Alcatel-Lucent 1850

Transport Service Switch (TSS-320/160)| Release 3.2.7

Customer Release Notes

8DG 08501 ABAA FMZZA
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Conformance statements

Interference Information: Part 15 of FCC Rules

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If the equipment is not installed and used in accordance with the guidelines in this document, the equipment may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the expense of the user.

Security statement

In rare instances, unauthorized individuals make connections to the telecommunications network through the use of remote access features. In such an event, applicable tariffs require that the customer pay all network charges for traffic. Alcatel-Lucent cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

Limited warranty

For terms and conditions of sale, contact your Alcatel-Lucent Account Team.

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About this document

Purpose

These Customer Release Notes provide information on the Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) features, known issues, resolved issues, software installation, and upgrade procedures.

Reason for revision

New maintenance release

Intended audience

This document is intended for individuals who are responsible for the installation, acceptance, operations, and maintenance of the Alcatel-Lucent 1850 TSS-320/160.

How to use this document

Chapter 1, "Features"

This chapter of the Customer Release Notes includes the delivered software, supported hardware, and new features to Release 3.2.7. It can also include a history of features from prior releases.

Chapter 2, "Issues"

This chapter of the Customer Release Notes provides a list of Known Issues in Release 3.2.7, any restrictions noted for Release 3.2.7 (which include the workaround and resolved restrictions), and a list of Resolved issues in Release 3.2.7.

Chapter 3, "Software "

This chapter provides the procedure to install the Release 3.2.7 software into a new network element. It also provides procedures to perform a software upgrade from previous releases to Release 3.2.7.

Safety information

For your safety, this document contains safety statements. Safety statements are given at points where risks of damage to personnel, equipment, and operation may exist. Failure to follow the directions in a safety statement may result in serious consequences.

For additional safety precautions, please see the *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Safety Guide, 8DG09086FAAA*.

Conventions used

This guide uses the following typographical conventions:

Appearance	description
emphasis	Text that is emphasized
document titles	Titles of books or other documents
file or directory names	The names of files or directories
graphical user interface text	Text that is displayed in a graphical user interface
keyboard keys	The name of a key on the keyboard
`system input`	Text that the user types or selects as input to a system
`system output`	Text that a system displays or prints
`variable`	A value or command-line parameter that the user provides
[ ]	Text or a value that is optional
{***`value1`*** | ***`value2`*** } {***`variable1`*** | ***`variable2`*** }	A choice of values or variables from which one value or variable is used

Related information

The following is a list of related documents:

Table 1 Related documentation

Document No.	Title	Updated for this Release
PN 8DG09086AAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Product Information and Planning Guide*	No

Document No.	Title	Updated for this Release
PN 8DG09086KAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) User Provisioning Guide*	No
PN 8DG09086DAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) TL1 User Provisioning Guide*	No
PN 8DG09086HAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Installation Guide*	No
PN 8DG09086MAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Installation and System Turn-up Guide(ANSI)*	No
PN 8DG09086JAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160 Turn-Up and Commissioning Guide (ETSI)*	No
PN 8DG09086CAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160 Maintenance and Trouble-Clearing Guide*	No
PN 8DG09086BAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) TL1 Command Guide*	No
PN 8DG09086EAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Command Line Interface Guide*	No
PN 8DG09086FAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Safety Guide*	No
PN 8DG09086GAAA	*Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Engineering Rules*	No

Online Customer Support (OLCS)

The following hyperlink can be used to access the Online Customer Support (OLCS) website for technical support information, ordering documentation, and software ordering.

https://support.alcatel-lucent.com/portal/olcsHome.do

Technical support

For technical support, contact your local Alcatel-Lucent customer support team. See the Online Customer Support (OLCS) website for contact information. Once at the OLCS website, choose Product Technical Support on the right-hand side of the page.

Documentation and software ordering

To order Alcatel-Lucent documents, contact your local sales representative or use the Online Customer Support Site (OLCS) website. Once at the OLCS website, choose My Products on the right-hand side of the page. From the Product page, you can access hyperlinks to Documentation and Downloads.

Software and documentation ordering

The following table summarizes the software and documentation ordering information:

Table 2 Software and documentation ordering

Ordering No.	description
8DG09145AKAA	Alcatel-Lucent 1850 TSS-320/160 Release 3.2.7 Software on CD-ROM, load 3.27-06
8DG09087AAAA	Alcatel-Lucent 1850 TSS-320/160 Release 3.2.7 Documentation on CD-ROM

How to comment

To comment on this document, go to the Online Comment Form (http://infodoc.alcatel-lucent.com/comments/) or e-mail your comments to the Comments Hotline (comments@alcatel-lucent.com).

1 Features

Overview

Purpose

This chapter of the Customer Release Notes provides a list of supported hardware, new features to Release 3.2.7, features from prior releases, features which have been significantly changed in this release, and any additional product changes.

Contents

This chapter discusses these topics:

Supported hardware

Supported hardware for Release 3.2.7

The following is a list of existing hardware included in Release 3.2.7:

Table 1-1 Existing hardware in Release 3.2.7, common parts

Part Number	description	ICS	Notes
3AL92151AA**	SHELF (TSS-320) (ETSI)	01	
8DG87303AA**	SHELF (TSS-160) (ETSI)	01	
3AL79242AA**	SHELF IDENTIFICATION	01	
3AL92108AA**	UNIVERSAL MATRIX (TSS-320) (ETSI)	03	1
3AL92108AB**	UNIVERSAL MATRIX (TSS-320) (ANSI/ETSI)	02	
8DG08044AA**	UNIVERSAL MATRIX (TSS-320) (ANSI/ETSI)	03	1
3AL92108AC**	UNIVERSAL MATRIX (TSS-320) W/ 40G LO (ANSI/ETSI)	01	
3AL92108AD**	UNIVERSAL MATRIX (TSS-160) (ETSI)	01	1
3AL92108AE**	UNIVERSAL MATRIX (TSS-160) (ANSI/ETSI)	01	
3AL92108AF**	UNIVERSAL MATRIX (TSS-160) W/ 20G LO (ANSI/ETSI)	01	
8DG07747AA**	LOWER ORDER ADAPTER 10G (1/2S)	01	
3AL92110AA**	EQUIPMENT CONTROLLER (TSS-320/TSS-160)	05	
3AL92110AC**	EQUIPMENT CONTROLLER (TSS-320/TSS-160)	01	
3AL92191AA**	POWER 2.0KW (TSS-320) (ETSI)	03	
8DG07990AA**	POWER 3.5KW (TSS-320) (ANSI/ETSI)	01	
8DG90031AA**	FAN UNIT (TSS-320) (ETSI)	01	
8DG90031AB**	FAN UNIT/2 (TSS-320) (ANSI/ETSI)	01	
8DG87202AA**	FAN UNIT (TSS-160) (ANSI/ETSI)	01	

Note 1: Only if memory is upgraded from 512 MB to 2 GB.

Table 1-2 Existing hardware in Release 3.2.7, Line cards

Part Number	description	ICS	Notes
8DG07931AA**	10XANY (1/2S)	03	
8DG07955AA**	OTU-2 PORT SLIM (1/2S)	02	
3AL92111AA**	1X10G SYNC OPTICAL (REQ. XFP) (1/2S)	02	
3AL92112AA**	4X2.5G SYNC OPTICAL (REQ. SFP) (1/2S)	01	
3AL92113AA**	8X155/622M SYNC OPTICAL (REQ. SFP) (1/2S)	01	
8DG08049AA**	1X10GE PACKET MODULE (1S)	01	
8DG08051AA**	10X1GE PACKET MODULE (1S)	01	
8DG08049AB**	1X10GE PACKET MODULE (1S) SYNC	01	
8DG08051AB**	10X1GE PACKET MODULE (1S) SYNC	01	
8DG08226AA**	MS PACKET MODULE (1S)	01	

Table 1-3 Existing hardware in Release 3.2.7, WDM cards

Part Number	description	ICS	Notes
8DG07885AA**	OMDX 8100 L1 DWDM (FOADM) (3/4S)	01	
8DG07885AB**	OMDX 8100 L1 DWDM (FOADM) (1S)	01	
8DG08665AA**	OMDX 8100 L2 DWDM (FOADM) (1S)	01	
8DG07826AA**	SINGLE PORT 11G PLUGGABLE OT (REQ DWDM XFP) (FOADM) (1/2S)	02	
3AL92874AA**	OADM2 1CH 1470 UNI (3/4S)	01	2
3AL92874AB**	OADM2 1CH 1490 UNI (3/4S)	01	2
3AL92874AC**	OADM2 1CH 1510 UNI (3/4S)	01	2
3AL92874AD**	OADM2 1CH 1530 UNI (3/4S)	01	2
3AL92874AE**	OADM2 1CH 1550 UNI (3/4S)	01	2
3AL92874AF**	OADM2 1CH 1570 UNI (3/4S)	01	2
3AL92874AG**	OADM2 1CH 1610 UNI (3/4S)	01	2
3AL92874AH**	OADM2 1CH 1590 UNI (3/4S)	01	2
3AL92874BE**	OADM2 2CH 1470-1490 UNI (3/4S)	01	2
3AL92874BF**	OADM2 2CH 1510-1530 UNI (3/4S)	01	2
3AL92874BG**	OADM2 2CH 1550-1570 UNI (3/4S)	01	2
3AL92874BH**	OADM2 2CH 1590-1610 UNI (3/4S)	01	2
3AL97653FA**	OADM 4CH 1470-1490-1510-1530 UNI (3/4D)	02	2
3AL97653FC**	OADM 4CH 1550-1570-1590-1610 UNI (3/4D)	02	2
3AL92875BA**	2F 1CH MDX W/ 1310NM FILTER (3/4S)	01	2
3AL92875CA**	2F 2CH MDX 1470-1490 W/ 1310NM FILTER (3/4S)	01	2
3AL92875CD**	2F 2CH MDX 1590-1610 W/ 1310NM FILTER (3/4S)	01	2
3AL92875CC**	2F 2CH MDX 1550-1570 W/ 1310NM FILTER (3/4S)	01	2
3AL92875CB**	2F 2CH MDX 1510-1530 W/ 1310NM FILTER (3/4S)	01	2
3AL92875AA**	2F 8CH MDX2 (3/4S)	01	2
3AL92875AB**	2F 8CH MDX2 W/ 1310NM FILTER (3/4S)	01	2
3AL97657CA**	DUAL CWLA3 CARD (REQ. SFP) (3/4S)	01	2
8DG07852AA**	BOOSTER +10DBM LC (1/2S)	01	
8DG07855AA**	PREAMPL. 10GB/S LC CH34 (1/2S)	01	
8DG08666AA**	LOFA 1111 - OPTICAL AMPLIFIER 22/9 (17DB) (FOADM) (1S)	01	

Note 2: supported on TSS-320 shelf only

Table 1-4 Existing hardware in Release 3.2.7, SFP modules

Optical Modules - SFPs PART NUMBER	DESCRIPTION	8DG07931AA**	3AL92113AA**	3AL92112AA**	8DG08051AA**	8DG08051AB**	3AL97657CA**
		10XANY (1/2S)	8X155/622M SYNC OPTICAL	4X2.5G SYNC OPTICAL	10X1GE PACKET MODULE	10X1GE PACKET MODULE SYNC	DUAL CWLA3 CARD
1AB357990001	OE-TRX SFP 100B FX	X					
1AB359780001	EL TRX SFP 1000BASE-T	X			X	X	
1AB187280031	OPTO TRX SFP 1GBE LX DDM	X			X	X	
1AB187280033	OPTO TRX SFP 1GBE SX DDM	X			X	X	
1AB187280040	OPTO TRX SFP 1.25GBE LX DDM -40/+85	X			X	X	
1AB187280042	OPTO TRX SFP 1GBE ZX DDM	X			X	X	
1AB187280045	OPTO TRX SFP 1.25GBE SX DDM -40/+85	X			X	X	
1AB194670004	OPTO TRX SFP S-1.1 DDM	X	X				
1AB194670005	OPTO TRX SFP L-1.1 DDM -40/+85	X	X				
1AB194670006	OPTO TRX SFP L-1.2 DDM -40/+85	X	X				
1AB194670007	OPTO TRX SFP S-1.1 DDM -40/+85	X	X				
1AB196340009	CWDM 1470NM PIN SFP DDM	X		X			X
1AB196340010	CWDM 1490NM PIN SFP DDM	X		X			X
1AB196340011	CWDM 1510NM PIN SFP DDM	X		X			X
1AB196340012	CWDM 1530NM PIN SFP DDM	X		X			X
1AB196340013	CWDM 1550NM PIN SFP DDM	X		X			X
1AB196340014	CWDM 1570NM PIN SFP DDM	X		X			X
1AB196340015	CWDM 1590NM PIN SFP DDM	X		X			X
1AB196340016	CWDM 1610NM PIN SFP DDM	X		X			X
1AB196350026	CWDM 1470NM APD SFP DDM	X		X			X
1AB196350027	CWDM 1490NM APD SFP DDM	X		X			X
1AB196350028	CWDM 1510NM APD SFP DDM	X		X			X
1AB196350029	CWDM 1530NM APD SFP DDM	X		X			X
1AB196350030	CWDM 1550NM APD SFP DDM	X		X			X
1AB196350031	CWDM 1570NM APD SFP DDM	X		X			X
1AB196350032	CWDM 1590NM APD SFP DDM	X		X			X

Optical Modules - SFPs PART NUMBER	DESCRIPTION	8DG07931AA** 10XANY (1/2S)	3AL92113AA** 8X155/622M SYNC OPTICAL	3AL92112AA** 4X2.5G SYNC OPTICAL	8DG08051AA** 10X1GE PACKET MODULE	8DG08051AB** 10X1GE PACKET MODULE SYNC	3AL97657CA** DUAL CWLA3 CARD
1AB196350033	CWDM 1610NM APD SFP DDM	X		X			X
1AB196360004	OPTO TRX SFP S-4.1 DDM	X	X				
1AB196360005	OPTO TRX SFP S-4.1 DDM -40/+85	X	X				
1AB196360006	OPTO TRX SFP L-4.1 DDM -40/+85	X	X				
1AB196360007	OPTO TRX SFP L-4.2 DDM -40/+85	X	X				
1AB196370005	OPTO TRX SFP I-16.1 DDM	X	X	X			X
1AB196370006	OPTO TRX SFP S-16.1 DDM -5/+85	X	X	X			X
1AB196370007	OPTO TRX SFP S-16.1 ANYRATE DDM						X
1AB196370008	OPTO TRX SFP L-16.1 DDM -5/+80	X	X	X			X
1AB196370009	OPTO TRX SFP L-16.2 DDM -5/+80	X	X	X			X
1AB196370013	OPTO TRX SFP I-16.1 DDM -40/+85	X	X	X			X

Table 1-5 Existing hardware in Release 3.2.7, XFP modules

Optical Modules - XFPs PART NUMBER	DESCRIPTION	3AL92111AA**	8DG08049AA**	8DG08049AB**	8DG07826AA**
		1X10G SYNC OPTICAL	1X10GE PACKET MODULE	1X10GE PACKET MODULE SYNC	SINGLE PORT 11G PLUGGABLE OT
1AB214540001	XFP I-64.1/10GBE BASE L	X	X	X	X
1AB214540002	XFP 10GBE BASE S (UP TO 10.3 GBS)		X	X	X
1AB217280001	XFP S64-2B/10GBE BASE E	X	X	X	X
1AB217280002	XFP P1L1-2D2	X	X	X	X
1AB356630023	OE-TRX XFP DWDM CH38	X	X	X	X
1AB356630024	OE-TRX XFP DWDM CH37	X	X	X	X
1AB356630025	OE-TRX XFP DWDM CH36	X	X	X	X
1AB356630026	OE-TRX XFP DWDM CH35	X	X	X	X
1AB356630027	OE-TRX XFP DWDM CH34	X	X	X	X
1AB356630028	OE-TRX XFP DWDM CH33	X	X	X	X
1AB356630029	OE-TRX XFP DWDM CH32	X	X	X	X
1AB356630030	OE-TRX XFP DWDM CH31	X	X	X	X
1AB356630031	OE-TRX XFP DWDM CH30	X	X	X	X
1AB356630033	OE-TRX XFP DWDM CH28	X	X	X	X
1AB356630034	OE-TRX XFP DWDM CH27	X	X	X	X
1AB356630035	OE-TRX XFP DWDM CH26	X	X	X	X
1AB356630036	OE-TRX XFP DWDM CH25	X	X	X	X
1AB356630038	OE-TRX XFP DWDM CH23	X	X	X	X
1AB356630039	OE-TRX XFP DWDM CH22	X	X	X	X
1AB356630040	OE-TRX XFP DWDM CH21	X	X	X	X
1AB356630041	OE-TRX XFP DWDM CH20	X	X	X	X
1AB378370001	ALU XFP CWDM-LH 1471NM	X	X	X	X

Optical Modules - XFPs	DESCRIPTION	3AL92111AA** 1X10G SYNC OPTICAL	8DG08049AA** 1X10GE PACKET MODULE	8DG08049AB** 1X10GE PACKET MODULE SYNC	8DG07826AA** SINGLE PORT 11G PLUGGABLE OT
1AB378370002	ALU XFP CWDM-LH 1491NM	X	X	X	X
1AB378370003	ALU XFP CWDM-LH 1511NM	X	X	X	X
1AB378370004	ALU XFP CWDM-LH 1531NM	X	X	X	X
1AB378370005	ALU XFP CWDM-LH 1551NM	X	X	X	X
1AB378370006	ALU XFP CWDM-LH 1571NM	X	X	X	X
1AB378370007	ALU XFP CWDM-LH 1591NM	X	X	X	X
1AB378370008	ALU XFP CWDM-LH 1611NM	X	X	X	X

New features in Release 3.2.7

Description

No new features in this release.

Prior release features

Description

This section summarizes all features from prior releases.

General Features

1 Introduction

2 Shelf and common carts

GF2953: Alcatel-Lucent 1850 TSS-160 shelf

Feature description

Support of Alcatel-Lucent 1850 TSS-160 shelf.

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-160 only.

GF1339: Alcatel-Lucent 1850 TSS-320 shelf

Feature description

Support of Alcatel-Lucent 1850 TSS-320 shelf.

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-320 only.

GF1341: Equipment controller, shelf controller (matrix), power supply filter, service card, FAN unit

Feature description

Generic Network Element functionalities (e.g., controller, switching, powering, etc.) are supported by a set of common cards, which are independent from the supported services or layers (e.g., the matrix is agnostic with respect to the type of traffic it switches)

Release specific

R3.0 and later releases: Service card is not supported.

GF3397: NG-TRU top rack unit 2.0KW

Release specific

R3.0: Only Alcatel-Lucent 1850 TSS-320 support (limited to configurations dissipating up to 2.0KW).

R3.1 and later releases: Alcatel-Lucent 1850 TSS-320 and Alcatel-Lucent 1850 TSS-160 can be powered by 2.0KW Top Rack Unit.

GF2453: TRU top rack Unit 3.5KW

Feature description

The power supply is able to provide power up to 3.5KW to the Network Element.

GF2954: ANSI bay support 14" deep 23" wide

Feature description

The subrack can be mounted in a 14" deep

and 23" wide ANSI SNBF (seismic network bay frame).

GF2723: ETSI 300-mm bay support

Feature description

The shelf can be mounted in an ETSI-2 (300 mm deep) rack, in front access only configuration. Baffles (air deflectors) are available to support correct air flow when mounting the subrack together with other miscellaneous equipments.

GF2724: cable design

Feature description

The system uses for internal and external cabling only halogen free cables.

3 Equipment

GF2956: Alcatel-Lucent 1850 TSS-160 agnostic Matrix

Feature description

The Network Equipment matrix supports agnostic switching (e.g., TDM Higher Order, Packet switching, etc.).

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-160 only.

GF1346: TSS-320 Agnostic Matrix

Feature description

The Network Equipment matrix supports agnostic switching (e.g. TDM Higher Order, Packet switching, etc.)

Applicability

This feature is applicable to TSS-320 only

GF2957: 160 Gb/s HO & 20Gb/s LO Sonet/SDH Agnostic Matrix for TSS160

Feature description

The system supports an enhanced agnostic Matrix able to support also Lower Order switching functionality

Applicability

This feature is applicable to TSS-160 only

GF1347: 320 Gb/s HO & 40Gb/s LO Sonet/SDH Agnostic Matrix for TSS320

Feature description

The system supports an enhanced agnostic Matrix able to support also Lower Order switching functionality

Applicability

This feature is applicable to TSS-320 only

GF1363: Double (A & B) power feeds w/ alarm

Feature description

The system supports a redundant power supply system

GF1364: Auto-recovery after power shut-down

Feature description

In case of complete power failure (both A and B power feeds), the system is able to recover without any manual intervention

GF2847: Enhanced start-up boot time

Feature description

Start-up boot time from power-off (cold boot time) is max 10 minutes

4 Equipment protection

GF1351: 1+1 Matrix EPS

Feature description

The Network Element supports redundant matrices (1+1 protection)

GF1352:

1+1 Equipment controller EPS

Feature description

Controller Redundancy - Node controller (FLC). The system supports redundant node controllers, with protection switching independent from the shelf controllers.

GF1353: Resilience to traffic loss if controller/local DB is damaged/lost

Feature description

In case the Equipment controller is damaged or the Local DB on the controller is lost, the Traffic continues to flow through the node

GF2121: 1+1 power shelf EPS

Feature description

The Network Element supports redundant power supply units (1+1 protection). It is possible to perform hot replacement of 1 of the 2 power shelf supply without traffic interruption.

GF2452: LOA EPS

Feature description

Lower Order Adaptation card, needed together with the Lower Order matrix to provide LO switching capability.

LOA boards have 10G capacity each, and can be protected 2+1.

GF2727: System lifetime

Feature description

The system is designed and complies to 15 years of life time.

GF2728: Fan lifetime

Feature description

The fan of the subrack is designed for 36-year lifetime.

GF2729: Mass memory lifetime

Feature description

The Hard Disk / Compact Flash has a lifetime of 7.5 year.

Release specific

The mass memory is used inside the Equipment Controller (FLC).

GF2730: Management plane reliability

Feature description

Management Plane Reliability

The system provides five 9's of reliability across its management plane.

Note: Only possible with dual DCN access (e.g. Q-LAN or ECC) and duplex control.

GF2731: Transmission plane reliability

Feature description

The system provides five 9's of reliability across its transmission plane according to Bellcore GR-418-CORE and GR-499-CORE.

Note: Only possible with network protection and equipment protection in place.

GF2732: Optical facility loopback

Feature description

The system supports facility loopbacks on all optical (WDM) system interfaces (line and client interfaces). Line interfaces mean only the OTU line side signal.

4.1 ANSI power requirements

GF2153: Redundant independent battery power plants

Feature description

Each rack accepts redundant independent battery power plants with a diversely routed dual bus.

GF2154: Low-input voltage shutdown

Feature description

Any module that uses distributed TMN battery voltage has a low input voltage shutdown feature. The low input voltage shutdown occurs when the input voltage measured at the input terminals of the equipment is -39.5VDC to - 37.5 VDC

GF2155: Automatically restart after a low-voltage shutdown

Feature description

All modules that use distributed TMN battery voltage are able to automatically restart after a low voltage shut down. The restart occurs at an input voltage of -43V DC (nominal). The system returns to normal operation without manual intervention.

GF2156: Battery return feeder input isolation

Feature description

The battery return of each feeder input and frame ground is isolated from the battery returns of the other feeder inputs.

GF2123: Low-impedance bond to the protective grounding system.

Feature description

The NE provides a low-impedance bond to the protective grounding system. Battery returns and chassis ground are isolated from each other.

GF2124: Electrical frame-grounding terminal

Feature description

The NE provides an electrical frame-grounding terminal at a location on the rack that is easily accessible to the installer.

GF2125: Electrical fast transient compliance

Feature description

The NE meets Electrical Fast Transient per GR-1089-Core, Issue 3, October 2002, Section 2.2 and 2.2.1.

GF2126: Major alarm on power sequence fault

Feature description

The NE initiates a major alarm when a power sequence fault, an under-voltage fault, an over-voltage fault, or an over-current fault is detected on any of the power supplies/feeds.

GF2128: Fuse/breaker alarm

Feature description

Alarm is raised when a fuse is blown, or a breaker tripped.

GF2748: Secondary power supply (AT&T version): input supervision and shutdown

Feature description

All power inputs can be supervised individually. The thresholds for under voltage is between -39.0V (+1 V / -1V). Threshold crossings raise an alarm.

The system provides a shutdown feature according AT&T 802-010-100. (shutoff at -38.5Vdc +/- 1.0Vdc).

Release specific

R3.2: No shutdown as per AT&T standard.

Shutdown is applicable to step-up: when the voltage is under threshold, the step-up powers down the interface towards the Power card and the Power card raises an alarm ("Power Alarm").

GF2749: Bellcore compatible grounding

Feature description

The system supports earthing compatible according to GR1089 (Mesh-IBN).

5 Certification/testing

GF1366: ETSI environmental compliance

Feature description

The NE is compliant to the ETSI environmental standards.

GF2132: NEBS Level 3 environmental compliance (EMI, Safety)

Feature description

The NE meets NEBS Level 3 requirements of SR-3580 and GR-1089-CORE for the following areas:

- Electrostatic Discharge

- Electromagnetic Interference (EMI) - emissions

- EMI - immunity

- Bonding and Grounding

- Safety

GF1368: EMC qualification

Feature description

The NE is qualified for Electro magnetic compatibility and immunity, according to the relevant standards.

