. If only one element is provided, all elements in the list are set to that same value. Example 1: 46 (all elements in the list are set to 46).

(6) It can be necessary to verify correct value when configuring for TX diversity.

(7) Inserted as a comma separated list of values. The list can contain 1, 2, 3, or 4 elements. If a part of the elements are provided, the other elements in the list are set to the unused value, -1. Example 1: 46 (converted to 46, -1, -1, -1). Example 2: 45, 46 (converted to 45, 46, −1,−1). Example 3: 45, 46, 47 (converted to 45, 46, 47, −1). Example 4: 45, 46, 47, 47 (no conversion).

(8) Normally, the set of attribute values for a specific RET is provided by Ericsson based on the antennaType. However, customers can set their own RET profiles designed in cooperation with or according to specifications from RET vendors. To enable creation of consistent sets of RET profile attributes, there is a tool available as part of RET Config (190 09-CXC 132 6068), obtainable through Ericsson.

Table 42 Attributes of the RetProfile Element

Attribute	Wizard Option	M/O	Type	Description
antennaType	Not applicable	M	integer	The type of the antenna. (1) Range: 1 to 100. Values 1 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types.
retType	Not applicable	M	integer	The type of RET.(1) (2) Defines — together with antennaType on the corresponding SectorAntenna MO — which configuration data (MO RetProfile) is used.
minTilt	Not applicable	M	integer	Specifies the minimum electrical antenna tilt value.(1)
maxTilt	Not applicable	M	integer	Specifies the maximum electrical antenna tilt value.(1)
retParam1	Not applicable	M	Integer	Configuration Data 1 to 8 for the RET-device.(1) The are vendor and antenna specific, and describe the mapping of motor rotation to antenna tilt angle.
retParam2	Not applicable	M	Integer	
retParam3	Not applicable	M	Integer	
retParam4	Not applicable	M	Integer	
retParam5	Not applicable	M	Integer	
retParam6	Not applicable	M	Integer	
retParam7	Not applicable	M	Integer	
retParam8	Not applicable	M	Integer	
checkSum	Not applicable	M	Integer	Specifies the checksum of `minTilt`, `maxTilt` , and the RET configuration parameters.(1)

Attribute	Wizard Option	M/O	Type	Description
				CRC16 with initial value 0xFFFF is used to calculate the checksum

(1) Normally, the set of attribute values for a specific RET is provided by Ericsson based on the antennaType. However, customers can set their own RET profiles designed in cooperation with or according to specifications from RET vendors. To enable creation of consistent sets of RET profile attributes, there is a tool available as part of RET Config (190 09-CXC 132 6068), obtainable through Ericsson. For the configuration workflow of a RET unit, refer to RETU Configuration Overview.

(2) RET type 1 is valid for AIR, refer to RETU Configuration Data.

Table 43 Attributes of the AretConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**ARET configuration/ Sector Antenna Overview/Sector n**	M	enum	The sector instance to which the ARET is connected. Possible values: 1 to 6
sequenceNumber	**ARET configuration/ ARET Configuration/ Sequence number**	M	integer	Specifies the order of the ARET within a cascaded ARET chain, counting from the SectorAntenna. Possible values for cascaded ARET: 1 to 6 and for other configurations: 1
uniqueHwId	**ARET configuration/ ARET Configuration/ Unique hardware ID**	O	string	Specifies the unique identity of an ARETU in the first sector antenna. Must be unique within a cascaded ARETU chain. The `uniqueHwId` attribute contains enough number of significant characters or digits to be unique among the ARETUs in the sector. The length of this attribute does not exceed 19 characters. The `uniqueHwId` attribute of the ARETU can be set according to the data fetched by the Device Scan action. For more information about Device Scan, refer to Manage Hardware Equipment. Maps to `uniqueHwId` in `AuxPlugInUnit` MO.
uniqueHwId2	**ARET configuration/ ARET Configuration/ Unique hardware ID**	O	string	Specifies the unique identity of an ARET in the second sector antenna. Must be unique within a cascaded ARET chain.

Attribute	Wizard Option	M/O	Type	Description
				The uniqueHwId2 attribute contains enough number of significant characters or digits to be unique among the ARETs in the sector. Maps to uniqueHwId2 in AuxPlugInUnit MO. For ARET cascading configuration with RRUS 32 and RBB44_1D, uniqueHwId, or uniqueHwId2, or both must be specified.
antennaType	**ARET configuration/ ARET Configuration/ Antenna type**	O	integer	The type of the first sector antenna. For ARETU with sequenceNumber = 1, it maps to MO attribute SectorAntenna::antennaType. For ARETU with sequenceNumber = 2 to 6, it maps to MO attribute ExternalAntenna::antennaType.
antennaType2	**ARET configuration/ ARET Configuration/ Antenna type**	O	integer	Specifies the type of the second sector antenna. For ARETU with sequenceNumber = 1, it maps to MO attribute SectorAntenna::antennaType. For ARETU with sequenceNumber = 2 to 6, it maps to MO attribute ExternalAntenna::antennaType.
electricalTilt	**ARET configuration/ ARET Configuration/ Electrical tilt**	O	integer	The angle the first sector antenna is to be tilted with by the ARET. Default value: 0
electricalTilt2	**ARET configuration/ ARET Configuration/ Electrical tilt**	O	integer	Specifies the angle the second sector antenna is to be tilted with by the ARET. Default value: 0
mechanicalTilt	**ARET configuration/ ARET Configuration/ Mechanical tilt**	O	integer	The angle the first sector antenna is mounted in. Default value: 0 Only valid for ARET with sequenceNumber= 1
mechanicalTilt2	**ARET configuration/ ARET Configuration/ Mechanical tilt**	O	integer	Specifies the angle the second sector antenna is mounted in. Default value: 0

Attribute	Wizard Option	M/O	Type	Description
				Only valid for ARET with `sequenceNumber= 1`
userLabel	**ARET configuration/ ARET Configuration/ User label**	O	string	Specifies the label of the first sector antenna for free use. It can for example be used for RBS name or cell name for a co-sited RBS.
userLabel2	**ARET configuration/ ARET Configuration/ User label**	O	string	Specifies the label of the second sector antenna for free use. It can for example be used for RBS name or cell name for a co-sited RBS.

Table 44 Attributes of the InitiatedSector Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	**Antenna branch n/ Sector n**	M	enum	The sector number. Used to identify the sector. Possible values: 1 to 12 Maps to sectorId in MO Sector. For 6501: 1 to 6 For other RBS 6000 types: 1 to 12
antennaSupervisionBranchA	**Antenna branch A/ Antenna supervision threshold (%)**	O	integer	Defines antenna supervision threshold. Possible values: 0 to 100, default 0 (no supervision). Must be turned off (0) when sharing antennas or at production test. Maps to `antennaSupervisionThreshold` in MO AntennaBranch. Ignored when the `auUnitType` is set to AIR. For more information on supervision threshold values, refer to Antenna System Supervision.
antennaSupervisionBranchB	**Antenna branch B/ Antenna supervision threshold (%)**	O	integer	Defines antenna supervision threshold. Possible values: 0 to 100, default 0 (no supervision). Must be turned off (0) when sharing antennas or at production test. Maps to `antennaSupervisionThreshold` in MO AntennaBranch.

Attribute	Wizard Option	M/O	Type	Description
				Ignored when the `auUnitType` is set to AIR. For more information on supervision threshold values, refer to Antenna System Supervision.
antennaSupervisionBranchC	**Antenna branch C/ Antenna supervision threshold (%)**	O	integer	Defines antenna supervision threshold. Possible values: `0` to `100`, default `0` (no supervision). Must be turned off (`0`) when sharing antennas or at production test. Maps to `antennaSupervisionThreshold` in MO AntennaBranch. Ignored when the `auUnitType` is set to AIR. For more information on supervision threshold values, refer to Antenna System Supervision.
antennaSupervisionBranchD	**Antenna branch C/ Antenna supervision threshold (%)**	O	integer	Defines antenna supervision threshold. Possible values: `0` to `100`, default `0` (no supervision). Must be turned off (`0`) when sharing antennas or at production test. Maps to `antennaSupervisionThreshold` in MO AntennaBranch. Ignored when the `auUnitType` is set to AIR. For more information on supervision threshold values, refer to Antenna System Supervision.
antennaSupervisionBranchE	**Antenna branch C/ Antenna supervision threshold (%)**	O	integer	Defines antenna supervision threshold. Possible values: `0` to `100`, default `0` (no supervision). Must be turned off (`0`) when sharing antennas or at production test. Maps to `antennaSupervisionThreshold` in MO AntennaBranch. Ignored when the `auUnitType` is set to AIR. For more information on supervision threshold values, refer to Antenna System Supervision.
antennaSupervisionBranchF	**Antenna branch C/ Antenna**	O	integer	Defines antenna supervision threshold.

Attribute	Wizard Option	M/O	Type	Description
	supervision threshold (%)			Possible values: 0 to 100, default 0 (no supervision). Must be turned off (0) when sharing antennas or at production test. Maps to antennaSupervisionThreshold in MO AntennaBranch. Ignored when the auUnitType is set to AIR. For more information on supervision threshold values, refer to Antenna System Supervision.

Table 45 Attributes of the LocalCellConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
carrierAllocation Mode	Not applicable	O	enum	Defines the allocation of carriers. Possible values: Basic, Advanced, Flexible This attribute must be set to Flexible for the cells carriers constituting a combined cell.

Table 46 Attributes of the Sector Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	Not applicable	M	enum	The sector number used to identify the sector. Possible values: 1 to 12 For 6501: 1 to 6 For other RBS 6000 types: 1 to 12

Table 47 Attributes of the Cell Element

Attribute	Wizard Option	M/O	Type	Description
cellNumber	**RBS Local cell configuration/ Sector n/Cell=n** (1)	M	enum	The cell number used to identify the cell in the sector. (2) RbsLocalCellid =S<x>C<cellNumber> (where x is the SectorId and cellNumber is the CarrierId, that is, S1C2)

Attribute	Wizard Option	M/O	Type	Description
				Possible values: 1 to 8 (3) The `cellNumber` cannot be higher than the number of cells in a sector.
cellIdentity	**RBS Local cell configuration/ Sector n/Cell=n/ Local cell ID**	M	integer	The RBS local cell identity. (2) (4) The value must be the same as in the UTRAN cell, that is, the corresponding RNC MO. Range: 0 to 268435455. Maps to `localCellId` in MO RbsLocalCell
cellRange	**RBS Local cell configuration/ Sector n/Cell=n/ Cell range (m)**	M	integer	The cell range is the maximum range for which the RBS receiver is capable of demodulating a UE's transmitted signal from a propagation delay point of view, that is the search window. Range: 250 – 200,000 meters. The default range of all RBSs is 35,000 meters. The range can be extended beyond 35,000 meters, if the radio conditions are adequate, by activating the optional feature Extended Range. A license is required for extending cell range to above 35,000 meters. Two licenses (for 80,000 meters and 200,000 meters) exist, but only one license can be installed at a time.
operatingBand	N/A	M	integer	Indicates the frequency band used in a cell. (5) Possible values: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 19, 20, 21, 32 Default: 0 Maps to `operatingBand` in MO `RbsLocalCell`. If (R)RUS 01/02 B0 is used, this attribute must be set to 8 (6), while the high edge and the low edge of the downlink frequency band must follow the frequency range of (R)RUS 01/02 B0. Value 0 means automatically assign the frequency band. Automatic assignment can only be performed for the Band 1, 2, 5 (see conversion text below). For other bands, the value must be explicitly provided.

Attribute	Wizard Option	M/O	Type	Description
				Conversion: Value 0 is assumed to be one of the Band 1, 2, 5. The actual band is then determined by the values of parameters freqBandHiEdge and freqBandLoEdge.
numberOfTxBranches	**Carrier Allocation Mode option/ Sector option/ Number of TX branches**	O	enum	Possible values: 1 or 2 Default value: 1 2 indicates that an RbsLocalCell is configured and activated for TX diversity. When configuring for TX diversity, the sector attribute outputPower must have value BRANCHED for some RBSs, see Table 4. The following attributes can also be affected by TX diversity: fqBandHighEdgeBranchA and -B, fqBandLowEdgeBranchA and -B, dlFeederDelayBranchA and -B, see Table 41, and dlTrafficDelayA and -B, see Table 40. RbsLocalCells belonging to the same sector must have the same number of TX branches. For 6101, 6110, 6120, 6131, 6201, 6202, 6301, 6320, 6501, 6601: 1 or 2 are possible. For all other RBS types: Only 1 is possible.
numberOfRxBranches	**Carrier Allocation Mode option/ Sector option/ Number of RX branches**	O	enum	Indicates the number of RX branches in the cell. Possible values: 0, 2, 4 or 6 0 indicates that no RX branch can be configured and supported. It is used for the ψ-Coverage and Y-Coverage configurations when the DL-only secondary cell is used. 2 indicates that maximum two numbers of RX branches can be configured and supported. For the cell carrier in a combined cell, only 2 is supported. 4 indicates that maximum four numbers of RX branches can be configured and supported. It is valid for 4WayRxDiversity feature, Y-Coverage feature, and Joint support for 4wRx and MC-HSDPA in a node feature.

Attribute	Wizard Option	M/O	Type	Description
				6 indicates that maximum six numbers of RX branches can be configured and supported. It is only valid for ψ-Coverage feature.
baseBandPoolId	Not applicable	O	integer	If CarrierAllocationMode FLEXIBLE is chosen, all carriers must have a BBpoolId. (2) Possible values: 1, 2, 3 1 indicates the first baseband pool on primary DUW. 2 indicates the first baseband pool on secondary DUW. 3 indicates the second baseband pool on primary DUW.
hsCodeResourceId	**Hsdpa configuration/ Carrier n HS code resource ID**	O	integer	Allocates an HSDPA code resource to the cell. The value is used by the system only if the attribute `steeredHsAllocation = true`, see Table 51. (2) (7) Default value: `0` Possible values: `0` to 6 Restrictions: A code resource within the baseband pool can be allocated to a maximum of 3 Cells If there are 2 TX boards in a baseband pool, the maximum number of HSDPA code resources is 6. If there are two baseband pools, the maximum number of HSDPA code resources is 12.
txBranchConfigured	Not applicable	O	enum	Indicates the TX branch of the single TX branch cell, or the first TX branch of the dual TX branch cell. Possible values: A, B, C, D Maps to txBranchesConfigured[0] in `Carrier` MO. Only valid when `carrierAllocationMode` is set to `Flexible`.
txBranchConfigured2	Not applicable	O	enum	Indicates the second TX branch of the dual TX branch cell. Possible values: A, B, C, D

Attribute	Wizard Option	M/O	Type	Description
				Maps to txBranchesConfigured[1] in `Carrier` MO. Only valid when `carrierAllocationMode` is set to `Flexible`.

(1) In the wizard, also select to create the cell.
(2) This attribute must be the same for the cell carriers constituting one combined cell.
(3) Up to eight cells are available when the TX branch is explicitly specified in a cell. Otherwise, the maximum number of cells is four.
(4) The number of cell carriers with same `cellIdentity` is no more than three in a combined cell.
(5) The cell carriers in a combined cell must be configured with the same band.
(6) Band `0` (Uplink frequency range is 890 MHz–915 MHz and downlink frequency range is 935 MHz–960 MHz.) is a subset of Band 8 (Uplink frequency range is 880 MHz–915 MHz and downlink frequency range is 925 MHz–960 MHz.).
(7) For DUW 11, DUW 31, and DUW 41, the attribute `steeredHsAllocation` or `hsCodeResourceId` has no significance since the function steered HS allocation is not implemented. The attribute is hidden from the settings in the RBS EM.

Table 48 Attributes of the RadioDotSector Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	Not applicable	M	enum	The sector number used to identify a sector. Possible values: 1 to 12

Table 49 Attributes of the RadioDot Element

Attribute	Wizard Option	M/O	Type	Description
radioDotNumber	Not applicable	M	enum	The radio dot number used to identify a radio dot. Possible values: 1 to 8

Table 50 Attributes of the PositionCoordinates Element

Attribute	Wizard Option	M/O	Type	Description
longitude	Not applicable	M	long	Defines the longitude part of the position of the unit. Use +/- values to denote east or west. Default value: `0` Possible values: `-180000000` to `180000000`

Attribute	Wizard Option	M/O	Type	Description
				Unit: 0.000001 degrees
latitude	Not applicable	M	long	Defines the latitude part of the position of the unit. Use +/- values to denote north or south. Default value: 0 Possible values: -90000000 to 90000000 Unit: 0.000001 degrees
altitude	Not applicable	M	long	Defines the longitude part of the position of the unit. Use +/- values to denote north or south. Default value: 0 Possible values: -8388608 to 8388607
geoDatum	Not applicable	M	string	Denotes the geodetic datum for this position.

2.4.7 HSDPA Settings

The HsdpaSettings element contains HSDPA related attributes. The deprecated attributes are shown in Table 133.

Table 51 Attributes of the HsdpaSettings Element

Attribute	Wizard Option	M/O	Type	Description
steeredHsAllocation	**Hsdpa configuration/ Steered HS Allocation**	O	enum	Sets the activation state of Steered HSDPA allocation.(1) Possible values: true, false. If set to true, the attribute hsCodeResourceId must be set to a value, 1 to 6. Default value: see Managed Object Model (MOM) RBS

(1) For DUW 11, DUW 31, and DUW 41, the attribute steeredHsAllocation or hsCodeResourceId has no significance since the function steered HS allocation is not implemented. The attribute is hidden from the settings in the RBS EM.

Table 52 Attributes of the HsdpaSlot Element

Attribute	Wizard Option	M/O	Type	Description
slot	**Hsdpa configuration/TXB on slot n**	M	integer	The slot position of a TX board or DU to be configured with HSDPA. For RBS with DU: 1 or 2
numHsCodeResources	**HSDPA and EUL configuration/Num HS code resources**	O	integer	The number of HSDPA code resources to be made available on this TX board or DU. (1) Range: 0 to 4
numHsCodeResources1stBBP	Not applicable	O	integer	Indicates the number of HSDPA code resources to be made available in the first baseband pool of DUW. Only applicable to RBS with DU. Possible values: 1 or 2
numHsCodeResources2ndBBP	Not applicable	O	integer	Indicates the number of HSDPA code resources to be made available in the second baseband pool of DUW. Only applicable to RBS with DU. Possible values: 1 or 2

(1) For DUW 11, DUW 31, and DUW 41, the attribute numHsCodeResources or numEulResources is not valid and has a fixed configuration, which is hidden from the settings in the RBS EM.

2.4.8 EUL Settings

The EulSlot element contains HSDPA related attributes.

Table 53 Attributes of the EulSlot Element

Attribute	Wizard Option	M/O	Type	Description
slot	**Eul configuration/TXB on slot n**	M	integer	The slot position of a TX board or DU to be configured with EUL. Only one TX-board or DU in one of the baseband pools can be configured for EUL for 6×2 configuration. Possible values: 1 or 2
numEulResources	**HSDPA and EUL configuration/Num EUL resources**	O	integer	Indicates the number of the processing resources on the TXB/TXL to be loaded with EUL software. Possible values:

Attribute	Wizard Option	M/O	Type	Description
				If the TXB or DUW slot is selected for EUL, the `numEulResources` is set to 1, otherwise, it is set to 0.

2.4.9 External Alarm Configuration

The `ExternalAlarmConfiguration` element and the sub-element `Alarm` define attributes related to the alarm port configuration of the external equipment. The deprecated attributes are shown in Table 133.

Table 54 Attributes of the ExternalAlarmConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
`cabinetNumber`	Not applicable	O	enum	Indicates the cabinet which external alarm configuration is configured for. Possible value: 1 to 7 Default value: 1

Table 55 Attributes of the Alarm Element

Attribute	Wizard Option	M/O	Type	Description
`portId`	Not applicable	M	integer	The number of the Alarm Port used. Possible values: For RRU or RRUW: 1 to 6 For SUP: 1 to 8 For SCU: 1 to 16 For SAU: 1 to 32
`alarmSlogan`	Not applicable	M	string	The alarm name. Only characters in the normal ASCII-table can be used. Exceptions: The characters “&”, “<” and “>” are NOT allowed.
`normallyOpen`	Not applicable	M	enum	Defines if alarm is triggered when closing or opening the loop. Possible values: YES or NO. YES means triggered on closing.
`severity`	Not applicable	M	enum	The severity of the alarm.