GF2026: RUS Rural Utility Service

Feature description

Government certification - Rural Utility Service requires that at least a portion of the equipment is made in US.

GF2034: GR-63-CORE

Feature description

Compliance to GR-63-CORE.

GF2032: GR-78

Feature description

Compliance to GR-78.

GF2031: FCC Part 15 Class A

Feature description

The NE is compliant with FCC Part 15 Class A.

GF2030: GR-1230-Core

Feature description

Compliance to GR-1230-CORE.

GF2029: GR-253-Core

Feature description

Compliance to GR-253-CORE.

GF2028: IEEE power plant equip spec.

Feature description

Compliance to IEEE Power Plant Equip. specifications.

GF2027: UL Certification UL 1950 / UL 60950 (1459?)

Feature description

The NE is UL certified.

GF1373: Environmental priorities

Feature description

The NE is compliant with the Environmental Priorities as defined in the Alcatel-Lucent Corporate Announcement « Environmental Affairs Organization », June 10, 2002

GF1374: Environmental objectives

Feature description

The NE is compliant with the Environmental Objectives as defined in the Alcatel Sustainable Development Objectives 2002

GF1375: Environmental management

Feature description

The NE is compliant with the « Alcatel Product Environmental Management » (APEM) Standard

GF1376: Ecological design, purchasing and manufacturing

Feature description

The NE is compliant with the Alcatel « Ecological Design, Purchasing and Manufacturing» Standard, according to 1AA 00266 0001 ASZZA, ed02

GF1377: Eco-declaration

Feature description

The NE is supported by an Eco-Declaration according to ECMA-TR/70

GF3634: Environmental, 6,000 ft. altitude

Feature description

The NE is certified to operate at 6,000 ft elevation.

GF2044: Environmental, storage -40-+85 Deg. C, 5-95% RH

Feature description

The NE can be stored at the following environmental conditions: -40-+85 Deg. C, 5-95% RH

GF2048: Canadian Safety Assoc. CSA-22.2-No.25-M90

Feature description

The NE is certified as per Canadian Safety Assoc. CSA-22.2-No.25-M90, as part of UL certification

GF2459: Dust filter

Feature description

The NE supports the usage of a Dust filter for dirt environments exceeding class 3.2 ETSI (Dust OND requirement)

GF2752: FAN unit management

Feature description

Management of the Fan unit

GF2754: Software control of fan speed

Feature description

The fan unit supports SW control of rotation speed, so the fans can be slowed down at lower temperatures, rather than always running at full speed. This feature helps to save power, reduce noise and increment fan lifetime.

GF2755: Product safety

Feature description

The equipment complies with the requirements for safety as stated in IEC 60850-1, EN 60950-1 (CENELEC), UL 60950-1, CAN/CSA-C22.2 No. 60950-1, GR-1089-Core, GR63-Core and UL94V-0.

GF2756: Optical safety

Feature description

All parts of the system are designed to operate and be capable of being maintained without hazard to personnel from optical radiation. In that respect, the systems complies with G.664 and IEC-60825-1 "Safety of Laser Products Part 1: Equipment classification, requirements and user's guide" and IEC-60825-2 "Safety of Laser Products Part 2: Safety of Optical Fiber Communication Systems (OFCS)."

GF2757: RoHS Compliance

Feature description

The system fulfills the RoHS regulation of the European community.

GF2758: FDA approval - laser safety

Feature description

The system optical laser safety is certified with FDA approval.

GF2759: Jitter and wander ITU-T / Telcordia compliant

Feature description

Jitter and wander tolerance, transfer and production are according to ITU-T Recommendations G.783, G.813 (option 1), G.823 and G.825 and GR-253 issue 4 (2004). In addition all STM-N / STS-N outputs meet the 0.01 UI rms jitter production specification (12 kHz and above).

7 Opex saving features

GF1379: Auto-provisioning

Feature description

The system supports board auto-provisioning, to speed up NE configuration. Boards are automatically discovered and presented to the operator for confirmation.

GF1380: Auto-inventory

Feature description

The NE supports auto-inventory of all equipment, including all pluggable modules.

GF2183: In service Agnostic matrix upgrade to LO switching capability

Feature description

The system supports the in-service upgrade of the agnostic matrix without Low Order switching capability to a matrix with LO switching capability. The procedure requires an EPS protection switch between matrices.

GF1386: Fast SW download

Release specific

R3.0 and later releases: Download time from ZIC is about 1 hour. SW activation is less than 2 minutes.

GF1393: Remote debug interface

Feature description

Remote debug interface is available, to allow operation people to perform trouble clearing from remote locations.

GF3486: Remote debugging access

Feature description

The system supports a remote debug LAN interface via DCN. This access is user configurable.

GF1395: NE addressing

Feature description

MAC address is not lost in case of single HW failure.

GF1396: Zero Installation CT (ZIC)

Feature description

The system supports a web based craft terminal interface. The ZIC enables CT management connection to the NE with a personal computer equipped only with a web browser.

GF3392: Browser access to ZIC

Feature description

Browser access to ZIC may be based on either HTTP or HTTPS

Release specific

R3.0 and later releases: Browser access to ZIC is based on HTTP only.

GF2054: Remote hard reset on a per module basis

Feature description

It is possible to perform board hard reset from remote, with board granularity.

GF2055: Card Hot replacement causing no far end alarms

Feature description

This feature consists in not causing far end alarms when a protected resource that failed is substituted with a new one.

GF2059: Central office alarms (audible & Visual)

Feature description

The system supports central office alarms (audible & Visual) for critical/major/minor alarms.

Release specific

R3.0 and later releases: only visible alarms.

GF2068: Auto turn up

Feature description

The system software is able to auto detect the HW configuration and put the system in service consistent with the "Automatic in service" feature, and will require provisioning only for cross-connections and synchronization.

GF2814: AINS automatic in-service, fixed delay

Feature description

The system supports an Auto turn-up wait feature that inhibits facility alarms until a good signal is received. Alarms and PMs are then activated.

8 Management

8.1 General

GF1399: Remote craft terminal (DCC, serial port, dial up)

Feature description

The system supports a remote CT with the same functionalities allowed by local CT (i.e. provisioning, alarm surveillance, SW downloading).

GF2860: 1350OMS management

Feature description

Support for 1350OMS management system.

GF2760: LAN access for management

Feature description

The NE provides a LAN access for management i/f.

GF3489: LAN DCN negotiation capabilities

Feature description

LAN DCN for management must be configurable in the following negotiation modes:

- Auto-negotiation (default)

- No auto negotiation, with manual configuration of speed parameters

Release specific

R3.1 and later releases: partial support.

GF1400: ANTP time synchronization protocol

Feature description

The NE supports the ANTP Time Synchronization protocol, to align NE time with an ANTP server.

GF2017: SW download

Feature description

The NE supports SW download both locally and remotely.

GF2011: Card management

Feature description

The Card Management is TL1 based.

GF2012: Card Equipment Inventory

Feature description

The data of all active devices (e.g. Pluggable Optics, Shelf, boards, etc.) can be retrieved.

GF2015: Multiple manager system

Feature description

The system allows different managers to monitor the NE at the same time (e.g. one for Data and one for the Transport layer)

GF2016: Ping management

Feature description

The NE supports node ping functionality.

GF1404: ANSI Transport SW mgmt based on TL1

Feature description

ANSI Transport SW management is based on TL1.

GF1405: ANSI Data SW mgmt based on SNMP and CLI

Feature description

SNMP and CLI interfaces are available for support of data service management (equipment management is provided via TL1).

GF2812: Full data DCN management

Feature description

In band DCN is available on Ethernet links (see linked features in data encapsulation part D12197 and D12198).

GF2013: IP Management Address configuration

Feature description

It is possible to configure the IP address used for management.

GF3522: Dual IP address per management interface

Feature description

Nested inband management for managing stacked equipments.

GF2813: Integrated IS-IS support

Feature description

The NE supports Integrated IS-IS as per RFC1195.

GF1408: Remote back-up and restore

Feature description

The system supports remote back-up and restore for all the equipment and facility configuration data. It is possible to perform Remote Back-up and Restore in local and remote CT configuration.

GF1409: NE Auto upload and consistency check

Feature description

The system supports NMS autodiscovery. The NE self notifies itself to NMS as soon OS address information is set by CT, so that it can be automatically taken into account in the "newly discovered NE list" of NMS.

GF1411: Optical module management

Feature description

The NE supports the management of SFP/XFP optical pluggable modules. The NE is able to declare a mismatch if the plugged optical module is different from the expected one, as provisioned by the operator.

GF2139: Digital diagnostics (DDM)

Feature description

The NE supports DDM functionality management for pluggable optical modules.

GF2141: Support of alien SFPs

Feature description

The NE supports the possibility to use also pluggable optical module not sourced and certified by Alcatel-Lucent. In this case, some functionality may not be provided (e.g. DDM or PM), and Alcatel-Lucent does not guarantees function, performances or compatibility of the alien optical modules.

GF2142: Re-usage of Alcatel-Lucent qualified optical pluggable modules

Feature description

The NE maximizes to the maximum extent possible the usage of SFP/XFP in common with other Alcatel-Lucent equipments, to allow the customers to reduce the inventories and ease inventory management.

GF2157: CLEI code

Feature description

CLEI Codes are available for all items composing the NE (e.g.. shelf, boards, optical pluggable modules), both printed and in remote inventory (SW management), with the sole exception of pure mechanical items (e.g.. dummy plates, air deflectors, etc.)

GF2075: TARP support (Need for DCC OSI support)

Feature description

Application Layer protocol for name resolution via TARP (TL1 address resolution protocol). The NE implements TARP responder and propagator roles.

GF2081: Section and line DCC OSI and TCPIP (D1-D12, E1)

Feature description

The NE supports section and Line DCC OSI and TCPIP (D1-D12, E1).

GF2082: Primary Provisioning non-volatile backup memory

Feature description

The NE supports a primary Provisioning Non-Volatile backup memory.

GF2086: Equip. self inventory, local and remote access

Feature description

The NE supports equipment self inventory, on local and remote access.

GF2087: Equip. inventory data, service state

Feature description

The NE supports equipment inventory Data for Service State retrieval.

GF2088: Equip. inventory data, unit CLEI code

Feature description

The NE supports equipment inventory data for unit CLEI code retrieval.

GF2089: Equip. inventory data, unit full mnemonic

Feature description

The NE supports equipment inventory data for unit full mnemonic retrieval.

GF2090: Equip. inventory data, unit location

Feature description

The NE supports equipment inventory data for unit location retrieval.

GF2091: Equip. inventory data, unit part number

Feature description

The NE supports equipment inventory data for Unit Part Number retrieval.

GF2092: Equip. inventory data, unit serial number

Feature description

The NE supports equipment inventory data for Unit Serial Number retrieval.

GF2093: Equip. inventory data, unit revision level

Feature description

The NE supports equipment inventory data for Unit Revision Level retrieval.

GF2468: TDM boards max number of line DCCs

Feature description

The SDH/SONET boards support up to 4 line DCCs.

GF2469: TDM boards max number of section DCCs

Feature description

The SDH/SONET boards support up to 4 section DCCs.

GF2102: Support of section DCC on all SONET/SDH optical interfaces

Feature description

Maximum number is 4RS+4MS channels for each slot.

Total maximum number for shelf is 32RS +32MS channels.

GF2180: IP over OSI tunneling (proprietary solution)

GF2181: IP over OSI tunneling (standard solution)

Feature description

IP over OSI tunneling as per RFC 3147 standard.

GF2182: OSI over IP (standard solution)

Feature description

OSI over IP as per RFC 2784 standard.

GF3521: OSI over PPP over MPLS

GF3390: DCC transparency

Feature description

Support of DCC transparency, i.e., provisionable static forwarding of LAPD/PPP frames between a couple of Section or Line DCC.

GF2780: Application layer protocol for file transfer (FTP)

Feature description

The system supports FTP over TCP/IP (for SW download and database up-/download).

GF2765: T-TD: 300 logins per TCP/IP session

Feature description

The system supports at least 300 parallel logins per TCP/IP session.

Release specific

R3.0 and later releases: the system is limited to maximum 6 parallel logins.

GF2771: TCP for support of IP-access networks

Feature description

The network element provides the TCP service for end-to-end communication with the SNMS and CT via an IP-access network. This TCP service is used in the T-TD gateway and by the File Transfer Protocol in any network element.

GF2772: Network neighbor visibility

Feature description

Network Neighbors on the LAN are visible.

GF2773: Network neighbor visibility general

Feature description

ECC network neighbors are visible to each other.

GF2774: MCN network Info

Feature description

The system can report other systems, reachable via the ISIS protocol, either for the level 1 area or for both, the level 1+2 area.

The reachable systems are reported with their NSAP and TID and a counter of reachable systems per level 1 area. This info is available per OSI node, or as a summary for all OSI nodes.

GF2863: User configurable NSAP fields (AFI, IDP, DFI)

Feature description

The NE supports the possibility to configure NSAP fields (AFI, IDP, DFI) via TL1.

GF2775: IP over Ethernet (LAN Layer 2 protocol)

Feature description

The NE supports IP over Ethernet (LAN Layer 2 network) for management. The LAN layer 2 protocol is compliant to RFC894.

GF2841: IP/CNLP over PPP over Ethernet tagged (802.1q) over GFP

Feature description

In fiber in band management over GFP in case of TDM interworking. Provider Bridge scenario.

GF2842: IP/CNLP over PPP over MPLS tagged over GFP

Feature description

The system supports In fiber - In band management over GFP in case of TDM interworking, for MPLS/TMPLS scenario.

GF2779: ECC Layer 3 protocol for IP

Feature description

The system supports, as ECC layer 3 protocols on the management interface, IP, ARP, ICMP.

Note: Does not apply to SCN.

Note: Use of ARP does not apply for internal DCC connectivity.

GF2782: SNMP MIB II

Feature description

The system supports the mandatory aspects of the object types in RFC 1213.

Note: for packet only.

GF2783: Generic interface MIBs

Feature description

The system supports the generic interface MIBs as per RFC 2863 and RFC2864.

Note: for packet only.

GF2784: Ethernet interface MIB

Feature description

The system supports the Ethernet Interface MIB as per IETF RFC 2358 and RFC 3635.

Note: for packet transmission interfaces only.

GF2790: In-service generic upgrade - No forwarding engine

Feature description

The system supports the ability to perform release upgrades without impact to service. In the initial release this does not apply to the forwarding engine and control plane on the Packet subsystem.

GF2791: Cold start time

Feature description

The cold start time for initializing the system is 10 minutes

GF2792: Warm start time

Feature description

The warm start time for initializing the system is 5 minutes.

GF2793: Node controller reset

Feature description

The system supports both local (cold boot) and remote (warm boot) node controller reset capability.

GF2794: Shelf controller reset

Feature description

The system supports both local (cold boot) and remote (warm boot) shelf controller reset capability.

GF2795: Circuit pack controller reset

Feature description

The system supports both local (cold boot) and remote (warm boot) circuit pack controller (applicable to circuit packs with on-board controllers) reset capability.

GF2797: Database maintenance procedure

Feature description

The system does support the backup and recovery procedure for database maintenance purposes.

The active progress status is indicated.

The information that are backed up are in maximum 30 hours old.

The system can handle either one database backup or one restore procedure at one time.

The database backup and recovery procedure can be either time scheduled or done per manual request.

The procedure is implemented according GR-2932-CORE.

GF3532: Proxy-ARP configurability and DB persistency

Feature description

Feature supported

GF3533: L2 OSI routing, large networks

Feature description

L2 OSI routing is capable to address networks larger than 240 nodes,

GF3534: OSI area configurability

Feature description

Feature supported.

8.2 Logs

GF3081: Support of TL1 command log

Feature description

The system supports TL1 command log in order to enhance the information content already given by the available TL1 notification log. This is to improve diagnosis possibilities, e.g., for the maintenance team. The system password is not logged.

GF2786: Enhanced alarm events storage

Feature description

The NE controllers can store the most recent alarm events. This alarm log can be forwarded via the EMS interfaces. The logs are stored in a non-volatile memory.

Release specific

R3.1 and later releases: Limited to 500 alarms and events.

GF2787: Enhanced database change events storage

Feature description

The NE controllers can store the most recent database change events. This database change log can be forwarded via the EMS interfaces. The logs are stored in a non-volatile memory.

Release specific

R3.1 and later releases: Limited to 500 alarms and events

GF2789: Security events storage

Feature description

The NE can store the 500 most recent security events. This security log can be forwarded via the EMS interfaces. The logs are stored in a non-volatile memory.

GF3399: Log retrieval via file transfer

Feature description

Capability to store logs in a file that can be retrieved by the management system via FTP or FTAM, to optimize bandwidth and simplify the request mechanism.

8.3 Alarms

GF1999: Alarm severity configuration

Feature description

The NE supports the Alarm severity configuration.

GF2001: Alarm severity management

Feature description

The NE supports the Alarm severity management.

GF2002: Current alarm management

Feature description

The NE supports the Current alarm management.

GF2003: History alarm management

Feature description

The NE supports the History alarm management.

GF2004: Alarm synchronization management

Feature description

The NE supports the Alarm synchronization management.

GF2798: Programmable Alarm severity

Feature description

The NE supports the Programmable Alarm severity

GF2005: Inhibit alarm(s) filter

Feature description

The NE supports the Inhibit alarm(s) filter

GF1412: Path Maintenance State

Feature description

The NE supports enabling of alarm reporting to management system on service state.

GF3639: ASAP profiles for ANSI and ETSI

Feature description

Different default severity ASAP profiles are available for ANSI and ETSI functioning modes for global releases.

GF2104: Alarm correlation

Feature description

The NE supports alarm correlation.

GF2107: Near end/far end visual indicator

Feature description

The NE supports near end/far end visual indicator.

GF2108: Module visual failure

Feature description

The NE supports module visual failure via units front panel LEDs.

GF2109: Far end alarm

Feature description

The NE supports far end alarm.

GF2110: Fault identification of failed equipment

Feature description

The NE supports fault identification of failed equipment.

GF2112: Remote alarms Craft retrieval

Feature description

The NE supports remote alarms Craft retrieval.

GF2318: Over-temperature alarm

Feature description

Alarm at NE level based on measurements of absolute temperature of FAN units and of delta temperature between them. The alarm is generated when a (fixed) threshold(s) is crossed.

GF2800: Alarm performance

Feature description

The system is capable to process and transmit up to 1000 Alarms per minute. The buffer capacity is 2000 alarms.

8.4 Protection

8.5 Security

GF2007: User login/logout (CT)

Feature description

The NE supports User login/logout at CT.

GF2008: Password management (CT)

Feature description

The NE supports password management at CT.

GF2143: Provisionable password aging

Feature description

The NE supports provisionable password aging on a system basis.

The password-aging interval is provisionable on a system wide basis from 0 to 999 days. The default is set at 30 days.

GF2144: Password format requirements

Feature description

The password format requirements are: minimum 8 characters, including a capital, and a special character.

GF2115: User management, Add/delete users

Feature description

The NE supports addition and deletion of users.

GF2116: User management, User privileges

Feature description

The NE supports the management of User privileges.

GF2117: Security, command access restriction

Feature description

The NE supports command access restriction for security.

GF2147: Retrieval of security log

Feature description

The NE supports retrieval of security log.

GF2148: Security alarm reports and contents.

Feature description

The NE supports security Alarm reports and contents.

GF2149: Log-in time out

Feature description

The NE supports a time-out feature, logging an user out after a period of inactivity. The period is settable by the security administrator (EMS User, Console, and CT) with a range of 1 to 999 minutes. The default value is 60 minutes.

GF2150: Security Report Event on excessive login attempts.

Feature description

The NE supports a Security Report Event, as transient condition, on excessive number of login attempts.

GF2151: Command log

Feature description

The NE provides and maintains a log in which most recent commands and responses are stored. These events/responses are stored on non-volatile memory.

GF2802: UserID length

Feature description

The user ID which is used for security purposes must be in minimum 5 characters long. Up to 10 characters are supported by the system.

GF2803: Log-in Aging

Feature description

The system supports the disabling of a user's login ID if not used over a period of time (days).

GF2949: Log-in aging (default user)

Feature description

The system supports the disabling of a user's login ID if not used over a period of time (days).

GF2804: Failed log-in attempts lockout

Feature description

The system supports the locking out of a user for a period of time, based on a certain number of failed login attempts.

GF2805: Password encryption

Feature description

All user passwords are encrypted for storage and transport across management interfaces.

GF2806: User privilege categories

Feature description

The system supports 7 user privilege categories for accessing functionality on the system - these include: system and security administration; test access; maintenance; provisioning; and performance monitoring.

GF3332: Security requirements 8AY 03037 0001 ASZZA

Feature description

Security requirements as per Alcatel-Lucent Security Requirements (8AY 03037 0001 ASZZA) are observed and implemented, particularly regarding the protocols inherent security features, such as peer authentication and data integrity.

SDH features

1 Interface HW items

SDH589: 8 x STM-1 optical unit

Feature description

SDH unit. The unit can perform 8 x STM-1 functionality. The unit can host pluggable MSA SFP modules.

SDH933: 8 x STM-1/4 4xSTM16 optical unit

Feature description

SDH unit. The unit can perform 8 x STM-1 functionality. The unit can host pluggable MSA SFP modules.

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-160 only.

SDH590: 8 x STM-1/4 optical unit

Feature description

SDH unit. The unit can perform both 8 x STM-1 and 8 x STM-4 functionality or a mix of the two. The unit can host pluggable MSA SFP modules.

SDH934: 8 x STM-1/4 optical access unit (to be combined with 8xstm1/4/16 optical port)

Feature description

SDH unit. The unit can perform 8 x STM-1 functionality. The unit can host pluggable MSA SFP modules.

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-160 only.

SDH591: 4 x STM-16 optical unit

Feature description

SDH unit. The unit supports 4x STM-16 traffic ports. It can host pluggable MSA SFP modules.

SDH592: 1 x STM-64 optical unit

Feature description

SDH unit. The unit supports 1x STM-64 traffic port. It can host pluggable MSA XFP modules and XFP-Extended modules. When using standard XFP modules, the XFP-E to XFP adapter has to be used.

SDH612: Lower order HOA unit

Feature description

Lower Order Adaptation Card. The unit is a server card supporting 10-Gb/s HPA functionality. It is plugged in the line card slots.

2 Optical modules

SDH478: S-1.1 SFP module

Feature description

S-1.1 SFP module

Standard S-1.1 Small Form Pluggable interface.

SDH479: L-1.1 SFP module

Feature description

L-1.1 SFP module

Standard L-1.1 Small Form Pluggable interface.

SDH480: L-1.2 SFP module

Feature description

L-1.2 SFP module

Standard L-1.2 Small Form Pluggable interface.

SDH495: S-4.1 SFP module

Feature description

S-4.1 SFP module

Standard S-4.1 Small Form Pluggable interface.

SDH496: L-4.1 SFP module

Feature description

L-4.1 SFP module

Standard L-4.1 Small Form Pluggable interface.

SDH497: L-4.2 SFP module

Feature description

L-4.2 SFP module

Standard L-4.2 Small Form Pluggable interface.

SDH491: I-16.1 SFP module

Feature description

I-16.1 SFP module

Standard I-16.1 Small Form Pluggable interface.

SDH493: S-16.1 SFP module

Feature description

S-16.1 SFP module

Standard S-16.1 Small Form Pluggable interface.

SDH494: L-16.1 SFP module

Feature description

L-16.1 SFP module

Standard L-16.1 Small Form Pluggable interface.

SDH492: L-16.2 SFP module

Feature description

L-16.2 SFP module

Standard L-16.2 Small Form Pluggable interface.

SDH498: C-WDM STM-16 SFP modules (PIN-40km, APD-80km)

Feature description

Colored CWDM STM-16 SFP modules

Set of eight STM-16 Coarse WDM modules with SFP transceiver (with APD or PIN receiver) for CWDM applications. Wavelength allocation according to the ITU-T grid (1470-1490-1510-1530-1550-1570-1590-1610 nm).

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-320 only

SDH594: I-64.1 (VSR) XFP module

Feature description

I-64.1 XFP module

Standard I-64.1 10G Small Form Pluggable interface.

SDH613: S-64.2b XFP module

Feature description

S-64.2b XFP module

Standard S-64.2b 10G Small Form Pluggable interface.

SDH615: P1L1-2D2 XFP module

Feature description

P1L1-2D2 XFP module

Standard P1L1-2D2 10G Small Form Pluggable interface.

SDH596: C-WDM STM-64 XFP module

Feature description

Colored CWDM STM-64 XFP module

Set of 10G Small Form Pluggable interfaces.

SDH597: D-WDM STM-64 XFP module

Feature description

Set of 10G Small Form Pluggable interfaces on DWDM grid.

3 Equipment

SDH618: Optical Booster unit for 10Gb/s

Feature description

The Optical Booster is a unit capable to improve the span length of 10G interfaces for single channel (black & white like)application, with or without the aid of an Optical Pre-Amplifier and suitable Dispersion Compensation units.

Release specific

Both STM64 and 10GBE clients are supported.

Two applications are available: with FEC and without FEC.

SDH627: Optical preamplifier unit for 10Gb/s (CH 34)

Feature description

The Optical Pre-Amplifier is a unit capable to improve the span length of 10G interfaces for single channel (black & white like) application, with or without the aid of an Optical Booster and suitable Dispersion Compensation units. The Pre-Amplifier works with the single DWDM channel 34, due to the need to filter out the ASE noise with a narrow grating.

Release specific

Both STM64 and 10GBE clients are supported.

Two applications are available: with FEC and without FEC.

SDH145: Automatic laser shut-down

Feature description

Automatic Laser Shutdown (ALS) procedure is supported in compliance to the ITU-T standards safety requirements for optical transmission systems. ALS is applicable to the individual STM-N interface and can be activated/deactivated by operator's command.

The basic handling is according to G.958.

SDH313: I/O Loop-back commands on SDH ports

Feature description

I/O loopback is supported at the physical interface level of every SDH traffic board. Both payload and overhead information is involved.

The commands allow to activate/deactivate on every I/O interface the loopback configuration at the "external side" or at the "internal side".

The modes can be supported: loop with AIS signal insertion and loop & continue.

Individual status signal of the I/O loopback condition of every interface is available for external CT and NMS monitoring.

An Abnormal condition information is reported on CT and NMS when a loopback is present in the Equipment.

Release specific

Only loop & continue is supported.

SDH147: VC-i Loop-back connections

Feature description

VC-i loopback can be independently provided at every path level by means of the same connection facilities supported on the HO/LO matrices for the payload (as applicable).

The specific loopback commands and loopback status indication, above mentioned for the I/O loopback, are not supported by the VC-i loopback facility.

SDH364: Station alarm contacts

Feature description

The equipment alarms summary is made available by electronic dry-contacts typically used to interface rack services (R/M) or generic audio/visual station devices (S/A).

Common logical and electrical characteristics:

- Alarmed => (close contact);
- Not Alarmed => (open contact).

The station alarm contacts report various equipment criteria like: power supply alarms, equipment alarm summary, Equipment Controller and TL1 interconnection status, etc.

For more details refer to the Technical Handbook of the specific product.

See below the mapping between the four standard alarm severity levels, supported at the CT/OS operator's interface and the three indications of equipment alarm summary reported by the external contacts:

- MAJOR = CRITICAL or MAJOR;
- MINOR = MINOR;
- WARNING = WARNING.

SDH153: Programmable alarm severity

Feature description

The alarm severity classification is managed according to the ITU X.733 standard supporting programmable selection of the severity level.

The individual trail (PDH/SDH port or single VC-n) can be associated to one of the predefined Alarm Severity Associated Profiles. Six ASAPs are supported: four default profiles + two customizable profiles; at initialization time the NE automatically associates one default ASAP to every individual trail.

Programmability alternatives are (from the highest alarm severity level down to the lowest): CRITICAL, MAJOR, MINOR, WARNING.

In addition you can setup the class = NOT ALARMED, meaning that the alarm report is disabled while the consequent actions are still kept active (e.g. Protection, AIS insertion). The alarm reporting associates the severity level INDETERMINATE if the ASAP association is missing; according to the alarm handling architecture this is an abnormal condition.

MON/NOT MON functionality defined in G.783 and ETS 300417 is managed via ASAP. This functionality allow to inhibits all the alarms of a functional block (VC TTP, POM, TCM,...CTP) by associating the functional blocks to the default NOT alarmed ASAP.

An important characteristic of the feature is the ability to dynamically adapt the severity associated to the alarm event according to the actual service affecting condition (e.g. in case of APS/EPS protection the severity associated to the alarm report will be MINOR if the protection is ready and MAJOR otherwise).

SDH154: LAN access for management

Feature description

The equipment can be attached to a Local Area Network infrastructure of the office for direct interconnection to the Network Management systems. This interface provides the physical access to the TL1/SNMP or other communication protocol stack via the widely used IEEE-802.3 standard.

Dedicated LAN interface alarm is supported based on the hw/sw diagnostics provided by the physical and data-link layers circuits.

SDH159: FAN unit management

Feature description

This feature provides fan management and alarm monitoring, also to support the fan unit maintenance operations.

SDH383: On-line bus diagnostic

Feature description

On-line bus diagnostic is a hardware failure diagnostic and localization mechanism that provides information about problems affecting internal links, allowing more detailed monitoring with respect to the generic "Card Fail" alarm. The mechanism is referenced also as "NGI Monitor."

SDH384: ASAP configuration on port and NE basis

Feature description

The feature has the target to allow the NMS/CT user to quickly configure Alarm Severity Alarm Profiles (ASAP) of all the Termination Points (TPs) of a port or a Network Element.

This feature allows the user to change the default ASAP of all the TPs of the board with a single command.

The feature allows as well the user to configure all the ASAPs of the TPs of a selected class of ports (2Mb/s, 34Mb/s, …, STM-1, STM-4, …) of a Network Element (as applicable).

4 Equipment protection

SDH654: 2+1 LOA EPS

Feature description

2+1 Lower Order Adapter board (LOA) protection

5 Management

SDH200: Perform. Monit. G826 for QoS

Feature description

Performance Monitoring

Paths are often responsible of the end-to-end customer service so they can be requested to provide monitoring for Quality of Service purposes and, in addition, to cooperate with specific monitoring to the network maintenance applications.

PM data collection can be individually activated on the HO/LO-VC trail termination of the PDH tributary ports or on the HO-VC trail termination of the structured VC4 afterward groomed at LO-VC level. PM processing is performed according to the standard G.784 recommendation: BBE, ES, SES and UAS counters are collected.

NE-PM (near-end) monitoring on the incoming signal checks the BIP code violations using the B3 byte (VC4, VC3) or the bits 1-2 of the V5 byte (VC12); in addition the VCn termination can provide FE-PM (far-end) monitoring by REI&RDI information of G1 byte (VC4, VC3) or the V5 byte (VC12) processing.

On the same bidirectional VCn-TTP, the unidirectional PM collection for Maintenance application and bi-directional collection for Quality of Service can simultaneously be activated:

- Bi-directional Collection for QoS

As specified in G.826, G.784 and ETSI 300417, the bidirectional PM collection for Quality of Service has been supported by combining the information on each direction of transport to assess a single unavailability state: the bidirectional path is in the unavailable state if either one or both directions are in the unavailable state. PM data are collected by a single UAS plus two sets of three event counters (BBE,ES,SES) for NE-PM and FE-PM respectively. When the path transports unidirectional payload just the four counters for the NE-PM are activated (BBE, ES, SES and UAS).

Data collection is performed only on 24 hours registers and the NE maintains a buffer of two registers: the 24hours current registers and the historical one.

- Unidirectional collection for Maintenance application

Separate NE-PM and FE-PM set of four counters are collected inside the NE.

Data collection is performed on 15 minutes (quarter) and 24 hours (day) registers. The NE maintains a buffer with the history of the most recent registers value (2 days and 4 hours respectively) that can be retrieved, on request, by the OS/CT interfaces.

TCA are supported on both 15minutes and 24 hours registers on ES, SES, BBE events.

CSES event is not yet planned.

Performance Monitoring G.826 for QoS

This application is relevant for path layers only.

Performance monitoring for error performance purpose is intended to evaluate long term measurement (one month) for quality of service.

Performance monitoring events are counted during available time only over 24 hours.

If the path is bidirectional its availability is computed for the two directions together (G.826); so the 24 hours counters will contain the following events for both the two direction (bidirectional PM: near-end and far-end counters are correlated data):

- NE-BBE : near-end background Block errors;
- NE-ES: near end Errored seconds;
- NE-SES : near end severely errored seconds;
- FE-BBE: far-end background Block errors;
- FE-ES: far end Errored seconds;
- FE-SES: far end severely errored seconds;
- UAS: Unavailability seconds.

No Threshold crossing (TCA) is supported for this kind of collection.

UAT is evaluated.

Release specific

R3.0: Only for VC4.

SDH201: Perform. Monit. M2120 for Maintenance

Feature description

Performance Monitoring

Paths are often responsible of the end-to-end customer service, so they can be requested to provide monitoring for Quality of Service purposes and , in addition, to cooperate with specific monitoring to the network Maintenance applications.

PM data collection can be individually activated on the HO/LO-VC trail termination of the PDH tributary ports or on the HO-VC trail termination of the structured VC4

afterward groomed at LO-VC level. PM processing is performed according to the standard G.784 recommendation: BBE, ES, SES and UAS counters are collected.

NE-PM (near-end) monitoring on the incoming signal checks the BIP code violations using the B3 byte (VC4, VC3) or the bits 1-2 of the V5 byte (VC12); in addition the VCn termination can provide FE-PM (far-end) monitoring by REI&RDI information of G1 byte (VC4, VC3) or the V5 byte (VC12) processing.

On the same bidirectional VCn-TTP, the unidirectional PM collection for Maintenance application and bi-directional collection for Quality of Service can simultaneously be activated:

- Bi-directional Collection for QoS

As specified in G.826, G.784 and ETSI 300417, the bidirectional PM collection for Quality of Service has been supported by combining the information on each direction of transport to assess a single unavailability state: the bidirectional path is in the unavailable state if either one or both directions are in the unavailable state. PM data are collected by a single UAS plus two sets of three event counters (BBE,ES,SES) for NE-PM and FE-PM respectively. When the path transports unidirectional payload just the four counters for the NE-PM are activated (BBE, ES, SES and UAS).

Data collection is performed only on 24 hours registers and the NE maintains a buffer of two registers: the 24hours current registers and the historical one.

- Unidirectional collection for Maintenance application

Separate NE-PM and FE-PM set of four counters are collected inside the NE.

Data collection is performed on 15 minutes (quarter) and 24 hours (day) registers. The NE maintains a buffer with the history of the most recent registers value (2 days and 4 hours respectively) that can be retrieved, on request, by the OS/CT interfaces.

TCA are supported on both 15minutes and 24 hours registers on ES, SES, BBE events.

CSES event is not yet planned.

Performance Monitoring M2120 for Maintenance

This application is used to monitor path or Section layers.

Performance monitoring for maintenance purpose is intended to evaluate long term measurement for preventive maintenance activity and short term measurement for maintenance activity.

Performance monitoring events are counted during available time over fixed periods of 15 minutes and 24 hours. 16 counters of 15 minutes , and 1 24 hours counter are stored in the NE.

The trail is always monitoring considering its two directions independently way; and availability is computed for each direction (M2101). So for each bi-directional TP 4 sets of counters can be activated : near end 15 min counters and near end 24 hours counters (NE-BBE, NE-ES, NE-SES, NE-UAS), far-end 15min counters and far-end 24 hour counters (FE-BBE, FE-ES,FE-SES,FE-UAS).

Degradation of the circuits is monitored with threshold crossing alerts (TCA). TCA is supported in both 24 hours and 15 minutes counters. (See TCA description for more details).

Release specific

R3.0: Only for VC4

SDH202: Perform. Monit. On MS-TTP

Feature description

Performance Monitoring on MS-TTP

MS terminations are not directly related to the customer service, so typically they are monitored for network Maintenance purpose. PM data processing can be individually activated on every STM trail termination according to the standard G.784 recommendation.

Near end primitives are: errored blocks (evaluated by B2 code violation in accordance with G.829 block based approach) and defected seconds (evaluated from server and section defects in accordance with G.829). They are used for collecting the following set of event counters:

- BBE = Background Block Errors;
- ES = Errored Seconds;
- SES = Severely Errored Seconds.

A fourth counter for monitoring of the MS availability state is provided:

- UAS = Unavailable Seconds.

In addition to the NE-PM (Near End - PM, monitoring the incoming signal), the MS termination provides FE-PM (Far End - PM, monitored by the M1 byte processing).

As specified in M.2120, the bidirectional PM collection for maintenance has been supported by independent information on each direction of transport: NE-PM events and FE-PM events are collected on two separate set of four (BBE,ES,SES and UAS) unidirectional counters.

Data collection is performed on 15 minutes (quarter) and 24 hours (day) registers. The NE maintains a buffer with the history of the most recent register values (4 hours (16x

15minuts counters) and 1 days respectively) that can be retrieved, on request, by the OS/CT interfaces.

TCA on both 15minute and 24 hour counters are supported. 15min counter supports TCA with explicit clear notification; implicit clear mechanism is supported on 24 hour counters.

The Threshold values can be configured on counter base, by using threshold profiles.

The threshold profiles are created by the manager; if no threshold profile is created no TCA alarm is generated by the NE. As HW the Equipment can manage up to 256 threshold profiles for 15minute counters and 256 for 24 hours counters but in the equipment only 100 profiles for both for 15 minute and 24 H counters are managed

CSES events are not yet planned.

SDH203: Perform. Monit. On RS-TTP

Feature description

Performance Monitoring on RS-TTP

RS can be monitored for Maintenance purpose, in addition to the MS, when Regenerators are present in the section. PM specs are based just on the RSOH information (e.g., LOS, LOF, B1) of the incoming signal. Only the near-end unidirectional PM can be activated according to G.784 standard.

The Process is based on error block approach according to ITU G. 829.

The BBE, ES, SES and UAS plus an additional counter for the collection of the Out of Frame Seconds (OFS) are collected.

Data collection is performed on 15 minutes (quarter) and 24 hours (day) registers. The NE maintains a buffer with the history of the most recent register values (4 hours =16 15-minute counters and 1 day, respectively) that can be retrieved, on request, by the OS/CT interfaces.

TCA on both 15-minute and 24-hour counters are supported. 15-minute counters support TCA with explicit clear notification; TCA with implicit clear mechanism is supported on 24-hour counters.

SDH204: Perform. Monit. on AU-PJE

Feature description

Performance monitoring on AU-PJE

AU PJE (Administrative unit point justification event) is an optional parameters request in G.784.

For AU PJE counters , the positive and negative PJE shall be counted separately on one selectable AU within an STM-N signal, after the AU has been resynchronized to the local clock. Refer to G.783.

The number of positive and negative outgoing PJE per second are collected in 15 minutes and 24 H counters. A history of 16 x 15minutes counters and 2x 24H are stored in the NE for each AU selected.

No Threshold crossing mechanism is supported on AU-PJE counters.

SDH214: HO POM Path Overhead Monitoring (VC4)

Feature description

HO & LO POM - Path overhead monitoring

The Path Overhead Monitor function is applicable to the supervision of equipped VCi path.

The POM function processes the overhead (POH) to monitor VC-n (n= 12, 3, 4, 4-4c,4-16c, 4-64c) for errors, and recovers the trail termination status.

This function is able to process:

- J1/J2: The trail trace identifier is recovered from VC-n POH and checked with the expected one to trace identifier mismatch processing;
- C2/V5( ): The signal label bits are checked for detecting AIS VC (VC-AIS) (if all "1" code is detected) or detecting Unequipped status (if all “0” pattern is detected);
- B3/BIP-2:BIP-n is computed for the VC-n frame. The computed BIP-n value for the current frame is compared with the recovered byte to detected errors and then the excessive errors and signal degrade ;
- G1[1-4]: The REI shall be recovered and the derived performance primitives should be used in PM process;
- G1[5]: The RDI defect is detected.

The function shall detect for dUNEQ, dTIM, dEXC, dDEG, dAIS and dRDI dSSF defects according to ITU G.783 and ETSI 300417 recommendation.

The function can be enabled/disabled by the manager.

The equipment allows the configuration of this function on CTP type basis: HO and LO orders, before and after the matrix, to monitoring the incoming and the outgoing signal.

SDH354: LO POM Path Overhead Monitoring (VC3, VC12)

Feature description

The Path Overhead Monitor function is applicable to the supervision of equipped VCi path.

The POM function processes the overhead (POH) to monitor VC-n (n= 12, 3, 4, 4-4c,4-16c, 4-64c) for errors, and recovers the trail termination status.

This function is able to process:

- J1/J2: The trail trace identifier is recovered from VC-n POH and checked with the expected one to trace identifier mismatch processing.
- C2/V5( ): The signal label bits are checked for detecting AIS VC (VC-AIS) (if all "1" code is detected) or detecting Unequipped status (if all “0” pattern is detected).
- B3/BIP-2:BIP-n is computed for the VC-n frame. The computed BIP-n value for the current frame is compared with the recovered byte to detected errors and then the excessive errors and signal degrade.
- G1[1-4]: The REI shall be recovered and the derived performance primitives should be used in PM process.
- G1[5]: The RDI defect is detected.

The function shall detect for dUNEQ, dTIM, dEXC, dDEG, dAIS and dRDI dSSF defects according to ITU G.783 and ETSI 300417 recommendation.

The function can be enabled/disabled by the manager.

The equipment allows the configuration of this function on CTP type basis: HO and LO orders, before and after the matrix, to monitoring the incoming and the outgoing signal.

Release specific

R3.1 and later releases: partial support.

SDH206: Perform. Monit. on HO (VC4, VC3) POM unidirectional for segment monitoring (near-end primitives)

Feature description

Perform. Monit. on VCn-POM unidirectional for segment monitoring (near-end primitives)

VCn trails can be monitored in intermediate node through the activation of performance monitoring process on Monitoring function (POM).

The monitoring on intermediate nodes can be done for monitoring of a segment via near-end primitives.

The monitoring of a segment can be done for Maintenance or QoS purpose.

If SNCP is configured the Quality of Service collection have to be enable in the monitoring functions after the matrix .

Segment monitoring is achieved by activation Performance Monitoring unidirectional of near-end primitives: Ne-EB (checking the BIP code violations on the B3 byte (VC4, VC3) or the bits 1-2 of the V5 byte (VC12)), and Ne_DS (checking POH for defects: dSSF or dTim or dUneq.)

The 15 minutes and 24 hours collection can be activated.

The following history is supported :

- 16 x 15minute counters (1 current and 15 historical);
- 2 x 24H counters (1 current and 1 historical).

TCA is supported on ES, SES and BBE events for both 15 minute and 24h counters.

The Perf. Monitoring is allowed at High order trail (VC4, VC4-xc: x=4, 16,64) or Low order (VC3, VC12); the support of this feature in each layer will be supported when the relative layer is managed.

SDH355: Perform. Monit. on LO (VC3 & VC12) POM unidirectional for segment monitoring (near-end primitives)

Feature description

VCn trails can be monitored in intermediate node through the activation of performance monitoring process on Monitoring function (POM).

The monitoring on intermediate nodes can be done for monitoring of a segment via near-end primitives.

The monitoring of a segment can be done for Maintenance or QoS purpose.

If SNCP is configured the Quality of Service collection have to be enable in the monitoring functions after the matrix.

Segment monitoring is achieved by activation Performance Monitoring unidirectional of near-end primitives: Ne-EB (checking the BIP code violations on the B3 byte (VC4, VC3) or the bits 1-2 of the V5 byte (VC12)), and Ne_DS (checking POH for defects: dSSF or dTim or dUneq.)

The 15-minutes and 24-hour collection can be activated.

The following history is supported:

- 16 x 15minute counters (1 current and 15 historical);
- 2 x 24H counters (1 current and 1 historical).

TCA is supported on ES, SES and BBE events for both 15-minute and 24h counters.

The Perf. Monitoring is allowed at High order trail (VC4, VC4-xc: x=4, 16,64) or Low order (VC3, VC12); the support of this feature in each layer will be supported when the relative layer is managed.

SDH220: Perform. Monit. on HO (VC4, VC3) POM unidirectional & bidirectional for end to end monitoring (far-end primitives)

Feature description

Perform. Monit. on VCn-POM unidirectional & bidirectional for end to end monitoring (far-end primitives)

VCn trails can be monitored in intermediate node through the activation of performance monitoring process on Monitoring function.

As the trails are often responsible for the end-to-end customer service, the end-to-end monitoring can be requested to provide monitoring for Quality of Service purposes, and in addition, for network Maintenance applications.

If SNCP is configured, the Quality of Service collection has to be enable in the monitoring functions after the matrix .

End-to-end monitoring is achieved by activation of Performance monitoring on the two direction of path and using far-end primitives. This process can be unidirectional (for Monitoring) or bidirectional process (for QoS).

In case of unidirectional process, one direction can be monitored end to end and both 15-minute and 24-hour collection can be activated 15/24 FE_BBE, FE-ES, FE-SES, FE-UAS on incoming or egress signals, depending if the POM is enable. The TCA is also evaluated in both 15-minute and 24-hour counters.

The bidirectional process needs the presence of the two monitoring functions in the two directions in one NE. Among the two monitoring functions, a 24-hour collection can be activated with the collection of incFE_BBE, incFE-ES, IncFE-SES, UAS, eFE-BBE, eFE-es, eFE-SES.

Release specific

R3.0: Only for VC4.

SDH356: Perform. Monit. on LO (VC3 & VC12) POM unidirectional & bidirectional for end to end monitoring (far-end primitives)

Feature description

VCn trails can be monitored in an intermediate node through the activation of the performance monitoring process on the Monitoring function.

As the trails are often responsible for the end-to-end customer service, the end-to-end monitoring can be requested to provide monitoring for Quality of Service purposes, and in addition, for network Maintenance applications.

If SNCP is configured, the Quality of Service collection has to be enable in the monitoring functions after the matrix.

End-to-end monitoring is achieved by the activation of Performance monitoring on the two direction of path and using far-end primitives. This process can be unidirectional (for Monitoring) or bidirectional process (for QoS).

In case of a unidirectional process, one direction can be monitored end-to-end and both 15-minute and 24-hour collection can be activated 15/ 24 FE_BBE, FE-ES, FE-SES, FE-UAS on incoming or egress signals depending if the POM is enable. The TCA is also evaluated in both 15-minute and 24-hour counters.

The bidirectional process needs the presence of the two Monitoring functions in the two directions in one NE. Among the two monitoring functions, a 24-hour collection can be activated with the collection of incFE_BBE, incFE-ES, IncFE-SES, UAS, eFE-BBE, eFE-es, eFE-SES.

SDH211: UAT - Unavailable Time Alarm

Feature description

UAT - Unavailable Time Alarm

A path or a section is defined Unavailable when it enters in a period of unavailable time.

A period of unavailability time begins at the onset of ten consecutive SES events. These 10 seconds are considered to be part of unavailable time. When a resource enters in this unavailability time, a spontaneous notification is sent to the manager (UAT alarms) This alarm is associated to PM counters so the alarm can be notified only if the PM process is activated on TP or CTP.

A new period of available time begins at the onset of 10 consecutive non-SES events. These 10 seconds are considered to be part of available time. When the resource enters in an availability status, a clear of UAT alarm is notified to the NM.

If the PM process is stopped, if UAT was active, then it is cleared.

The configuration of UAT alarm severity is provided by CT & NM.

SDH212: UPA - Unavailable Path Alarm

Feature description

UPA - Unavailable Path Alarms

The UPA alarm is the standard SSF (Server Signal Failure) defect which is provided by VCi-n TTP and on Connection Termination Point on POM function when a server defect is active.

SDH213: TCA - PM Threshold Crossing Alarm

Feature description

TCA - PM Threshold Crossing Alarm

Threshold crossing alerts are provided in maintenance application for monitoring degradation of the circuits.

TCA is supported in both 24-hour and 15-minute unidirectional counters.

There are two types of thresholds according to the monitoring time-slot (15 minutes or 24 hours):

- TCA with reset: used in 15-minute period, to assist in detection of transition to the Unacceptable performance levels. A threshold report occurs when a threshold is exceeded by the related value(BBE, ES or SES). The reset threshold report occurs when the values of BBE, ES o SES is lower than or equal to the reset threshold;
- TCA with implicit clear: used in 24 h counters. 24 hour period is to assist in detection of transition to the degraded performance levels. A threshold report occurs when the BBE, ES or SES values exceed degraded performance levels. At the end of 24hour period the TCA is implicitly reset.

Two threshold levels for each parameter can be configured HI-TH or LO-TH (with the exception of SES where the Lo-TH is always fixed to 0).

TCA values configuration is performed through profile configuration. Several profiles can be created by NM or CT: operator can configure one of this profile for each PM counter.

SDH795: TCA - PM Threshold Crossing Alarm for LO

Feature description

As feature SDH213, but for LO PM.

SDH315: AUTO-MON status on SDH and PDH ports

Feature description

AUTO-MON status on SDH and PDH ports

In order to prevent alarms from being raised and failures being reported during trail provisioning actions, trail termination functions shall have the ability to enable and disable fault cause declaration. This shall be controlled via their termination point mode or port mode parameter.

The termination point mode (see Fig.1) shall be either "monitored" (MON) or "not monitored" (NMON). The state shall be MON if the termination function is part of a trail and provides service and NMON if the termination function is not part of a trail or is part of a trail which is in the process of set-up, breakdown or re-arrangement.

In physical section layers, the termination point mode is called the port mode. It has three modes (see Fig. 2): MON, AUTO, and NMON. The AUTO mode is like the NMON mode with one exception: if the LOS defect clears, the port mode is automatically changed to MON. This allows for alarm-free installation without the burden of using a management system to change the monitor mode. The AUTO mode is optional. When it is supported, it shall be the default mode; otherwise, NMON shall be the default mode.

As described above, the “AUTO-MON” implementation on OMSN is compliant to ITU-T G.806 rec.

In addition, the following feature-enhancement have been foreseen:

- Provisioning at the Network Element level for the expected behavior (“two” or “three” states behavior - default “two states”) in order to avoid impact on other customer networks;
- A parameter at the physical port level allows management of the current state of the port (AUTO / MANUAL);
- No impact on current ASAP mechanism.

No Hold Off time is foreseen in a first step (only F4 filter applied).

SDH316: Alarm Filtering Configuration (F4 filter)

Feature description

Alarm Filtering configuration (F4 filter)

This feature has the aim to avoid transient alarm conditions. To achieve this goal, the network element performs a persistency check on the fault causes before declaring a failure. Once the failure is declared, it shall be cleared if the fault cause is absent continuously for a persistency time.

Persistency F4 filter values for primary and secondary alarms (defined as alarms caused by a server failure) have to be distinguished. That is to avoid problems of flooding caused by a single primary alarm on the secondary alarms. Tab. 1 shows the values implemented for F4 persistency filter.

It has to be highlighted that the persistency time filtering mechanism affects only the alarm reporting and NOT the consequent action.