Attribute	Wizard Option	M/O	Type	Description
				Possible values: Critical, Major, Minor, or Warning. Maps to `perceivedSeverity` in MO `AlmDevice`.
`probableCause`	Not applicable	M	integer	The probable cause of the alarm. For valid values, see the attribute `AlmDevice::probableCause` in the RBS Managed Object Model (use the integer value of a certain ProbableCause enum value).
`externalAlarmUnit`	Not applicable	O	enum	Defines `externalAlarmUnit`, for which the alarm attributes are valid. More than one alarm unit can exist in an RBS. Possible values: Sau, Scu, Rruw, Sup For 6601, 6302: Sup, Sau, Rruw For 6101, 6120, 6102, 6131, 6202, 6301, 6201, 6320: Scu, Sau, Rruw For 6501: Scu, Rruw Ignored for other RBS types.
`sectorNumber`	Not applicable	O	enum	Sector number for RRUW to be configured. Applicable only if `externalAlarmUnit` is Rruw. Possible values: 1 to 12
`rruwPositionInSector`	Not applicable	O	enum	Position of RRUW within a sector. Applicable only if `externalAlarmUnit` is Rruw. Possible values: 1 and 2 Optional for 6101, 6301, 6601 Ignored for other RBS types.

2.4.10 External Control Configuration

The `ExternalControlConfiguration` element contains attributes for the control port configuration of the external equipment.

Table 56 Attributes of the ExternalControlConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
cabinetNumber	Not applicable	O	enum	Indicates the cabinet which external control configuration is configured for. Possible value: 1 to 7 Default value: 1

Table 57 Attributes of the Control Element

Attribute	Wizard Option	M/O	Type	Description
externalAlarmUnit	Not applicable	O	enum	Defines externalAlarmUnit, for which the alarm attributes are valid. More than one alarm unit can exist in an RBS. Possible values: Sau Optional for 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6302, 6320, 6601: Sau
portId	Not applicable	M	integer	The number of the Control Port to use. Possible values: 1 to 8.
equipmentName	Not applicable	M	string	The name of the equipment to control. Only characters in the normal ASCII-table can be used. Exceptions: The characters “&”, “<” and “>” are NOT allowed.
normallyOpen	Not applicable	M	enum	Defines if equipment is turned on when closing or opening the loop. Possible values: YES or NO. YES means turned on when closing.

2.4.11 EC Port Configuration

The EcPort element defines the EC port connection between the digital unit and the APC hub unit.

Table 58 Attributes of the EcPort Element

Attribute	M/O	Type	Description
unitType	M	enum	Specifies the type of unit for which the hubPosition attribute or the cascadingOrder attribute is valid. Possible values: DUW, EXTNODE Applicable for all RBS types where supportSystemControl=TRUE.
unitNumber	M	integer	Specifies together with unitType the unit instance for which the hubPosition attribute or the cascadingOrder attribute is valid. Possible values: 1 or 2 Applicable for all RBS types where supportSystemControl=TRUE.
portNumber	O	enum	Specifies whether first or second EcPort for unitType=EXTNODE. Possible values: 1 or 2 Default value: 1 Applicable for all RBS types where supportSystemControl=TRUE.
hubPosition	O	enum	The hub port, to which the external node or hardware unit is connected, used for addressing purposes. Possible values: A0, A2, A3, A5, A6, A7, B0, B1, D, E, EC_A, EC_B, EC_C, X, Y, Z For DUWx, EXTNODEx: — For macro RBS: A0, A2, A3, A5, A6, A7, B0, B1, D, E, EC_A, EC_B, or EC_C — For main remote RBS: EC_A, EC_B, EC_C, X, Y, Z Applicable for all RBS types where supportSystemControl=TRUE.
cascadingOrder	O	enum	Represents the SUP position in the cascading chain for RBS 6601 with dual DUW where the primary DUW is DUW 11, DUW 31, or DUW 41. Possible values: 0, 1, 2, 3, 4, 5, 6, 7 When two DUWs are configured in one SUP, 0 is used for the two DUWs, which means no cascading configuration. In the case of cascading configuration, 1 represents primary DUW and 2 specifies secondary DUW.

Attribute	M/O	Type	Description
referredCabinetNumber	O	integer	Indicates the cabinet which the EC port refers to. Applicable for all RBS types where supportSystemControl = TURE and unitType = EXTNODE.

2.4.12 EC Bus Configuration

The EcBus element contains attributes related to EC Buses.

Table 59 Attributes of the EcBus Element

Attribute	Wizard Option	M/O	Type	Description
ecBusNumber	Not applicable	M	enum	Maps to EcBusId in MO EcBus. Possible values: 2 to 7
connectorType	Not applicable	O	enum	Specifies the type of the unit where the EC bus is connected. Possible values: DU, RU Default value: RU
connectorUnitNumber	Not applicable	M	enum	Specifies the number of the sector covered by the radio unit where the EC bus is connected, or the number of the DU where the EC bus is connected. Possible values: — 1 to 12, if connectorType = RU — 2, if connectorType = DU
internalConnectorUnitNumber	Not applicable	O	enum	Specifies the number of the radio unit in a radio building block which the EC bus is connected to. Possible values: 1, 2, 3 Default value: 1 This attribute is applicable when the connectorType = RU.

2.4.13 Cabinet Configuration

The Cabinet element is used to specify a cabinet.

Table 60 Attributes of the Cabinet Element

Attribute	Wizard Option	M/O	Type	Description
cabinetNumber	Not applicable	M	enum	Specifies the cabinet ID. Maps to cabinetId in MO Cabinet. Possible values: 1 to 7 A new Cabinet instance with cabinetId = cabinetNumber is created if no such cabinet with the same cabinetId exists.
referredCabinetNumber	Not applicable	O	integer	Indicates the enclosure (also referred to as cabinet) where the cabinet to be configured resides in. This attribute is applicable to the scenario where some cabinets are placed in a 19 inch rack. The 19 inch rack can be modeled as a cabinet.
sharedCabinetIdentifier	Not applicable	O	string	Specifies the unique identifier for the cabinet in a shared cabinet configuration Maps to sharedCabinetIdenfifier in MO Cabinet.
cabinetType	Not applicable	O	string	Possible value: RBS6101, RBS6102, RBS6110, RBS6120, RBS6131, RBS6201, RBS6202, RBS6301, RBS6302, RBS6320, RBS6501, RBS6601, RBS6601W, POWER6610, POWER6306, RACK Only valid when supportSystemControl is set to TRUE and a new cabinet is created.
ecBusNumber	Not applicable	O	enum	Indicates the EC Bus is used to connected HwUnits in the cabinet. Possible values: 1 to 7 Default value: 1

Table 61 Attributes of the ClimateSystem Element

Attribute	Wizard Option	M/O	Type	Description
climateSystem	Not applicable	M	enum	Maps to climateSystem in MO Cabinet. Possible values: Standard, Extended Only valid when supportSystemControl is set to TRUE.

Table 62 Attributes of the ClimateRegulationSystem Element

Attribute	Wizard Option	M/O	Type	Description
climateRegulationSystem	**Other options/ Climate regulation system**	M	enum	Defines the type of climate regulation system that is used. Possible values: notApplicable, TS, DAC, or HEX Default value: notApplicable For 6110 or 6120: TS or DAC For 6320: DAC or HEX For all other applicable RBSs: notApplicable

2.4.14 Support System Control

The SupportSystemControl element defines if the node controls and supervises the climate, power, and external alarm hardware in the cabinet.

Table 63 Attributes of the SupportSystemControl Element

Attribute	Wizard Option	M/O	Type	Description
supportSystemControl	**Option Equipment/ support SystemControl**	M	enum	Defines if the node is controlling and supervising the climate, power, and external alarm hardware in the cabinet. Only one node in the cabinet can control and supervise the climate and power. Possible values: TRUE or FALSE Default value: TRUE

2.4.15 Wanted Position Settings

The WantedPosition element specifies the wanted position of the node expected location.

Table 64 Attributes of the WantedPosition Element

Attribute	Wizard Option	M/O	Type	Description
latitude	**Wanted position/ Latitude**	O	string	Specifies the latitude of the node wanted position formatted as WGS84 Degrees-Decimal-Minutes (DDM).

Attribute	Wizard Option	M/O	Type	Description
longitude	**Wanted position/ Longitude**	O	string	Specifies the longitude of the node wanted position formatted as WGS84 DDM.
altitude	**Wanted position/ Altitude**	O	string	Specifies the altitude of the node wanted position.
tolerance	**Wanted position/ Tolerance**	O	long	Specifies the maximum allowed distance between the node wanted position and the actual position. Default value: 50

2.4.16 Hardware Group Configuration

The `HwGroupConfig` element is used to specify a hardware group.

Table 65 Attributes of the HwGroupConfig Element

Attribute	Wizard Option	M/O	Type	Description
hwGroupId	Not applicable	M	string	Specifies the ID of a `HwGroup` MO to be created.
positionInformation	Not applicable	O	string	Specifies the information on where a `HwGroup` MO is located. This can be expressed, for example, in terms of a street address, building, floor, or room. Value length: 0 to 255 characters

2.4.17 Position Configuration

The `PositionConfiguration` element is used to configure the position of antennas or radio units.

Table 66 Attributes of the PositionConfiguration Element

Attribute	Wizard Option	M/O	Type	Description
sectorNumber	Not applicable	M	enum	Specifies the sector which a unit belongs to. Possible values: 1 to 12 Note: When a radio unit is shared between two sectors, for example, sector

Attribute	Wizard Option	M/O	Type	Description
				1 and 2, the attribute can only be configured on the sector with a smaller number, that is, sector 1.
unitType	Not applicable	M	enum	Specifies the type of a unit. Possible values: — `RadioUnit`: The position is configured for a radio unit. — `Antenna`: The position is configured for a sector antenna.
unitNumber	Not applicable	M	integer	Specifies the unit number of a specific unit type on a sector.
positionInformation	Not applicable	O	string	Specifies the information on where a unit is located.
hwGroupId	Not applicable	O	string	Specifies the ID of a `HwGroup` MO where a unit is located. Note: — When a radio unit is the child MO of a sector antenna, the radio unit must have the same `hwGroupId` as the sector antenna. — To prevent interruption to other features, this configuration does not take effect when the `positionRef` attribute of AuxPlugInUnit (for radio unit) is referenced to an MO instance other than `HwGroup`.

2.4.18 Inter-Node Connectivity Configuration

The InciConnector element is used to configure the inter-node connectivity.

Table 67 Attributes of the InciConnector Element

Attribute	Wizard Option	M/O	Type	Description
externalNodeId	Not applicable	M	enum	Specifies the external node in the inter-node connectivity. Possible values: 1 to 7
equipmentSupportFunctionId	Not applicable	O	enum	Specifies the `EquipmentSupportFunction` MO where the `ExternalNode` MO belongs.

Attribute	Wizard Option	M/O	Type	Description
				Possible values: 1, 2
unitType	Not applicable	O	enum	Specifies the type of the shared unit in the inter-node connectivity. Possible values: Radio, EcBus Default value: Radio **Note:** Currently only the value of Radio is supported. It means the DU radio node shares an IRU cabinet with an external radio node through CPRI.
unitNumber	Not applicable	M	integer	Specifies the shared unit number in the inter-node connectivity. If unitType is set to Radio, the value of unitNumber specifies the radio unit number on a sector.
sectorNumber	Not applicable	M	enum	Specifies the sector number used to identify a sector. Possible values: 1 to 12 Only supported when unitType is set to Radio.

2.4.19 Secondary Support System Control

The MO `EquipmentSupportFunction` = 2 is created if the SecondarySupportSystemControl element is defined.

Table 68 Attributes of the SecondarySupportSystemControl Element

Attribute	Wizard Option	M/O	Type	Description
secondarySupportSystemControl	Not applicable	M	enum	Defines if the node is controlling and supervising the climate, power, and external alarm hardware in the cabinet. Possible values: TRUE, FALSE Currently the value must be set to FALSE.

2.5 Modify RBS Equipment Configuration

This section describes the attributes in the modify RBS equipment configuration DTD files. For the DTD file, refer to DTD for Modify RBS Equipment Configuration. For the examples of configuration file, refer to Example Files for Modify RBS

Equipment Configuration. There are no corresponding wizard options in the **Modify RBS Equipment Configuration** wizard.

2.5.1 Definitions

Figure 4 and Figure 5 show the element tree of the modify RBS equipment configuration DTD files.

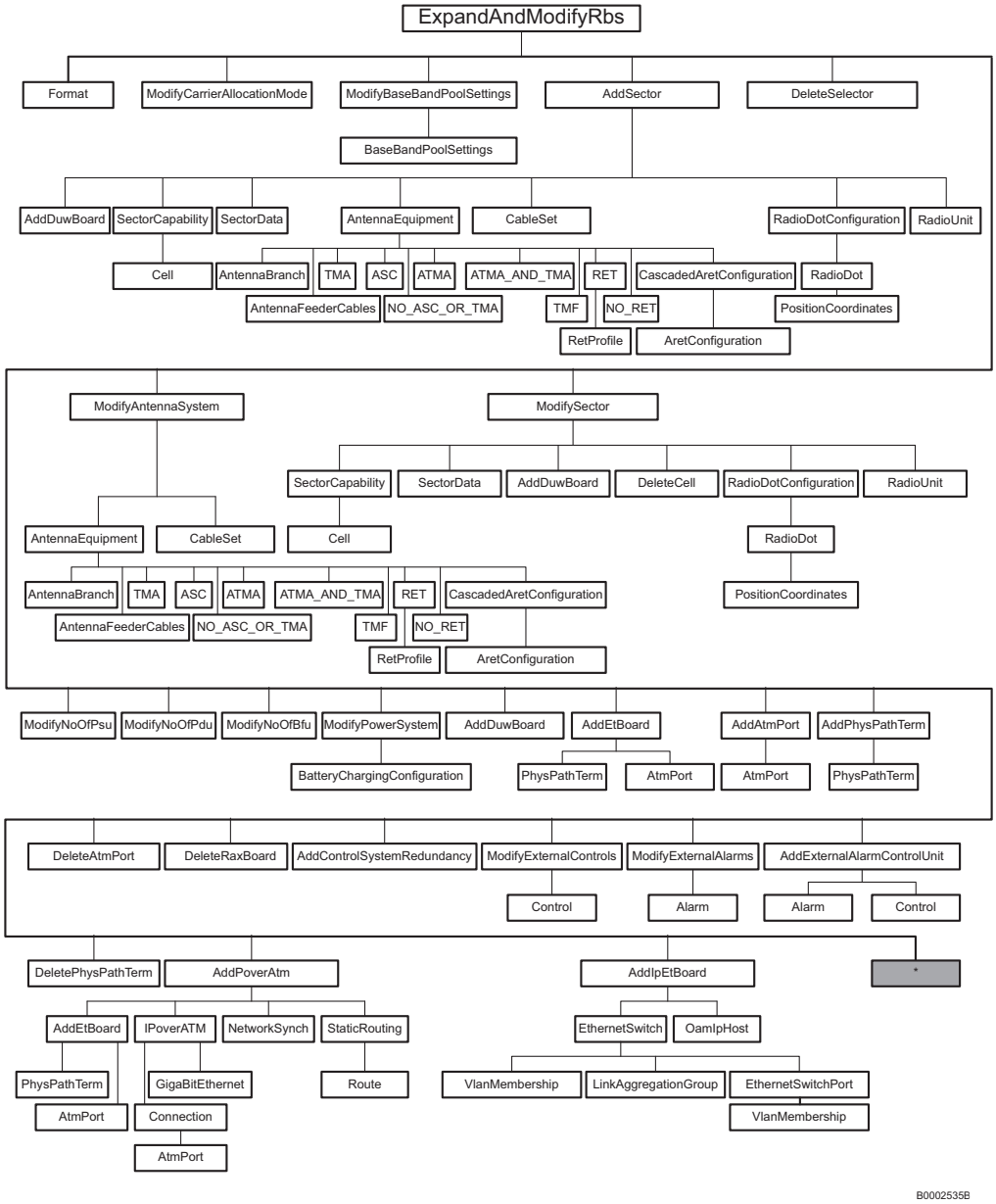

Figure 4 Element Tree for the Modify RBS Equipment Configuration DTD File (Part A)

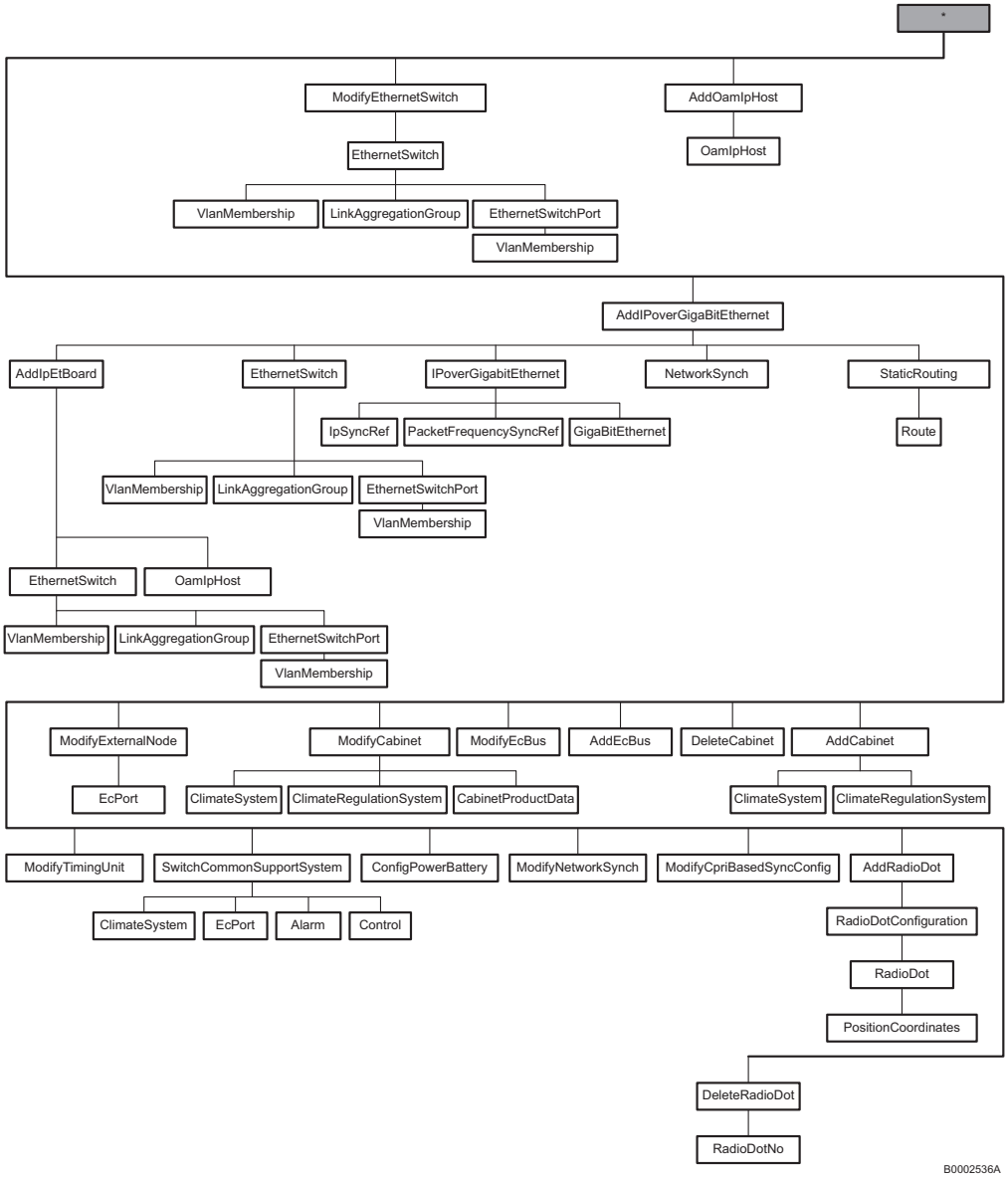

Figure 5 Element Tree for Modify RBS Equipment Configuration DTD File (Part B)

Table 69 describes the definitions within the `ExpandAndModifyRbs` element.