6 Network

SDH227: VC-i Signal Label management

Feature description

VC-i Signal Label management

C2 byte and bits 5¸7 of V5 byte are used for HO-VCs and LO-VCs signal label. Tab.1 resumes the POH byte codes explicitly managed by the OMSN and relating handling rules.

The Payload Mismatch alarm (PLM) is monitored and reported at the VC-TTPs only.

In general, from CT/NM, the configuration of the Signal label value is done via payload structure definition, not explicit configuration, with the exception of 'equipped -non-specific value' which configuration needs specific configuration function.

For interworking with old equipment, "equipped -non- specific" is received and no PLM alarm is generated.

At the VC-CTPs in POM, the standard behavior ignores the payload type that is transparently pass through. The intermediate connection points (POM) use the Signal Label code to detect the unequipped (UNEQ) alarm.

The intermediate connection points where SUM/SUT is present, use the Signal Label code to detect and/or insert the unequipped (UNEQ) information.

In the equipment which does not support the VC termination points, this feature addresses only the management of Unequipped condition in Monitoring function (POM) or SUT /SUM.

SDH228: J0 - Section Trace management

Feature description

J0 - Section Trace management

This feature provides the ability to set up the section trace handling on the STM-N interface at Regenerator layer. The J0 byte of the RS-OH is used according to the standard 16 bytes multiframe format defined in the G.707 recommendation. The

equipment supports setup, validation, and monitoring of the section trace identifiers under control of the CT / OS systems interfaces.

The Section trace monitoring can be enable/disable by operator.

A single byte format is optionally supported to allow interworking with Sonet Equipment.

SDH484: HEX management of J0

Feature description

HEX management of J0

It is the capability to manage J0 values (by CT) with hexadecimal figures.

SDH358: J1 - Path Trace Management

Feature description

J1 - Path Trace management

This feature provides the ability to setup the Trail trace handling on the VC . The J1 byte of the VC-OH is used according to the standard 16 bytes multiframe format defined in the G.707 recommendation. This equipment supports in Trail termination point setup, validation and monitoring of the trail trace identifiers under control of the CT/OS system interfaces.

SDH463: HEX management of J1

Feature description

HEX management of J1

It is the capability to manage J1 values (by CT) with hexadecimal figures.

SDH233: ExBER - Excessive BER alarms

Feature description

ExBER - Excessive BER alarms

The excessive error alarm is detected only for networks where the network operator assumes a Poisson distribution of errors.

An excessive error (dEXC) shall be detected if the equivalent BER exceeds a preset threshold of 10E(-x), x = 3, 4 or 5. The excessive error defect shall be cleared if the equivalent BER is better than 10E(-x+1).

The Excessive error is detected in MS and VC-i layers. In case of VC-i layers the ExBer can be detected on trail termination point (TTP) and on connection termination point (POM, SUT/SUM function).

The threshold for detecting alarm is configurable

SDH234: SD - Signal degrade alarms (poisson distribution)

Feature description

SD - Signal degrade alarms (poisson distribution)

For networks where the network operator assumes a Poisson distribution of errors, a degraded signal defects are to be detected according to the following process:

A degraded signal defect (dDEG) shall be detected if the equivalent BER exceeds a preset threshold of 10E(-x), x = 5, 6, 7, 8 or 9. The degraded signal defect shall be cleared if the equivalent BER is better than 10E(-x+1).

The Signal degrade error is detected in MS and VC-i layers. In case of VC-i layers the DEG can be detected on trail termination point (TTP) and on connection termination point (POM, SUT/SUM function).

The threshold for detect alarm is configurable. All the SFP/SFF interfaces show a lower accuracy in LOS detection with respect to previous technologies; so the Signal Degrade alarm is masked by the LOS alarm. The LOS alarm root is generated @ BER within 10E-8 / 10E-10.

SDH317: SD - Signal Degrade alarms (Bursty distribution)

Feature description

SD - Signal Degrade alarms (burst error distribution)

For networks where the operator assumes a bursty distribution of errors, the degraded signal defect (dDEG) shall be declared if DEGM consecutive bad intervals (interval is the 1 second period used for performance monitoring) are detected. An interval is declared bad if the percentage of detected errored blocks in that interval >= Degraded Threshold (DEGTHR).

The degraded signal defect shall be cleared if M consecutive good intervals are detected. An interval shall be declared good if the percentage of detected errored blocks in that interval < DEGTHR.

The Two threshold DEGM and DEGTHR are provisionable by CT/ NM in the following range:

- DEGM in the range 2 to 10.;
- DEGTHR in the range 0 < DEGTHR <= 100%.

The signal degrade alarms is monitored MST and in Vc-i layer both on TTP or CTP (via POM, SUT/SUM) and also on 2Mbit POM.

7 Network Protection

SDH246: STM-1 linear single-ended 1+1 APS

Feature description

STM-1 linear single-ended 1+1 APS.Unidirectional Linear protection applied at STM-1 level

Multiplex Section linear trail protection

The whole section is duplicated from the originating node for each direction of transmission.

Tx side is permanently bridged. In Rx side the best signal is selected. As the scheme is "unidirectional protection mode", the switch occurs only at the near-end where the failure is detected and the K1/K2 messages are just devoted to carry info switch status to the far-end.

This protection protects against Transmission failures (LOS, LOF, MS_AIS) or section degradation (MS_SD or MS_EXBER) or HW failure which affects the traffic.

Revertive & non-revertive

WTR 0 - 15 minutes selectable

Protection takes place within 50 ms.

The implementation is compliant with the G841 - 7.1 clause: MSP protocol compatible with the 1:N MSP operation.

Different physical interfaces can be mixed in the same MSP protection group: e.g. at STM-1 level the feature is applicable at both electrical and optical ports.

Operator command are according G.841 and the following one are supported:

- Manual to protection: To switch from protected (main resource) to protecting unit (Spare resource). This command is accepted if no failure is present on protecting unit;

- Manual to protected: To switch from protecting unit (Spare resource) to protected one (main resource). This command is accepted if no failure is present on protected unit;
- Force to protection: To switch from protected (main resource) to protecting unit (Spare resource). This command is accepted if no failure is present on protecting unit;
- Force to protected: To switch from protecting unit (Spare resource) to protected one (main resource) This command is accepted if no failure is present on protected unit;
- Lockout: The protection is locked, the traffic is managed by protected unit independently of its status, in failure or not in failure;
- Clear: Release command which is active.
- Exercise: Not supported.

SDH314: STM-4 linear single-ended 1+1 APS

Feature description

STM-4 linear single-ended 1+1 APS

Unidirectional Linear protection applied at STM-4 level (see STM-1 for description).

SDH341: STM-16 linear single-ended 1+1 APS

Feature description

STM-16 linear single-ended 1+1 APS

Unidirectional Linear protection applied at STM-16 level (see STM-1 for description).

SDH342: STM-64 linear single-ended 1+1 APS

Feature description

STM-64 linear single-ended 1+1 APS

Unidirectional Linear protection applied at STM-64 level (see STM-1 for description).

SDH343: STM-1 linear dual-ended 1+1 APS

Feature description

STM-N linear dual-ended 1+1 APS

Multiplex Section linear trail protection.

The whole section is duplicated from the originating node for each direction of transmission.

Tx side is permanent bridged. In the Rx side, the best signal is selected. In bi-directional operation modem, the selector is moved only when the two sides agree upon the operation; and for this reason, a side makes requests then waiting for acknowledgements of switch action from other side by using the APS bytes

The implementation is compliant with the G841 - 7.1clouse MSP protocol compatible with the 1:N MSP operation.

This protection protects against Transmission failures (LOS, LOF, MS_AIS) or section degradation (MS_SD or MS_EXBER) or HW failure, which affects the traffic.

Revertive & non-revertive

WTR 0 - 15 minutes selectable

Protection takes place within 50 ms.

Different physical interfaces can be mixed in the same MSP protection group: e.g., at STM-1 level the feature is applicable at both electrical and optical ports.

Operator commands are according G.841 and the following are supported:

- Manual to protection: to switch from protected (main resource)) to protecting unit (Spare resource). This command is accepted if no failure is present on protecting unit;
- Manual to protected: to switch from protecting unit (Spare resource)) to protected one (main resource). This command is accepted if no failure is present on protected unit;
- Force to protection: to switch from protected (main resource)) to protecting unit (Spare resource). This command is accepted if no failure is present on protecting unit;
- Force to protected: to switch from protecting unit (Spare resource) to protected one (main resource) This command is accepted if no failure is present on protected unit;
- Lockout: the protection is locked, the traffic is managed by protected unit independently of its status, in failure or not in failure;
- Clear: release command which is active;
- Exercise : not supported

STM-1 linear dual-ended 1+1 APS

Bi-directional Linear protection applied at STM-1 level. It is applicable both on electrical or optical interface.

SDH344: STM-4 linear dual-ended 1+1 APS

Feature description

STM-4 linear dual-ended 1+1 APS

Bi-directional Linear protection applied at STM-4 level (see STM-1 for description).

SDH346: STM-16 linear dual-ended 1+1 APS

Feature description

STM-16 linear dual-ended 1+1 APS

Bi-directional Linear protection applied at STM-16 level (see STM-1 for description).

SDH345: STM-64 linear dual-ended 1+1 APS

Feature description

STM-64 linear dual-ended 1+1 APS

Bi-directional Linear protection applied at STM-64 level (see STM-1 for description).

SDH950: MSP1+1 on single board

Feature description

Linear MSP1+1 on a single board.

SDH250: SNCP/I among LO VC-i trails (i=12, 3)

SDH251: SNCP/I among HO VC-i trails (i=4)

Feature description

SNCP/I among VC-i trails

SDH252: SNCP/N among LO VC-i trails (i=12, 3)

Feature description

SDH253: SNCP/N among HO VC-i trails (i=4)

Feature description

SNCP/N among VC-i trails

SDH256: Hold-Off times for protection independency in SNCP

Feature description

Hold-Off times for protection independency

It provides the ability to set an interval delay between the detection/clearing of the failure causes and the activation/releasing of the protection switches .The programmability rules for the delay values are still to be defined.

Hold-Off times for protection independency in SNCP

Programmable delay applied to a SNCP protection schema.

It is applicable to:

- HO/LO SNCP/I;
- HO/LO SNCP/N;
- HO/LO Drop&Continue (Drop&Continue +insertion SNCP, Drop&Continue + insertion MS-Spring RIW & RIP).

SDH318: Hold-off times for protection independency in MS-SPRing

Feature description

Hold-Off times for protection independency

It provides the ability to set an interval delay between the detection/clearing of the failure causes and the activation/releasing of the protection switches.

Hold-Off times for protection independency in MS-Spring

Programmable delay applied to a MS-SPRing protection schema.

It is applicable to 2F or 4F MS-SPRing. In case of 4F MS-SPRing, two values of Hold off time can be configured: for ring switch, for each span switch.

Release specific

R3.1: 4F not supported

SDH257: Drop&Continue + Insertion SNCP

Feature description

SNCP rings can be interconnected in dual node architecture. In this case, the Drop & Continue functionality can be used: when each of the dual-fed signals hits an interconnection node, it is dropped at that node and continued onto the other interconnection node using the drop-and-continue feature. Thus, each interconnection node can select from two signals sent on a different way around the ring. The output of the selector in each interconnection node is then transmitted to the second ring. Each of the interconnection nodes in the second ring takes its respective signal and transmits it towards the sink node, away from the other interconnection node. Finally, the sink node makes the selection between the two signals from the two directions around the ring.

Due to the symmetry of this scheme, the two interconnection nodes are completely equivalent.

The functionality is supported according ITU G.842. The switching criteria and the operator command of the selector are those used for a SNC protection, so the selector can be configured as SNCP/I or SNCP/N (if supported by the release).

The selector can be configured to operate in revertive or not revertive mode. In case of revertive mode, fixed WTR = 5 min is supported.

The description of the feature is applicable to the architecture which uses STM-N interfaces for interconnecting rings (4 node Architecture), as well as to collapsed dual node interconnections, which means that rings are interconnected inside the matrix (if supported by the release).

The Drop & Continue functionality is supported to interconnect HO SNCP ring, LO-SNCP rings, or mixed HO-SNCP with LO-SNCP (each interconnection type is supported if the release supports the related protection scheme).

For Hold-off time support, see Hold-off time feature.

Release specific

R3.0: Only HO-SNCP ring interconnection.

SDH259: 2f MS-SPRing at STM-16 interfaces

Feature description

See description for feature SDH260.

SDH260: 2f MS-SPRing at STM-64 interfaces

Feature description

This provides the support to the standard MS-SPRing protection scheme according to the G841 recommendation in two fibers bidirectional rings (max number of nodes: 16).

Two-fiber MS switched rings require only two fibers for each span of the ring. Each fiber carries both working channels and protection channels. On each fiber, half the channels are defined as working channels and half are defined as protection channels. The normal traffic carried on working channels in one fiber is protected by the protection channels travelling in the opposite direction around the ring.

Main characteristics:

· K1/K2 management: bridge & switch actions according to G84;1

· Switched entity: VC4 (but any type of trib port can access the ring);

· Switching criteria: MS-AIS, LOS, LOF, B2 exBER, B2 degrade;

· Revertive switching: programmable WTR = 0-15m with step of 1 min;

· Extra traffic: not supported.

Switching time: G.841 target < 50msec on ring level with 16 nodes, with the contribute of the 1.200Km fiber propagation time.

This technique restores all the traffic in case of single fiber failure, moreover it recovers from some classes of multiple faults; if a node fails or becomes isolated all VC4s terminated in that node will be squelched (AIS insertion).

The set of externally initiated commands of the G.841 are supported with the exception of the "Exercise ring" commands: Clear, Lockout of working channels ring, lockout of protection - span (lp-s), forced switch ring, manual switch ring.

NUT is not supported.

SDH925: Programmable WTR on MS-SPRing - extended time

Feature description

Support of WTR up to at least 48 hours for MS-SPRing

SDH931: Programmable WTR on SNCP - extended time

Feature description

Support of WTR up to at least 48 hours for SNCP.

SDH932: Programmable WTR on MSP - extended time

Feature description

Support of WTR up to at least 48 hours for MSP.

SDH269: Collapsed single-node ring interconnection

Feature description

In case of ring topology, rings can be interconnected in single node with D&C architecture. In the classic solution, the interconnection between rings is done through tributary ports.

If the equipment is used to close several rings on the same NE, this functionality allows to drop/insert traffic from one ring and insert/drop to another ring through the interconnection done directly in the matrix without using STM-N port for the interconnection.

The two architectures can be used to interconnect the following rings:

Two HO-SNCP rings, or one HO-SNCP ring with a LO-SNCP ring, an MS-Spring ring with HO-SNCP or 2 MS-Sping rings.

Each interconnection will be supported when the related protection is supported.

SDH270: Collapsed dual-node ring interconnection

Feature description

In case of ring topology, rings can be interconnected in dual node with D&C architecture. In the classic solution, the interconnection between rings is done through tributary ports.

The equipments allow closing several rings on the same NE and this functionality allows to drop/insert traffic from one ring and insert/drop to another ring through the interconnection done directly in the matrix without using STM-N port for the interconnection.

The two architectures can be used to interconnect the following rings:

Two HO-SNCP rings, or one HO- SNCP ring with a LO-SNCP ring, an MS-Spring ring with HO-SNCP or 2 MS-Spring rings (each interconnection type is supported if the release supports the related protection scheme).

Release specific

R3.0: Only for HO-SNCP rings.

SDH271: AU/TU independent allocation SNCP

Feature description

AU/TU independent allocation SNCP

In the SNCP configuration, at Higher order or lower order, the manager can select for each side of connection protect an AU-x (or TU-x) independently from the other side.

8 Connectivity

SDH275: VC-i xC: bidirectional point-to-point (i=12,3,4)

Feature description

VC-i xC: bidirectional point-to-point (i=12,3,4)

Release specific

R3.0: Only for VC4

SDH276: VC-i xC: bidirectional point-to-point (i=4)

Feature description

VC-i xC: bidirectional point-to-point (i=4)

SDH277: VC-i xC: unidirectional point-to-point (i=12,3,4)

Feature description

VC-i xC: unidirectional point-to-point (i=12,3,4)

Release specific

R3.0: Only for VC4

SDH278: VC-i xC: unidirectional point-to-point (i=4)

Feature description

VC-i xC: unidirectional point-to-point (i=4)

SDH279: VC-i xC: unidirectional point-to-multi-point (i=12,3,4)

Feature description

VC-i xC: unidirectional point-to-multi-point (i=12,3,4)

Unidirectional, bidirectional and broadcast cross-connection are supported without any restriction .

Release specific

R3.0: Only for VC4

SDH280: VC-i xC: unidirectional point-to-multi-point (i=4)

Feature description

VC-i xC: unidirectional point-to-multi-point (i=4)

Unidirectional, bidirectional and broadcast cross-connection are supported without any restriction .

SDH281: AU4-4c: among STM-n interfaces (n >= 4)

Feature description

AU4-4c: among STM-N interfaces (N >= 4)

Each kind of cross-connection, unidirectional, bidirectional, broadcast is supported also for AU4-4c among the STM-4, STM-16 and STM-64 ports

SDH282: AU4-16c: among STM-n interfaces (n >= 16)

Feature description

AU4-16c: among STM-N interfaces (N >= 16)

Each kind of cross-connection, unidirectional, bidirectional, broadcast is supported also for AU4-16c among the STM-16 and STM-64 ports.

SDH283: AU4-64c: among STM-n interfaces (n=64)

Feature description

AU4-64c: among STM-N interfaces (N = 64)

Each kind of cross-connection, unidirectional, bidirectional, broadcast is supported also for AU4-64c among STM-64 ports inside the single-shelf unit.

SDH601: VC4 Virtual Concatenation (G.707) 1..64

Feature description

The NE supports VC4 virtual concatenation as per G.707.

SDH602: VC3 Virtual Concatenation (G.707) 1..21

Feature description

The NE supports VC3 virtual concatenation as per G.707.

SDH603: VC12 Virtual Concatenation (G.707) 1..63

Feature description

The NE supports VC12 virtual concatenation as per G.707.

SDH604: LCAS for VC4 groups (G.7042)

Feature description

The NE supports LCAS for VC4 virtually concatenated groups as per G.7042.

SDH605: LCAS for VC3 groups (G.7042)

Feature description

The NE supports LCAS for VC3 virtually concatenated groups as per G.7042.

SDH606: LCAS for VC12 groups (G.7042)

Feature description

The NE supports LCAS for VC12 virtually concatenated groups as per G.7042.

9 Timing

SDH290: 4.6 ppm free-running stability

Feature description

4.6 ppm free-running stability

Frequency stability in the free-running mode is better than 4.6 ppm, in compliance to the G.813 option 1 standard requirement.

SDH291: 0.37 ppm/day holdover accuracy

Feature description

0.37 ppm/day holdover accuracy

The holdover mode will guarantee less than .37 ppm of frequency drift within the first 24h.

SDH292: Programmable multiple synch sources

Feature description

Programmable multiple synch sources

The equipment synchronization reference is generated in compliance with the T0 signal of the G.783 recommendation. Selection/configuration can be performed by software via CT and/or OS provisioning; up to six traffic ports can be selected by mixing timing sources of T1 type, T2 type. In addition to this T3 type, dedicated synch interfaces are supported. The configured list of multiple sources is prioritized and allows to statically define the source quality levels.

When all the selected references are missing or invalid the SEC goes usually into holdover mode, while it goes into free -running mode if during the last 30 minutes not suitable reference stability was stored.

The monitoring of source validity is based on the SF/SD indications coming from the physical interfaces itself; additionally every synchronization source is checked by frequency drift control with fixed threshold: ± 10 ppm. The individual source validity status can be externally monitored by specific alarms: separate signal defects and drift defects.

The source selection switching algorithm is revertive; when a higher priority source is restored the selection automatically switches back after a fixed WTR interval time.

The above mentioned validity criteria are always active and overrule the priority algorithm of the source selection circuitry. When multiple sources are valid, T0 signal will be selected according to the best quality level. The actual quality levels are obtained

by the dynamic SSM info of the incoming stream or by the static values defined by the provisioning the sources. While different sources provide the same quality level then the software preset priorities are effective. The SSM based selection policy can be software activated/deactivated.

An external synchronization clock (2-MHz output signal) is made available: generation is compliant to the T4 signal of G.783. Source can be selected by choosing the internal synchronization clock (T0) or anyone of the incoming timing sources of type T1 or T2. In the last case the programming rules for priorities and quality levels are the same above described for the generation of the T0 reference; the only constraint is that the list of up to six T1/T2 potential synch sources are shared between T0 and T4.

In case of APS protection the working and spare channels shall be deemed as distinct timing sources. In case of EPS protection only the working channels can be selected as valid timing sources.

SDH293: SSM standard interworking

Feature description

SSM standard interworking

Every STM-N traffic interface supports the standard management of the Synchronization Status Messages in the S1 byte of the MS-SOH according to the G.707/G.783 handling rules. The supported quality levels are (b5-b8 code):

- G.811 - PRC
- G.812T - SSUT
- G.812 - SSUL
- G.813 - SETS
- Do Not Use

The incoming values from the STM-N ports configured in the list of the synchronization sources are used by the SEC selection algorithm. The quality level of the actual SEC reference is automatically inserted in the outgoing SSM fields; alternatively, the operator can manually select a constant quality level code to be sent on the individual STM-N interface.

When 2.9.6 feature is supported, the same features is available on the 2-Mbs external synch interface too, according to the standard rules based on the information field in time-slot 16 of the 2-Mbs frame format.

SDH294: 2-MHz external synch

Feature description

2-MHz external synch

The NE supports T3/T4 type external synch sources, handled according to G.783 standard.

SDH295: 2Mb/s external synch

Feature description

2-Mbs external synch

2-Mb/s framed signal can be handled at T3/T4 synch interfaces in alternative to the basic 2MHz external synch references. The equipment provides software programmability to switch between the two mode; physical interfacing and access rule are in common.

The G.704 frame alignment information and the CRC-4 correctness affects the validity of the extracted clock. Additionally the SSM protocol is supported according to the standard rules based on the information field in time-slot 16 of the 2Mbs frame format. The management of SSM protocol on this interface is configurable by operator.

SDH296: STM-N synch references

Feature description

STM-N synch references

The T1 type of synch source handled is according to the G.783 standard. Every STM-N port on every type of traffic interface board can be inserted in the list of external timing sources with the ability to manage the SSM protocol. The standard SF/SD indications automatically invalidate the synch source; the incoming B2 bytes are used to check the error rate.

SDH298: Holdover/free-running alarms

Feature description

Holdover/free-running alarms

Dedicated alarm indications occur when the timing circuitry enters in the holdover or in the free-running mode due to either quality criteria or signal validity. Signal defects of the individual SDH/PDH reference are available as independent alarms at the relevant interface.

SDH299: Holdover/free-running commands

Feature description

The NE supports standard operator's Force commands driving the timing circuitry into the holdover or the free-running mode. The Clear command releases any in action Force status.

SDH385: ADM with SSU functionality

Feature description

This feature allows to use the NE in conjunction with Synchronization Supply Unit (SSU).

The synchronization chain from STM-N (T1) signal to SEC (passing through SSU) consists of the following steps:

- The External Reference (T4) is locked to a timing reference (T1/T2) in according to the SSM (Synchronization Status Message) algorithm;
- SSU is locked to 2-MHz signal coming form SEC (or it is in free-running if the received 2-MHz is squelched);
- SEC (Synchronous Equipment Clock) is locked to the filtered T3 (2MHz) coming from SSU.

The quality of the SEC output timing reference (T0) is set to:

- The quality of the timing reference selected to generate T4 (when SEC is locked to T3 coming form SSU);
- The quality of the SSU's Internal Oscillator when T4 is squelched (T4 is squelched if the quality of the selected T1/T2 (in Selector A) is lower than SSU's internal Oscillator);
- The quality of the SEC internal oscillator if no timing references are available to generate T0;
- The quality of the timing reference selected at the input T1 or T2, when T3 coming from SSU fails (DNU will be transmitted back on this interface).

DNU (Do Not Use) is transmitted back to the interface selected as timing source for T4.

10 Introduction

10.1 Change History

10.2 Legend for HC

SONET Features

1 Interface HW items

SONET832: 8 x OC-3/OC-12 optical unit

Feature description

Multi-rate unit per port basis.

SONET835: 4 x OC-48 optical unit

Feature description

Support of 4 x OC-48 optical unit.

SONET836: 1 x OC-192 optical unit

Feature description

Support of 1 x OC-192 optical unit.

1.1 Functionality on Interface HW items

2 Optical Modules

SONET1141: S-1.1 SFP/OC3 SFP (IR-1) module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1143: L-1.1 SFP/OC3 SFP (LR-1) module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1144: L-1.2 SFP/OC-3 SFP (LR-2) module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1145: S-4.1 SFP/OC12 SFP (IR-1) module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1146: OC-12 SFP(SR)/I-4

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1147: L-4.1 SFP/OC12 SFP (LR-1) module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1148: L-4.2 SFP/OC12 SFP (LR-2) module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1149: OC-48 b&w/I-16.1 SFP module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1150: OC-48 b&w/S-16.1 SFP module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1151: OC-48 b&w/L-16.1 SFP module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1152: OC-48 b&w/L-16.2 SFP module

Feature description

Support of pluggable optical module, to work in normal temperature environment (0-70C).

SONET1093: C-WDM OC-48 SFP modules temp hardened (PIN-40km, APD-80km)

Feature description

Support of pluggable optical module, temperature hardened.

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-320 only.

SONET871: OC-192 b&w I.64.1 (VSR) XFP module

Feature description

Support of pluggable optical module.

SONET872: OC-192 b&w S.64.2b XFP module

Feature description

Support of pluggable optical module.

SONET873: OC-192 b&w L.64.2c XFP module

Feature description

Support of pluggable optical module.

SONET875: D-WDM OC-192 XFP module

Feature description

Support of pluggable optical module.

3 Equipment

SONET883: Automatic Laser Shut-down

Feature description

Support of the functionality.

SONET901: Terminal Loopback, OC-3

Feature description

Support of the functionality.

SONET902: Terminal Loopback, OC-12

Feature description

Support of the functionality.

SONET903: Terminal Loopback, OC-48

Feature description

Support of the functionality.

SONET1131: Terminal Loopback, OC-192

Feature description

Support of the functionality.

SONET906: Facility Loopback, OC-3

Feature description

Support of the functionality.

SONET907: Facility Loopback, OC-12

Feature description

Support of the functionality.

SONET908: Facility Loopback, OC-48

Feature description

Support of the functionality.

SONET1132: Facility Loopback, OC-192

Feature description

Support of the functionality.

SONET1916: TSS-320 / 160 HO matrices w/ 2GB memory

Feature description

Support of Alcatel-Lucent 1850 TSS-320/160 HO matrices with 2GB of SLC memory.

SONET1917: TSS-320 / 160 HO + LO matrices HW support

Feature description

HW Support of TSS-320 / 160 HO + LO matrices (HO or LO functionality depending on specific feature requests).

Release specific

R3.2: LO functionality is not available, but this Matrix is HW ready to support it.

4 Equipment protection

5 Management

SONET918: Perform. Monit. According to GR-253-Core and T1.231

Feature description

Support of the functionality.

SONET919: Perform. Monit. On SONET section

Feature description

Support of the functionality.

SONET920: Perform. Monit. On SONET line

Feature description

Support of the functionality.

SONET921: HO POM Path Overhead Monitoring (STS-3c)

Feature description

PM collection compliant with GR-253-CORE and T1.231.

SONET922: HO POM Path Overhead Monitoring (STS-1)

Feature description

PM collection compliant with GR-253-CORE and T1.231.

SONET1065: Near-End and Far-End PM counters for OC-3, OC-12, OC-48, OC-192

Feature description

Provide both Near-End and Far-End PM counters for OC-3, OC-12, OC-48, OC-192, embedded STS-1, embedded VT1.5, Embedded DS3 and embedded DS1. PM collection is compliant with GR-253-CORE and T1.231. Far End DS1 PM (based on CSU support - primarily ANSI and 54016 optional).

Release specific

R3.2: available for Higher Order only.

SONET928: UAT - Unavailable Time

Feature description

UAT is included into TCA feature.

SONET1066: TC registers and TCA

Feature description

The NE supports threshold crossing registers and TCA for the 15 minute and 1 day registers.

SONET937: Alarm Filtering (F4 filter)

Feature description

Fixed F4 alarm filtering: default 2.5 seconds.

SONET947: Non-terminated ADD/Drop, and through intermediate path PMs

Feature description

Support of non-terminated ADD/Drop, and through intermediate path PMs for all STS1s, STS3Cs, STS12Cs, STS48Cs, and STS192Cs

SONET948: OPERATE-ALARM CUTOFF

Feature description

OPERATE-ALARM CUTOFF instructs an NE to cut off the office audible alarm indications without changing the local alarm indications. This command does not have any effect on future alarms at the NE, but directs the NE to provide conditioning only on those alarms that are currently active. The NE remains able to transmit its current alarm or status condition if requested by the OS or other external command source.

SONET1119: Unequipped signal

Feature description

In case an STS is not cross-connected, an unequipped signal is inserted into the source.

5.1 SONET PMs

SONET1057: Sonet PM storage registers

Feature description

The system provides the following type and number of storage registers for each PM parameter monitored as per GR-253 and T1.231:

One (1) Current 15-Minute register.

One (1) Current Day Register.

One (1) Previous 15-Minute register.

One (1) Previous Day register.

Thirty-one (31) recent 15-Minute.

SONET1058: Current registers reset

Feature description

The system is able to reset the current registers.

SONET1061: PM disabling/enabling

Feature description

The system provides a means of disabling/enabling the PM collection per port.

The disabling of the PM does not affect the ability of the system to report alarms on the interface.

SONET1062: 15-minute and 1-day accumulation periods accuracy

Feature description

15-minute and 1-day accumulation periods are accurate to within ±10 seconds.

SONET1063: Start of 15-minute and 1-day counts accuracy

Feature description

The start of 15-minute and 1-day counts are accurate to within ±10 seconds with respect to the NE clock.

6 Network

SONET953: Section Trace management

Feature description

Support of the functionality.

SONET954: HEX management of Section trace

Feature description

Support of the functionality.

SONET956: HEX management of Path trace

Feature description

Support of the functionality.

SONET958: ExBER - Excessive BER alarms

Feature description

Support of the functionality.

SONET959: SD - Signal Degrade alarms (Poisson distribution)

Feature description

Support of the functionality.

7 Network Protection

SONET965: OC-3 linear single-ended 1+1 Terminal (APS) (Uni-Directional)

Feature description

Support of the functionality.

SONET966: OC-12 linear single-ended 1+1 Terminal (APS) (Uni-Directional)

Feature description

Support of the functionality.

SONET967: OC-48 linear single-ended 1+1 Terminal (APS) (Uni-Directional)

Feature description

Support of the functionality.

SONET968: OC-192 linear single-ended 1+1 Terminal (APS) (Uni-Directional)

Feature description

Support of the functionality.

SONET978: UPSR among STS-nc trails (n=3,12,48,192)

Feature description

Support of the functionality.

SONET979: UPSR among STS-1 trails

Feature description

Support of the functionality.

SONET980: Drop&Continue

Feature description

Support of D&C onto 2F-BLSR and UPSR.

SONET999: Drop side subtended UPSR support

Feature description

Support of the functionality.

SONET1000: Simultaneously support any mix of supported protection mechanisms

Feature description

Simultaneously support any mix of supported protection mechanisms, OC port based.

SONET1001: Support of folded ring configurations

Feature description

Support of folded ring configurations. Folded means "2 nodes" ring.

8 Connectivity

SONET1117: Transfer Delay Performance < 30 ms

Feature description

Support of the functionality.

SONET1004: STS-1 Virtual Concatenation (G.707) 1..192

Feature description

Support of the functionality.

SONET1007: Hitless LCAS for STS-1 groups (G.7042)

Feature description

Support of the functionality

SONET1118: VCAT Differential Delay Compensation - up to 32 ms

Feature description

Support of the functionality.

SONET1015: UPSR Ring Closure for both higher and lower rate rings

Feature description

Support of the functionality.

SONET1287: 2WAYDC

Feature description

2WAYDC across different ring speeds, across UPSR-UPSR and UPSR-BLSR.

SONET1101: X-Conn Provisionable STS-48c

Feature description

Support of the functionality.

SONET1114: X-Conn Provisionable STS-192c

Feature description

Support of the functionality.

SONET1028: X-Conn Provisionable STS-12c

Feature description

Support of the functionality.

SONET1029: X-Conn Provisionable STS-3c

Feature description

Support of the functionality.

SONET1032: Unidirectional (1-way) cross-connects

Feature description

Support of the functionality.

SONET1115: Bi-directional (2-way) cross-connects

Feature description

Support of the functionality.

SONET1116: Broadcast cross-connects (1:N, N=4)

Feature description

Support of the functionality.

9 Timing

SONET1034: Holdover/Free-running alarms

Feature description

Support of the functionality.

SONET1035: Holdover/Free-running commands

Feature description

Support of the functionality.

SONET1036: Stratum 3 int. Osc.

Feature description

Support of the functionality.

SONET1038: DS1 synch I/O - connector – wire-wrap

Feature description

Support of the functionality.

SONET1039: DS1 synch I/O 2 input ,1 output min.

Feature description

Support of the functionality.

SONET1041: Sync Messaging (optical and DS1)

Feature description

Support of the functionality.

SONET1043: Clock MTIE Improvement, GR-253 mask for Clock wander

Feature description

Support of the functionality.

SONET1045: External BITS DS1

Feature description

Support of the functionality.

SONET1046: Line/Loop timing incoming OC-12

Feature description

Support of the functionality.

SONET1047: Line/Loop timing incoming OC-3

Feature description

Support of the functionality.

SONET1048: Line/Loop timing incoming OC-48

Feature description

Support of the functionality.

SONET1049: Line/Loop timing incoming OC-192

Feature description

Support of the functionality.

SONET1120: Hitless switching on selection of timing sources

Feature description

Switching on selection of the timing sources is hitless.

Data Features

1 NETWORK APPLICATIONS AND NETWORK ARCHITECTURE

1.1 GENERIC FEATURES

D12845: Virtual Switch Instances (VSI)

Feature description

At the UNI, transport switches perform client-layer functionality. Per client service the client-facing transport switch hosts a VSI (refer RFC4026).

A VSI connects one or multiple UNIs to zero or multiple transport trails (on NNIs).

VSIs are running largely independently of each other, though making use of the shared NNI-transport resources.

VSIs shield user traffic from each other.

Client-layer OAM MIPs are supported per VSI (at edge nodes, or transit nodes if required).

Release specific

Virtual Switch Instance forwarding via AC/PW binding; Bridge/Virtual Switch Instance functional behavior (RFC 4664) allowing client traffic at UNI side (Attachment Circuit) to connect to an emulated LAN at NNI side via PW connectivity

R3.0, R3.1: Client-layer OAM MIPs are not supported.

D12158: BTV distribution

Feature description

The NE supports Multicast service with static or dynamic control of the Multicast Distribution Tree.

1.2 TECHNOLOGY SPECIFIC FEATURES

1.3 NETWORK ARCHITECTURE MODELS

D12963: TSS-320 / TSS-40 ring closure, Hierarchical architecture

Feature description

The following network scenario is supported, composed by two separated domains:

- hub (TSS320 partial mesh)

- ring (TSS40 and TSS320)

For each end-to-end client service, the network is provisioned with 2 separated logical connections: one in the ring and one in the hub. Connectivity is based on T-MPLS PW and Tunnel entities

D12964: TSS-320 / TSS-40 ring closure, Flat architecture

Feature description

Only ring domain - TSS320s close the ring and directly interconnect third-party equipments (i.e., BNG), see also feature D12963.

2 HW ITEMS

2.1 TSS CARDS

D12196: 10G Portless EoS packet module (1 slot)

Feature description

MultiService card that has ability to terminate and process Packet traffic and TDM traffic (exchanged via fabric interface), and performing GFP EoS mapping. The card supports 10G packet and 10G TDM capacity.

D37: 10X GE packet module (REQ. SFP) (1 slot)

Feature description

Packet interface capable to support up to 10xGE pluggable SFP modules. The card provides an overall throughput capacity of 10 Gbps.

D12959: 10X GE packet module Eth. Synch capable (REQ. SFP) (1 slot)

Feature description

Packet module as per feature D37, adding the capability of supporting Synchronous Ethernet. The interface is external synch sources in TX (egress) direction, and internal synch source in RX (ingress) direction

Release specific

R3.1: Only HW-ready to support Synchronous Ethernet. Synch Ethernet feature currently not supported.

D38: 1X 10GE packet module (REQ. XFP) (1 slot)

Feature description

Packet interface capable to support 1x10GE pluggable XFP module. The card provides an overall throughput capacity of 10 Gbps.

D12960: 1X 10GE packet module Eth, Synch capable (REQ. XFP) (1 slot)

Feature description

Packet module as per feature D38, adding the capability of supporting Synchronous Ethernet. All interfaces are external synch sources in TX (egress) direction, and one interface out of each group of five is internal synch source in RX (ingress) direction (i.e. there are two source interfaces in RX).

Release specific

R3.1: Only HW-ready to support Synchronous Ethernet. Synch Ethernet feature currently not supported.

2.2 TTS CARDS

2.3 ISA CARDS

2.4 TSS PLUG IN MODULES

2.5 ELEC. AND OPT. MODULES

D12098: 100Base FX 2km (SFP)

Feature description

Support of Optical FE interface, 2 km.

Release specific

R3.1: On 10xANY only.

D12317: 100/1000 BaseT (SFP RJ-45)

Feature description

Support of Standard 100/1000 BaseT (RJ45) Small Form Pluggable interface.

D46: 1000 BaseSX (SFP)

Feature description

Support of Standard 1000 BaseSX Small Form Pluggable interface.

D47: 1000 BaseLX (SFP)

Feature description

Support of Standard 1000 BaseLX Small Form Pluggable interface.

D48: 1000 BaseZX (SFP)

Feature description

Support of Standard 1000 BaseZX Small Form Pluggable interface.

D13028: 1000 BaseZX (SFP) - temp. hardened

Feature description

Support of Standard 1000 BaseZX Small Form Pluggable interface, temperature hardened,

D50: 1000 C-WDM (SFP)

Feature description

Support of C-WDM SFP modules with PIN and APD receivers,

Applicability

This feature is applicable to Alcatel-Lucent 1850 TSS-320 only,

D285: 10GE LAN b&w (XFP) (10GBase-SR)

Feature description

Support of Standard 10GBase-SR (10GBE) 10G Small Form Pluggable interface.

D287: 10GE LAN b&w (XFP) (10GBase-ER)

Feature description

Support of Standard 10GBase-ER (10GBE) 10G Small Form Pluggable interface.

D289: 10GE LAN b&w (XFP) (10GBase-LR)

Feature description

Support of Standard 10GBase-LR (10GBE) 10G Small Form Pluggable interface.

D13090: 10GE LAN b&w (XFP) (10GBase-ZR)

Feature description

Support of Standard 10GBase-LR (10GBE) 10G Small Form Pluggable interface.

D12984: 10GE LAN b&w (XFP) (P1L1-2D2 80Km)

Feature description

Support of 10GBE XFP LAN module, 80 km.

D366: 10GE LAN C-WDM (XFP) temp hardened

Feature description

Support of C-WDM SFP modules with PIN and APD receivers, temperature hardened.

D53: 10GE LAN D-WDM (XFP)

Feature description

Set of 10G Small Form Pluggable interfaces (10GBE) on DWDM grid.

3 ETH INTERFACES

D55: Ethernet flow control (IEEE 802.3x) - RX pause frame always dropped (not configurable)

Feature description

The NE supports the 'fixed' discarding of Pause frames received at an Ethernet interface.

D54: Ethernet flow control (IEEE 802.3x) - send pause frame (configurable)

Feature description

The NE supports Ethernet Flow Control as specified in IEEE802.3_2002 - Part 3 - Section2 - Clause 31 / Annex 31A-31B: in case of “overwhelming” incoming Ethernet traffic leading to exhaustion of buffers on input queues, it is requested the capability to transmit PAUSE frames in order to slow down remote peer MAC sub-layer.

According to the provisioning, it is possible to enable or disable sending of Pause Frames (default condition is to send out pause frames).

D57: ETH port auto-negotiation

Feature description

The Ethernet port supports autonegotiation protocol in order to communicate with the peer system the parameters set by the operator.

D12986: Signal Degrade, RX input power based

Feature description

Support of Signal Degrade alarm based on a fixed threshold of RX input power with hysteresis. The SD alarm is declared before the complete LOS.

Release specific

R3.1: based on threshold on DDM reading (needs DDM module capability). Not supported on 10xANY.

D179: Regular Ethernet MTU (NNI =1600 bytes, UNI =1574 bytes)

Feature description

The NE supports the 'Maximum Transmission Unit' (MTU)/ 'Maximum Receive Unit' (MRU), i.e. the maximum length of an Ethernet frame, as for the following values:

- MTU/MRU UNI = 1574 bytes, as per max allowed Ethernet frame length
- MTU/MRU NNI= 1600 bytes, as per max allowed Ethernet frame length

The minimum length of an Ethernet frame is assumed to be 64 bytes.

D180: Ethernet Jumbo frames MTU (up to 9242 bytes)

Feature description

The NE supports the MTU/MRU 'jumbo' frame format.

The following 'jumbo' frame values are supported on 'port provisionable' basis:

- MTU/MRU UNI= values in the range from 1574 (default) to 9216 bytes
- MTU/MRU NNI= values in the range from 1600 (default) to 9242 bytes

D58: ETH port MAU auto MDI / MDX

Feature description

The Ethernet port automatically senses the cable and adapts itself to either straight or crossed cables.

D99: ETH Line loopback

Feature description

The Ethernet port supports a Physical loopback towards the attached cable.

Release specific

R3.1: Only on 10xANY, only Loopback&Continue (no Loopback&AIS).

D837: ETH Internal loopback

Feature description

The Ethernet port supports an Internal loopback just before reaching the attached cable on the egress side.

Release specific

R3.1: Only on 10xANY, only Loopback&Continue (no Loopback&AIS).

D63: Link aggregation (802.3ad)

Feature description

The NE supports the 'Link Aggregation' function, as specified in IEEE 802.3 - Chapter 43.

'Link Aggregation' is a method for aggregating into a single logical link, N parallel instances of full duplex point-to-point links operating at the same data rate (Fast Ethernet, Gigabit Ethernet, 10 Gigabit Ethernet), into a single logical link.

D842: GBE ports Link Aggregation (802.3ad)

Feature description

Link Aggregation Group is done bundling N GE ports.

D977: 10GBE ports Link Aggregation (802.3ad)

Feature description

Link Aggregation Group is done bundling N 10GE ports.

D844: Distributed LAG (across cards)

Feature description

A Link Aggregation group can be configured bundling ports physically located on different access modules.

D11921: Hashing key for LAG

Feature description

Ability to configure the LAG Hashing key based on: MAC DA / SA.

D12249: Enhanced Hashing key for LAG

Feature description

Ability to configure the LAG Hashing key based on all the following criteria: MAC SA/DA + MPLS label (3) + VLAN (2) + IP@ SA/DA + L4 (TCP/UDP S/D port)

D64: Active / Standby configuration for LAG

Feature description

The Link Aggregation Group can be configured in a way that one link is working and the other is in standby (not carrying traffic).

The LAG supports the option to define more LAG ports than active ports.

Active Standby case is: two ports in a LAG group, of which only one is active.

D839: LACP protocol for LAG

Feature description

The NE supports the Link Aggregation based on LACP.

The Link Aggregation Control Protocol (LACP) is used for automatic communication of aggregation capabilities between NEs and for automatic configuration of Link Aggregation.

Through LACP, the NE therefore supports the capability to re-configure the 'Link Aggregation Group' because of a failure and re-distribute the traffic among the available links, recovering, then, the 'aggregated' Ethernet data flow.

D12248: Disable LACP protocol on LAG

Feature description

Ability to enable / disable the LACP protocol on LAG.

D985: LAG and xSTP on same port

Feature description

Ability to combine LAG and STP on the same port (run STP across a LAG).

4 VCG (logical) INTERFACES

D93: Rate limiting per VCG port

Feature description

The NE supports the rate limiting feature per VGC port, applicable to Ethernet ports operating different speeds (e.g. 100M, 1G, 10G), in order to avoid traffic congestion

between Ethernet ports communicating across an SDH/SONET transport network, possibly occurring due to the different operative rate.

Basing on rate limiting algorithm, the Ethernet mapping rate at 'ingress' node of transport network is configured so to match the lowest operative rate of the two communicating ports. The result is that the mapping rate of the 'highest' rate Ethernet flow is limited accordingly.

D423: LCAS (Link Control Adjustment Scheme)

Feature description

Ability to dynamically adjust the link scheme and bandwidth for VC4 groups according to ITU-T G.7042.

D845: VC-12 port

Feature description

VC-12 port according to ITU-T G.707.

D846: VC-3 port

Feature description

VC-3 port according to ITU-T G.707.

D847: VC-4 logical port

Feature description

According to ITU-T G.707

Release specific

R3.0: limited to Port-to-Port applications.

D848: VC-12v VCG logical port

Feature description

VC-12v port according to ITU-T G.707.

D849: VC-3xv VCG logical port

Feature description

VC-3xv port according to ITU-T G.707.

D850: VC-4xv VCG logical port

Feature description

According to ITU-T G.707.

Release specific

R3.0: limited to Port-to-Port applications.

D851: STS-1xv VCG logical port

Feature description

STS-1xv VCG logical port support according to ITU-T G.707.

5 ATM INTERFACES

6 RPR INTERFACES

7 GENERIC

D855: Port settings administration

Feature description

Ability to turn down / up a Port, change transmission capability, pause configuration, etc. even in presence of a configured service.

D946: LAG administration

Feature description

Ability to turn down / up a LAG, change transmission capability, pause configuration, etc. even in presence of a configured service.

8 CLASSIFICATION

D178: Ethernet Header processing

Feature description

The NE supports the processing of 'Ethernet Frame header' at Layer 2 ('Media Access Control' frame), as specified by IEEE 802.3 (2002) for data communication systems using the CSMA/CD MAC.

D127: Port

Feature description

Ability to identify packets from the incoming Port.

D129: IEEE 802.1.Q (former 802.1p) priority bits

Feature description

Ability to identify packets from the 802.1Q priority field (aka p bit).

D130: IEEE 802.1.Q VLAN

Feature description

Ability to identify packets from the 802.1Q VLAN field.

D12353: IEEE 802.1ad VLAN

Feature description

Ability to identify packets from the 802.1ad VLAN field.

D133: IP v.4 DSCP

Feature description

Ability to classify traffic based on IP DSCP or DiffServ bits.

D859: p bit markings from TOS

Feature description

Ability to mark p bits of an Ethernet frame inheriting them from the IPv4 TOS value. If the TOS field is untrusted then a default p bit marking can be applied according to the service class.

D12320: MPLS EXP bit marking from IP DSCP

Feature description

Classification of incoming IP traffic based on IP DSCP, marking of MPLS EXP bits accordingly (mapping of IP DSCP to MPLS EXP bits / internal CoS is configurable per attachment circuit).

D12321: Configurable mapping of MPLS EXP bits to CoS

Feature description

Mapping of MPLS EXP to internal CoS is configurable per MPLS interface.

D861: Ether Type classification

Feature description

Ability to classify traffic by looking at Ether type value (e.g., 8x63, 8x62 for pppoE, IP, DHCP...).

9 TRAFFIC CONDITIONING

D137: Dual Rate Token Bucket

Feature description

Dual Rate Token Bucket meter and policer according to IETF RFC 2698.

D139: Metering, Policing and Marking IETF compliant

Feature description

Ability to condition (meter and mark) and police traffic according to IETF RFC 2697, RFC 2698.

D140: Color blind traffic conditioning

Feature description

Ability to apply traffic conditioning (Meter/Police/Mark) without considering the color information that is written within the packet (i.e., untrusted sources attached to a UNI or IWI port).

D141: Color aware traffic conditioning

Feature description

The ability to apply traffic conditioning (Meter/Police/Mark) considering the color information that is written within the packet (i.e., typical ENNI case, NNI general case). Green packets can be demoted to yellow, while yellow cannot be promoted to green.

D142: Color aware ETH frame priority bits (S-VLAN 802.1ad) with double tagged frames

Feature description

Ability to derive color information from the p bits/ DEI bit of a S-VLAN tag when using Color Aware Traffic conditioning.

D12105: PW CoS from MPLS tunnel EXP (Tunnel Termination) E-LSP mode

Feature description

PW CoS+Color information is coded in the Tunnel header, instead of only in the PW header (i.e. PW CoS+Color = underlying TU CoS+Color).

If Tunnel is E-LSP, looking at Tunnel EXP field.

PW label is considered for forwarding purposes only.

D143: Traffic dropping (out of profile)

Feature description

Ability to specify if out of profile traffic has to be dropped immediately.

D867: MEF per UNI+EVC+CoS

Feature description

Dual Rate Token Bucket meter and policer according to MEF per port + EVC + CoS.

D138: Metering, Policing and Marking MEF compliant

Feature description

Ability to condition (meter and mark) and police traffic according to MEF TMS (Draft V7.2.2 or later).

D868: Rate control MC frames per Service

Feature description

Ability to set and control a rate for all the frames that have to be MultiCasted within a service domain.

D869: BC/MC storm control (DOS, Ping, Flooding) per service

Feature description

Ability to set and control a rate for all the frames that have to be Broadcasted within a service domain.

10 UNI / IWI TAG MANAGEMENT

D191: ETH VLAN push

Feature description

Ability to add a (C or S) VLAN to an Ethernet frame and set the repeated Ethertype (I.e. push a C-VLAN or a S-VLAN).

Release specific

R3.0: only in the context of Service Delimiting.

D193: ETH VLAN pop

Feature description

Ability to remove the outer VLAN tag from an Ethernet frame.

Release specific

R3.0: only in the context of Service Delimiting.

D192: ETH Service Delimiting

Feature description

With Service Delimiting, a VLAN Tag may be popped at the ingress UNI and pushed at the egress UNI, to segregate service instances.

D221: MPLS label Push

Feature description

Ability to Push an MPLS PW label.

D12106: 2 MPLS label Push

Feature description

Ability to Push two MPLS PW label.

D222: MPLS label Pop

Feature description

Ability to Pop an MPLS PW label.

D12108: 2 MPLS label Pop

Feature description

Ability to Pop two MPLS PW label.

D223: MPLS label Swap

Feature description

Ability to Swap an MPLS PW label.

11 TECHNOLOGY SPECIFIC

11.1 ETHERNET

D185: Per VLAN MAC@ auto-learning

Feature description

Ability to configure the MAC addresses learning process separately per VLAN. MAC@ tables are per VLAN.

D874: Disable Auto-Learning per Service

Feature description

Ability to disable, per port per service, the MAC@ autolearning process.