Table 69 Elements Within ExpandAndModifyRbs Element

Element	Description	No. of Instances
<Format.../>	Holds the revision of the DTD. It follows the rules for Ericsson document revision handling.	1

Element	Description	No. of Instances
<ModifyCarrierAllocationMode.../>	See Modify Carrier Allocation Mode on page 123. Invoke the action `NodeBFunction::convertToFlexibleCarrierMapping` to convert from basic carrier allocation mode or advanced carrier allocation mode to flexible carrier allocation mode.	0 to 1
<ModifyBaseBandPoolSettings> <...></...> </ModifyBaseBandPoolSettings>	Deprecated. Specifies type of radio interface boards defined in the following subelement: - BaseBandPoolSettings [0..1], see Table 134. The element is optional for backward compatibility reasons.	0 to 1
<...></...> <AddSector> </AddSector>	See Add Sector on page 123. Creates a sector with attributes defined in Table 71 and the following subelements: - AddDuwBoard[0..1], see Table 101 - SectorCapability [1..1], see Table 72 -- Cell [0..8], see Table 73 - SectorData [0..1], see Table 74 - AntennaEquipment [1..1], see Table 75 <-- AntennaBranch [0..6], see Table 76 -- AntennaFeederCables [2..6], see Table 77 -- TMA [0..1], see Table 78 -- ASC [0..1], see Table 79 -- NO_ASC_OR_TMA [0..1], see Table 80 -- ATMA [0..1], see Table 81 -- ATMA_AND_TMA [0..1], see Table 82 -- TMF [0..1], see Table 83 -- RET [0..1], see Table 84. Define corresponding profile for the added RET with sub-element RetProfile, if not already defined in the node. --- RetProfile[0..1], see Table 85 -- NO_RET [0..1], see Table 86	0 to 12

Element	Description	No. of Instances
	--CascadedAretConfiguration[0..1], see Table 87 ---AretConfiguration[1..6], see Table 88 - CableSet [0..1], see Table 134 - RadioDotConfiguration[1] -- RadioDot[1..8], see Table 89. --- PositionCoordinates[1], see Table 90. - RadioUnit[1...3], see Table 91 Applicable for: all RBS types After a sector is added to a node with the HSDPA Multi Carrier Inter DU Joint Scheduling feature enabled, the node must be restarted.	
<DeleteSector.../>	See Delete Sector on page 152. Deletes the specified Sector, according to Table 92. Applicable for: all RBS types	0 to 12
<ModifySector> <...></...> </ModifySector>	See Modify Sector on page 152. Changes sector capability and or sector data for the specified sector, see Table 93, with attributes defined in the following subelements: - SectorCapability[1..1], see Table 72 -- Cell [0..8], see Table 73 - SectorData[0..1], see Table 74 - AddDuwBoard[0..1], see Table 101 - DeleteCell[0..8], see Table 94 - RadioDotConfiguration[1] -- RadioDot[1..8], see Table 89. --- PositionCoordinates[1], see Table 90 - RadioUnit[1...3], see Table 91 Applicable for: all RBS types	0 to 12
<ModifyAntennaSystem> <...></...>	See Modify Antenna System on page 153. Changes the antenna equipment configuration, see Table 95, by using	0 to 6

Element	Description	No. of Instances
</ModifyAntennaSystem>	attributes defined in the following subelements: - AntennaEquipment [1..1], see Table 75 -- AntennaBranch [0..4], see Table 76 -- AntennaFeederCables [0..4], see Table 77 -- TMA [0..1], see Table 78 -- ASC [0..1], see Table 79 -- NO_ASC_OR_TMA [0..1], see Table 80 -- ATMA [0..1], see Table 81 -- ATMA_AND_TMA [0..1], see Table 82 -- TMF [0..1], see Table 83 -- RET [0..1], see Table 84 --- RetProfile[0..1], see Table 85 -- NO_RET [0..1], see Table 86 -- CascadedAretConfiguration[0..1], see Table 87, --- AretConfiguration[1..6], see Table 88 - CableSet [0..1], see Table 134 Applicable for: all RBS types	
<ModifyNoOfPsu.../>	See Modify Number of PSUs on page 154. Changes the number of PSUs, according to Table 96	0 to 7
<ModifyNoOfPdu.../>	See Modify Number of PDUs on page 154. Changes the number of PDUs, according to Table 97.	0 to 7
<ModifyNoOfBfu.../>	See Modify Number of BFUs on page 155. Changes the number of BFUs, according to Table 98.	0 to 7
<ModifyPowerSystem/> <...></...> </ModifyPowerSystem>	See Modify Power System on page 156. Changes the power system configuration according to Table 99 and the following subelement: - BatteryChargingConfiguration [0..1], see Table 100	0 to 7

Element	Description	No. of Instances
	Applicable for: 6101, 6102, 6131, 6201, 6202, 6601	
<AddDuwBoard.../>	See Add DUW Board on page 161. Adds a secondary DUW board according to Table 101.	0 to 1
<AddEtBoard> <...></...> </AddEtBoard>	See Table 134. Adds a new ATM ET Board configuration.	0 to 8
<AddAtmPort> <...></...> </AddAtmPort>	See Add ATM Port on page 162. Adds extra ATM Ports in addition to the ATM ports used for the IP/ATM connections according to Table 102, using the following subelement: - AtmPort[0..1000], see Table 103	1 to 1000
<AddPhysPathTerm> <...></...> </AddPhysPathTerm>	See Add Physical Path Termination on page 163. Adds new Physical PathTerminations to ETB according to Table 104, using the following subelement: - PhysPathTerm[0..8] see Table 105	0 to 8
<AddExternalAlarmControlUnit> <...></...> </AddExternalAlarmControlUnit>	See Add External Alarm Control Unit on page 165. Adds the alarm port configuration of an external equipment or the control port configuration of the external equipment, using the attributes according to Table 106 and the following subelements: - Alarm [0..32], see Table 107 - Control [0..8], see Table 108	0 to 7
<ModifyExternalAlarms> <...></...> </ModifyExternalAlarms>	See Modify External Alarms on page 167. Adds or changes the alarm port configuration of an external equipment using the attributes according to Table 109 and the following subelement: - Alarm [0..32], see Table 107	0 to 7
<ModifyExternalControls> <...></...> </ModifyExternalControls>	See Modify External Controls on page 168. Adds or changes the control port configuration of the external equipment using the attributes according to Table 110 and the following subelement:	0 to 7

Element	Description	No. of Instances
	- Control [0..8] according to Table 108	
<AddControlSystemRedundancy.../>	See Table 134. This element is ignored for RBS with DU.	0 to 1
<DeleteRaxBoard.../>	See Table 134. Removes RaxBoard configurations.	0 to 16
<DeleteAtmPort.../>	See Delete ATM Port on page 168. Deletes ATM ports from an ETB according to Table 111	0 to 1000
<DeletePhysPathTerm.../>	See Delete Physical Path Termination on page 168. Deletes a Physical PathTermination from an ETB according to Table 112	0 to 8
<AddIPoverAtm> <...></.../> </AddIPoverAtm>	See Add IP over ATM on page 169. Adds a new IP over ATM Mub connection and possibly network synchronization, using the attributes in the following subelements: - AddEtBoard [0..8], see Table 134 -- PhysPathTerm [0..8], see Table 105 -- AtmPort [0..1000], see Table 103 - IPoverATM [1] -- Connection [1..4], see Table 113 --- AtmPort [1], see Table 103 -- GigaBitEthernet [0..1], see Table 15 - NetworkSynch [0..8], see Table 123 - StaticRouting [0..1] -- Route [1..n], see Table 28	0 to 1
<AddIpEtBoard> <...></.../> </AddIpEtBoard>	See Table 134. Adds a new IP ET Board configuration using attributes in the following elements: - EthernetSwitch [0..1], see Table 132 -- VlanMembership [0..8], see Table 132 -- EthernetSwitchPort [0..7], see Table 132 ---VlanMembership [0..8], see Table 132 Parameter is ignored for RBS with DU.	0 to 2

Element	Description	No. of Instances
<AddOamIpHost.../>	See Add OaM IP Host on page 171. Holds the attributes for a separate IP over Ethernet interface for Mub. It is applicable for migrations from ATM or dual-stack configurations to an all IP over Ethernet.	0 to 1
<ModifyEthernetSwitch> <...></...> </ModifyEthernetSwitch>	Deprecated. Modifies an Ethernet Switch on an IP ET Board using attributes in the following elements: - EthernetSwitch [0..1], see Table 132 -- VlanMembership [0..8], see Table 132 -- EthernetSwitchPort [0..7], see Table 132 ---VlanMembership [0..8], see Table 132	0 to 2
<AddIPoverGigaBitEthernet> <...></...> </AddIPoverGigaBitEthernet>	See Add IP over Giga Bit Ethernet on page 171. Adds a new IP over Gigabit Ethernet connection using the attributes in the following subelements: - AddIpEtBoard [0..1], see Table 134 -- EthernetSwitch [0..1], see Table 132 --- LinkAggregationGroup [0..1], see Table 132 --- VlanMembership [0..8], see Table 132 --- EthernetSwitchPort [0..7], see Table 132 ---- VlanMembership [0..8], see Table 132 -- OamIpHost [0..1] - EthernetSwitch [0..1], see Table 132 -- VlanMembership [0..8], see Table 132 --- LinkAggregationGroup [0..1], Table 132 -- EthernetSwitchPort [0..7], see Table 132	0 to 1

Element	Description	No. of Instances
	--- VlanMembership [0..8], see Table 132 - IPoverGigabitEthernet [1], see Table 16 -- IpSyncRef [0..8], see Table 17 -- PacketFrequencySyncRef [0..8], see Table 18 -- GigaBitEthernet [0..1], Table 15 - NetworkSynch [0..8], see Table 123 - StaticRouting [0..1] -- Route[1..n], see Table 28	
<AddCabinet> <...></...> </AddCabinet>	See Add Cabinet on page 171. Specifies the new cabinet to be added. Selects the type of climate system using attributes in the ClimateSystem element, see Table 61.	0 to 6
<DeleteCabinet.../>	See Delete Cabinet on page 172. Specifies the cabinet to be deleted.	0 to 6
<AddEcBus.../>	See Add EC Bus on page 173. Specifies the new EC Bus to be added. Only valid when `supportSystemControl` is set to TRUE.	0 to 7
<ModifyEcBus.../>	See Modify EC Bus on page 174. Specifies the EC Bus to be modified. Only valid when `supportSystemControl` is set to TRUE.	0 to 7
<ModifyCabinet> <...></...> </ModifyCabinet>	See Modify Cabinet on page 174. Adds fan groups, selects the type of climate system, and updates cabinet product data using attributes according to Table 118 and in the following subelements: -ClimateSystem, see Table 7 -ClimateRegulationSystem, see Table 8	0 to 7
<ModifyExternalNode.../>	See Modify External Node on page 175. Creates ExternalNode MO if it does not already exist and/or modifies the EcPort for the MO.	0 to 4

Element	Description	No. of Instances
	Uses element EcPort Applicable for all RBS types where supportSystemControl=true	
<ModifyTimingUnit.../>	See Modify Timing Unit on page 176. This element enables the user to enable or disable GpsOut timing for use by a co-located system.	0 to 1
<SwitchCommonSupportSystem> <...></.../> </SwitchCommonSupportSystem>	See Switch Common Support System on page 177. Modify the value of attribute EquipmentSupportFunction.supportSystemControl. Used to change a primary support node to a secondary node. Also used to change a secondary node to a primary support node, and in this case to allow the operator to configure equipment defined in elements located below this primary support node. - ClimateSystem[0..1], see Table 7 - EcPort[0..*], see Table 119 - Alarm[0..32], see Table 107 - Control[0..8], see Table 108	0 to 1
<ConfigPowerBattery.../>	See Configure Power and Battery on page 179. Changes the power and battery configuration.	0 to 7
<ModifyNetworkSynch.../>	See Modify Network Synchronization on page 181. This element contains the attributes to support the adding or deleting network synchronization source.	0 to 1
<ModifyCpriBasedSyncConfig.../>	See Modify CPRI Based Synchronization Configuration on page 182. Modify the values of the attributes for `NodeGroupSyncMember` for MSMM CPRI Based Synchronization.	0 to 1
<AddRadioDot> <...></.../> </AddRadioDot>	See Add Radio Dot on page 184. Add radio dots to a radio dot system using the attributes according to Table 125 and the following subelements: - RadioDotConfiguration[1] -- RadioDot[1..8], see Table 89.	0 to 8

Element	Description	No. of Instances
	--- PositionCoordinates[1], see Table 90.	
<DeleteRadioDot> <...></...> </DeleteRadioDot>	See Delete Radio Dot on page 184. Delete radio dots from a radio dot system using the attributes according to Table 126 and the following subelement: - RadioDotNo[1..8], see Table 127.	0 to 8
<ModifyNoOfBpa.../>	See Modify Number of BPAs on page 185. Changes the number of BPA, the Max number of BPA is 1.	1

2.5.2 Modify Carrier Allocation Mode

The `ModifyCarrierAllocationMode` element is used to start the conversion from basic carrier allocation mode or advanced carrier allocation mode to flexible carrier allocation mode. After conversion, the node reassigns the new flexible carrier allocation mode in all sectors, and the `Sector::sectorConfiguration` is set to FLEXIBLE_CARRIER_MAPPING.

Table 70 Attributes of the ModifyCarrierAllocationMode Element

Attribute	M/O	Type	Description
`carrierAllocationMode`	M	enum	Identify the destination carrier allocation mode that RBS converts to. Possible value: Flexible

2.5.3 Add Sector

The `AddSector` operation supports addition of 1 to 12 sectors.

The `AddDuwBoard` element is specified in Table 101.

Table 71 Attributes of the `AddSector` Element

Attribute	M/O	Type	Description
`sectorNumber`	M	enum	Possible values: 1 to 12 For 6501: 1 to 6 For other RBS 6000 types: 1 to 12
`createSector`	H	string	Fixed value: YES

Table 72 Attributes of the `SectorCapability` Element

Attribute	M/O	Type	Description
`cabinetNumber`	O	enum	Indicates the cabinet where the IRU or RUWRUS is installed. Only valid when adding a macro sector. Possible values: `0` to 7 Default value: 1 **Note:** `0` indicates that the IRU used by a sector is located in a remote IRU enclosure.
`radioBuildingBlock`	O	enum	Mandatory for sectors with more than 2 carriers. Refer to Hardware Configuration Data for more information about Radio Blocks. Possible values: RB1, RB1B, RB2, RB3, RB3B, RB4, RB4B, RB5, RB6, RB6B, RB7, RB7B, RB8, RB8B, RRB01, RRB02, RRB02B, RRB03, RRB04, RRB05, RRB06, RRB06C, RRB06D, RBB10_1A, RBB11_1A, RBB12_1A, RBB12_1C, RBB12_1D, RBB12_1E, RBB12_1F, RBB12_2A, RBB12_2B, RBB12_2C, RBB14_1A, RBB14_2A, RBB22_1A, RBB22_1B, RBB22_1C, RBB22_1F, RBB22_1G, RBB22_2A, RBB22_2C, RBB22_2B, RBB22_2E, RBB22_4B, RBB24_1A, RBB24_1B, RBB24_1C, RBB24_2B, RBB32_1A, RBB42_1B, RBB42_2D, RBB42_4A, RBB44_1B, RBB44_1D, RBB44_2C. Default value: Based on `numberOfRu` and `numberOfCarriers`. When set, overrides parameters `numberOfRu`, `numberOfCarriers` For RBS 6101, 6102, 6201, 6301, 6302, 6601: RBB14_1A, RBB24_1B For RBS 6601, 6101, 6102, 6202, 6301, 6302, 6120, 6201: RBB44_1D, RBB22_1F, RBB22_1G For RBS 6101, 6102, 6110, 6120, 6201, 6202, 6301, 6302, 6320, and 6601: RBB12_1E, RBB12_1F For RBS 6000: RBB10_1A, RBB11_1A, RBB12_1A, RBB12_2A, RBB14_2A, RBB22_1A, RBB22_1C, RBB22_2A, RBB22_2B, RBB22_2E (1), RBB22_4B, RBB24_1A (2), RBB24_2B, RBB32_1A, RBB42_1B, RBB42_2D

Attribute	M/O	Type	Description
			For 6301, 6601: RBB42_4A and RBB22_2C (3) Deprecated value: RB1, RB1B, RB2, RB3, RB3B, RB4, RB4B, RB5, RB6, RB6B, RB7, RB7B, RB8, RB8B, RBB12_2A, RBB22_2C, RBB22_4B, RBB42_4A Conversion: RBB12_2A, RBB22_2C, RBB22_4B, RBB42_4A are converted to RBB12_1A, RBB22_1B, RBB22_2B, and RBB42_2D, respectively.
`cpriLineRate`	O	enum	Indicates optical or electrical link and rate (capacity) on the CPRI link. Only applicable to DUW and CPRI. Possible values: Ex2, Ex4, Ox2, Ox4, X2, X4 Conversion: Ex2 and Ox2 are converted to X2 automatically. Ex4 and Ox4 are converted to X4 automatically. Deprecated value: Ex2, Ex4, Ox2, Ox4 O = optical, E = electrical and x2 (1,2Gb/s), x4 (2,5Gb/s) The value is set for the lowest line rate used on AIR unit or any link between any RUW, RRUW, and RRUs in the RBB.
`numberOfCarriers`	O	enum	The number of carriers in the sector. Possible values: 1 to 2. If more than 2 carriers in a sector, use parameter `radioBuildingBlock`. Deprecated.
`primaryPortId`	O	enum	Specifies the optical port used for sector on the OBIF board or DU. If two ports are used for a sector, only the first port is specified. Possible values: A, B, C, D, E, F, BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F, BU2_A, BU2_B, BU2_C, BU2_D, and BU2_E Mandatory for remote radio building blocks (RRB) if `configurationGroup` AB3, ABC2, or A6 is specified, and for all DU configurations (RBB) with more than one internal radio connected to a DU port. Not applicable for other configurations. Possible values for OBIF: A, B, C, D, E, F Possible values for primary DU: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F Possible values for secondary DU: BU2_A to BU2_E

Attribute	M/O	Type	Description
secondaryPortId	O	enum	Specifies the second optical port used for sector on the DU. Mandatory for all DU configurations (RBB) with more than a single radio unit connected to a DU port. for example RBB22_2A. Not applicable for other configurations. Possible values: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F, BU2_A, BU2_B, BU2_C, BU2_D, and BU2_E Possible values for primary DU: BU1_A to BU1_F Possible values for secondary DU: BU2_A to BU2_E
sectorSequenceNumber	O	enum	Specifies the order of a cascaded sector on an optical link, counting from the Main Unit. Mandatory for remote radio building blocks (RRB) using configurationGroup AB3, ABC2 and A6, and for all DU configurations with more than a single sector connected to a DU port. Not applicable for other configurations. Possible values: 1, 2, 3, 4, 5, and 6 For auUnitType set to AIR and radioBuildingBlock set to RBB44_1D, the applicable value can be 1, 2, 3. For auUnitType set to AIR and radioBuildingBlock set to the value other than RBB44_1D, the only applicable value is 1.
auUnitType	O	enum	Identifies the unit type. Possible values: RRUWRRUS, RRU22, AIR [4], IRU, RUW, RUWRUS, or IRU For macro radio unit: RUWRUS. For main-remote radio unit: RRUWRRUS, RRU22. For AIR 2488, AIR 4455: RRUWRRUS For other AIR types: AIR. For Radio Dot: IRU. It is mandatory when cpriLineRate is set to X2 or X4. The value is RUWRUS if this attribute is not defined and cpriLineRate value is Ex2 or Ex4. The value is RRUWRRUS if this attribute is not defined and cpriLineRate value is Ox2 or Ox4.

Attribute	M/O	Type	Description
			Dependency: When auUnitType is set to RUWRUS or IRU, cpriLineRate, primaryPortId, and cabinetNumber must be set.
carrierAllocationMode	O	enum	Defines the allocation of carriers. Possible values: Basic, Advanced, Flexible Default value: BASIC If BASIC is chosen, the configuration is the same as the design base, see Radio Node Configurations. If ADVANCED is chosen, the cable connection information is changed according to the new requirements in Radio Node Configurations. If FLEXIBLE (5) is chosen, all carriers must have a baseBandBpoolId, and the configuration is described in *Hardware Configuration Data*. The carrierAllocationMode attribute must be set to FLEXIBLE for the combined cell.
radioSharedBySector	O	enum	Identifies a sector sharing the external radio belonging to another sector which is being configured. Possible values: 1–12 Mandatory for the remote radio building block RBB22_2E.