Release specific

R3.1: for PB and T-MPLS VSI. Only per service, not available per port.

D186: MAC DA static configuration

Feature description

Ability to specify a set of "static" MAC@ that are not subject to the aging process.

Release specific

R3.1: for PB only.

D128: MAC Filtering DB management

Feature description

Ability to support an Ethernet Source and Destination Address MAC database that is populated both from MAC auto learning process and statically provisioned MAC addresses.

D875: Black-Hole L2 Forwarding prevention (requires MAC@ table flushing event) via "OAM like" packet

Feature description

Ability to automatically flush a MAC table on a remote NE upon network failure event. This prevents traffic to be sent to a (wrong) BlackHole Port until Aging timers expire and new learning happens.

D13029: MAC@ table flushing upon LOS event

Feature description

LOS event is a trigger for the MAC table flushing operation.

D13030: MAC@ table flushing upon ERP APS flushing packet detection event

Feature description

ERP APS flushing packet detection event is a trigger for the MAC table flushing operation.

D200: EtherType configuration per port

Feature description

The NE supports the capability to configure the 'Type' field (i.e. EtherType) on per-port basis. In case of no protocol specified the default value '0x8100' is used.

D12113: MAC Address Table management per ELAN instance

Feature description

Ability to support MAC address learning per VSI (virtual switching instance) base - E-LAN.

11.2 MPLS

D12337: Static MPLS LSPs

Feature description

Support of static LSPs as head-end, tail-end, and transit LSR.

D227: MPLS-Diff-Serv management E-LSP

Feature description

Ability to process the MPLS fields In accordance to E-LSP practice.

D228: MPLS TTL management (short pipe model)

Feature description

Ability to decrement the TTL field value of the MPLS frame when travelling across the network (i.e., One Hop MPLS LSP) according to RFC3443 short pipe model.

D12110: MPLS TTL management (pipe model)

Feature description

MPLS TTL management according to RFC3443 pipe model.

D230: Per platform label space management and distribution

Feature description

Ability to manage per platform (NE) label space and to reuse the same label value on different platforms

D12119: PW QoS management

Feature description

Pipe model - the tail end node processes the EXP-bits for QoS treatment.

D12323: Tunnel QoS management

Feature description

Short pipe model.

D12120: CAC

Feature description

Ability to manage Connection Admission Control (CAC).

D12122: MPLS tunnel output shaping

Feature description

Ability to support MPLS tunnel output shaping.

11.3 ATM

11.4 PACKET RING

12 CONNECTIVITY

D424: Point to Point (REQ Disable Mac@ learning) EVC

Feature description

Ability to forward traffic from one source to a single destination.

D430: Point to MultiPoint (REQ Disable Mac@ learning) EVC mux

Feature description

Ability to forward traffic from one source to multiple destinations. Forwarding criteria will be dictated by the network capability of the forwarding engine model (i.e., VLAN based forwarding).

D12350: Point to Multipoint EVC

Feature description

Ability to forward traffic from one source to multiple destinations. Forwarding criteria are dictated by the network capability of the forwarding engine model (i.e., Bridging would rely on MAC destination address).

D426: MultiPoint to MultiPoint

Feature description

Ability to forward traffic from multiple source to multiple destinations. Forwarding criteria are dictated by the network capability of the forwarding engine model (i.e., Bridging would rely on MAC destination address).

13 FORWARDING

D145: Port

Feature description

Ability to perform packet forwarding decision based on the incoming port.

D189: IEEE 802.1Q (Virtual Bridges)

Feature description

Ability to perform packet forwarding decision based on a IEEE Virtual Bridging model (i.e., MAC@ forwarding per VLAN domain).

D190: IEEE 802.1ad (Provider Bridge)

Feature description

Ability to perform packet forwarding decision based on a IEEE Provider Bridging model (I.e. MAC@ forwarding per S-VLAN domain).

D991: P-bits (802.1P)

Feature description

Ability to perform packet forwarding decision based on the incoming p bit value of the (outer) VLAN tag value.

D197: ETH Unicast traffic Forwarding

Feature description

Ability to support unicast traffic forwarding of Ethernet frames.

D198: ETH Multicast traffic Forwarding

Feature description

Ability to support multicast traffic forwarding of Ethernet frames. Specific Ethernet addresses are reserved by IEEE for Multicast forwarding. Such traffic can be subject to IGMP snooping/proxing for optimal BW utilization. The amount of bandwidth that is allowed to the Multicast can be subject to rate limiting to prevent starvation.

Release specific

R3.0: IGMP not supported.

D199: ETH Broadcast traffic Forwarding

Feature description

Ability to support broadcast traffic forwarding of Ethernet frames. The amount of bandwidth that is allowed to the Multicast can be subject to rate limiting to prevent starvation.

D131: MPLS label (Tunnel or PW after Tunnel Termination) E-LSP mode

Feature description

Ability to identify packets from the MPLS label / Experimental bits.

The NE is able to classify the incoming MPLS/T-MPLS packets by looking at a single <Label, EXP>.

- The label can be either the outer label or the one behind (after a pop operation)
- The label provides the flow identifier, and it is the only information used for forwarding purposes
- The EXP provides the <CoS, Color> information

D12324: Static MPLS LSPs

Feature description

Support of static LSPs as head-end, tail-end, and transit LSR.

D12125: MPLS label + MAC DA

Feature description

Ability to perform packet forwarding decision based on the label and MAC DA inspection.

D231: MPLS P2P unidirectional LSPs (unicast) forwarding

Feature description

Ability to support MPLS unicast traffic forwarding.

D12126: MPLS P2P bi-directional LSPs (unicast) forwarding

Feature description

Ability to support MPLS unicast traffic forwarding across bi-directional LSPs.

14 MULTICAST

15 QUALITY OF SERVICE

D902: QoS Classes

Feature description

Ability to support three classes of service: Guaranteed (Green only), Regulated (Green and Yellow) and Best Effort (Yellow).

The three classes are associated with three different queues with a Strict (on the first queue) + Weighted Deficit Round Robin (the other two) scheduling practice.

D201: Best Effort Traffic (PIR > 0 ; CIR = 0)

Feature description

Ability to support BE Traffic with a null CIR (all Yellow).

D202: Regulated Traffic (PIR > CIR > 0)

Feature description

Ability to support REG Traffic with a non zero CIR and PIR (Green and Yellow).

D203: Guaranteed Traffic (PIR = CIR > 0)

Feature description

Ability to support GUA Traffic with equal CIR and PIR (all Green).

D204: Hitless Bandwidth Modification

Feature description

Ability to reconfigure CIR/PIR values (per Class) without perturbating the traffic (hitless).

D236: Default Effort Traffic

Feature description

Ability to support Default Effort Traffic with a null CIR (all Yellow).

D237: Assured Forwarding Traffic

Feature description

Ability to support Assured Forwarding Traffic with a non zero CIR and PIR (Green and Yellow).

D238: Expedited Forward Traffic

Feature description

Ability to support Expedited Forward Traffic with equal CIR and PIR (all Green).

D903: QoS Classes Enhancements

Feature description

Ability to support Enhanced Traffic Classes. Eight (8) Classes are supported.

The eight classes are associated with eight different queues with a Strict (on the first two queue) + Weighted Deficit Round Robin (the other two) scheduling practice.

This feature can be combined with Enhanced Traffic Conditioning and Enhanced Traffic Shaping.

16 CONGESTION AVOIDANCE

D152: W-RED

Feature description

Ability to support Weighted random early detector for congestion avoidance. The RED (Random Early Detection) discards (i.e. drops) packets randomly based on queue occupation. The Thresholds provided by WRED on each queue allow a graceful drop of yellow packets as congestion starts and guarantee availability for green packets.

D12326: Enhanced WRED

Feature description

Up to three WRED profiles per queue (thresholds expressible in both absolute numbers and in percentage of queue filling).

17 SCHEDULING

D153: Strict Priority Scheduling (HOL)

Feature description

Ability to schedule a queue with Strict Priority practice. The next queue is served when the served queue becomes empty.

D154: Weighted Deficit Round Robin (aka WFQ) - WC (Contended Bandwidth)

Feature description

Ability to schedule a queue with a WDRR practice. The weight assigned to the scheduler for that queue determines the relative percentage of bandwidth addressable to that queue. A Work Conservative scheduling practice allows a queue to gather additional bandwidth if the other queues are not feeding packets.

D12327: Configurable queue length

Feature description

Ability to support configuration of queue length per queue.

D904: Traffic shaping per port (sub line rate)

Feature description

Ability to support a traffic shaping rate per output port.

D905: Enhanced Shaping (per service)

Feature description

Ability to support a traffic shaping rate per service per output port.

D12328: LSP or PW egress shaping

Feature description

Configurable egress shaping per LSP or PW (in addition to per-port shaping).

D950: Virtual Transport management

Feature description

Ability to associate a Virtual Transport (VT) to a service, as applicable and supported (e.g. SVLAN instance, MPLS Label).

18 ENCAPSULATION

D101: GFP-F mapping over VCG (ITU-T G.7041) null ext. header, no FCS

Feature description

Ability to map traffic onto an Sonet/SDH VC/VCG port according to the ITU-T G.7041 Generic Framing Procedure (Framed), no 'Frame Check Sequence' field (FCS).

Release specific

R3.0: limited to Port-to-Port applications

D1018: GFP-F mapping over VCG (ITU-T G.7041) null ext. header, with FCS

Feature description

Ability to map traffic onto an Sonet/SDH VCG port according to the ITU-T G.7041 Generic Framing Procedure (Framed), with 'Frame Check Sequence' field (FCS). FCS contains a CRC-32 sequence protecting the content of 'GFP Payload Information' against errors.

D951: GFP CSF (client signal fail)

Feature description

Ability to detect a client signal fail according to the ITU-T G.7041-2005 Generic Framing Procedure, signal such event on the remote peer and take consequent actions as appropriate (i.e., Tear down of the remote Port).

D13094: CSF (client signal fail) for Ethernet signals into ODUk (k=0, 2e) that are not GFP mapped.

Feature description

Ability to detect a client signal fail according to the ITU-T G.7041-2005 Generic Framing Procedure, signal such event on the remote peer, and take consequent actions as appropriate (I.e. Tear down of the remote Port).

D341: GFP-F mapping over STS (ITU-T G.7041) null ext. header, no FCS

Feature description

Ability to map traffic onto a Sonet VCG port according to the ITU-T G.7041 Generic Framing Procedure (Framed).

D12981: GFP-F proprietary I/W with TSS-40

Feature description

The feature allows full GFP-F interworking with Alcatel-Lucent TSS-40.

D105: ETH IEEE 802.3

Feature description

Ability to generate (encapsulate into) Ethernet frames in accordance to IEEE 802.3.

D12128: ETH over MPLS (PW encapsulation): Raw mode

Feature description

The feature follow IETF RFC 4448, establishing how to encapsulate Ethernet/802.3 PDUs within a pseudowire. In the raw mode encapsulation when a frame is received from the Attachment Circuit (AC) with a VLAN tag:

- if the tag is service-delimiting (the tag is placed by Service Provider (SP) to distinguish traffic e.g., for different customers), the tag has to be stripped.

- if the tag is not-service delimiting (the tag is placed in the frame by a customer) no operation is performed and the frame is passed transparently across the PW as part of payload.

When the PE receives a frame from the PW it must not rewrite or remove any tags already present. To add or not a service delimiting tag before sending the frame to attachment circuit is configuration depending.

D12334: Dry Martini

Feature description

Support of MPLS PW encaplsulation of non-IP/MPLS PSNs (GFP-F, Ethernet link / LAG, 802.1q VLAN).

D12335: MPLS PW - Control Word Usage

Feature description

Configuration option per PW whether or not Control Word is to be used.

D301: ETH / GFP-F

Feature description

Ability to encapsulate a client Ethernet frame within an ITU-T G.7041 frame.

Release specific

R3.0: limited to Port-to-Port applications.

D122: MPLS over IEEE 802.3 phy (IETF RFC 3032)

Feature description

Ability to encapsulate an MPLS frame within an IEEE 802.3 frame.

D300: MPLS over GFP-F

Feature description

Ability to encapsulate an MPLS frame within an ITU-T G.7041 frame.

D219: MPLS Martini encapsulation w/o Control Word

Feature description

Ability to not include the Martini Control Word during the encapsulation according to the interconnected device. Control word is in any case required in case of ECMP.

D220: MPLS Martini encapsulation w/ Control Word

Feature description

Ability to include the Martini Control Word during the encapsulation according to the interconnected device. Control word is in any case required in case of ECMP.

D338: Interworking with MPLS Martini encapsulation w/ Control Word

Feature description

Ability to interwork with an MPLS Martini encapsulation w/ Control Word even if not completely managed.

D12198: IP/CLNP over PPP MPLS tagged

Feature description

In fiber in band management with I/W based on dedicated MPLS label. PPP is used for connectivity verification of the control channel.

D12197: IP/CLNP over PPP Ethernet tagged

Feature description

In fiber in-band management with tagged Ethernet (Provider Bridge scenario). PPP is used for connectivity verification of the control channel.

Release specific

R3.0: limited to Port-to-Port applications, even if not in Provider Bridge.

D12130: MPLS over 802.1Q

Feature description

Ability to map MPLS over a 802.1q trunk.

D12165: IP over ETH

Feature description

Encapsulation related to CP in case of (G)MPLS.

D12132: IP over GFP-F (direct encapsulation)

Feature description

Encapsulation related to CP in case of (G)MPLS.

19 NETWORK PROTOCOLS

D214: RSTP as per 802.1D (2004) on provider's network

Feature description

Ability to prevent network loops within a bridged network by means of RSTP protocol.

D215: MSTP as per 802.1Q (2003) on provider's network

Feature description

Ability to prevent network loops within a bridged network by means of MSTP protocol. MSTP allows the operated network to perform per group of VLANs load balancing.

19.1 ML-PPP

20 INTER-WORKING PROTOCOLS

D12987: Eth OAM over T-MPLS interworking with Provider Bridge Eth OAM

Feature description

Capability of Ethernet OAM over T-MPLS interworking with Provider Bridge Ethernet OAM.

21 NETWORK PROTECTION

D1020: Enable/ Disable CSF consequent action (Port to Port)

D1021: Enable/ Disable SSF consequent action (Port to Port)

D351: ITU-T G.8131 bidirectional 1:1 linear trail protection (Tunnel level)

Feature description

Bidirectional 1:1 linear trail protection for T-MPLS LSPs as defined in ITU-T Rec. G.8131, section 11.2. Switching time <= 50 ms.

D174: Dual attachment (single node topology)

Feature description

Ability to provide redundant interconnection between two network segments (intra-domain) via a double link functional interface towards two separated physical boards or access modules housed in the same node.

Release specific

R3.1: STP based (selective tunneling).

D173: Dual attachment (double node topology)

Feature description

Ability to provide redundant interconnection between two network segments (intra-domain) via a double link functional interface towards two separated physical boards or access modules housed in different nodes.

Release specific

R3.1: STP based (selective tunneling).

D13037: FFP triggered on DDM-SD

Feature description

ITU-T G.8131 bidirectional 1:1 linear trail protection triggered by degraded status of the line. The detection of the degraded status is based on monitoring of the input optical power using DDM capable SFP/XFP.

D12968: Maintenance commands

Feature description

Support of lock-out, manual, forced commands on protections.

Release specific

R3.1: for T-MPLS protection.

D12983: Programmable WTR on protection - extended time

Feature description

Support of WTR up to at least 48 hours.

Release specific

R3.1: for T-MPLS protection.

22 INTERWORKING REDUNDANCY

D181: Customer protocols tunneling (transparency)

Feature description

Ability to tunnel, according to operator choice, each one of the following customer protocols [Link Agg, STPs, GARP,GVRP, Broadcast, 802.1x].

Release specific

R3.1: Includes OAM.

D182: Customer protocols blocking (filtering)

Feature description

Ability to discard, according to operator choice, each one of the following customer protocols [Flow control, Link Agg, STPs, GMRP,GVRP, Broadcast, 802.1x].

Release specific

R3.1: Includes OAM.

D183: Customer protocol peering (participation)

Feature description

Ability to peer, according to operator choice, each one of the following customer protocols [Flow control, Link Aggregation].

Release specific

R3.1: Includes OAM.

D184: Dual Homing (Selective tunneling of CBPDU)

Feature description

Ability to support a customer Equipment or an External device interconnected in a Dual Homing configuration. Selective Tunneling of customer BPDU allows to forward customer BPDUs for redundancy purposes in a specific service instance. This instance have to be protected within the network to work properly.

D12247: Dual Homing (Selective tunneling of SBPDU)

Feature description

Ability to support a customer Equipment or an External device interconnected in a Dual Homing configuration. Selective Tunneling of Service Provider BPDU allows to forward customer BPDUs for redundancy purposes in a specific service instance. This instance have to be protected within the network to work properly.

23 SECURITY

D948: Port segregation

Feature description

Ability to inhibit traffic forwarding among group of ports.

Release specific

R3.1: Only PB

D879: Enable / Disable flooding per Service / EVC

Feature description

Ability to (operator configuration) flood or discard packets whose destination is unknown.

24 ALARMS

25 COUNTERS

D13118: Manual PM polling button

Feature description

Support of manual polling button to retrieve the PM data at EVC, PW, Tunnel level.

25.1 ETH COUNTERS

D256: Aggregate octects/frames counters (Maintenance counters :CD)

Feature description

Ability to count RX, TX packets on a port basis and report those to the operator [RX Frames, RX Octets, …] - current counters.

D12202: Interface Counters

Feature description

Ability to count events related to the physical media and report those to the operator [MAU, Jabber Status , …].

D374: Aggregate octets/frames counters (HD)

Feature description

Ability to count RX, TX packets on a port basis and historize those for later analysis [RX Frames, RX Octets, …] counter history

D257: Service flow octets/frames counters (CD/HD)

Feature description

Ability to count RX, TX packets on a per flow/service basis and historize those for later analysis [RX Frames, RX Octets, …]

D928: ETH counters Enhancements (CD/HD)

Feature description

Ability to measure a set of enhanced QoS Counters specific to each traffic direction;

- TRCO_Y (Total Received Correct Yellow Octets) - total number of octets of yellow Ethernet frames received correctly, including Ethernet header characters.
- TRCF_Y (Total Received Correct Yellow Frames) - total number of yellow Ethernet frames received correctly.

- TDF_G (Total Discarded Green Frames) - total number of green Ethernet frames which were chosen to be discarded due to buffer congestion.
- TDF_Y (Total Discarded Yellow Frames) - total number of yellow Ethernet frames which were chosen to be discarded due to buffer congestion.
- TTO_Y (Total Transmitted Yellow Octets): total number of octets of yellow Ethernet frames transmitted out, including Ethernet header characters.
- TTF_Y (Total Transmitted Yellow Frames): total number of yellow Ethernet frames transmitted out.

D953: Counters History

Feature description

Ability to store the measured values of counters for later processing. The counters are stored at the end of each interval. The interval length can be configured between 15 minutes and 24 hours; the default interval length is 6 0min.

25.2 MPLS COUNTERS

D277: Tunnel octets/frames counters (CD/HD)

Feature description

Ability to count RX, TX packets on a per MPLS TUNNEL basis and historize those for later analysis [RX Frames, RX Octets, …]

D278: Aggregate octets/frames counters (CD/HD)

Feature description

Ability to count RX, TX packets on a port basis and report those to the operator [RX Frames, RX Octets, …]

D279: PW octets/frames counters (CD/HD)

Feature description

Ability to count RX, TX packets on a per PWE3 basis and historize those for later analysis [RX Frames, RX Octets, …]

25.3 RPR COUNTERS

26 OAM

26.1 EFM OAM IEEE 802.3ah

D957: Link Discovery OAM

Feature description

Ability to support IEEE 802.3ah Discovery to identify the device at the link end and its OAM capability.

D958: Link Monitoring OAM

Feature description

Ability to support IEEE 802.3ah Link Monitoring.

Release specific

R3.1: Including counters as per 802.3ah (no historical).

D960: Remote Loopback OAM

Feature description

Ability to support IEEE 802.3ah Remote Loopback.

26.2 ETH C.F.M. IEEE 802.1ag

D937: ETH loopback message (aka MAC ping)

Feature description

Ability to support ETH OAM loopback message as specified within IEEE 802.1ag/Y.1731.

D939: ETH link trace message (aka MAC trace)

Feature description

Ability to support ETH OAM link trace message as specified within IEEE 802.1ag/Y.1731.

D940: ETH continuity check message

Feature description

Ability to support ETH OAM continuity check message as specified within IEEE 802.1ag/Y.1731.

D954: ETH OAM Maintenance End Points (MEP)

Feature description

Ability to support ETH OAM MEP at Service and Operator maintenance levels.

D955: ETH OAM Maintenance Intermediate Points (MIP)

Feature description

Ability to support ETH OAM MIP at Customer, Service and Operator maintenance levels.

D12980: ETH OAM over TMPLS

Feature description

Ability to support all Eth OAM mechanisms provided by the release also over T-MPLS E-LAN, including MEPs and MIPs at the Eth - T-MPLS boundaries, UNI and IWI.

26.2.1 MEF OAM E-LMI

26.3 ETH OAM ITU Y.1731

26.4 MPLS OAM

26.5 TMPLS OAM (ITU Y.1711)

D964: Connectivity Verification

Feature description

Ability to support CV OAM as per ITU Y.1711.

D12979: Connectivity Verification, unidirectional

Feature description

Ability to support CV OAM in unidirectional mode.

D963: Fast Failure Detection

Feature description

Ability to support FFD OAM as per ITU Y.1711

D962: Forward Defect Indication

Feature description

Ability to support FDI OAM.

D965: Remote Defect Indication

Feature description

Ability to support RDI OAM (within CV).

D12153: APS

Feature description

Ability to support APS OAM as per ITU Y.1711.

26.6 SERVICE OAM (ITU Y.17ethoam)

26.7 OAM Interworking

27 SYNCHRONIZATION

D11935: Synchronous ETH

Feature description

Ability to support Synch ETH CDR at both line and client side.

D13012: Synch Ethernet with SSM

Feature description

Ability to support SSM messages on SynchEthernet capable interfaces.

D13033: 1588v2 Transparent Clock

Feature description

Ability to perform timestamp modification in the correction field of IEEE1588 Packets.

28 SERVICES

28.1 PWE3 (CESoPSN, SAToPSN)

28.2 ITU SERVICES

D156: ETH Private Line

Feature description

According to ITU-T EPL Model.

D157: ETH Virtual Private Line

Feature description

According to ITU-T EVPL Model.

D158: ETH Private LAN

Feature description

According to ITU-T EPLAN Model.

D159: ETH Virtual Private LAN

Feature description

According to ITU-T EVPLAN Model.

D160: ETH Aggregation Services

Feature description

According to ITU-T EMAPL Model.

D161: ETH Virtual Aggregation Services

Feature description

According to ITU-T EMAVPL Model.

28.3 MEF SERVICES

D163: E-Line

Feature description

According to MEF E-Line Model.

D164: E-LAN

Feature description

According to MEF E-LAN Model.

D12965: E-Tree

Feature description

Support of E-Tree Model according to MEF definition.

D12354: T-MPLS E-LAN

Feature description

Ability to support T-MPLS E-LAN services, based on Virtual Switching Instances (VSI).

D12966: T-MPLS E-LAN PW Spoke

Feature description

Virtual Switch Instance forwarding via Spoke-PW/Hub-Pw binding.

Bridge/Virtual Switch Istance functional behavior (RFC 4664, 4762) allowing client traffic at UNI/IWI side (Spoke Pw) to connect to an emulated LAN at NNI side via Hub Pw connectivity.

D165: Aggregation Services

Feature description

According to MEF (N x) E-Line Model.

D12159: MEF9 certification

Feature description

The equipment is MEF9 certified.

D12160: MEF14 certification

Feature description

The equipment is MEF14 certified.

28.4 IETF SERVICES

D167: VPWS: SS-PW

Feature description

According to IETF VPWS.

D12161: VPWS: MS-PW (manual switching of PWs)

Feature description

According to IETF draft-ietf-pwe3-ms-pw-requirements-05. MS-PW architecture in order to: scale the PW emulation service when the number of PEs grows to many hundreds or thousands, while minimizing the complexity of the PEs and P routers, to provide PWE3 across multiple PSN routing domains or areas in the same provider, to provide PWE3 across multiple provider domains, and different PSN types.

28.5 SERVICE PERFORMANCE

D12194: p2p protection performance

Feature description

The protection is provided within 50 ms.

WDM features

1 General WDM features

1.1 WDM integrated configuration (HW and SW)

WDM99: Basic C-WDM configuration integrated in TSS shelf as HW & SW (single NE)

Feature description

Metro access applications on C-WDM system 8 chs, 20 nm at 2.5G.