(1) This RBB only supports the Cross-Sector Antenna Sharing Redundancy feature.
(2) When RBB24_1A is used for AIR, one sector antenna with four antenna branches is created. In the case of other configurations using RBB24_1A, two sector antennas with two antenna branches under each sector antenna are created.
(3) These RBBs support MixedMode Enhancement feature, only valid for RBS 6301 and 6601.
(4) If AIR is selected, only one sector antenna is configured. Except for the electricalTilt, all the attributes related to the TMA and RET can be ignored.
(5) The FLEXIBLE feature is only supported through XML file input.

Table 73 Attributes of the Cell Element

Attribute	M/O	Type	Description
cellNumber	M	enum	The cell number used to identify the cell in the sector.(1) Possible values: 1 to 8 (2)
cellCreated	H	string	Fixed value Yes
cellIdentity	M	integer	The RBS local cell identity.(1) The value must be the same as in the UTRAN cell. Range: 0 to 268435455. Maps to localCellId in MO RbsLocalCell

Attribute	M/O	Type	Description
cellRange	O	integer	The cell range is the maximum range for which the RBS receiver is capable of demodulating a UE transmitted signal from a propagation delay point of view, that is the search window. Range: 250 – 200,000 meters. The default range of all RBSs is 35,000 meters, the range can be extended beyond 35,000 meters by activating the optional feature Extended Range. A license is required for extending cell range to above 35,000 meters. Two licenses (for 80,000 meters and 200,000 meters) exist, but only one license can be installed at a time.
operatingBand	M	integer	Indicates the frequency band used in a cell. (3) Possible values: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 19, 20, 21, 32 Default: 0 Maps to operatingBand in MO RbsLocalCell. If (R)RUS 01/02 B0 is used, this attribute must be set to 8 (4), while the high edge and the low edge of the downlink frequency band must follow the frequency range of (R)RUS 01/02 B0. Value 0 means automatically assign the frequency band. Automatic assignment can only be performed for the Band 1, 2, 5 (see conversion text below). For other bands, the value must be explicitly provided. Conversion: Value 0 is assumed to be one of the Band 1, 2, 5. The actual band is then determined by the values of parameters freqBandHiEdge and freqBandLoEdge.
numberOfTxBranches	O	enum	Possible values: 1 or 2 Default value: 1 2 indicates that an RbsLocalCell is configured and activated for TX diversity. When configuring for TX diversity, the sector attribute outputPower must have value BRANCHED for some RBSs, see Table 72. The following attributes can also be affected by TX diversity: fqBandHighEdge, fqBandLowEdge, see Table 76, DL delay attributes, see Table 77, Table 78, Table 81. RbsLocalCell MOs belonging to the same sector must have the same number of TX branches.

Attribute	M/O	Type	Description
			For 6101, 6110, 6120, 6131, 6201, 6202, 6301, 6320, 6501, 6601: 1 or 2 are possible. For all other RBS types: Only 1 is possible.
numberOfRxBranches	O	enum	Indicates the number of RX branches in the cell. Possible values: 0, 2, 4 or 6 0 indicates that no RX branch can be configured and supported. It is used for the ψ-Coverage and Y-Coverage configurations when the DL-only secondary cell is used. 2 indicates that maximum two numbers of RX branches can be configured and supported. For the cell carrier in a combined cell, only 2 is supported. 4 indicates that maximum four numbers of RX branches can be configured and supported. It is valid for 4WayRxDiversity feature, Y-Coverage feature, and Joint support for 4wRx and MC-HSDPA in a node feature. 6 indicates that maximum six numbers of RX branches can be configured and supported. It is only valid for ψ-Coverage feature.
hsCodeResourceId	O	integer	Allocates an HSDPA code resource to the cell. The value is used by the system only if the attribute steeredHsAllocation is set to TRUE, see Table 51.(6) (5) Default value: 0 Possible values: 0 to 6 Restrictions: - A code resource within the baseband pool can be allocated to a maximum of 3 Cells
baseBandPoolId	O	enum	If carrierAllocationMode= FLEXIBLE is chosen, all carriers must have a baseBandBpoolId.(6) Possible values: 1, 2, 3 1 indicates the first baseband pool on primary DUW. 2 indicates the first baseband pool on secondary DUW. 3 indicates the second baseband pool on primary DUW. When the Increased Cell Carrier Support feature is used, changing the number of carriers on the baseband pool of primary DUW takes effect after restarting the RBS.
txBranchConfigured	O	enum	Indicates the TX branch of the single TX branch cell, or the first TX branch of the dual TX branch cell.

Attribute	M/O	Type	Description
			Possible values: S, A, B, C, D Maps to txBranchesConfigured[0] in Carrier MO. S corresponds to txBranchesConfigured[0] = SYSTEM_DEFINED. Only valid when carrierAllocationMode is set to FLEXIBLE.
txBranchConfigured2	O	enum	Indicates the second TX branch of the dual TX branch cell. Possible values: S, A, B, C, D Maps to txBranchesConfigured[1] in Carrier MO. S corresponds to txBranchesConfigured[1] = SYSTEM_DEFINED. Only valid when carrierAllocationMode is set to FLEXIBLE.

(1) For the cell carriers in a combined cell, this attribute cannot be modified using the **Modify RBS Equipment Configuration** function.

(2) Up to eight cells are available when the TX branch is explicitly specified in a cell. Otherwise, the maximum number of cells is four.

(3) The cell carriers in a combined cell must be configured with the same band.

(4) Band 0 (Uplink frequency range is 890 MHz–915 MHz and downlink frequency range is 935 MHz–960 MHz.) is a subset of Band 8 (Uplink frequency range is 880 MHz–915 MHz and downlink frequency range is 925 MHz–960 MHz.).

(5) For DUW 11, DUW 31, and DUW 41, the attribute steeredHsAllocation or hsCodeResourceId has no significance since the function steered HS allocation is not implemented. The attribute is hidden from the settings in the RBS EM.

(6) This attribute must be the same for the cell carriers constituting a combined cell.

Table 74 Attributes of the SectorData Element

Attribute	M/O	Type	Description
latitude	O	string	The latitude of the sector. If X = latitude in degrees (0 to 90), the value is calculated by inserting X into the following formula: (X/90) × 8388608
latHemisphere	O	enum	The hemisphere the antenna is located in. Possible values: N or NORTH, S or SOUTH.
longitude	O	string	The longitude of the sector. If X = longitude in degrees (−180 to 180), the value is calculated by inserting X into the following formula: (X/360) × 16777216
geoDatum	O	string	Default: WGS84

Attribute	M/O	Type	Description
beamDirection	O	string	Beam direction in the form of degrees. 000 = North 090 = East 180 = South 270 = West Dependencies: Sector::beamDirection can be set to a valid angle between 000 and 359 only if the Psi-Coverage configuration does not apply. Otherwise, if Sector::sectorConfiguration = PSI_COVERAGE, set the attribute to N/A so that SectorAntenna::beamDirection is used instead.
height	O	string	Height over ground in the form of a hundredth of a meter.
sectorGroup	O	integer	Sectors belonging to the same sector group are assumed to cover the same geographical area. Mandatory when configuring feature Dual-Band HSDPA Multi-Carrier. Possible values: -1, 1 to 3 Default value= -1 (N.A)
noiseFigure	O	integer	Indicates the wanted noise figure for the uplink receiver chain. Possible values: -1, 20 to 70 Default value: -1 Units: 0.5 dB

Table 75 Attributes of the AntennaEquipment Element

Attribute	M/O	Type	Description
antennaType	O	integer	Specifies the type of antenna. Range: -1 to 100. Value -1 is reserved for built-in integrated antenna. Values 0 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types. See RETU Configuration Data for more information. Mandatory for AddSector operation. This parameter is ignored if element CascadedAretConfiguration is specified.
antennaType2	O	integer	Specifies the type of antenna. Range: 1 to 100.

Attribute	M/O	Type	Description
			Values 1 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types. See RETU Configuration Data for more information. Mandatory for AddSector operation. This parameter is ignored if element CascadedAretConfiguration is specified.
antennaType3	O	integer	Specifies the type of antenna. Range: 1 to 100. Values 1 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types. See RETU Configuration Data for more information. Mandatory for AddSector operation. This parameter is ignored if element CascadedAretConfiguration is specified.
mechanicalTilt	O	integer	The antenna tilt relative to a vertical plane defined in the form of tenths of degrees. Mandatory for the AddSector operation. Maps to mechanicalAntennaTilt in MO AntennaBranch. This parameter is ignored if element CascadedAretConfiguration is specified.
mechanicalTilt2	O	integer	The antenna tilt relative to a vertical plane defined in the form of tenths of degrees. Mandatory for the AddSector operation. Maps to mechanicalAntennaTilt in MO AntennaBranch. This parameter is ignored if element CascadedAretConfiguration is specified.
mechanicalTilt3	O	integer	The antenna tilt relative to a vertical plane defined in the form of tenths of degrees. Mandatory for the AddSector operation. Maps to mechanicalAntennaTilt in MO AntennaBranch.

Attribute	M/O	Type	Description
			This parameter is ignored if element `CascadedAretConfiguration` is specified.
`uniqueHwId`	O	string	Specifies the unique identity of an ARETU in an AIR unit. Only relevant if `typeOfRet` is set to ARETU. The `uniqueHwId` attribute contains enough number of significant characters or digits to be unique among the ARETs in the sector. The `uniqueHwId` attribute of the ARETU can be set according to the data fetched by the Device Scan action. For more information about Device Scan, refer to Manage Hardware Equipment. Maps to `uniqueHwId` in MO `AuxPlugInUnit`.
`sectorOutputPower`	O	integer	The parameter specifies the maximum total output power of the TPA devices in a radio. The radio unit does not always support all power values within the value range. If set to a power value higher than the supported one, the power is rounded down to the highest supported power, and the power truncated alarm is raised. However, when reading the attribute, the configured value is always presented. The currently available maximum output power for each carrier within the corresponding sector can be read through the `Carrier::maxDlPowerCapability` attribute. Only applicable to Radio Building Block which includes RUW/RRUW. When modifying antenna with BEM in sectors with two RRUW/RUW, pay attention to the `maxTotalOutputPower` values. This attribute has to be reconfigured after the modification. Possible values: -1, 1 to 240 (W) Default: -1 Value -1 means that the output power is set by RBS to the lowest supported power of radio unit, that is, 20 W for a single TX radio unit, 10 W for a dual TX radio unit, 5 W for a quad TX radio unit, and 125 mW for a micro radio unit. Preconditions: No cell setup using the TPA device is allowed. The TPA device must be part of an auxiliary unit (RUW, RRUW, or AIR type). The TPA device must have the configurable output power capability. For a single TX radio unit: — Capacity license for 40 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between 20 and 40

Attribute	M/O	Type	Description
			— Capacity licenses for 40 W and 60 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between 40 and 60 — Capacity licenses for 40 W, 60 W, and 80 W PA required when the value of the attribute`TpaDevice::maxTotalOutputPower` is between 60 and 80 — Capacity licenses for 40, 60, 80, and 100 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower` is between 80 and 100 — Capacity licenses for 40, 60, 80, 100, and 120 W PA required when the value of the attribute `TpaDevice::maxTotalOutputPower`is between 100 and 120 — Capacity licenses for 40, 60, 80, 100, 120, and 140 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 120 and 140 — Capacity licenses for 40, 60, 80, 100, 120, 140, and 160 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 140 and 160 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, and 180 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 160 and 180 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, 180, and 200 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 180 and 200 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, 180, 200, and 220 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 200 and 220 — Capacity licenses for 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, and 240 W PA required when the value of `TpaDevice::maxTotalOutputPower` is between 220 and 240 For a multiple TX radio unit:

Attribute	M/O	Type	Description
			— Capacity licenses for 40, 60, 80, 100, 120, 140, and 160 W PA required when the attribute `TpaDevice::maxTotalOutputPower` is set to 40 for a quad TX radio unit — Capacity licenses for 40, 60, 80, 100, and 120 W PA required when the attribute `TpaDevice::maxTotalOutputPower` is set to 60 for a dual TX radio unit — Capacity licenses for 40, 60, 80, and 100 W PA required when the attribute `TpaDevice::maxTotalOutputPower` is set to 30 for a three TX radio unit — Capacity licenses for 40 W, 60 W, 80 W, 100 W and 120 W PA required when the attribute `TpaDevice::maxTotalOutputPower` is set to 30 for a quad TX radio unit Dependencies: — If no capacity license is available, the attribute value can be set up to 20 for a single TX radio unit, up to 10 for a dual TX radio unit and up to 5 for a quad TX radio unit. — Only one of the attributes `TpaDevice::maxTotalOutputPower` and `TpaDevice::maxTotalOutputPowerLow` can be set to a value that differs from the undefined value for this TPA device. If both attributes are set to the undefined value, the output power is set by the RBS to the lowest power supported by the unit.
`sectorOutputPowerLow`	O	integer	The parameter specifies the maximum total output power of the TPA device for a low power radio unit. The currently available maximum output power for each carrier within the corresponding sector can be read through the `Carrier::maxDlPowerCapability` attribute. Possible values: -1, 1 to 50000 (mW) Default: -1 Value -1 means that the output power is set by RBS to the lowest supported power of the radio unit, that is, 20 W for a single TX radio unit, 10 W for a dual TX radio unit, 125 mW for a micro radio unit, and 50 mW for an IRU in a Radio Dot System. Preconditions:

Attribute	M/O	Type	Description
			— Cells cannot be set up with the TPA device. — The TPA device must be part of an auxiliary unit of the RUW or RRUW type in a micro radio unit and of the IRU in a Radio Dot System. — The TPA device must be equipped with the configurable output power capability. Dependencies: — Only one of the attributes `TpaDevice::maxTotalOutputPower` and `TpaDevice::maxTotalOutputPowerLow` can be set to a value that differs from the undefined value for this TPA device. If both attributes are set to the undefined value, the output power is set by the RBS to the lowest power supported by the unit. — The `TpaDevice::maxTotalOutputPowerLow` attribute cannot be modified when the`TpaDevice::txPowerPersistentLock` attribute is set to true.
`lockSectorOutputPowerLow`	O	boolean	`lockSectorOutputPower` = FALSE Determines if `sectorOutputPowerLow` can be changed. When set to TRUE, `sectorOfutputPowerLow` change is rejected. Note: Only applicable to mRBS. Once set to TRUE, there is no possibility to change value back to FALSE.
`beamDirection`	O	string	Beam direction in the form of degrees. `000` = North `090` = East 180 = South 270 = West Dependencies: `SectorAntenna::beamDirection` can be set to a valid angle between `000` and 359 only if the Psi-Coverage configuration (`Sector::sectorConfiguration` = PSI_COVERAGE) applies. Otherwise, set the attribute to N/A so that `Sector::beamDirection` is used instead.
`beamDirection2`	O	string	Beam direction in the form of degrees. `000` = North `090` = East 180 = South 270 = West Dependencies: `SectorAntenna::beamDirection2` can be set to a valid angle between `000` and 359 only if the Psi-Coverage configuration (`Sector::sectorConfiguration` = PSI_COVERAGE) applies. Otherwise, set the attribute to N/A so that `Sector::beamDirection` is used instead.
`beamDirection3`	O	string	Beam direction in the form of degrees. `000` = North `090` = East 180 = South 270 = West

Attribute	M/O	Type	Description
			Dependencies: SectorAntenna::beamDirection3 can be set to a valid angle between 000 and 359 only if the Psi-Coverage configuration (Sector::sectorConfiguration = PSI_COVERAGE) applies. Otherwise, set the attribute to N/A so that Sector::beamDirection is used instead.

Table 76 Attributes of the AntennaBranch Element

Attribute	M/O	Type	Description
branch	M	enum	Define which Antenna branch is being configured. Possible values A, B, C, D, E, F
antennaSupervision	O	integer	Defines antenna supervision threshold of branch A, B, C, D, E, F. Possible values: 0 to 100 Default value: 0 (no supervision) Must be turned off (0) when sharing antennas. Maps to antennaSupervisionThreshold in MO AntennaBranch.
freqBandHiEdge	O	integer	Deprecated: Replaced by fqBandHighEdge and fqBandLowEdge. Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 MHz units, otherwise attributes are ignored.
freqBandLoEdge	O	integer	
fqBandHighEdge	O	integer	The upper edge of the TX frequency band of branch A, B, C, D, E, F. When configuring for TX diversity, it is recommended that the value is identical for both branches and within the specified IBW for the product. The frequency band edge denoted by fqBandHighEdge and fqBandLowEdge must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. Mandatory for the AddSector operation. Maps to fqBandHighEdge in MO AntennaBranch.
fqBandLowEdge	O	integer	The lower edge of the TX frequency band of branch A, B, C, D, E, F. When configuring for TX diversity, it is recommended that the value is identical for both branches and within the specified IBW for the product.

Attribute	M/O	Type	Description
			The frequency band edge denoted by fqBandHighEdge and fqBandLowEdge must be at least 2.2 MHz from the UTRA Absolute Radio Frequency Number (UARFCN) for Nd. UARFCN (for Nd) is received from RNC. Mandatory for the AddSector operation. Maps to fqBandLowEdge in MO AntennaBranch.

Table 77 Attributes of the AntennaFeederCables Element

Attribute	M/O	Type	Description
branch	O	enum	Define which Antenna branch is being configured. Possible values A, B, C, D, E, F
dlAttenuation	O	string	Values for the antenna branch. Models all cables and filters excluding TMA. When a built-in integrated antenna is used in sector, these attributes must be set to 0. Inserted as a comma separated list of values. The list can contain 1 or 15 elements depending on the bandwidth. If only one element is provided, all elements in the list are set to that same value. Example 1: 46 (all elements in the list are set to 46.) For the frequency bands narrower than 75 MHz, use -1 for values beyond the end of the band. Example 2: 45,46,47,47,46,46,47,48,48,49,50,50, -1, -1, -1 It can be necessary to verify correct DL delay values when configuring for TX diversity. The attributes are optional for the AddSector operation dlDelay maps to electricalDlDelay in MO AntFeederCable. ulDelay maps to electricalUlDelay in MO AntFeederCable.
ulAttenuation	O	string	
dlDelay	O	string	
ulDelay	O	string	
dlAttenuationPerFqRange	O	string	Values for the antenna branch. Models all cables and filters excluding TMA. When a built-in integrated antenna is used in sector, these attributes must be set to 0. Inserted as a comma separated list of values. The list can contain 1, 2, 3, or 4 elements. If a part of the elements are provided, the other elements in the list
ulAttenuationPerFqRange	O	string	
dlDelayPerFqRange	O	string	

Attribute	M/O	Type	Description
ulDelayPerFqRange	O	string	are set to the unused value, -1. Example 1: 46 (converted to 46, -1, -1, -1). Example 2: 45, 46 (converted to 45, 46, −1,−1). Example 3: 45, 46, 47 (converted to 45, 46, 47, −1). Example 4: 45, 46, 47, 47 (no conversion). It can be necessary to verify correct DL delay values when configuring for TX diversity. The attributes are optional for the AddSector operation dlDelayPerFqRange maps to electricalDlDelayPerFqRange in MO AntFeederCable. ulDelayPerFqRange maps to electricalUlDelayPerFqRange in MO AntFeederCable.

Table 78 Attributes of the TMA Element

Attribute	M/O	Type	Description
internalPower	O	enum	Defines if the external TMA is powered from the RBS or not. Possible values: YES, NO Default: NO YES means powered from RBS. Mandatory for the AddSector operation.
internalPower2	O	enum	Defines if the external TMA is powered from the RBS or not. Possible values: YES, NO Default: NO YES means powered from RBS. Mandatory for the AddSector operation.
dcVoltage	O	enum	Indicates the antenna system voltage supplied by the radio unit from antenna feeder to the external TMA. Mandatory when internalPower = YES Possible values: DC_17V_OR_DC_30V (1) (2), DC_12V Default: DC_17V_OR_DC_30V
dcVoltage2	O	enum	Indicates the antenna system voltage supplied by the radio unit from antenna feeder to the external TMA.

Attribute	M/O	Type	Description
			Mandatory when `internalPower` = YES Possible values: DC_17V_OR_DC_30V [(1)] [(2)], DC_12V Default: DC_17V_OR_DC_30V
`ulGain`	O	integer	Gain in TMA. Internal uplink gain in the form of tenths of dB. Range: `0` to `360`. This attribute with `ulAttenuation` in MO `AntFeederCable` affects the reported result of RSSI in `pmAverageRssi`. Mandatory when creating a TMA, otherwise optional.
`ulGain2`	O	integer	Gain in TMA. Internal uplink gain in the form of tenths of dB. Range: `0` to `360`. This attribute with `ulAttenuation` in MO `AntFeederCable` affects the reported result of RSSI in `pmAverageRssi`. Mandatory when creating a TMA, otherwise optional.
`dlTrafficDelayA`	O	integer	Delays in TMA. Maps to the corresponding attributes in MO ExternalTMA. Mandatory when creating a TMA, otherwise optional. It can be necessary to verify correct DL value when configuring for TX diversity.
`ulTrafficDelayA`	M	integer	
`dlTrafficDelayB`	M	integer	
`ulTrafficDelayB`	M	integer	
`dlTrafficDelayC`	M	integer	
`ulTrafficDelayC`	M	integer	
`dlTrafficDelayD`	M	integer	
`ulTrafficDelayD`	M	integer	
`dlAttenuation`	O	integer	Attenuation in the TMA. Maps to `dlAttenuation` in MO `ExternalTMA`. Mandatory when creating a TMA, otherwise optional.
`dlAttenuation2`	O	integer	Attenuation in the TMA. Maps to `dlAttenuation` in MO `ExternalTMA`. Mandatory when creating a TMA, otherwise optional.
`tmaType`	H	string	Fixed value TMA.
`tmaDegradedSupported`	H	enum	Indicates whether the TMA supports reporting of degraded functionality. Possible values: NO

Attribute	M/O	Type	Description
tmaDegradedSupported2	H	enum	Indicates whether the TMA supports reporting of degraded functionality. Possible values: NO
currentLowSupervision_A	O	enum	Specifies if supervision of low current must be turned on or off for antenna branch A. Possible values: ON, OFF Default value: ON
currentLowSupervision_B	O	enum	Specifies if supervision of low current must be turned on or off for antenna branch B. Possible values: ON, OFF Default value: ON
currentLowSupervision_C	O	enum	Specifies if supervision of low current must be turned on or off for antenna branch C. Possible values: ON, OFF Default value: ON
currentLowSupervision_D	O	enum	Specifies if supervision of low current must be turned on or off for antenna branch D. Possible values: ON, OFF Default value: ON
currentLowLimA (3)	O	integer	Defines the lower current limit when LnaFailureBranchA is reported(4)
currentLowLimB (3)	O	integer	Defines the lower current limit when LnaFailureBranchB is reported(4)
currentLowLimC (3)	O	integer	Defines the lower current limit when LnaFailureBranchC is reported(4)
currentLowLimD (3)	O	integer	Defines the lower current limit when LnaFailureBranchD is reported(4)
currentHighLimA (3)	O	integer	Defines the higher current limit when LnaFailureBranchA is reported(4)
currentHighLimB (3)	O	integer	Defines the higher current limit when LnaFailureBranchB is reported(4)
currentHighLimC (3)	O	integer	Defines the higher current limit when LnaFailureBranchC is reported(4)
currentHighLimD (3)	O	integer	Defines the higher current limit when LnaFailureBranchD is reported(4)

(1) RBS system decides the value supplied to TMA depending on the frequency band.

(2) If a low voltage TMA, such as a 12 V TMA is mounted, it can be damaged. Check the DC voltage specification of the TMA before configuration.

(3) This attribute is not valid for configurations with FU 2100.

(4) When calculating the current limits, the actual antenna configuration must be considered. The current limits depend on whether both Branch A and B are used for the TMA power supply or only Branch B is used. For more information about suitable threshold values, see the manufacturers documentation for the external TMA used.

Table 79 Attributes of the ASC Element

Attribute	M/O	Type	Description
tmaType	H	string	Fixed value ASC

Table 80 Attributes of the NO_ASC_OR_TMA Element

Attribute	M/O	Type	Description
tmaType	H	string	Fixed value NONE

Table 81 Attributes of the ATMA Element

Attribute	M/O	Type	Description
dlAttenuation_ATMA	O	integer	Downlink attenuation for ATMA. Mandatory when an ATMA is created and bandsOfAtma is {0,0}, otherwise optional.
dlAttenuation_ATMA2	O	integer	Downlink attenuation for ATMA. Mandatory when an ATMA is created and bandsOfAtma2 is {0,0}, otherwise optional.
dlTrafficDelay	O	integer	Downlink traffic delays for ATMA. Mandatory when an ATMA is created and bandsOfAtma is {0,0}, otherwise optional. It can be necessary to verify correct DL delay values when configuring for TX diversity.
dlTrafficDelay2	O	integer	Downlink traffic delays for ATMA. Mandatory when an ATMA is created and bandsOfAtma2 is {0,0}, otherwise optional. It can be necessary to verify correct DL delay values when configuring for TX diversity.
ulTrafficDelay	O	integer	Uplink traffic delays for ATMA. Mandatory when an ATMA is created and bandsOfAtma is {0,0}, otherwise optional.
ulTrafficDelay2	O	integer	Uplink traffic delays for ATMA. Mandatory when an ATMA is created and bandsOfAtma2 is {0,0}, otherwise optional.

Attribute	M/O	Type	Description
bandsOfAtma	O	integer	Specifies the two frequency bands that an ATMA supports in the RF A port. Default value: {0,0} Example: — {1,5} means that the ATMA supports Band 1 and Band 5. — {0,0}, {1,0}, {0,5}, or {1,1} means that the ATMA is single band. Mandatory if tmaType=ATMA is selected, otherwise ignored.
bandsOfAtma2	O	integer	
dlAttenuationPerBand	O	integer	Specifies the DL attenuation for each band in a multi-band ATMA. Default value: {2,2} Example: If bandsOfAtma = {1,5} and dlAttenuationPerBand = {2,5}, the DL attenuation with band 1 is 2 and the DL attenuation with band 5 is 5. Mandatory if tmaType=ATMA is selected and bandsOfAtma or bandsOfAtma2 is not {0, 0}, otherwise ignored.
dlAttenuationPerBand2	O	integer	
dlTrafficDelayPerBand	O	integer	Specifies the DL attenuation for each band in a multi-band ATMA. Default value: {2,2} Example: If bandsOfAtma = {1,5} and dlAttenuationPerBand = {2,5}, the DL attenuation with band 1 is 2 and the DL attenuation with band 5 is 5. Mandatory if tmaType=ATMA is selected and bandsOfAtma or bandsOfAtma2 is not {0, 0}, otherwise ignored.
dlTrafficDelayPerBand2	O	integer	
ulTrafficDelayPerBand	O	integer	Specifies the UL traffic delay for each band in a multi-band ATMA. Default value: {350,350} Example: If bandsOfAtma = {1,5} and ulTrafficDelayPerBand = {340,360}, the UL traffic delay with band 1 is 340 and the UL traffic delay with band 5 is 360. Mandatory if tmaType=ATMA is selected and bandsOfAtma or bandsOfAtma2 is not {0, 0}, otherwise ignored.
ulTrafficDelayPerBand2	O	integer	

Attribute	M/O	Type	Description
tmaType	H	string	Fixed value ATMA

Table 82 Attributes of the ATMA_AND_TMA Element

Attribute	M/O	Type	Description
internalPower	H	enum	Defines if the external TMA must be powered from the RBS or not. Possible values: YES YES means powered from RBS.
dcVoltage	O	enum	Indicates the antenna system voltage supplied by the radio unit from antenna feeder to the external TMA. Mandatory when internalPower = YES Possible values: DC_17V_OR_DC_30V (1) (2), DC_12V Default: DC_17V_OR_DC_30V
ulGain	O	integer	Attenuation and gain in TMA (3) Mandatory for AddSector operation
dlTrafficDelayA	O	integer	Delays in TMA (3) Mandatory for AddSector operation
ulTrafficDelayA	O	integer	
dlTrafficDelayB	O	integer	
ulTrafficDelayB	O	integer	
dlAttenuation	O	integer	Attenuation and gain in TMA.(3) Mandatory for AddSector operation
tmaDegradedSupported	H	enum	Indicates whether the TMA supports reporting of degraded functionality.(3) Possible values: NO
currentLowSupervision_A	O	enum	Specifies if supervision of low current must be turned on or off for antenna branch A. (3) Possible values: ON, OFF Default value: ON
currentLowSupervision_B	O	enum	Specifies if supervision of low current must be turned on or off for antenna branch B. (3) Possible values: ON, OFF Default value: ON
currentLowLimA	O	integer	Indicates the lower current limit when LNA failure must be reported for branch A. (3)

Attribute	M/O	Type	Description
currentLowLimB	O	integer	Indicates the lower current limit when LNA failure must be reported for branch B. (3)
currentHighLimA	O	integer	Indicates the higher current limit when LNA failure must be reported for branch A. (3)
currentHighLimB	O	integer	Indicates the higher current limit when LNA failure must be reported for branch B. (3)
tmaType	H	string	Fixed value ATMA_AND_TMA.

(1) RBS system decides the value supplied to TMA depending on the frequency band.

(2) If a low voltage TMA, such as a 12 V TMA is mounted, it can be damaged. Check the DC voltage specification of the TMA before configuration.

(3) Managed Object Model (MOM) RBS

Table 83 Attributes of the TMF Element

Attribute	M/O	Type	Description
tmaType	H	string	Fixed value TMF
tmaType2	H	string	Fixed value TMF
tmaType3	H	string	Fixed value TMF

Table 84 Attributes of the RET Element

Attribute	M/O	Type	Description
electricalTilt	M	integer	The angle the antenna is tilted with by the RET. Maps on MO RetDevice.
electricalTilt2	O	integer	The angle the antenna is tilted with by the RET. Maps on MO RetDevice.
electricalTilt3	O	integer	The angle the antenna is tilted with by the RET. Maps on MO RetDevice.
verticalBeamWidthMode	O	enum	Specifies vertical beamwidth mode. Maps on MO RetDevice. Possible values: DEFAULT, WIDE_VBW Default value: DEFAULT WIDE_VBW requires HWAC license CXC 401 2285.
verticalBeamWidthMode2	O	enum	Specifies vertical beamwidth mode. Maps on MO RetDevice. Possible values: DEFAULT, WIDE_VBW

Attribute	M/O	Type	Description
			Default value: DEFAULT WIDE_VBW requires HWAC license CXC 401 2285.
verticalBeamWidthMode3	O	enum	Specifies vertical beamwidth mode. Maps on MO `RetDevice`. Possible values: DEFAULT, WIDE_VBW Default value: DEFAULT WIDE_VBW requires HWAC license CXC 401 2285.
`ConfigureRet`	M	string	Configures the Ret. Possible values: YES or NO Default Value: NO
`typeOfRet`	M	string	Defines if RET is used or not. If used it defines if the type is Ericsson Ret (RETU) or 3GPP/AISG RET (ARETU) is used. Possible values: NONE, RETU, ARETU, ARETU_CASCADE Default: NONE Value NONE means that no RET is used. Value RETU means that the Retu `AuxPlugInUnit` is created with `auType` = AuxPIU_AuType: RETU. Value ARETU means that the Retu `AuxPlugInUnit` is created with `auType` = AuxPIU_AuType: ARETU. Value ARETU_CASCADE means that a cascaded ARETU chain is configured.
`typeOfRet2`	M	string	Defines if RET is used or not. If used it defines if the type is Ericsson Ret (RETU) or 3GPP/AISG RET (ARETU) is used. Possible values: NONE, RETU, ARETU, ARETU_CASCADE Default: RETU Value NONE means that no RET is used. Value RETU means that the Retu `AuxPlugInUnit` is created with `auType` = AuxPIU_AuType: RETU. Value ARETU means that the Retu `AuxPlugInUnit` is created with `auType` = AuxPIU_AuType: ARETU. Value ARETU_CASCADE means that a cascaded ARETU chain is configured.

Attribute	M/O	Type	Description
typeOfRet3	M	string	Defines if RET is used or not. If used it defines if the type is Ericsson Ret (RETU) or 3GPP/AISG RET (ARETU) is used. Possible values: NONE, RETU, ARETU, ARETU_CASCADE Default: RETU Value NONE means that no RET is used. Value RETU means that the Retu AuxPlugInUnit is created with auType = AuxPIU_AuType: RETU. Value ARETU means that the Retu AuxPlugInUnit is created with auType = AuxPIU_AuType: ARETU. Value ARETU_CASCADE means that a cascaded ARETU chain is configured.
maxTilt	M	integer	Specifies the maximum electrical antenna tilt value.(1)
maxTilt2	M	integer	Specifies the maximum electrical antenna tilt value.(1)
maxTilt3	M	integer	Specifies the maximum electrical antenna tilt value.(1)
minTilt	M	integer	Specifies the minimum electrical antenna tilt value.(1)
minTilt2	M	integer	Specifies the minimum electrical antenna tilt value.(1)
minTilt3	M	integer	Specifies the minimum electrical antenna tilt value.(1)
riuInstalled	O	enum	Defines whether the RET unit must use a RIU or not. Possible values: YES, NO Only applicable for Main/Remote configurations where tmaType = NONE or TMA for Sector. If no parameter is specified the system selects values in the following manner: YES if: — External radio and only (A)RET. — RUW/FU/AIU and only (A)RET. — External TMA and (A)RET. NO if: — ASC/ATMAU and (A)RET.
riuInstalled2	O	enum	Defines whether the RET unit must use a RIU or not. Possible values: YES, NO

Attribute	M/O	Type	Description
			Only applicable for Main/Remote configurations where `tmaType` = NONE or TMA for Sector. If no parameter is specified the system selects values in the following manner: YES if: — External radio and only (A)RET. — RUW/FU/AIU and only (A)RET. — External TMA and (A)RET. NO if: — ASC/ATMAU and (A)RET.

(1) Normally, the set of attribute values for a specific RET is provided by Ericsson based on the antennaType. However, customers can set their own RET profiles designed in cooperation with or according to specifications from RET vendors. To enable creation of consistent sets of RET profile attributes, there is a tool available as part of RET Config (190 09-CXC 132 6068), obtainable through Ericsson.

Table 85 Attributes of the `RetProfile` Element

Attribute	M/O	Type	Description
`antennaType`	M	integer	The type of the antenna. (1) Range: 1 to 100. Values 1 to 50 are reserved for predefined antenna types supported by Ericsson. Values 51 to 100 are available for customer specific antenna types.
`retType`	M	integer	The type of RET.(1) Defines — together with antennaType on the corresponding `SectorAntenna` MO — which configuration data (MO RetProfile) is used.
`minTilt`	M	integer	Specifies the minimum electrical antenna tilt value.(1)
`maxTilt`	M	integer	Specifies the maximum electrical antenna tilt value.(1)
`retParam1`	M	Integer	Configuration Data 1 to 8 for the RET-Device.(1) The are vendor and antenna specific, and describe the mapping of motor rotation to antenna tilt angle.
`retParam2`	M	Integer	
`retParam3`	M	Integer	
`retParam4`	M	Integer	
`retParam5`	M	Integer	

Attribute	M/O	Type	Description
retParam6	M	Integer	
retParam7	M	Integer	
retParam8	M	Integer	
checkSum	M	Integer	Specifies the checksum of minTilt, maxTilt, and the RET configuration parameters.(1) CRC16 with initial value 0xFFFF is used to calculate the checksum.

(1) Normally, the set of attribute values for a specific RET is provided by Ericsson based on the antennaType. However, customers can set their own RET profiles designed in cooperation with or according to specifications from RET vendors. To enable creation of consistent sets of RET profile attributes, there is a tool available as part of RET Config (190 09-CXC 132 6068), obtainable through Ericsson. For the configuration workflow of a RET unit, refer to RETU Configuration Overview.

Table 86 Attributes of the No_RET Element

Attribute	M/O	Type	Description
configureRet	H	string	Fixed value NO
typeOfRet	H	string	Fixed value NONE
typeOfRet2	H	string	Fixed value NONE

Table 87 Attributes of the CascadedAretConfiguration Element

Attribute	M/O	Type	Description
modificationType	M	enum	Specifies what kind of modification that is requested. Possible values: ADD, CHANGE, or DELETE

Table 88 Attributes of the AretConfiguration Element

Attribute	M/O	Type	Description
sectorNumber	M	enum	The Sector instance to which the cascaded ARET chain is connected. Possible values: 1 to 6 For RBS with DU: 1 to 6
sequenceNumber	M	integer	Specifies the order of the ARET within a cascaded ARET chain, counting from the SectorAntenna. Possible values: 1 to 6

Attribute	M/O	Type	Description
uniqueHwId	O	string	Specifies the unique identity of an ARETU in the first sector antenna. Must be unique within a cascaded ARETU chain. The uniqueHwId attribute contains enough number of significant characters or digits to be unique among the ARETUs in the sector. The length of this attribute does not exceed 19 characters. The uniqueHwId attribute of the ARETU can be set according to the data fetched by the Device Scan action. For more information about Device Scan, refer to Manage Hardware Equipment. Maps to uniqueHwId in AuxPlugInUnit MO.
uniqueHwId2	O	string	Specifies the unique identity of an ARETU in the second sector antenna. Must be unique within a cascaded ARETU chain. The uniqueHwId2 attribute contains enough number of significant characters or digits to be unique among the ARETs in the sector. Maps to uniqueHwId2 in AuxPlugInUnit MO. For ARET cascading configuration with RRUS 32 and RBB44_1D, uniqueHwId, or uniqueHwId2, or both must be specified.
antennaType	O	integer	The type of the first sector antenna. For ARETU with sequenceNumber = 1 MO attribute SectorAntenna::antennaType For ARETU with sequenceNumber = 2 to 6 MO attribute ExternalAntenna::antennaType
antennaType2	O	integer	Specifies the type of second sector antenna. For ARETU with sequenceNumber = 1, it maps to MO attribute SectorAntenna::antennaType. For ARETU with sequenceNumber = 2 to 6, it maps to MO attribute ExternalAntenna::antennaType.
electricalTilt	O	integer	The angle the first sector antenna must be tilted with by the ARET. Default value: 0
electricalTilt2	O	integer	Specifies the angle the second sector antenna is to be tilted with by the ARET. Default value: 0
mechanicalTilt	O	integer	The angle the first sector antenna is mounted in. Default value: 0

Attribute	M/O	Type	Description
			Only valid for Aret with `sequenceNumber` = 1, 2 or 3
`mechanicalTilt2`	O	integer	Specifies the angle the second sector antenna is mounted in. Default value: `0` Only valid for ARET with `sequenceNumber`= 1
`userLabel`	O	string	Specifies the label of the first sector antenna for free use. It can for example be used for RBS name or cell name for a co-sited RBS.
`userLabel2`	O	string	Specifies the label of the second sector antenna for free use. It can for example be used for RBS name or cell name for a co-sited RBS.

Table 89 Attributes of the `RadioDot` Element

Attribute	M/O	Type	Description
`radioDotNumber`	M	enum	The radio dot number used to identify a radio dot. Possible values: 1 to 8

Table 90 Attributes of the `PositionCoordinates` Element

Attribute	M/O	Type	Description
`longitude`	M	long	Defines the longitude part of the position of the unit. Use +/- values to denote east or west. Default value: `0` Possible values: `-180000000` to `180000000` Unit: `0.000001` degrees
`latitude`	M	long	Defines the latitude part of the position of the unit. Use +/- values to denote north or south. Default value: `0` Possible values: `-90000000` to `90000000` Unit: `0.000001` degrees
`altitude`	M	long	Defines the longitude part of the position of the unit. Use +/- values to denote north or south. Default value: `0` Possible values: -8388608 to 8388607
`geoDatum`	M	string	Denotes the geodetic datum for this position.

Table 91 Attributes of the RadioUnit Element

Attribute	M/O	Type	Description
radioUnitNumber	M	enum	Identifies the radio units configured for the sector. Possible values: 1 to 3
IsSharedWithExternalMe	O	boolean	Defines if the radio unit is shared with an external managed element. Possible values: TRUE, FALSE Default value: FALSE **Note:** If the radio unit is shared by multiple RATs, the mixed mode parameter must be enabled on all RATs. Restrictions: IsSharedWithExternalMe cannot be set to TRUE in a cascaded sector.

2.5.4 Delete Sector

The DeleteSector operation supports removal of 1 to 12 sectors.

Table 92 Attributes of the DeleteSector Element

Attribute	M/O	Type	Description
sectorNumber	M	enum	Possible value: 1 to 12

2.5.5 Modify Sector

The ModifySector operation supports modification configuration of 1 to 12 sectors.