Applicability

This feature is applicable to TSS-320 only

WDM312: FOADM - Fixed D-WDM application, 8 channels, no FEC, no OA

Feature description

Support for Fixed OADM D-WDM application, with no G709 wrapping and no Optical Amplifiers, 8 channels in L1 band (i.e. XFP colored optical module qualification on TSS 10G cards + MUX/DMUX)

Fiber is G.652, target distance is 20 Km single-span

WDM634: FOADM - Fixed D-WDM application, 8 channels, no FEC, with OA and line protection

Feature description

Support for Fixed OADM D-WDM application, with no G709 wrapping and with Optical Amplifiers, 1+1 line protection, 8 channels in L1 band (i.e. XFP module qualification on TSS 10G cards + OPS + MUX/DMUX + OA)

Introduction and qualification of XFP colored optical modules on 10GE cards, STM64 cards (8 channels in L1 band)

Fiber is G.652, target distance is max 100 Km for each span, up to two spans

Release specific

R3.0, R3.1: Optical Protection Switch is not supported (i.e. no 1+1 protection)

WDM620: FOADM - Fixed D-WDM application, 16 channels

Feature description

Support for Fixed OADM D-WDM application, with G709 wrapping and Optical Amplifiers, 16 channels in L1 band

1.2 Physical Topologies / Configurations

WDM161: C-WDM entry configuration in single TSS shelf

Feature description

Support of MSTP integrated configuration integrated in TSS shelf

Applicability

This feature is applicable to TSS-320 only

1.3 Protection

1.4 Performance Monitoring

WDM432: Externally accessible Transmission Tap Points

Feature description

Monitoring taps for external test equipment are available at:

Ingress of a node

Egress of a node

Output of a optical amplifier

WDM360: Error Performance Parameters OTUk - Section Monitoring

Feature description

The following performance parameters are available to estimate the error performance of an OTUk termination - Section Monitoring:

- SES count: number of Severely Errored Seconds in the received signal
- ES count: number of Errored Seconds in the received signal
- BBE count: number of Background Block Errors in the received signal
- UAS count: number of Unavailable Seconds in the received signal
- EC FECcorrErr count: number of bits corrected by the FEC

The performance monitoring complies to ITU-T G.874 and G.798.

WDM362: 24 Hour Registers (OTN: OTUk, ODUk)

Feature description

There are one current and one recent register for the OTN Performance Data. Each register is time stamped and contains a suspect interval indication (this indicates that the duration of the interval is suspected of being unequal to 24 hours). The 24 hour intervals

are synchronized to the time-of-day. The suspect indication is supported for all measurement periods.

Complies to ITU-T G.874.

WDM363: 15 Minute Registers (OTN: OTUk, ODUk)

Feature description

There are one current and 32 recent registers for the OTN Performance Data. Each register is time stamped and contains a suspect interval indication (this indicates that the duration of the interval is suspected of being unequal to 15 minutes). The 15 minute intervals are aligned with the 24 hour intervals. The suspect indication is supported for all measurement periods.

Complies to ITU-T G.874.

WDM368: Near-End Error Performance Monitoring (OTN: OTUk, ODUk)

Feature description

For near-end error performance monitoring the parameters are counted from the incoming Error Detection Code (EDC) and defects on the basis of errored blocks. This type of performance monitoring is uni-directional and mainly for maintenance purposes.

Complies to ITU-T G.874 and G.798.

1.5 Overhead Management

WDM570: Proprietary FEC Support, OT Line Side

Feature description

Support of proprietary FEC with ~7% overhead and providing >8 dB coding gain.

1.6 Node Supervision

1.7 Transport of SDH/Sonet/Packet/CBR Traffic

1.8 G.709

1.9 System optical performances

WDM406: EDFA Amplification

Feature description

The system supports Optical EDFA Amplification.

WDM401: 100 GHz Channel Spacing (C-Band)

Feature description

The system supports wavelengths compliant with the ITU grid (ITU G.694.1) with 100Ghz channel spacing in the C-band.

1.10 Fiber types

WDM457: Single Mode Fiber (G.652)

Feature description

The system works with one set of engineering rules and DCM for ITU-T G.652 fiber (a set of engineering rules specific to ITU-T G.652 fiber).

1.11 Engineering Planning Tool

2 WDM boards

2.1 WDM boards general requirements

2.2 WDM boards Optical Transponder

2.3 WDM line boards

WDM261: 10Gb/s D-WDM transparent transponder XFP based

Feature description

10Gb/s D-WDM 10G Transponder G.709* (XFP on client side, XFP and XFP-E support on line side with SFEC) supporting STM64, OC-192, 10GE WAN/LAN.

WDM339: OTU-2 line card (single 1/2 slot)

Feature description

Single 1/2 slot line card supporting mapping of VC/STS containers from Fabric Interface to ODU-2 line colored I/F.

2.4 WDM Mux/Demux boards

WDM317: 8-chs D-WDM master mux/demux L1 band w/ and w/o SPV

Feature description

D-WDM 8chs L1 band mux/demux (8 out of 32chs D-WDM / 100GHz grid architecture, C band)

WDM625: 8-chs D-WDM slave mux/demux L2 band

Feature description

D-WDM 8chs L2 band mux/demux (8 out of 32chs D-WDM / 100GHz grid architecture, C band), to be used with D-WDM 8chs L1 band mux/demux to extend the grid to 16 channels

WDM177: 8-chs C-WDM mux/demux (8chs C-WDM / 20nm grid architecture)

Applicability

This feature is applicable to TSS-320 only

WDM178: 2-chs C-WDM mux/demux

Applicability

This feature is applicable to TSS-320 only

WDM179: 1-channel C-WDM mux/demux

Applicability

This feature is applicable to TSS-320 only

2.5 WDM OADM boards

WDM183: 4-chs C-WDM fixed OADM

Applicability

This feature is applicable to TSS-320 only

WDM184: 2-chs C-WDM fixed OADM

Applicability

This feature is applicable to TSS-320 only

WDM185: 1-channel C-WDM fixed OADM

Applicability

This feature is applicable to TSS-320 only

2.6 WDM Optical Amplifiers

WDM191: D-WDM Metropolitan amplifiers for medium span (22/9)

Feature description

D-WDM Metropolitan amplifiers for medium span (LOFA 1111), 22/9, 17dBm

2.7 WDM Optical Protection boards

2.8 WDM Tributary Boards

WDM338: 10xAny client traffic card

Feature description

1/2 slot card supporting 10x Any type interfaces (GE, STM-1/4/16, OC-3/12/48), GFP VCAT mapping for Eth, SDH/SONET termination for clients.

Release specific

R3.1: only SDH

2.9 Management boards

2.10 DCM

WDM622: External DCM Modules supported fiber types

Feature description

The system supports external fiber-based DCMs which are applicable for applications using fiber types specified in the given release

CP Features

1 NETWORK APPLICATIONS AND NETWORK ARCHITECTURE

1.1 Generic Features

CP484: RFC 3031 MPLS Architecture

CP349: RFC 3945 GMPLS Architecture

CP176: Distributed SPC path setup

2 CONNECTION MANAGEMENT

2.1 Generic Features

CP370: uni-directional point-to-point connections

CP371: Support bi-directional, symmetric point-to-point connections.

CP182: Connection admission control (CAC)

Feature description

The CAC function in each node checks whether sufficient resources are available on the outgoing link - if not enough resources available, the connection establishment is rejected and a crankback message is sent back in the upstream direction containing error information that indicates why the connection establishment process did not succeed.

2.2 Technology specific Features

2.2.6 Ethernet

CP508: L2 path setup

3 CONTROL PLANE COMMUNICATION

3.1 Generic Features

CP203: The system supports the establishment of bidirectional IP Control Channels (IPCCs) to its CP neighbors.

Feature description

IPCCs are needed for carrying routing, signaling and link management protocol messages and can be categorized into

in-fiber in-band (IF/IB), out-of-fiber out-of-band (OF/OB).

IPCCs may be established such that their topology is congruent with the transmission topology (in-fiber/in-band) or it may be different (out-of-fiber/out-of-band).

It is possible to establish multiple IPCCs between the same pair of nodes to increase the IPCC availability.

CP872: In-fiber/in-band control channel

Feature description

An in-fiber/in-band control channel utilizes the same physical infrastructure as the user traffic.

4 SIGNALING

4.1 Generic Features

CP351: RFC3471 GMPLS Signaling Functional description

CP224: RSVP

Feature description

RFC 2205

CP225: RSVP-TE refresh reduction: RFC 2961

Feature description

Refresh messages are used to both synchronize state between RSVP neighbors and to recover from lost RSVP messages. The use of Refresh messages to cover many possible failures has resulted in a number of operational problems. One problem relates to scaling, another relates to the reliability and latency of RSVP Signaling. The scaling problems are linked to the resource requirements (in terms of processing and memory) of running RSVP. The resource requirements increase proportionally with the number of sessions. Each session requires the generation, transmission, reception and processing of RSVP Path and Resv messages per refresh period. Supporting a large number of sessions, and the corresponding volume of refresh messages, presents a scaling problem. The reliability and latency problem occurs when a non-refresh RSVP message is lost in transmission.

The extensions defined in this document address both the refresh

volume and the reliability issues with mechanisms other than adjusting refresh rate.

These extension present no backwards compatibility issues. RFC 2961

CP226: RSVP-TE: Extension to RSVP for LSP Tunnels

Feature description

RFC 3209

CP565: GMPLS RSVP-TE

Feature description

Support of RSVP-TE Extensions as defined in RFC 3473

CP228: Unnumbered Interfaces

Feature description

RSVP-TE extension to support unnumbered interfaces. RFC 3477

CP274: RSVP-TE: Extension to RSVP for Graceful Restart

Feature description

Permit recovery of signaling state from adjacent nodes when the data plane has retained the associated forwarding state across a restart. RFC 3473. Moreover, RFC5063 presents extensions enable a restarting node to recover all objects in previously transmitted Path messages including the ERO, from its downstream neighbors.

4.2 Technology-specific features

4.2.5 IP/MPLS

CP324: MS-PW setup with manual stitching

5 Routing and path computation

5.1 Generic features

CP192: NE-level Resource Discovery --> self-resource awareness discovery.

State information and topology dissemination

Feature description

Enhancements of the OSPF routing protocol to advertise availability of optical resources in the network

IGP/OSPF-TE [RFC2328, RFC3630, and GMPLS-Routing extension]

CP214: OSPF

Feature description

RFC 2328

CP215: OSPF-TE

Feature description

RFC 3630

CP216: Opaque LSA

Feature description

Type 10 (for intra-area Traffic-Engineering). RFC 2370

CP217: Hitless Restart

Feature description

Type 9 (for Graceful LSA). Hitless Restart (RFC 3623). Dynamic states are restored during graceful restart procedure

CP218: GMPLS Routing extensions RFC 4202

Feature description

This document specifies routing extensions in support of carrying link state information for Generalized Multi-Protocol Label Switching (GMPLS). This document enhances the routing extensions required to support MPLS Traffic Engineering (TE). RFC4202

CP219: GMPLS-OSPF-TE RFC 4203

Feature description

This document specifies encoding of extensions to the OSPF routing protocol in support of Generalized Multi-Protocol Label Switching. RFC4203

10 NETWORK MANAGEMENT

10.1 Generic Features

CP299: NMS driven path setup for single domain SPCs with source and destination and optionally intermediate hops

CP188: Possibility to Provision the path using the Strict Explicit Route option

CP189: Possibility to Provision the path using the Loose Explicit Route option

CP387: Management plane initiated connection tear down via Control Plane

Feature description

Control Plane connections can be deleted from the Management Plane sending a request to the Control Plane. The Management Plane has also the option to “force” the deletion of connections created by the control plane.

10.2 Technology-specific features

10.2.1 T-MPLS

CP321: SS-PW setup static

Features significantly changed

Description

This section describes features which have significantly changed from the prior release to the current release.

Feature set significantly changed for Release 3.2.7

No feature is significantly changed for this release.

Features and/or hardware removed

Description

The following describes the features and/or hardware which are no longer supported in this release.

Features and/or hardware removed in Release 3.2.7

No features and/or hardware are removed in this release.

2 Issues

Overview

Purpose

This chapter of the Customer Release Notes provides a list of resolved issues, known issues, and restrictions (which includes the workarounds and resolved restrictions in Release 3.2.7).

Contents

This chapter covers these topics.

Resolved issues

Resolved issues in Release 3.2.7:

Facility Category

- **Issue TSDrd42731: Engineer Reporting:Some LCAS state abnormal.**

  The following issue is resolved:

  AR1-3439124/1-3528172. Sometimes on LO VCG members there is a forced Unequipped command, preventing the cross-connections.

Resolved issues in Release 3.2.6:

Equipment Category

- **Issue TSDrd42185: HW failure alarm on both matrix of TSS160 after payload trail configuration**

  The following issue is resolved:

  In some cases, after changing the payload configuration of a trail terminated on the NE, the matrices restart, thus raising up an HW failure alarm on both matrices. After some seconds, as the matrices complete the restart, these alarms are automatically cleared.

Data Category

- **Issue OPTnm00219: TCOM-RP: Assign LOC to PBridge domain fails**

  The following issue is resolved:

  It is not possible to create a Provider Bridge scenario from NMS

- **Issue OPTnm01301: TCOM-RP:Deimplement EVPL service fails due**

  The following issue is resolved:

  It is not possible to delete a Provider Bridge scenario from NMS

Management Category

- **Issue TSDrd41877: 1850TSS320 DB Backup Failed**

The following issue is resolved:

In some conditions, due to a memory leak, the Hard Disk can appear full, preventing the DB backup operation.

External Communication Category

- **Issue TSDrd36368: XCOM : Q-LAN not working if the LAN cable is on the STBY matrix (problem with lanswtich mechanism)**

  The following issue is resolved:

  Q-LAN is not working if the LAN cable is on the Stand-by matrix, for the matrices with the following codes: 3AL92108AA**, 8DG08044AA**, 3AL92108AD**

Resolved issues in Release 3.2.5:

Management Category

- **Issue TSDrd40875: both MT320 have red alarm**

  The following issue is resolved:

  The continuous retrieval via TL1 of the Firmware version installed on board can cause an issue. After having requested this information more than 1024 time, the Matrix card status LED is turned red, however no alarm is raised.

  Workaround:

  Re-start the FLC.

Resolved issues in Release 3.2.4:

Equipment Category

- **Issue TSDrd31554: FOADM(ANSI): LOFA LEDs AB1 and AB2 switched ON after plug out plug in**

  The following issue is resolved:

  After plugging out/in LOFA board, LEDs AB1 and AB2 stay ON even if traffic is working. The expected status of LEDs is restored when a real LOS happens and disappears. After INIT-SYS of the board, the same behavior occurs.

- **Issue TSDrd33298: EQPT(ETSI):INITIALIZE SYSTEM on LOA10G module caused MTXLNKFAIL**

  The following issue is resolved:

  Init sys on working or protection LOA10G module caused MTXLNKFAIL condition. The alarm is cleared after some time. There is no traffic impacted.

- **Issue TSDrd33522: EM(ANSI):Matrix PROVISIONEDTYPE MT320LO allowed**

  The following issue is resolved:

  In ANSI context, the command to change the PROVISIONEDTYPE of one matrix from MT320 to MT320LO should be denied with the following error code: IPNC Input, Parameter Not Consistent. BUT by using TL1 command ED-EQPT, after logical remove, the operation is performed.

- **Issue TSDrd33675: CLEI code is not reported in the Remote Inventory of electrical module**

  The following issue is resolved:

  CLEI code is not reported in the Remote Inventory of electrical module.

- **Issue TSDrd35759: EQPT: Power Supply Board wrong PROVISIONEDTYPE supported**

  The following issue is resolved:

  In rel. 3.2 the PROVISIONEDTYPE supported for Power Supply Board includes also the PSF320JP, PSF320JPNTT types, that are not allowed.

- **Issue TSDrd38123: During sw upgrade 1GEth board continually reload**

  The following issue is resolved:

  AR1-3162666 / AR1-3171236. 10Mb electrical SFP module is not supported, even if its provisioning is not denied in 3.2.1. After migration to 3.2.3 the PP1GE card is continuously rebooting itself.

- **Issue TSDrd38708: Database loss after upgrade / perda de base de dados apos up**

  The following issue is resolved:

  AR1-3215489.

- **Issue TSDrd39100: XCOM:Wrong management of OSI_LL process during migration. Block of NE**

  The following issue is resolved:

  Upon migration, in some rare cases the NE could be no longer reachable.

Facility Category

- **Issue TSDrd28952: LPBK(ANSI):ACTLPBK condition on OTU2 facility not retrieved.**

  The following issue is resolved:

  ACTLPBK condition is not retrieved correctly by RTRV-COND-OTU2 command when the facility is in under loopback.

- **Issue TSDrd29475: LPBK(ANSI):SDEE stae not carried by OTU2 upon loopback.**

  The following issue is resolved:

  SDEE is not reported on SST of facility on OTU2.

- **Issue TSDrd30135: FM(ANSI):SDEE state is not set on OT2TDM when LPBK is present**

  The following issue is resolved:

  On OTU2 facility SDEE state is not set on EQPT and facilities when LPBK is present on underlying facilities.

- **Issue TSDrd30219: FM(ETSI): FECTYPE value EFEC2 should be denied on DWLA10X**

  The following issue is resolved:

  As per DWDM FM TL1 RRS FECTYPE, value EFEC2 is applicable only for OTU2 facility on OT2TDM. So EFEC2 should not be allowed for OTU2 on DWLA10X.

- **Issue TSDrd30571: FM(ETSI): Remove AINSTH parameter from OTU2 line facility on DWLA10X**

  The following issue is resolved:

  AINS functionality is not supported on line facility of DWLA10X. So RTRV-OTU2 against line facility should not show AINSTH parameter in the output, BUT it does even if Modifying AINSTH value using ED-OTU2 is correctly denied.

- **Issue TSDrd30814: FM(ANSI) : RTRV-STM64 retrieves OTPORTs in ANSI region**

  The following issue is resolved:

  The command RTRV-STM64, applied to DWLA, is COMPLD with output parameters in an ANSI environment.

- **Issue TSDrd30925: ETSI(DWDM): Line OTU2 facility under DWLA module is reporting wrong AINSTH value**

  The following issue is resolved:

  AINSTH value of OTU2 line facility on DWLA10X is reporting as 000-00 instead of AINSTHDFLT value .

- **Issue TSDrd31139: FM_ETSI(CWDM): MAN condition on OG ports are not reporting autonomously**

  The following issue is resolved:

  During removal of OGPORT, MAN condition is not reported by autonomous messages.

- **Issue TSDrd31240: FM(ETSI): Some parameters are missing on retrieval of OGClient on CWLA**

  The following issue is resolved:

  Retrieval of OG client port does not display RSBRSINTVL & RSBRSTTH fields. TCAPROF parameter is reported as UNKNOWN.

- **Issue TSDrd31249: FM(CWLA): URU-O is not reporting on client facilities of CWLA module**

  The following issue is resolved:

  Provisioning client and line facilities on a CWLA w/o SFP, URU-O alarm is not reported for all the facilities.

- **Issue TSDrd31332: LPBK(CWLA): ACTLPBK condition is not reporting on line facility under CWLA module**

  The following issue is resolved:

  ACTLPBK condition is not reported on line facility under CWLA module.

- **Issue TSDrd31337: LPBK(CWLA): MAN condition is cleared on line and client facilities of CWLA after power cycle**

  The following issue is resolved:

  LPBK(CWLA): MAN condition is cleared on line and client facilities of CWLA after power cycle.

- **Issue TSDrd31340: ALM(ETSI):Changed ASAP profile not affected to OTU2 facility of DWLA10X module.**

  The following issue is resolved:

  The changing of ASAP profile from default to None (LBL-ASAPOTU2-None) does not affect OTU2 facility of DWLA10X module: LOS alarm not cleared from alarm list.

- **Issue TSDrd31663: FM(ANSI) :States on OTU2 not shown on pre-provisioning**

  The following issue is resolved:

  It is observed that on pre-provisioning the OTU2TDM card (w/o plugging in physically the card) the states of the OTU2 are not correctly shown on retrieval. In both ANSI & ETSI region.

- **Issue TSDrd31927: ALM(ETSI):Wrong management VCLOM condition on Lo-VCAT members**

  The following issue is resolved:

  Wrong management VCLOM condition on Lo-VCAT members: Lower order VCG members carries wrong VCLOM conditions along with UNEQ-P condition on some members.

- **Issue TSDrd33354: FM(ETSI):Condition on VCG members changed after logical RMV/RST of VCG**

  The following issue is resolved:

  UNEQ-P condition on VCG member reported after deleting cross connection on VCG with no LCAS. This UNEQ-P condition on VCG member cleared and reported EBER and RFI, after logical remove and restore of VCG.

- **Issue TSDrd33425: EM(ETSI): INIT-SYS is allowed on OMDX8**

  The following issue is resolved:

  INIT-SYS should not be supported on OMDX8.

- **Issue TSDrd33431: EM(ANSI):DIGITAL DIAGNOSTIC MONITORING retrieved for electrical SFP**

  The following issue is resolved:

  DIGITAL DIAGNOSTIC MONITORING retrieved for electrical SFP. It displays fake values.

- **Issue TSDrd33462: AID(ANSI): ISU commands are not denied even if the extra blocks are given in command.**

  The following issue is resolved:

  TL1 ISU commands are not denied if extra blocks are given in the command.

- **Issue TSDrd33506: DOSM:EDVCG format shown extra parameter**

  The following issue is resolved:

  ED-VCG shows a wrong additional parameter 'GB'.

- **Issue TSDrd33521: DOSM(ANSI):EDVCG command denied with wrong error code.**

  The following issue is resolved:

  ED-VCG command is applied to a VCG not provisioned (i.e., in UAS state) changing PST into OOS, gives a SAOS error message instead of SNVS Status, Not in Valid State.

- **Issue TSDrd33526: CONN(ETSI): ACT& SDEE states missing on cross connected AU4nCs on OTU2**

  The following issue is resolved:

  Some concatenated facilities AU44C and AU416C do not have SDEE& ACT state present on them even though they are involved in a cross connection.

- **Issue TSDrd33532: FM(ETSI):Logical restore of GBE10 facility not denied when facility under LPBK state.**

  The following issue is resolved:

  RMV-GBE10 is completed even if the facility is involved in a loopback. After that there was no LPBK SST value on that facility but LPBK was present.

- **Issue TSDrd33699: DOSM(ANSI):HLDOFFTIME functionality not working on VCAT**

  The following issue is resolved:

  Holdoff time can be specified while editing a VCG. It specifies the time, in number of 100milliseconds, to wait before considering a member of the addressed virtual concatenation group in failure condition after a defect has occurred on that member. Valid only if LCAS is Enabled. Results not consistent with expectation.

- **Issue TSDrd33747: FM(ETSI) : It is possible to Restore the OTU2 under Loopback(i.e., OTU2 with a LPBK secondary state)**

  The following issue is resolved:

  It is possible to Restore the OTU2 under Loopback (i.e., OTU2 with a LPBK secondary state). It should be denied.

- **Issue TSDrd33748: FM(ANSI/ETSI) : MODE parameter not managed in RMV-GBE10 command**

  The following issue is resolved:

  Not possible to set MODE parameter for the GNE10 facility (both ETSI/ANSI) Command is denied with IBEX.

- **Issue TSDrd33765: ALM(ETSI):Service Effecting code for VCG member changed after enter/delete cross-connect**

  The following issue is resolved:

  VCG members, before cross-connecting them, are in "NSA " condition, as expected. After cross-connecting and deleting of the Xc, some of the VCG members kept the "SA" condition.

- **Issue TSDrd33787: DOSM(ETSI):Undesired alarms on just created lower order VCG members**

  The following issue is resolved:

  When VCG has been just created, no cross-connection is in place for members, some of the VCG members reported with UNEQ-V and rest of all with EBER, VCLOM, RFI. This EBER, VCLOM, RFI. alarms on members not cleared even after cross-connection (traffic was flowing).

- **Issue TSDrd33799: DOSM(ETSI):Logival removal of VCG in NORM mode denied**

  The following issue is resolved:

  Logical removal of VCG in NORM mode denied.

- **Issue TSDrd33959: FOADM(ANSI): Client of DWLA10x always OOS-AU even if traffic is working**

  The following issue is resolved:

  The Primary state of OTPORT-1-1-x-C1 on OC192 is always OOS-AU even if no condition is declared against the facility

- **Issue TSDrd35329: EM (ETSI) : AUTOPROV parameter not displayed when slot is in UAS &UEQ state.**

  The following issue is resolved:

  AUTOPROV parameter is not displayed when the IO slot is in OOS-AUMA,UAS&UEQ state.

  Because of this issue, operator is unaware whether AUTOPROV is ON or OFF on a slot which was previously logically deleted via DLT command.

- **Issue TSDrd36129: FM(ETSI): UNEQ-V (TRMT) is not reporting once delete the cross connection.**

  The following issue is resolved:

  UNEQ-v should be reported in transmission direction in case of no cross connection. At the first provisioning, before cross-connecting the traffic, UNEQ-V is correctly

reported. However, after cross-connection deletion, UNEQ-V TRMT (transmit direction) is not reported for TU-12.

- **Issue TSDrd36132: FM(ETSI): SSF -V TRMT is not reporting once delete/create cross connection.**

  The following issue is resolved:

  SSF-V TRMT should be reported in transmission direction when a TUn facility sends out AIS-V in transmit direction. At the first provisioning, SSF-V TRMT is correctly reported, upon AIS-V condition. However, after cross-connection deletion, SSF-V TRMT (transmit direction) is not reported for TU-12.

- **Issue TSDrd36401: DOSM(ETSI):VC channel that has the most differential delay depicted with wrong AID**

  The following issue is resolved:

  When LCAS is enabled, the VCG member that has the greatest differential delay is reported with a wrong AID. Example, VCGVC4-1-1-xx-1-255 instead of VCGVC4-1-1-xx-1-1.

- **Issue TSDrd37187: Delete and create VCG affect other VCG circuit**

  The following issue is resolved:

  SW bug related to Low Order traffic (VC12 and VC3). The defect consists in a SW bug that affects deletion of:

  • VC12 cross-connection

  • VCG (composed by VC3)

  An error in the SW code causes a DB mismatch; at the time of deletion, the traffic is not impacted but at next VC12 cross connection or next VCG activation, the Low Order node's traffic is totally lost.