The AddDuwBoard element is specified in Table 101. The following elements are specified in Add Sector on page 123:

- The SectorCapability element (Table 72), with subelement Cell (Table 73)
- The SectorData element (Table 74)
- The RadioDot element (Table 89), with subelement positionCoordinates (Table 90)
- The RadioUnit element (Table 91)

Table 93 Attributes of the ModifySector Element

Attribute	M/O	Type	Description
sectorNumber	M	enum	Possible value: 1 to 12

Table 94 Attributes of the DeleteCell Element

Attribute	M/O	Type	Description
cellNumber	M	enum	The cell number used to identify the cell to be deleted in the sector. RbsLocalCellId = S<x>C<cellNumber>, where x is the SectorId, and cellNumber is the CarrierId, for example, S1C2. Possible values: 1 to 8 (1) The value of cellNumber can never be higher than the number of cells in a sector.

(1) Up to eight are available when the TX branch is explicitly specified in a cell. Otherwise, the maximum number of cells is four.

2.5.6 Modify Antenna System

The ModifyAntennaSystem operation supports configuration of AntennaEquipment attributes.

The following elements and subelements are specified in Add Sector on page 123:

— The AntennaEquipment element (Table 75), with the subelements AntennaBranch (Table 76), AntennaFeederCables (Table 77), TMA (Table 78), ASC (Table 79), NO_ASC_OR_TMA (Table 80), ATMA (Table 81), ATMA_AND_TMA (Table 82), TMF (Table 83), RET (Table 84), RetProfile (Table 85), NO_RET (Table 86), CascadedAretConfiguration (Table 87), and AretConfiguration (Table 88)

— The element CableSet (Table 134)

Table 95 Attributes of the ModifyAntennaSystem Element

Attribute	M/O	Type	Description
sectorNumber	M	enum	Possible value: 1 to 12

2.5.7 Modify Number of PSUs

The ModifyNoOfPsu operation concerns adding or deleting of power supply units (PSU).

Table 96 Attributes of the ModifyNoOfPsu Element

Attribute	M/O	Type	Description
cabinetNumber	O	enum	The cabinet number is used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when supportSystemControl is set to TRUE.
noOfPsu	M	integer	The number of PSUs. Possible values:1 to 7 Possible value: 1 for RBS 6320 Possible values: 1 to 3 for RBS 6301 Possible values: 1 to 4 for Power 6306, Power 6610 Possible values: 1 to 5 for RBS 6131, RBS 6202, RBS 6301, RBS 6601 Possible values: 1 to 7 for RBS 6101, RBS 6102, RBS 6110, RBS 6120, RBS 6201 Mandatory if configurePowerSupply = YES

2.5.8 Modify Number of PDUs

The ModifyNoOfPdu operation concerns adding or deleting power distribution units (PDUs). Only applicable to RBS 6000 with Common Support System.

Table 97 Attributes of the ModifyNoOfPdu Element

Attribute	M/O	Type	Description
cabinetNumber	O	enum	The cabinet number is used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when supportSystemControl is set to TRUE.
noOfPdu	M	integer	The number of PDUs. Possible values: 1 to 8

Attribute	M/O	Type	Description
			Applicable for all RBS types nodes where `supportSystemControl` = TRUE Possible value: 4 for RBS 6131 Possible values: 1 to 4 for RBS 6131, RBS 6301, RBS 6601, Power 6610 Possible values: 1 to 5 for RBS 6202 Possible values: 1 to 6 for RBS 6101, RBS 6102, RBS 6201 Possible values: 1 to 7 for RBS 6110 Possible values: 1 to 8 for RBS 6120 Ignore for Power 6306

2.5.9 Modify Number of BFUs

The ModifyNoOfBfu operation concerns adding or deleting battery fuse units (BFUs).

Table 98 Attributes of the ModifyNoOfBfu Element

Attribute	M/O	Type	Description
`cabinetNumber`	O	enum	The cabinet number used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when `supportSystemControl` is set to TRUE.
`noOfBfu`	M	integer	The number of BFUs. Possible values: 1 to 4 Possible value: 1 for RBS 6202, RBS 6301, RBS 6601, Power 6306, Power 6610 Possible values: 1 to 2 for RBS 6101, RBS 6102, RBS 6201 Possible values: 1 to 4 for RBS 6110, RBS 6120, RBS 6131 Default value: 1 Mandatory if `configureBatteryBackup` is set to YES. Ignored if `configureBatteryBackup` is set to NO.

Attribute	M/O	Type	Description
			Applicable for all RBS types where `supportSystemControl` is set to TRUE.

2.5.10 Modify Power System

The ModifyPowerSystem operation supports definition of batteries based on battery capacity.

Table 99 Attributes of the ModifyPowerSystem Element

Attribute	M/O	Type	Description
`cabnietNumber`	O	enum	The cabinet number is used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when `supportSystemControl` is set to TRUE.
`batteryCapacity`	O	integer	The battery capacity in Ah. Default value: `60` Deprecated.
`batteryType`	O	enum	Indicates the type of battery to which the installed battery conforms. The type is related to the capabilities of the battery. Possible values: TYPE01, TYPE02, UNKNOWN Default: TYPE01
`sharedBattery`	O	enum	Indicates if the RBS shares a battery with another RBS or other power consumers on the site. The value of this attribute has a great impact on the system behavior. If `sharedBattery` is set to TRUE, `minimumBackupTime` is mandatory and `minimumStateOfHealth` is not available. Possible values: TRUE, FALSE Default: TRUE
`multiplePowerSystem`	O	enum	Indicates if the power systems provide separate loads within the same cabinet. Possible values: TRUE, FALSE TRUE: Several power systems provide separate loads within the same cabinet. Multiple sub-racks operate individually and each of them form one power system.

Attribute	M/O	Type	Description
			FALSE: All loads within the same cabinet are powered by one power system. Multiple sub-racks are internally connected by a cabinet bus bar. Default: TRUE
chargingMode	O	integer	Specifies the battery charging mode. If the charging mode is USER_DEFINED, the charging algorithm and parameters must be specified. Possible values: AUTOMATIC, USER_DEFINED Default: AUTOMATIC
testMode	O	enum	Specifies the battery test mode. The following attributes are relevant if testMode is set to CONFIGURED: — testStartDay, testStartTime, and testStartMonths are mandatory. — If sharedBattery is set to TRUE, minimumBackupTime is mandatory. — If sharedBattery is set to FALSE, minimumStateOfHealth is mandatory. Possible values: AUTOMATIC, CONFIGURED, DISABLED Default: DISABLED
minimumStateOfHealth	O	integer	Specifies the minimum value of State-of-Health. If the estimated battery capacity is lower than this value, an alarm is triggered. This attribute is mandatory when sharedBattery is set to FALSE. Possible values: 0 to 100 Default: 70 Units: 1%
minimumBackupTime	O	integer	Specifies a minimum backup time the battery supplies. This attribute is mandatory when sharedBattery is set to TRUE. An alarm is triggered if the measured backup time is shorter than minimumBackupTime. Possible values: 0 to 10080 Default: 60 Units: 1 min

Attribute	M/O	Type	Description
testStartDay	O	integer	Specifies the date when a periodic battery test starts(1). This attribute is mandatory when testMode is set to CONFIGURED. Possible values: 1 to 31 Default: 25
testStartTime	O	string	Specifies the time when a periodic battery test is initiated. This attribute is mandatory when testMode is set to CONFIGURED. Format: HH: MM, 24-hour format Default: 01:00
testStartMonths1	O	enum	Corresponds to the months from January to December respectively. Possible values: YES, NO YES means the month in which a periodic battery test is performed. This attribute is mandatory when testMode is set to CONFIGURED. Default value: — The testStartMonths3 and testStartMonths9 are set to YES — The others are set to NO.
testStartMonths2	O	enum	
testStartMonths3	O	enum	
testStartMonths4	O	enum	
testStartMonths5	O	enum	
testStartMonths6	O	enum	
testStartMonths7	O	enum	
testStartMonths8	O	enum	
testStartMonths9	O	enum	
testStartMonths10	O	enum	
testStartMonths11	O	enum	
testStartMonths12	O	enum	
batteryInstallationDate	O	string	Specifies the date when the batteries are installed as backup batteries of the RBS. This attribute must be a date before configuring batteries test. Format: YYYYMMDD Default: 00000000

(1) The value of this attribute must be a valid date in the month specified by `testStartMonths`.

Table 100 Attributes of the BatteryChargingConfiguration Element

Attribute	M/O	Type	Description
`chargingVoltage`	O	integer	Specifies the expected battery charging voltage at 25°C. This attribute is mandatory when `chargingMode` in MO `BatteryBackup` is set to USER_DEFINED. Possible values: -570 to -480 Default: -545 Units: 0.1 V
`tempCompVoltageSlope`	O	integer	Specifies a compensation factor that expresses the voltage changes caused by temperature. This attribute is used in temperature compensated float charging. Fixed charging is achieved by setting this attribute to 0. This attribute is mandatory when `chargingMode` in MO `BatteryBackup` is set to USER_DEFINED. Possible values: -10000 to 0 Default: -96 Units: 0.001 V/°C
`nominalTemp`	O	integer	Specifies a nominal temperature for temperature compensated float charging. This attribute is mandatory when `chargingMode` in MO `BatteryBackup` is set to USER_DEFINED. Possible values: 170 to 280 Default: 250 Units: 0.1°C
`tempCompMaxVoltage`	O	integer	Specifies the maximum voltage allowed for temperature compensated float charging. This attribute is mandatory when `chargingMode` in MO `BatteryBackup` is set to USER_DEFINED. Possible values: -570 to -480 Default: -569 Units: 0.1 V
`tempCompMinVoltage`	O	integer	Specifies the minimum voltage allowed for temperature compensated float charging. This attribute is mandatory when `chargingMode` in MO `BatteryBackup` is set to USER_DEFINED.

Attribute	M/O	Type	Description
			Possible values: -570 to -480 Default: -528 Units: 0.1 V
increasedChargeVoltage	O	integer	Specifies the charging voltage used in boost charging and equalize charging. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: -585 to -555 Default: -564 Units: 0.1 V
boostChargeTime	O	integer	Specifies the time used for boost charging. 0 means that boost charge is disabled. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: 0 to 48 Default: 5 Units: 1 h
boostChargeTriggerVoltage	O	integer	Defines the voltage threshold for boost charging. When the battery voltage drops below the voltage threshold, boost charging is activated. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: -500 to -420 Default: -470 Units: 0.1 V
equalizeChargeTime	O	integer	Defines the time used for equalize charging. 0 means that equalize charging is disabled. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: 0 to 24 Default: 4 Units: 1 h
equalizeChargeCyclicInterval	O	integer	Indicates the days between equalize charging. This attribute is reset when the node restarts. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: 0 to 365

Attribute	M/O	Type	Description
			Default: 30 Units: 1 day
intermittentChargeConnectVoltage	O	integer	Specifies the minimum voltage of a disconnected battery in intermittent charging(1). If the minimum voltage is reached, the battery is reconnected. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: -530 to -460 Default: -500 Units: 0.1 V
intermittentChargeConnectTime	O	integer	Specifies the time slot when the batteries are disconnected in intermittent charging mode. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: 0 to 72 Default: 72 Unit: 1 h
intermittentChargeDisconnectTime	O	integer	Specifies the time slot when the batteries are connected in intermittent charging mode. 0 means that intermittent charging is disabled. This attribute is mandatory when chargingMode in MO BatteryBackup is set to USER_DEFINED. Possible values: 0 to 2400 Default: 12 Unit: 1 h

(1) Batteries are connected and disconnected alternatively in intermittent charging mode.

2.5.11 Add DUW Board

The Add DU operation prepares the RBS for a secondary DU.

Table 101 Attributes of the AddDUWBoard Element

Attribute	M/O	Type	Description
slot	M	string	Defines the slot number where the secondary DU is located. Possible value: 2

Attribute	M/O	Type	Description
cabinetNumber	O	enum	Identifies the cabinet where the secondary DUW board is added. Possible values: 1 to 7 Default value: 1 Before a secondary DUW board is added, a new cabinet must be added for the board that is not in the first cabinet.

Note: — Changing DUW cabinet position is not allowed during Modify RBS Equipment Configuration.

— IDL2 connection can be used if the distance between two DUWs is too long.

2.5.12 Add ATM Port

The `AddAtmPort` operation supports addition of new ATM ports.

Table 102 Attributes of the AddAtmPort Element

Attribute	M/O	Type	Description
`etbSlot`	M	string	The slot on which the ETB to use for Mub is located. An ETB has to be configured in the slot. etbSlot is <SubrackPosition>-<Slotposition> <SubrackPosition> = Cabinet number 1-9 numbered from the right, followed by shelf character A-Z numbered from bottom, followed by shelf position 1-9 numbered from the left. <Slotposition> = Number 1.. 28 numbered from the left Example: 1A1-1 The cabinet position is optional. When omitted, configured as first cabinet. Possible value: 1

Table 103 Attributes of the AtmPort Element

Attribute	M/O	Type	Description
`terminationType`	M	enum	Type of physical termination: E1, J1, T1, STM1_ETSI, STM1_TTC, OC3, IMA_E1, IMA_J1, IMA_T1,

Attribute	M/O	Type	Description
			Chan_STM1_E1, Chan_OC3_T1, IMA_Chan_STM1_E1, IMA_Chan_OC3_T1
physicalLine	M	string	The line number on the ETB to use for the O&M connection For IMA_xxx, there can be several numbers separated by commas. For the others, there can only be one number. Examples: IMA_xxx; 1,2,3,4; others 1 1 to 4 for E1, T1, IMA_E1, IMA_T1 5 for STM1_ETSI, STM1_TTC, OC3 1 to 63 for Chan_STM1_E1 1 to 63 IMA_Chan_STM1_E1. Max number of unlocked channels=21. Max number of IMA groups=14 1 to 84 for Chan_OC3_T1 1 to 84 for IMA_Chan_OC3_T1 Max number of unlocked channels=28. Max number of IMA groups=14
timeSlotsInFraction	O	string	Slot numbers that are used: 1 to 31 for fractional_E1 1 to 24 fractional J1 or fractional T1 Numbers separated by a comma. Example: 2,8,13,15,17 Only used if terminationType= fractional_xxx.
requiredNumberOfLinks	O	integer	The required number of IMA links that needs to be operational in order for the complete group to be operational. Maps to requiredNumberOfLinks in MO ImaGroup. Possible values: 1-8 Default value: 1

2.5.13 Add Physical Path Termination

The AddPhysPathTerm operation supports addition of 0 to 2 physical path terminations on an ATM ETB.

Table 104 Attributes of the AddPhysPathTerm Element

Attribute	M/O	Type	Description
etbSlot	M	string	The slot on which the ATM ETB to use for Mub is located. An ATM ETB has to be configured in the slot. etbSlot is <SubrackPosition>-<Slotposition> <SubrackPosition> = Cabinet number 1-9 numbered from the right, followed by shelf character A-Z numbered from bottom, followed by shelf position 1-9 numbered from the left. <Slotposition> = Number 1.. 28 numbered from the left Example: 1A1-1 The cabinet position is optional. When omitted, configured as first cabinet. Example: C1–2 (typical for RBS) Possible value: 1

Table 105 Attributes of the PhysPathTerm Element

Attribute	M/O	Type	Description
terminationType	M	enum	Type of physical termination: E1, J1, T1, STM1_ETSI, STM1_TTC, OC3, IMA_E1, IMA_J1, Chan_STM1_E1, Chan_OC3_T1, IMA_Chan_STM1_E1, IMA_Chan_OC3_T1
physicalLine	M	string	The line number on the ETB to use for the O&M connection. For IMA_xxx, there can be several numbers separated by commas. For the others, there can only be one number. Examples: IMA_xxx; 1,2,3,4; others 1 1 to 4 for E1, T1, IMA_E1, IMA_T1 5 for STM1_ETSI, STM1_TTC, OC3 1 to 63 for Chan_STM1_E1 1 to 63 IMA_Chan_STM1_E1. Max number of unlocked channels=21. Max number of IMA groups=14 1 to 84 for Chan_OC3_T1 1 to 84 for IMA_Chan_OC3_T1

Attribute	M/O	Type	Description
			Max number of unlocked channels=28. Max number of IMA groups=14

2.5.14 Add External Alarm Control Unit

The `AddExternalAlarmControlUnit` operation supports the alarm port configuration of an external equipment and the control port configuration of the external equipment

Table 106 Attributes of the AddExternalAlarmControlUnit Element

Attribute	M/O	Type	Description
`cabinetNumber`	O	enum	The cabinet number is used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when `supportSystemControl` is set to TRUE.
`configureXalm`	O	enum	Defines if an XALM is configured or not. Possible values: YES, NO Default: NO YES means that an XALM is configured. Deprecated.
`configureSau`	O	enum	Defines if a System Alarm Unit (SAU) is configured or not. Possible values: YES, NO Default: NO YES means that a Sau is configured. Optional for `6101`, `6102`, `6110`, `6120`, `6131`, `6201`, `6202`, `6301`, `6320`, `6601` Ignored for other RBS types.

Table 107 Attributes of the Alarm Element

Attribute	M/O	Type	Description
`externalAlarmUnit`	O	enum	Defines `externalAlarmUnit`, for which the alarm attributes are valid. More than one alarm unit can exist in an RBS.

Attribute	M/O	Type	Description
			Possible values: Sau, Scu, Sup, Rruw For 6601, 6302: Sup, Sau, Rruw For 6101, 6120, 6102, 6131, 6202, 6301, 6201, 6320: Scu, Sau, Rruw For 6501: Scu, Rruw Ignored for other RBS types.
sectorNumber	O	enum	Sector number for RRUW to be configured. Applicable only if externalAlarmUnit is Rruw. Possible values: 1 to 12
rruwPositionInSector	O	enum	Position of RRUW within a sector. Applicable only if externalAlarmUnit is Rruw. Possible values: 1 and 2 For 6101, 6301, 6601: 1 to 2 Ignored for other RBS types
portId	M	integer	The number of the Alarm Port to use. Possible values: For RRU or RRUW: 1 to 6 For SUP: 1 to 8 For SCU: 1 to 16
alarmSlogan	O	string	The alarm name. Only characters in the normal ASCII-table can be used. Exceptions: The characters ”&”, ”<” and ”>” are NOT allowed.
normallyOpen	O	enum	Defines if alarm is triggered when closing or opening the loop. Possible values: YES or NO. YES means triggered on closing.
severity	O	enum	The severity of the alarm. Possible values: Critical, Major, Minor, or Warning Maps to perceivedSeverity in MO almDevice.
probableCause	O	integer	The probable cause of the alarm. For valid values, see the attribute AlmDevice::probableCause in the RBS Managed Object Model (use the integer value of a certain ProbableCause enum value).

Table 108 Attributes of the Control Element

Attribute	M/O	Type	Description
externalAlarmUnit	O	enum	Defines externalAlarmUnit, for which the alarm attributes are valid. More than one alarm unit can exist in an RBS. Possible values: Sau. Optional for 6101, 6102, 6110, 6120, 6131, 6201, 6202, 6301, 6302, 6320, 6601 Ignored for other RBS types.
portId	M	integer	The number of the Alarm Port to use. Possible values: 1 to 8.
equipmentName	O	string	The name of the equipment to control. Only characters in the normal ASCII-table can be used. Exceptions: The characters "&", "<" and ">" are NOT allowed.
normallyOpen	O	enum	Defines if equipment is turned on when closing or opening the loop. Possible values: YES or NO. YES means turned on when closing.

2.5.15 Modify External Alarms

The ModifyExternalAlarms operation supports the alarm port configuration of the external equipment.

The Alarm element is specified in Table 107.

Table 109 Attributes of the ModifyExternalAlarms Element

Attribute	M/O	Type	Description
cabinetNumber	O	enum	The cabinet number is used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when supportSystemControl is set to TRUE.

2.5.16 Modify External Controls

The `ModifyExternalControls` operation supports the control port configuration of external equipment.

The `Control` element is specified in Table 108.

Table 110 Attributes of the ModifyExternalControls Element

Attribute	M/O	Type	Description
`cabinetNumber`	O	enum	The cabinet number is used to identify the cabinet. Possible values: 1 to 7 Default value: 1 Only valid when `supportSystemControl` is set to TRUE.

2.5.17 Delete ATM Port

The `DeleteAtmPort` operation supports deletion of 1 to `1000` ATM ports.

Table 111 Attributes of the DeleteAtmPort Element

Attribute	M/O	Type	Description
rdnId	M	string	Relative distinguished name of the ATM Port to be deleted. Last part of LDN. Example "1-2-ima1"

2.5.18 Delete Physical Path Termination

The `DeletePhysPathTerm` operation supports deletion of 1 to 8 physical path terminations on ET Boards.

Table 112 Attributes of the DeletePhysPathTerm Element

Attribute	M/O	Type	Description
etbSlot	M	string	Slot number for ETB from which physical path termination is deleted.
physicalLine	M	string	The line number on the ETB for which physical path termination is deleted.

2.5.19 Add IP over ATM

The AddIPoverAtm action supports addition of one IP over ATM connection.

The AddEtBoard element (Table 134), with subelements PhysPathTerm (Table 105), and AtmPort (Table 103), is ignored for RBS with DU.

The IPoverATM element with subelement Connection and its subelement AtmPort (Table 103) is specified in Table 113.

The NetworkSynch element is specified in Table 123.

The StaticRouting element with subelement Route is specified in Table 28.

Table 113 Attributes of the Connection Element

Attribute	M/O	Type	Description
name	M	enum	Possible values: firstOAMatm, secondOAMatm. Defines if it is the first or second IP over ATM connection that is configured.
etbSlot	M	string	The slot on which the Exchange Terminal Board (ETB) to use for Mub is located. An ETB has to be configured in the slot. etbSlot is <SubrackPosition>-<Slotposition><SubrackPosition> = Cabinet number 1-9 numbered from the right, followed by shelf character A-Z numbered from bottom, followed by shelf position 1-9 numbered from the left. <Slotposition> = Number 1.. 28 numbered from the left Example: 1A1-1 The cabinet position is optional. When omitted, configured as first cabinet. Example: C1–2 (typical for RBS) Possible value: 1
externalVpi	O	integer	This is the virtual path identifier for the external ATM cells. Default value is used. Same externalVpi value to be used for firstOAMatm and secondOAMatm in same physical connection. Range: 0-255, default = 1.
vpPeakCellRate	M	integer	Sets same value for egress ATM Peak and ingress ATM Peak cell rate (cells/s). Same vpPeakCellRate value to be used for firstOAMatm and secondOAMatm in same physical link.

Attribute	M/O	Type	Description
			Only positive values allowed. Default value: 0
externalVci	O	integer	Virtual Channel Identifier (VCI) value for this Virtual Channel Link (VCL). Different externalVci value to be used for firstOAMatm and secondOAMatm in same physical connection. Range: 32-65535. If no value is specified in the XML file, the wizard calculates the value to be used. This value is 32 for firstOAMatm and 33 for secondOAMatm.
atmIpAddress	M	string	There can be more than two IP links over the Transport Network and they must all have different IP addresses
atmSubnetMask	M	string	The attribute atmSubnetMask states the subnet mask of the IP over ATM link (point to point link). The input format used by the operator is four fields of digits, separated by a dot. Each field consists of one to three digits. For a point to point link, the subnet mask 255.255.255.252 is very likely. **Note:** The subnet mask has to be contiguous, that is, it has the LSB set to 0 (zero). IP over ATM connection from the MP through ET-board to RAN O&M router is created by using attributes name, etbSlot, and physicalLine
requiredNumberOfLinks	O	integer	The required number of IMA links that needs to be operational in order for the complete group to be operational. Possible values: 1-8 Default value: 1
vpServiceCaterg ory	O	enum	UBR_PLUS is recommended when "IMA bandwidth adaptation at link failure" is used. Possible values: CBR, UBR_PLUS Default value: CBR
vpMinimumCellRa te	O	Integer	Required when VP service category is UBR_PLUS. Value can be calculated based on bandwidth of minimum number of required links in IMA group. Sets same value for egress and ingress ATM minimum cell rate (cells/s).

Attribute	M/O	Type	Description
			Same vpMinimumCellRate value must be used for firstOAMatm and secondOAMatm in same physical link. Only positive values allowed. Default value: 0
vcServiceCategory	O	enum	UBR_PLUS is used only if AAL2 paths on the same VPC are configured using UBR_PLUS. UBR is used in other situations so that O&M connections do not interfere with traffic handling connections. Possible values: CBR, UBR_PLUS Default value: UBR_PLUS

2.5.20 Add OaM IP Host

The AddOamIpHost operation supports the addition of a separate IP over Ethernet interface for Mub by specifying attributes in element OamIpHost. This is applicable for migrations from ATM or dual-stack configurations to an all IP over Ethernet. This operation creates a IP interface, MO IpHostLink, in addition to the existing IP interface MO IpAccessHostEt. IpHostLink is used for OaM over Ethernet while IpAccessHostET is used for SoIP. They can be on the same or on different subnets. See Table 19.

2.5.21 Add IP over Giga Bit Ethernet

The AddIPoverGigaBitEthernet operation supports addition of one IP over Gigabit Ethernet connection.

The EthernetSwitch element with subelements LinkAggregationGroup, vlanMembership, and EthernetSwitchPort are deprecated and specified inTable 132.

The IPoverGigabitEthernet element is specified in Table 16, with subelements IpSyncRef specified in Table 17, PacketFrequencySyncRef specified in Table 18 and GigaBitEthernet specified in Table 15.

The StaticRouting element with subelement Route is specified in Table 28.

The NetworkSynch element is specified in Table 123.

2.5.22 Add Cabinet

The AddCabinet element support the configuration of adding a cabinet. The attributes are specified in Table 114.

Table 114 Attributes of the AddCabinet Element

Attribute	M/O	Type	Description
cabinetNumber	M	enum	Specifies the cabinet to be added. Possible values: 2 to 7
sharedCabinetIdentifier	O	string	Specifies the unique identifier for the cabinet in a shared cabinet configuration. Dependency: - This attribute must be set to the same value across different nodes in the same cabinet. - This attribute can be left empty when adding a cabinet. - This attribute for each cabinet can be either all empty or all valued.
cabinetType	O	string	Specifies the type of the cabinet to be added. Possible value: RBS6101, RBS6102, RBS6110, RBS6120, RBS6131, RBS6201, RBS6202, RBS6301, RBS6302, RBS6320, RBS6501, RBS6601, RBS6601W, POWER6610, POWER6306, RACK Only valid when supportSystemControl is set to TRUE and a new cabinet is created.
smokeDetector	O	enum	Maps to smokeDetector in MO Cabinet. Possible values: TRUE, FALSE Only valid when supportSystemControl is set to TRUE.
referredCabinetNumber	O	integer	Indicates the enclosure (also referred to as cabinet) where the cabinet to be configured resides in. This attribute is applicable to the scenario where some cabinets are placed in a 19 inch rack. The 19 inch rack can be modeled as a cabinet.
ecBusNumber	O	enum	Indicates the EcBus used to connect HwUnits in the cabinet to be added. Default value: 1 Possible values: 1 to 7

2.5.23 Delete Cabinet

The DeleteCabinet element support the configuration of deleting a cabinet. The attributes are specified in Table 115.

Table 115 Attributes of the DeleteCabinet Element

Attribute	M/O	Type	Description
cabinetNumber	M	enum	Specifies the cabinet to be deleted. Possible values: 2 to 7

Note:
— The first cabinet with `cabinetID` = 1 cannot be deleted.
— Before deleting a `Cabinet` MO instance, make sure that the MO `PlugInUnit` and MO `AuxPlugInUnit` are deleted.

2.5.24 Add EC Bus

The `AddEcBus` operation supports addition of EC Buses.

Table 116 Attributes of the AddEcBus Element

Attribute	M/O	Type	Description
`ecBusNumber`	M	enum	Specifies the EC Bus to be added. Maps on `EcBusId` in MO `EcBus`. Possible values: 2 to 7
`connectorType`	O	enum	Specifies the type of the unit where the EC bus is connected. Possible values: DU, RU Default value: RU
`connectorUnitNumber`	M	enum	Specifies the number of the sector covered by the radio unit where the EC bus is connected, or the number of the DU where the EC bus is connected. Possible values: — 1 to 12, if `connectorType` = RU — 2, if `connectorType` = DU
`internalConnectorUnitNumber`	O	enum	Specifies the number of the radio unit in a radio building block which the EC bus is connected to. Possible values: 1, 2, 3 Default value: 1 This attribute is applicable when the `connectorType` = RU.

2.5.25 Modify EC Bus

The ModifyEcBus operation supports modification of EC Buses.

Table 117 Attributes of the ModifyEcBus Element

Attribute	M/O	Type	Description
`ecBusNumber`	M	enum	Specifies the EC Bus to be added. Maps on `EcBusId` in MO `EcBus`. Possible values: 2 to 7
`connectorType`	O	enum	Specifies the type of the unit where the EC bus is connected. Possible values: DU, RU Default value: RU
`connectorUnitNumber`	M	enum	Specifies the number of the sector covered by the radio unit where the EC bus is connected, or the number of the DU where the EC bus is connected. Possible values: — 1 to 12, if `connectorType` is set to RU — 2, if `connectorType` is set to DU
`internalConnectorUnitNumber`	O	enum	Specifies the number of radio units in a radio building block which the EC bus is connected to. Possible values: 1, 2, 3 Default value: 1 This attribute is applicable when the `connectorType` is set to RU.

2.5.26 Modify Cabinet

The `ModifyCabinet` operations include the following subelements:

— Adding some fan groups using the attributes of the `climateSystem` subelement specified in Table 7

— Selecting the type of climate system using the attributes of the `climateRegulationSystem` subelement specified in Table 8

The `ModifyCabinet` attributes are specified in Table 118.

Table 118 Attributes of the ModifyCabinet Element

Attribute	M/O	Type	Description
cabinetNumber	O	enum	Specifies the cabinet to be modified. Possible values: 1 to 7 Default value: 1
sharedCabinetIdentifier	O	string	Specifies the unique identifier for the cabinet in a shared cabinet configuration This attribute for each cabinet can be either all empty or all valued.
smokeDetector	O	enum	Maps to smokeDetector in MO Cabinet. Possible values: TRUE, FALSE Only valid when supportSystemControl is set to TRUE.
referredCabinetNumber	O	integer	Indicates the enclosure (also referred to as cabinet) where the cabinet to be configured resides in. This attribute is applicable to the scenario where some cabinets are placed in a 19 inch rack. The 19 inch rack can be modeled as a cabinet.
ecBusNumber	O	enum	Indicates the EcBus used to connect HwUnits in the cabinet to be added. Possible values: 1 to 7

2.5.27 Modify External Node

This element represents an external node that is sharing climate, power, external alarm and possibly other resources, with this node and possibly other external nodes. Node in this case, is a node with a ManagedElement MO as top MO. The communication between the nodes is established by configuration of this MO. If the ExternalNode MO, specified in attribute unitNumber, does not exist, it is created with an EcPort MO.

Only applicable for a node where the attribute supportSystemControl on EquipmentSupportFunction MO is set to true.

Table 119 Attributes of the EcPort Element

Attribute	M/O	Type	Description
unitType	O	enum	Specifies the type of unit for which the hubPosition attribute or the cascadingOrder attribute is valid. Possible values: DUW or EXTNODE

Attribute	M/O	Type	Description
			DUW is for reconfiguring Support System Primary and Secondary node. EXTNODE is for external node. Default value: EXTNODE Applicable for all RBS types where `supportSystemControl` = TRUE.
`unitNumber`	M	integer	Specifies the unit instance for which the `hubPosition` attribute or the `cascadingOrder` attribute is valid. Possible values: 1 or 2 Applicable for all RBS types where `supportSystemControl` = TRUE.
`portNumber`	O	enum	Specifies whether first or second EcPort for `unitType` = EXTNODE. Possible values: 1 or 2 Default value: 1 Applicable for all RBS types where `supportSystemControl` = TRUE.
`hubPosition`	O	enum	The hub port, to which the external node or HW unit is connected, used for addressing purposes. Possible values: A0, A2, A3, A5, A6, A7, B0, B1, D, E, EC_A, EC_B, EC_C, X, Y, Z Applicable for all RBS types where `supportSystemControl` = TRUE.
`cascadingOrder`	O	enum	Represents the SUP position in the cascading chain for RBS 6601 with dual DUW where the primary DUW is DUW 11, DUW 31, or DUW 41. Possible values: 0, 1, 2, 3, 4, 5, 6, 7 When two DUWs are configured in one SUP, 0 is used for the two DUWs, which means no cascading configuration. In the case of cascading configuration, 1 represents primary DUW and 2 specifies secondary DUW.
`referredCabinetNumber`	O	integer	Indicates the cabinet which the EC port refers to. Applicable for all RBS types where `supportSystemControl` = TURE and `unitType` = EXTNODE.

2.5.28 Modify Timing Unit

This element enables the user to enable/disable GpsOut timing for use by a co-located system.

Table 120 Attributes of the ModifyTimingUnit Element

Attribute	M/O	Type	Description
absoluteTimeSynchEnabled	O	enum	Enables the feature Absolute Time to make it possible to synchronize DUs either by using common GPS or GPS Out configuration. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: YES, NO
gpsOutEnabled	O	enum	Specifies the DUW board in slot 1 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE, FALSE
gpsOutEnabledOnSlot2	O	enum	Specifies the DUW board in slot 2 to generate GPS signals to be used by other DU Boards. Only applicable to DUW participating in Mixed Mode Radio configuration. Possible values: TRUE, FALSE

2.5.29 Switch Common Support System

Add possibility to reconfigure support system primary and secondary node in the Modify Wizard.

The `ClimateSystem` element is specified in Table 7.

The `EcPort` element is specified in Table 119.

The `Alarm` element is specified in Table 107 and the `Control` element is specified in Table 108.

When reconfiguring from primary to secondary node operators only need to change the attribute `supportSystemControl` on `EquipmentSupportFunction` MO from TRUE to FALSE. All MOs that must only exist in the primary node can be automatically deleted.

When reconfiguring from secondary to primary node operators need to change the attribute `supportSystemControl` on MO `EquipmentSupportFunction` from FALSE to TRUE.

The Support System MOs (`HwUnit`, `EcPort`, `AlarmPort`, `PowerSupply`, `PowerDistribution`, `BatteryBackup`) also needs to be configured according to the configuration in the node. For more information, refer to Managed Object Model (MOM) RBS.

Table 121 Attributes of the SwitchCommonSupportSystem Element

Attribute	M/O	Type	Description
supportSystemControl	M	enum	Defines if the node is controlling and supervising the climate, power, and external alarm HW in the cabinet. Also used to configure equipment defined in elements below the primary support node. Only one node in the cabinet can control and supervise climate and power. Possible values: TRUE, FALSE
configurePowerSupply	O	enum	Defines if power supply must be configured or not. Possible values: YES, NO Applicable for all RBS types where supportSystemControl is set to TRUE
configureBatteryBackup	O	enum	Defines if battery backup is configured or not. Possible values: YES, NO Applicable for all RBS types where supportSystemControl is set to TRUE Ignored for: 6302, 6320, 6501
noOfPsu	O	integer	The number of PSUs. Possible value: 1 for RBS 6320 Possible values: 1 to 3 for RBS 6301 Possible values: 1 to 4 for, Power 6306, Power 6610 Possible values: 1 to 5 for RBS 6131, RBS 6202, RBS 6301, RBS 6601 Possible values: 1 to 7 for RBS 6101, RBS 6102, RBS 6110, RBS 6120, RBS 6201 Possible values: 1 to 5 for RBS 6202, RBS 6601 Mandatory if configurePowerSupply is set to YES
noOfPdu	O	integer	The number of PDUs. Possible values: 1 to 8 Possible value: 4 for RBS 6131 Possible values: 1 to 4 for RBS 6131, RBS 6301, RBS 6601, Power 6610 Possible values: 1 to 5 for RBS 6202 Possible values: 1 to 6 for RBS 6101, RBS 6102, RBS 6201 Possible values: 1 to 7 for RBS 6110

Attribute	M/O	Type	Description
			Possible values: 1 to 8 for RBS 6120 Ignore for Power 6306 Applicable for all RBS types where supportSystemControl is set to TRUE
noOfBfu	O	integer	The number of BFUs. Possible values: 1 to 4 Possible value: 1 for RBS 6202, RBS 6301, RBS 6601, Power 6306, Power 6610 Possible values: 1 to 2 for RBS 6101, RBS 6102, RBS 6201 Possible values: 1 to 4 for RBS 6110, RBS 6120, RBS 6131 Default value: 1 Mandatory if configureBatteryBackup is set to YES. Ignored if configureBatteryBackup is set to NO. Applicable for all RBS types where supportSystemControl is set to TRUE.
configureSau	O	enum	Defines if a System Alarm Unit (SAU) must be configured or not. Possible values: YES, NO Applicable for all RBS types where supportSystemControl is set to TRUE

Note: When switching from secondary node to primary node, only supportSystemControl attribute is recommended. The other attributes are configured through attributes below ConfigPowerBattery element (Table 122) and attributes below AddExternalAlarmControlUnit element (Table 106).

2.5.30 Configure Power and Battery

The ConfigPowerBattery operation supports the configuration of power and battery.

Table 122 Attributes of the ConfigPowerBattery Element

Attribute	M/O	Type	Description
cabinetNumber	O	enum	The cabinet number used to identify the cabinet.

Attribute	M/O	Type	Description
			Possible values: 1 to 7 Default value: 1 Only valid when `supportSystemControl` is set to TRUE.
`configurePowerSupply`	O	enum	Defines if power supply must be configured or not. Possible values: YES, NO Applicable for all RBS types where `supportSystemControl` = TRUE
`configureBatteryBackup`	O	enum	Defines if battery backup is configured or not. Possible values: YES, NO Applicable for all RBS types where `supportSystemControl` = TRUE Ignored for: 6302, 6320, 6501
`configureClimate`	O	enum	Indicates if a climate function can be configured or not. Possible values: YES, NO Default: YES
`noOfPsu`	O	integer	The number of PDUs. Possible value: 1 for RBS 6320 Possible values: 1 to 3 for RBS 6301 Possible values: 1 to 4 for Power 6306, Power 6610 Possible values: 1 to 5 for RBS 6131, RBS 6202, RBS 6301, RBS 6601 Possible values: 1 to 7 for RBS 6101, RBS 6102, RBS 6110, RBS 6120, RBS 6201 Mandatory when `configurePowerSupply` = YES
`noOfPdu`	O	integer	The number of PDUs. Possible values: 4 for RBS 6131 Possible value: 1 to 4 for RBS 6131, RBS 6301, RBS 6601, Power 6610 Possible values: 1 to 5 for RBS 6202 Possible values: 1 to 6 for RBS 6101, RBS 6201, RBS 6102 Possible values: 1 to 7 for RBS 6110

Attribute	M/O	Type	Description
			Possible values: 1 to 8 for RBS 6120 Ignore for Power 6306 Applicable for all RBS types where supportSystemControl = TRUE
noOfBfu	O	integer	The number of BFUs. Possible value: 1 for RBS 6202, RBS 6301, RBS 6601, Power 6306, Power 6610 Possible values: 1 to 2 for RBS 6101, RBS 6102, RBS 6201 Possible values: 1 to 4 for RBS 6110, RBS 6120, RBS 6131 Default value: 1 Mandatory if configureBatteryBackup = YES. Ignored if configureBatteryBackup = NO. Applicable for all RBS types where supportSystemControl = TRUE.
noOfBpa	O	integer	The number of BPA. Possible value: 1 for RBS 6101, RBS 6102, RBS 6120, RBS 6201 Default value: 0 Mandatory if configureBatteryBackup = YES. Ignored if configureBatteryBackup = NO. Applicable for all RBS types where supportSystemControl = TRUE.

2.5.31 Modify Network Synchronization

The ModifyNetworkSynch operation concerns adding or deleting network synchronization source. It is applicable for RBS with DUW.

Table 123 Attributes of the NetworkSynch Element

Attribute	M/O	Type	Description
synchSlot	M	string	Specifies the slot with the board to use for network synchronization.

Attribute	M/O	Type	Description
			`synchSlot` is identified with <SubrackPosition>-<Slotposition>. <SubrackPosition>=Cabinet number 1-9, numbered from the right, followed by shelf character A-Z, numbered from bottom, followed by shelf position 1-9, numbered from the left. <Slotposition>=Number 1-28 numbered from the left. Example: 1A1-1 `synchSlot` is identified with <Slotposition>. Possible slot position: 1
synchPort	M	string	Specifies the logical port that is to be changed. It cannot be mapped to a physical port on the hardware. Possible value: 5 or 6 5 means Gps synchronization reference 6 means Tu synchronization reference
action	M	enum	Specifies the modification requested on the `synchPort`. Only applicable when `synchPort` is set to 5 or 6 for RBS with DUW. Possible values: ADD, DELETE
synchPriority	M	integer	Specifies the priority of the network synchronization source. If a new synchronization source in the **Modify RBS Equipment Configuration** wizard is given the same `synchPriority` as an existing synchronization source already has, the existing synchronization source disappears. If this is not intended, the existing synchronization source must first be moved to another `synchPriority`. This is important to be aware of when migrating between ATM and IP. Possible values: 1 to 8

2.5.32 Modify CPRI Based Synchronization Configuration

This operation modifies the values of attribute for MO `NodeGroupSyncMember`.

Table 124 Attributes of the ModifyCpriBasedSyncConfig Element

Attribute	M/O	Type	Description
configureCpriBasedSync	O	enum	Possible values: YES, NO Default value: YES Set to YES to enable MSMM CPRI Synchronization to configure Set to NO to disable MSMM CPRI Synchronization to configure or to delete the `NodeGroupSyncMember` MO
administrativeState	O	string	Possible values: LOCKED, UNLOCKED Default value: LOCKED Set to LOCKED to disable MSMM CPRI based synchronization. Set to UNLOCKED to enable MSMM CPRI based synchronization. Maps to `administrativeState` in `NodeGroupSyncMember` MO if `configureCpriBasedSync` is set to YES. Ignore if `configureCpriBasedSync` is set to NO.
selectionMode	Not applicable	O	Specifies the mode for identifying a Synchronization Provider. Possible value: — REFERENCE_AND_NODE_PRIORITY: Indicates the enhanced mode. Reference priority is used firstly to identify the Synchronization Provider, which is the node with the best time reference. If multiple nodes in a node group have the same reference priority, node priority is then used to identify the Synchronization Provider. — NODE_PRIORITY: Indicates the reduced mode. Only node priority is used to identify the Synchronization Provider. Default value: NODE_PRIORITY
syncNodePriority	O	long	Range: 1 to 15 Specifies the priority value of the node used in the automatic selection algorithm for Node Group synchronization. Every node in a Node Group must have a unique value. Maps to `syncNodePriority` in `NodeGroupSyncMember` MO, if `configureCpriBasedSync` is set to YES.

Attribute	M/O	Type	Description
			Ignore if `configureCpriBasedSync` is set to NO.
syncRiPortCandidate	O	string	Specifies a list of Radio Interface (RI) ports that are candidates to be used as synchronization reference when the node takes a synchronization receiver role. The port is selected automatically and is indicated in the attribute `syncRiPortStatus`. Possible value: For single DUW configurations: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU1_F For dual DUW configurations with DBB 21: BU1_A, BU1_B, BU1_C, BU1_D, BU1_E, BU2_A, BU2_B, BU2_C, BU2_D, BU2_E For dual DUW configurations with DBB 22: BU1_A, BU1_B, BU1_C, BU1_D, BU2_A, BU2_B, BU2_C, BU2_D MinimumLength: 1 Maps to `syncRiPortCandidate` in `NodeGroupSyncMember` MO, if `configureCpriBasedSync` is set to YES. Ignore if `configureCpriBasedSync` is set to NO.

2.5.33 Add Radio Dot

The `AddRadioDot` operation supports addition of one or several radio dots.

The `RadioDot` element is specified in Table 89, with subelement `PositionCoordinates` specified in Table 90.

Table 125 Attributes of the AddRadioDot Element

Attribute	M/O	Type	Description
`sectorNumber`	M	enum	Specifies the sector where a radio dot is to be added. Possible values: 1 to 12

2.5.34 Delete Radio Dot

The `DeleteRadioDot` operation supports deletion of one or several radio dots.

The `DeleteRadioDot` element is specified in Table 126, with the `RadioDotNo` sub-element specified in Table 127.

Table 126 Attributes of the DeleteRadioDot Element

Attribute	M/O	Type	Description
sectorNumber	M	enum	Specifies the sector where a radio dot is to be deleted. Possible values: 1 to 12

Table 127 Attributes of the RadioDotNo Element

Attribute	M/O	Type	Description
radioDotNumber	M	enum	Specifies the radio dot to be deleted. Possible values: 1 to 8

2.5.35 Modify Number of BPAs

The `ModifyNoOfBpa` operation concerns adding or deleting battery protocol adapters (BPAs).

Table 128 Attributes of the ModifyNoOfBpa Element

Attribute	M/O	Type	Description
NoOfBpa	O	integer	The number of BPA. Possible value: 1 for RBS 6101, RBS 6102, RBS 6120, RBS 6201 Default value: 0 Mandatory if `configureBatteryBackup` = YES. Ignored if `configureBatteryBackup` = NO. Only applicable to RBS 6000 nodes where `supportSystemControl` = TRUE.

2.6 Autointegration RBS Summary File

This section describes revision B of the DTD for Autointegration RBS Summary file.

2.6.1 Definitions

Table 129 Elements within AutoIntegrationRbsSummaryFile element

Element	Description	Number of Instances
<ConfigurationFiles.../>	This element contains address and file paths for configuration files. See table Table 130.	1

Table 130 ConfigurationFiles Attributes

Attribute	Mapping on MO Attributes	Mandatory/ Optional	Type	Description
serverAddress	-	M	string	The IP address of the server where the configuration files are stored. This IP address has to be the same IP address as where the AutoIntegrationRbsSummaryFile is stored. The reason is that all the files (that is, cabinetEquipmentFile, siteBasicFile, externalHwFile, and AutoIntegraionRbsSummaryFile) have to be stored on the same file server.
siteBasicFilePath	-	M	string	The file path for the site basic configuration file. The file path starts with a slash (/). Example: /rbs23/sitebasic.xml
externalHwFilePath	-	M	string	The file path for the site external hardware configuration file. The file path starts with a slash (/). Example: /rbs23/siteexternalhw.xml
antennaSystemFilePaths	-	O	string	The file paths for the antenna system file. The antennaSystemFilePaths consists of comma separated file paths.

Attribute	Mapping on MO Attributes	Mandatory/ Optional	Type	Description
				Example: /vobs/rbs/sw/ rbssw_boam/boam_subsys/ boam_swb/boammao_swu/src/ autoconf/smartmos/tb/sut/data/ tmfData_S2_V0,/vobs/rbs/sw/ rbssw_boam/boam_subsys/ boam_swb/boa mmao_swu/src/ autoconf/smartmos/tb/sut/data/ tmfData_S1_V0.xml

2.6.2 Document Type Definition

The DTD for Autointegration RBS Summary file, revision B, is shown below:

```
<!ENTITY % String "CDATA">
<!ELEMENT AutoIntegrationRbsSummaryFile (Format , ConfigurationF →
iles
<!ELEMENT Format EMPTY>
<!ATTLIST Format revision (A|B) #REQUIRED >
<!ELEMENT ConfigurationFiles EMPTY>
<!ATTLIST ConfigurationFiles
    serverAddress                   %String;
    siteBasicFilePath               %String;
    externalHwFilePath              %String;
    antennaSystemFilePaths          %String;
>
```

3 Appendix: Device Scan

This section describes an action that automatically fetches data to be used for configuring a node.

Once a Device Scan action is started, it fetches several data parameters concerning ANU configuration. The parameters include `uniqueHwId`, and some additional information, and are stored as an XML file on the FTP server specified as an action parameter.

4 Appendix: Deprecated Attributes

This section collects all the deprecated attributes. Table 131 shows the deprecated attributes of cabinet equipment configuration. Table 132 shows the deprecated attributes of O&M access configuration. Table 133 shows the deprecated attributes of site equipment configuration. Table 134 shows the deprecated attributes of modify RBS equipment configuration.

Table 131 Deprecated Attributes of Cabinet Equipment Configuration

Element	Attribute	Wizard Option	M/O	Type	Description
<ConfigureCabinetEquipment> <...></...> </ConfigureCabinetEquipment>	numberOfSectors	Not applicable	O	enum	Deprecated: Attribute not used. The number of Sector elements implies the number of sectors.
	slotsForETM1	**ETM options/ETM type** and **ETM options/Slot position**	O	string	Deprecated: Only applicable to RBS with GPB or CBU.
	slotsForETMC1	**ETM options/ETM type** and **ETM options/Slot position**	O	string	
	slotsForETM3	**ETM options/ETM type** and **ETM option**	O	string	

Element	Attribute	Wizard Options/Slot position	M/O	Type	Description
	slotsForETM4	**ETM options/ETM type** and **ETM options/Slot position**	O	string	
	slotsForETMC41s	**ETM options/ETM type** and **ETM options/Slot position**	O	string	
	slotsForETMFX	**ETM options/ETM type** and **ETM options/Slot position**	O	string	Deprecated: Replaced by `slotsForETMFX11`. Conversion: Values can be directly mapped to `slotsForETMFX11`.
	slotsForETMFX11	**ETM options/ETM type** and **ETM options/Slot**	O	string	Deprecated: Only applicable to RBS with GPB or CBU.

Element	Attribute	Wizard Option	M/O	Type	Description
		position			
	slotsForETMFX14	**ETM options/ETM type** and **ETM options/Slot position**	O	string	
	redundantTiming	Not applicable	O	enum	Deprecated: Replaced by `redundantControlSystem`. Conversion: Values can be directly mapped to `redundantControlSystem`.
	redundantSwitching	Not applicable	O	enum	Deprecated: Replaced by `redundantControlSystem`. Conversion: Values can be directly mapped to `redundantControlSystem`.
	redundantMP	Not applicable	O	enum	Deprecated: Replaced by `redundantControlSystem`. Conversion: Values can be directly mapped to `redundantControlSystem`.
	redundantControlSystem	**Redundant control system**	O	enum	Deprecated: Only applicable to RBS with GPB or CBU.
	npcTestConfig	Not applicable	O	enum	Deprecated: Parameter is ignored.
	auHubType	**Other options/Au Hub Type**	O	enum	Deprecated: Ignored for all RBS types.
<Sector.../>	numberOfRu	Not applicable	O	enum	Deprecated: Only applicable to RBS with GPB or CBU.

Element	Attribute	Wizard Option	M/O	Type	Description
	outputPower	**Sector options/ Output power**	O	enum	Deprecated: Mandatory for: 3101, 3104, 3202, 3303, 3402.
	numberOfCarriers	**Sector options/ Number of carriers**	O	enum	Deprecated: Parameter is ignored.
<PowerSupply.../>	typeOfPowerSupply	Not applicable	O	enum	Deprecated: Replaced by `configurePowerSupply`.
	useInternalPowerSupply	Not applicable	O	enum	Deprecated: Replaced by `configurePowerSupply`.
	batteryBackup	Not applicable	O	enum	Deprecated: Replaced by `configureBatteryBackup`.
	batteryCapacity	**Power supply / Battery capacity**	O	integer	Deprecated: This attribute is ignored.
<BaseBandPoolSettings.../>	poolNumber	Not applicable	M	integer	Deprecated: The element is ignored.
	radioIfType	**Radio interface type**	M	enum	
<Control.../>	externalAlarmUnit	Not applicable	O	enum	Deprecated: This element is ignored.
	portId	Not applicable	M	integer	

Element	Attribute	Wizard Option	M/O	Type	Description
	equipmentName	Not applicable	M	string	
	normallyOpen	Not applicable	M	enum	
<CabinetProductData.../>	productionDate	**Cabinet product data/Production date**	M	string	Deprecated: The element is ignored.
	productName	**Cabinet product data/Product name**	M	string	
	productNumber	**Cabinet product data/Product number**	M	string	
	productRevision	**Cabinet product data/Product revision**	M	string	
	productType	Not applicable	M	string	
	serialNumber	**Cabinet product data/Serial**	M	string	

Element	Attribute	Wizard Option	M/O	Type	Description
		number			
<CableSet.../>	sectorNumber	Not applicable	M	enum	This element is ignored.
	rfCablesSet	Not applicable	M	enum	
	digitalCablesSet	Not applicable	M	enum	

Table 132 Deprecated Attributes of O&M Access Configuration

Element	Attribute	Wizard Option	M/O	Type	Description
<EthernetSwitch> <...></...> </EthernetSwitch>	vlan	**Ethernet Switch / Enable VLAN**	M	enum	Deprecated: The element is ignored for RBS with DU.
	etxSlot	Not applicable	M	String	
<VlanMembership.../>	action	Not applicable	M	enum	Deprecated: The element is ignored for RBS with DU.
	vid	**Ethernet Switch / VLAN Membership** (for the internal port) or **Switch**	M	integer	

Element	Attribute	Wizard Option	M/O	Type	Description
		Ports/ VLAN membership			
	egressUntag	**Ethernet Switch VLAN Membership** or **Switch Ports/ VLAN membership**	M	enum	
<LinkAggregationGroup.../>	action	Not applicable	M	enum	Deprecated: The element is ignored for RBS with DU.
	lagId	Not applicable	M	string	
<EthernetSwitchPort.../>	portNo	**Switch Ports/ Port**	M	integerlong	Deprecated: The element is ignored for RBS with DU.
	systemPort	**Switch Ports/ System Port**	O	enum	
	administrativeState	**Switch Ports/ Adm State**	O	enum	
	untaggedIngressVid	**Switch Ports/ Untagged VID**	O	integer	
	untaggedIngressPriority	**Switch Ports/ Untagged Priority**	O	integer	

Table 133 Deprecated Attributes of Site Equipment Configuration

Element	Attribute	Wizard Option	M/O	Type	Description
<OptionalEquipmentConfiguration> <...></...> </OptionalEquipmentConfiguration>	configureXalm	**Optional equipment/Configure external alarm control unit (Xalm)**	O	enum	This attribute is ignored.
	npcTestConfig	Not applicable	O	enum	The attribute is ignored.
	isXalmInstalled	Not applicable	O	enum	Replaced by `configureXalm`
	useExternalPowerSupply	Not applicable	O	enum	Replaced by `configurePowerSupply`
	useExternalBatteryBackup	Not applicable	O	enum	Replaced by `configureBatteryBackup` Conversion: Values can be directly mapped to `configureBatteryBackup`
	configurePowerShelfFan	**Optional equipment/Configure power shelf fan**	O	enum	Deprecated: Only valid for RBS 3202 Ignore for all other RBS types
<SectorCapability.../>	rruInstalled	Not applicable	O	enum	Replaced by `auUnitType` Conversion: Value YES is mapped on value RRU22 of the `auUnitType` attribute. Value NO is mapped on value RRUWRRUS of the `auUnitType` attribute.
	numberOfRu	**Sector option**	O	enum	The attribute is ignored.

Element	Attribute	Wizard Options/ Frequency band n/ Number of RUs	M/O	Type	Description
	numberOfCarriers	**Sector options/ Frequency band n/No of carriers**	O	enum	The attribute is ignored.
	configurationGroup	**Configuration Group option**	O	enum	The attribute is ignored.
<SectorData.../>	mixedModeRadio	Not applicable	O	boolean	Deprecated: Replaced by `isSharedWithExternalMe`.
<TmaSector.../>	configureRet	Not applicable	O	enum	Replaced by `typeOfRet` Conversion: Value YES is mapped on attribute `typeOfRet` value RETU. Value NO is mapped on attribute `typeOfRet` value NONE.
<AntennaSetor.../>	band	**Sector antenna configuration/ Sector n/ Band**	O	integer	Replaced by `operatingBand` of the `Cell` element. Conversion: The values are directly mapped to `operatingBand` of the `operatingBand` element.
	freqBandHiEdgeBranchA	Not applicable	O	integer	Replace by `fqBandHighEdgeBranchA` Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 MHz units, otherwise the attribute is ignored.

Element	Attribute	Wizard Option	M/O	Type	Description
	freqBandLoEdgeBranchA	Not applicable	O	integer	Replaced by `fqBandLowEdgeBranchA` Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 MHz units, otherwise the attribute is ignored.
	freqBandHiEdgeBranchB	Not applicable	O	integer	Replaced by `fqBrandHighEdgeBranchB` Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 MHz units, otherwise the attribute is ignored.
	freqBandLoEdgeBranchB	Not applicable	O	integer	Replaced by `fqBrandLowEdgeBranchB` Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 MHz units, otherwise the attribute is ignored.
	dlJumperAttenuationBranchA	Not applicable	O	integer	Attributes not used. Merged with the corresponding attributes for branch A of the feeder.
	ulJumperAttenuationBranchA	Not applicable	O	integer	
	dlJumperDelayBranchA	Not applicable	O	integer	
	ulJumperDelayBranchA	Not applicable	O	integer	
	dlJumperAttenuationBranchB	Not applicable	O	integer	Attributes not used. Merged with the corresponding attributes for branch B of the feeder.
	ulJumperAttenuationBranchB	Not applicable	O	integer	
	dlJumperDelayBranchB	Not applicable	O	integer	
	ulJumperDelayBranchB	Not applicable	O	integer	
<InitiatedSector.../>	sectorInitiated	Not applicable	O	enum	The attribute is ignored.

Element	Attribute	Wizard Option	M/O	Type	Description
	frequencyPlanes	Not applicable	O	string	The attribute is ignored.
<Sector.../>	numberOfCells	Not applicable	O	enum	The attribute is ignored.
<Cell.../>	frequencyPlane	Not applicable	O	enum	Replaced by `cellNumber`
<CableSet.../>	sectorNumber	Not applicable	M	enum	The element is deprecated.
	rfCablesSet	**Sector antenna configuration/ RfCableSet**	M	enum	
	digitalCablesSet	**Sector antenna configuration/ DigitalCableSet**	O	enum	
<HsdpaSettings> <...></.../> </HsdpaSettings>	loadHs	Not applicable	O	enum	The attribute is ignored.
	slotsForHsdpa	Not applicable	O	string	Replaced by the element HsdpaSlot Conversion: One HsdpaSlot element is created for each slot specified in `slotsForHsdpa`. This conversion assigns `numHsCodeResources` = 1.
<Alarm.../>	connectorId	Not applicable	O	enum	Replaced with `sectorNumber` and `rruwPositionInSector`.

Table 134 Deprecated Attributes of Modify RBS Equipment Configuration

Element	Attribute	M/O	Type	Description
<AddControlSystemRedundancy.../>	redundantControlSystem	O	string	Deprecated: The element is ignored for RBS with DU.
<AddSector.../>	band	O	integer	Replaced by `operatingBand` of the `Cell` element. Conversion: The values are directly mapped to `operatingBand` of the `operatingBand` element.
< CableSet.../>	rfCablesSet	M	enum	Deprecated: The element is ignored.
	digitalCablesSet	M	enum	
<SectorData.../>	mixedModeRadio	O	boolean	Deprecated: replaced by `isSharedWithExternalMe`.
<DeleteRaxBoard.../>	raxSlot	M	integer	Deprecated: The element is ignored for RBS with DU
<AddIpEtBoard> <...></...> </AddIpEtBoard>	etxSlot	M	string	Deprecated: The element is ignored for RBS with DU.
	boardTye	M	enum	
<SectorCapability.../>	outputPower	O	enum	Deprecated: The attribute is ignored for RBS with DU.
	numberOfRu	O	enum	Deprecated: The attribute is ignored for RBS with DU.
	configurationGroup	O	enum	Deprecated: The attribute is ignored for RBS with DU.
	rruInstalled	O	enum	Deprecated: Replaced by `auUnitType` Conversion: Value YES is mapped on value RRU22 of the `auUnitType` attribute. Value NO is mapped on value RRUWRRUS of the `auUnitType` attribute.
	numberOfCarriers	O	enum	Deprecated: This attribute is ignored.
<AntennaBranch.../>	freqBandHiEdge	O	integer	Deprecation: Replaced by `fqBandHighEdge` . Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 Mhz units, otherwise ignore attributes.

Element	Attribute	M/O	Type	Description
	freqBandLoEdge	O	integer	Deprecation: Replaced by `fqBandLowEdge`. Conversion: For frequency band 1, 2, 5 extend range from UARFCN to 0.1 Mhz units, otherwise ignore attributes.
AddEtBoard	etbSlot	M	string	Deprecated: The element is ignored for RBS with DU.
	boardType	M	enum	
<Alarm.../>	connectorId	O	enum	Deprecated: Replaced with `sectorNumber` and `rruwPositionInSector`.
<AddExternalAlarmControlUnit.../>	configureXalm	O	enum	This attribute is deprecated.
<ModifyCabinet> <...></...> </ModifyCabinet>	cabinetType	O	string	Specifies the type of the cabinet to be added. Possible value: RBS6601W Only valid when `supportSystemControl` is changed from FALSE to TRUE and `cabinetNumber` is not 1.
<BaseBandPoolSettings.../>	poolNumber	M	integer	This element is deprecated.
	radioIfType	M	enum	
<ModifyPowerSystem.../>	batteryCapacity	O	integer	This attribute is deprecated.