Protection Category

- **Issue TSDrd30163: CONN(ANSI) In a 2WAYPR X-Con, the ACTIVE shows PREF when WKSWPR is active**

  The following issue is resolved:

  When the traffic is switched to the ALTERNATE/WORKING facility in consequence of a failure or external switch request, the current ACTIVE parameter of a 2WAYPR connection should show ACTIVE=ALTERNATE/PREF. Also an EVENT should notify that the selector is on ALTERNATE/PREF by raising WKSWPR/WKSWBK autonomous report respectively BUT It is seen that when a WKSWPR event is notified, the current active parameter of a 2WAYPR shows PREFERED.

- **Issue TSDrd31618: CONN(ANSI): PSI state set on the PTED & PING leg on the 1WAYPR & 2WAYPR connections.**

  The following issue is resolved:

  In case of 1WAYPR & 2WAYPR connections, protection switch inhibit is displayed only on ED and ING facilities instead of on the TO one.

- **Issue TSDrd32454: SDH application, Alcatel-Lucent 1850 TSS-320: trail protection (SNCP) protect**

  The following issue is resolved:

  (SNCP) - protection switching is not possible (nor Manual, neither forced). Synchronize Switch function does not work.

- **Issue TSDrd33241: UPSR(ANSI): CURREQ showing as NR when we have EBER on the path facility.**

  The following issue is resolved:

  After injecting the EBER on the working path facility, traffic is correctly switched, but WRSWPR condition is cleared after injecting the EBER. Because of this condition, CURREQ parameter value shown as NR.

- **Issue TSDrd36766: FFP_TMPLS(SDH): WTR condition cleared based on currently modified RVRTTIM value**

  The following issue is resolved:

  While the RVRTTIMer is currently active (happens when a defect is cleared) and the user edits the RVRTTIM value, no changes will be done to the current RVRTTIM. However, the new value shall be accepted and applied next time the RVRTTIMer is started.

Connection Category

- **Issue TSDrd32139: DBM(ANSI):KYWDBLK parameter value in REPTDBCHG unpopulated for modify Conn**

  The following issue is resolved:

  TL1 command ED-CRS-STS should be followed by a REPTDBCHG autonomous message carrying, among all, also the KYWDBLK field, but it is unpopulated.

- **Issue TSDrd32185: CONN(ANSI) Wrong state management of a 2WAYPR cross-connection for logical RMV**

  The following issue is resolved:

  For facilities which are path protected connections, the cross connection should transit into OOS-AU, SGEO state if the selected (e.g., WRK) path is in OOS state and/or if the associated TO facility is in OOS state (e.g., if the connection is a 2WAY type protection connection). In a 2WAYPR connection, the cross connection does not transit into OOS-AU, SGEO state when the selected (WRK) facility (OCn/STSn) is logically removed (i.e., OOS-MA).

- **Issue TSDrd32525: CONN(ANSI) 1WAY cross connection comes to OOS state upon traffic disruption.**

  The following issue is resolved:

  For facilities which are 1 way connected, the cross connection should transit into OOSAU, SGEO state only if the FROM path is in OOS state It is seen that some of the multicast 1WAY connection come to OOS state when the FROM path facility is in IS state.

- **Issue TSDrd32697: ZIC : Xconn "Deactivate" option should be removed**

  The following issue is resolved:

  For a SVLAN Xconn Ingress flow & Egress flow, ZIC displays an option "Deactivate" .When clicked on "Deactivate" it denies saying "Flow is connected". Since connection deactivation is not supported, the "Deactivate" option should be removed from ZIC as it might mislead the user.

- **Issue TSDrd33649: FM(ANSI): Wrong deny description upon edit the STS facility under Linear FFP**

  The following issue is resolved:

  Upon editing the STS facility in a linear FFP, command is denied with a wrong description saying that "The UPSR companion facility is not provisioned. Even though the command is denied, the requested modification is actually performed.

Data Category

- **Issue TSDrd31819: LINKOAM+CLI: Maximum or greater value of Threshold for LinkOAM events hangs the CLI**

  The following issue is resolved:

  Configuring the Errored Frame Seconds Event threshold value above the maximum value, CLI hangs and throws an message "Unreachable NE". CLI gets operational again only after some time.

- **Issue TSDrd31858: ETHOAM: Creation of MEP with invalid values or alphabets is accepted by CLI and created as MEP 0**

  The following issue is resolved:

  Creation of MEP with invalid values or alphabets is accepted by CLI and created as MEP 0. It should accept only numbers 0-8191.

- **Issue TSDrd32251: CLI+PM: Not able to deactivate CD & HD counters for Flows (15min & 24h)**

  The following issue is resolved:

  Not able to deactivate CD & HD counters for Flows (15 min. & 24h).

- **Issue TSDrd32410: ETS inflow: L2control frames not managed on ETS LAG**

  The following issue is resolved:

  L2Control frames (tunneling) are not managed on ETS LAG. L2control frames are not dropped when the L2control bits are set to drop

- **Issue TSDrd32571: Deny check needed for creation of user def vlanprotocol profile with type value less than 600(hex)**

  The following issue is resolved:

  The system (agent) should deny creation of vlan protocol profile with type value less than 600 (hex), BUT The Ethernet frame with ether type field with value less than 600(hex) will be misinterpreted as length field (Ethernet I) and the frames are discarded.

- **Issue TSDrd32589: ZIC_DOSM(ANSI/ETSI):Remove "Last change" parameter from local and remote port.**

  The following issue is resolved:

  Last change parameter on local and remote port is not working: its value is always 1970-01-01 00:00:00.

- **Issue TSDrd32616: ZIC+Static MAC:No option to modify the Static MAC entries.**

  The following issue is resolved:

  Once created a Static Unicast entry as for any Port & VLAN, it's not possible to modify it via ZIC.

- **Issue TSDrd32646: ZIC+LAG:LAG HASH input default value is selected wrongly in ZIC while creating.**

  The following issue is resolved:

  When LAG is created, HASH key is set by default to "C000" instead of "EAF0".

- **Issue TSDrd32772: Runtime Change of Bridge Default pri is allowed for ETB LAG on CLI**

  The following issue is resolved:

  Runtime Change of "Bridge Default pri" value is allowed for ETB LAG on CLI. But there is no impact on Traffic. It should be denied.

- **Issue TSDrd32848: ZIC:Invalid VLAN protocol profile creation:no error message**

  The following issue is resolved:

  During the creation of VLAN protocol profile through ZIC, when user enters a non-hexadecimal value ethertype or an empty profile name in the vlan protocol profile, the creation doesn't give any error message such as "invalid protocol profile EtherType".

- **Issue TSDrd32895: Port MRU: Remote Port MRU value can be configured lesser than 1574.**

  The following issue is resolved:

  Remote Port MRU value can be configured less than 1574 but as per the External spec-320-Ed-4-It-10, configuration is limited between 1574-9242.

- **Issue TSDrd33048: FFP: Wrong reporting of current request after deletion & recreation of FFP in remote node.**

  The following issue is resolved:

  Wrong reporting of the current request after deletion and recreation of FFP in the remote node: condition of the current request is not reset properly at the time of deletion of FFP, and it will be restored once the FFP is recreated.

- **Issue TSDrd33273: TMPLS:ZIC: Can able to create Traffic Descriptor CBS,PBS value more than 64MB**

  The following issue is resolved:

  CBS,PBS max value defined by pop up window on ZIC can be wrongly overcome. An error message is displayed but nonetheless the Traffic Descriptor is created as Inactive TD.

- **Issue TSDrd33331: EOAM: Runtime CCM interval modification is effective only after existing CCM timer expiration**

  The following issue is resolved:

  Changing the CCM interval and then reverting it back to previous value won't clear immediately the EOAM alarm. The alarm gets cleared after 10 minutes.

- **Issue TSDrd33332: EOAM: Possible to modify the VPLS/Vlan id on MA after the MEP creation**

  The following issue is resolved:

  The modification of Vpls/vlan id associated to a MA containing a MEP on it, should be denied.

- **Issue TSDrd33681: ZIC:Mac address is deleted when refreshing the page.**

  The following issue is resolved:

Once a MAC has been assigned to a port, refreshing the page shows a pop-up error and deletes the created MAC.

- **Issue TSDrd33749: inflow: CLI crash for the retrieval of inflow classifier having range of values**

  The following issue is resolved:

  CLI gets crashed when the inflowclasifier with range of value is retrieved.

- **Issue TSDrd33780: ZIC:Disabling admin state for a ETS LAG throws Error.**

  The following issue is resolved:

  ZIC when disable the admin state of ETS LAG is throwing an Error.

- **Issue TSDrd36688: REJ:TSDrd36687::EOAM: Not possible to create EOAM down mep on PW for the vpls service**

  The following issue is resolved:

  In case you create a VPLS instance and cross-connect ETS ports, with PW binded to the VPLS instance, you can not configure down MEP for Ethernet services on the PW connected tot he VPLS.

- **Issue TSDrd37227: CSF: CSF entries are not cleared during the deletion /recreation of VCG**

  The following issue is resolved:

  CSF entries are not automatically cleared during the deletion / recreation of a VCG

- **Issue TSDrd37809: Not forwarding PW issue reoccurred on R3.2.2**

  The following issue is resolved:

  AR1-3118448. Protection is NOT triggered upon node re-start (e.g., migration), or protection card plug-out / in.

- **Issue TSDrd38124: DB Inconsistency - unable do create/delete FFPs**

  The following issue is resolved:

  AR1-3171188. Two problem are reported in the same ticket.

  The first one is related to a unexpected entry in data plane after Tunnel Swap deletion. The external effect is that the following Tunnel termination is managed like a Tunnel swap and in such condition the FFP creation is denied.

  The second one is related to a deny message during FFP deletion (due to an internal failure on Machine Model).

  Remark: The fix prevents the creation of the issue, but is not able to fix an inconsistent database.

- **Issue TSDrd38577: LAG1 not included in VPLS/ELAN**

  The following issue is resolved:

  AR1-3202966. If you register more than 32 ports on a E-LAN VSI instance, and you perform operations on the ports themselves (e.g. put the port in down / up state, etc.), only 32 ports remains attached to the VSI.

WDM Category

- **Issue TSDrd31677: DBM(ANSI):Incomplete DBCHG msg for ent GBE10 belongs to DWLA10X module**

  The following issue is resolved:

  The REPT DBCHG message for provisioning of GBE10 facility in DWLA10X module does not show PST value (IS-NR or OOS-AU).

- **Issue TSDrd32188: FM(ETSI): Incorrect state shown for the DWLA client facility, when no alarms present**

  The following issue is resolved:

  On retrieval of STM64 facility(DWLA client), the state shows OOS-AU when it should be IS-NR as there are no alarms or conditions present on the facility.

Alarm Category

- **Issue TSDrd31705: ALM_XCOM(ANSI):User Defined ASAP profile not effective on LANFAIL Alarm.**

  The following issue is resolved:

  a LANFAIL alarm (with default ASAP profile) is reported as MN. Creating a new ASAP profile and defining the LANFAIL as CR and assigning it to the NE doesn't change the report of the alarm, still MN,SA instead of CR,SA.

- **Issue TSDrd32726: ALM(ETSI):Retrieve profile not shown assigned VCGLOVC3 entity.**

  The following issue is resolved:

  VCGLOVC3 entities assigned with system default alarm profiles cannot be correclty retrieved specifying USERLABEL=LBL-ASAPLOVC3-SYSDFLT.

- **Issue TSDrd32998: DOSM(ANSI):Undesired GFPEXM on GBEVCG**

  The following issue is resolved:

  There was point to point connection between two Non-LCAS VCGs with 21 ACTIVE members on both side, after disabling 9 members on one end VCG, other end VCG reported GFPEXM instead of GFPLOF

- **Issue TSDrd33024: ALM(ETSI):Condition log omitted STM16 condition of CWLA module under aidtype STM16**

  The following issue is resolved:

  Condition log omitted STM16 condition of CWLA module when retrieved under aid of STM16 (RTRV-COND-LOG::STM16), but it was retrieved along with AID of ALL with AIDTYPE as OGPORT (RTRV-COND-LOG::ALL).

- **Issue TSDrd33079: ZIC: Runtime change of ASAP is not allowed in LAG**

  The following issue is resolved:

Runtime modification of ASAP is not allowed for LAg on ZIC. ASAP can be only modified during LAG is Admin down.

- **Issue TSDrd33226: DOSM(ETSI):LOP-V condition on LO-VCAT members**

  The following issue is resolved:

  After increasing VCG size from 21 to 63 members (21 are cross connected and without alarm),22nd and 43rd members of the VCG reported with LOP-V alarm and UNEQ-V instead of UNEQ-P (High order). All remaining members reported with UNEQ-V (low order) alarm.

- **Issue TSDrd33313: SNCP(ETSI):WTR is not cleared on new time, if the RVRTTIM is set to some valid value**

  The following issue is resolved:

  WTR is not cleared on new time, when the RVRTTIM is reset to some valid value. If the current state is WTR and RVRTTIM=1 and then RVRTTIM is set to new value, say, 2 minute, WTR will be cleared in 1 minute time.

- **Issue TSDrd33427: ALM(ETSI):User Defined ASAP profile not effective on VC4 facility.**

  The following issue is resolved:

  There was user created ASAP profiles for VC4 entity and it was assigned. After changing the NTFCNCDE for the any VC4 alarms, the alarms are not re-reported.

- **Issue TSDrd33448: ALM(ANSI):Retrieve profile not shown assigned TUSEG entity.**

  The following issue is resolved:

  There was TMPLS TUSEG entities assigned with system default alarm profiles. The retrieve profile not shown these entities in the list when we retrieved with ASAPTYPE=TUSEG but it is working with USERLABEL, ASAP-AID.

- **Issue TSDrd33549: ALM(ETSI):Alarms on OTU2 path facilities reported with wrong format.**

  The following issue is resolved:

  Clearing of UNEQ-P condition on STS1 cross connections belonging to OTU2 were reported with aid generically as 'MDL' and instead of reporting REPT ALM STS1, was reported with REPT ALM VC4.

- **Issue TSDrd33557: ALM(ANSI):Alarms on OTU2 facility not reported autonomously.**

  The following issue is resolved:

  There was OTU2 facility provisioned with user created ASAP profile. After modifying the profile, LOS condition not re-reported autonomously but RTRV-COND-OTU2 carried the changed notification code value.

- **Issue TSDrd33691: ZIC:RACK state not managed correctly.**

  The following issue is resolved:

  The PST and SST values of RACK are not shown in the home window.

- **Issue TSDrd33960: DOSM(ANSI):Backward CSF does not persistent with module plugout/plugin**

  The following issue is resolved:

  in front of a detected SDH AIS, a VCG forwards a CSF alarm. It can also be sent backward a CSF alarm. These two alarms are not correctly managed

Performance Monitoring Category

- **Issue TSDrd29676: PM : TTO not correctly reported**

  The following issue is resolved:

  Maintenance TX PM counters reports (egress port) wrong TTO value (lower than expected).

- **Issue TSDrd33547: PM (ANSI): UASS not managed for OC192 in system/user defined TCA profiles**

  The following issue is resolved:

  UASS montype should be supported for OC-192 facility but it is not managed in the system defined and user defined TCA profiles for OC-192 facilities. It is also observed that UASS is correctly managed for OC-12, OC-3 and OC-48.

- **Issue TSDrd33598: TL1: PMGLB commands not denied if the Extra input Blocks are given.**

  The following issue is resolved:

  Giving the STA-PMGLB with extra blocks like STA-PMGLB::::::; is completed successfully. Giving the RTRV-PMGLB-STATUS with extra blocks like rtrv-pmgLB-STATUS::::::; is completed successfully.

- **Issue TSDrd33600: PM: Reporting fake PMGLBREADY autonomous message without creating the global file.**

  The following issue is resolved:

  PMGLBLREADY report is wrongly reported in case PM global file creation is started twice, without waiting the correct reporting of the first creation. The Copy of the global file to RFS server will consequently fail as "PM Global files does not Exist". Actually collecting the PM global file is not stopped (even if not reported). After some time it is possible to copy the file to RFS server successfully.

- **Issue TSDrd33781: ZIC+TMPLS:PM counter time period15min retrieve option is not available for TUSEG/PWSEG.**

  The following issue is resolved:

  In ZIC,PM retrieve do not have an option for retrieving PM counters for 15 minutes.

Management Category

- **Issue TSDrd30836: TARP TID to NSAP request from ACT-USER does not wait for TARP T1 Timer to expire.**

  The following issue is resolved:

  TARP T1 Timer is listed as 15 seconds, but ACT-USER request fails in a few seconds, not waiting the TARP T1 timer.

- **Issue TSDrd31384: TSS160C: EML Constructor user cannot execute mib backup and software download**

  The following issue is resolved:

  ZIC using operator constructor of EML is not able to execute MIB backup and software download. Same operations are possible directly by EML. Functional Access Domains (FAD) should be synchronize with EML in order to allow Constructor to execute MIB backup and Software download. Opening ZIC via EML with operator and viewer profile it is possible change admin password from ZIC Giving a look at FAD, ED_PID is allow for admin constructor operator and viewer while it should be available only for admin and constructor.

- **Issue TSDrd31449: XCOM(ANSI): RTRV-NSAP with L1ROUTID not showing the TID values**

  The following issue is resolved:

  L1ROUTID This function retrieves the Snaps and the TIDs of all the reachable Level 1 ISs within all the areas, the NE is part of, including NEs and Gateway NEs. BUT RTRV-NSAP with L1ROUTID not showing the TID values.

- **Issue TSDrd32461: DBM_XCOM(ANSI): After XCOM DB UPLOAD the Default route not shown in the RTRV-NE-IPRT**

  The following issue is resolved:

  TBUS module shall contain a copy of FLC XCOM data. At the NE restart, if FLC deep switches are in the NORMAL position, FLC data shall be copied to TBUS. At the NE restart, if FLC deep switches are in the UPLOAD position, TBUS data shall

be copied to FLC.BUT After Keeping the DIP switch in UPLOAD position, the default route learnt is not shown in the RTRV-NE-IPRT.

- **Issue TSDrd32803: In ZIC second DB entry is not requesting to update ELAN service option**

  The following issue is resolved:

  In ZIC, while creating a second filtering DB entry without editing ELAN service of previous entry is not throwing any error msg, however, the second DB is not created and its displays DB entry is created.

- **Issue TSDrd32828: XCOM(ANSI): TL1 session over OSI is KO (DCC over OC192, DCC-S over LAPD)**

  The following issue is resolved:

  The command shall support the following input parameter and input parameter value and format. TID <VALID TID VALUE> <1-40 HEXADECIMAL NSAP CHARACTERS> Default: <SID> Addressing: None description: Target Identifier, identifies the network node TID for the command but the NE is not accepting NSAP while CANC-USER with NSAP (works well with SID).

- **Issue TSDrd33311: ZIC_XCOM: Retrieval of NSAP using ZIC not showing NETID with "" when TID is having spl. characters**

  The following issue is resolved:

  If the SID has the special characters within then Retrieval of NSAP with TID using ZIC not showing the NETID with double quotes ("").

- **Issue TSDrd33372: XCOM : RTRV-NE-IPRT shows the routes learnt via IFIB (inconsistent behavior in different types routes)**

  The following issue is resolved:

  Routes are not managed by RTRV-NE-IPRT for the entries learnt via IFIB (due to lack of the AID). Consequently, routes should not be (direct or over dynamic) shown by RTRV-NE-IPRT.

- **Issue TSDrd33463: EQPS(ANSI): FLC switch not taking place after initiating the switch duplex on EC320**

  The following issue is resolved:

  After switch duplex, observed that EC320 slot 1 is ACTIVE and EC320 in slot 20 is STANDBY. Same PST states are shown before and after SWITCH duplex,

- **Issue TSDrd34309: Activation date and time is missing**

  The following issue is resolved:

  After installation of R3.2.1 or after an upgrade to R3.2.1, the fields "Activation date" and "Activation time" are missing.

Security Category

- **Issue TSDrd30343: XCOM_SECU: More than 12 TL1 users are permitted per IP session & more than 12 TL1 users active per NE**

  The following issue is resolved:

  It is possible to create up to 24 users through the ENT-USER-SECU command:12 Users through the 3083 port, and 12 users enter through the 3082 port.

- **Issue TSDrd33447: SECU(ETSI):Facility protection switching events are not logged in security log**

  The following issue is resolved:

  Facility protection switching events are not recorded in security log for ETSI (ANSI is working).

External Communication Category

None.

Synchronization Category

- **Issue TSDrd29417: (Sync)-RMV-EQPT::SFPxxx ,used for Sync, with NORM mode show wrong “error message”**

  The following issue is resolved:

  Now logically remove the line timing reference with NORM mode. Result: Command is denied with error message SROF: Status, Requested. 0peration Failed Equipment is in SDEE state, but the correct error message should be SNVS.

- **Issue TSDrd29549: SYNC(ANSI):Wrong adaptor value for 1,5Mbit signal.**

  The following issue is resolved:

  Software shall be able to check the following identifier types:

  No external adapter, compatible with SDH 2-MHz/2-Mbit signal and SONET 1,5-Mbit signal, [ANSI] wire-wrap adapter, compatible with SONET 15-Mbit signal. But, retrieving BITS and BITSOUT, adaptor value is maintained as NOADAPT instead of wire-wrap adapter.

- **Issue TSDrd29797: SYNC(ETSI):Frequency off set of 20ppm causes MISC-1 and MTXLNKFAIL conditions.**

  The following issue is resolved:

  NE with locked onto one line reference. Changing frequency off set of this line reference to 20 ppm causes SLTMSIG on line reference and MISC-1 and MTXLNKFAIL conditions on matrix.

- **Issue TSDrd30548: SYNC(ANSI):Switching between two references caused MISC-1 condition.**

  The following issue is resolved:

  Node A LOCKED via external reference to another node B falls in MISC-1 condition when changing the quality of the reference in node A or after a failure. The failure is recovered after a couple of minutes.

- **Issue TSDrd31395: Ext. Synch not converted with 1.30.14 migration tool**

  The following issue is resolved:

  Assignment of EXTREF to BITS is twisted by the conversion tool 1.3.14 when both external timing references are used in R1.4A13.Thus TL1 command fails to implement the ext. timing sources in R3.0. This leads to heavy pointer justification events until @ the external timing references are implemented manually in R3.0.

- **Issue TSDrd33851: SYNC(ETSI):EDBITSOUT denied with wrong error code.**

  The following issue is resolved:

  If the command is issued with FMT equal to 6.3 MHZ and the provisioned type of the Power Supply board is not the Japanese type (PROVISIONEDTYPE not equal to PSF320JP), then the command shall be denied with the following error code (and error reason) SNVS Status, Not in Valid State. But ED-BITS-OUT command with FMT=6.3MHZ is denied with error code IDNV.

- **Issue TSDrd37195: critical SFP port automatically send out sync**

  The following issue is resolved:

  On 1GBE electrical i/f, Ethernet SSM synch frames are always transmitted.

Control plane category

None.

Resolved issues in Release 3.2.3

Facility category

- **Issue TSDrd37187: Delete and create VCG affect other VCG circuit (AR=1-3081698)**

  The following issue is resolved:

  SW issue related to Low Order traffic (VC12 and VC3). The defect consists in a SW bug that affects deletion of:

• VC12 cross-connection

• VCG (composed by VC3)

An error in the SW code causes a DB mismatch; at the time of deletion, the traffic is not impacted but at next VC12 cross connection or next VCG activation, the Low Order node's traffic is totally lost. See also TSDrd37187.

- **Issue TSDrd37216: VC3 / VC12 mix issue (AR=1-3099800)**

  The following issue is resolved:

  SW issue related to Low Order traffic (VC12 and VC3). The defect consists in a SW bug that affects deletion of:

  • VC12 cross-connection

  • VCG (composed by VC3)

  An error in the SW code causes a DB mismatch; at the time of deletion, the traffic is not impacted but at next VC12 cross connection or next VCG activation, the Low Order node's traffic is totally lost. See also TSDrd37216

Resolved issues in Release 3.2.2

Equipment category

- **Issue TSDrd36358: EM: After power cycle NE is not able to put IS all cards for a block on TMPLS process.**

  This issue is resolved.

- **Issue TSDrd36474: After a migration from 3.22.31 to 3.22.33 SLC MM was locked on GenBoard Configuration**

  This issue is resolved.

- **Issue TSDrd36460: EQPS (ETSI): SLC switch does not work ; standby SLC reboots due to segmentation fault**

  This issue is resolved.

- **Issue TSDnm83554: Missing REPT^ISU compld notify after INIT-SYS**

  This issue is resolved.

- **Issue TSDrd36242: 10G XFP recognize fail with traffic down when switch the mat**

  This issue is resolved.

- **Issue TSDrd36141: DDM information is wrong on 10GBE XFP**

  This issue is resolved.

- **Issue TSDrd34852: EQPT: Wrong management during Remote Inventory read for XFP/SFP after plug out/in**

  This issue is resolved.

- **Issue TSDrd35160: EQPS: Wrong management of FLC 1+1 (OS)**

  This issue is resolved.

- **Issue TSDrd35175: DATA STRESS TEST: NE doesn't start after POWER OFF/ON**

  This issue is resolved.

- **Issue TSDrd35372: EQPS (ANSI): SW-DX-EQPT on FLC not denied when RAIDSYNC is active.**

  This issue is resolved.

- **Issue TSDrd35512: FLC (ETSI):- INIT-SYS (ALL) in RAIDSYNC condition causing continuous reboot.**

  This issue is resolved.

- **Issue TSDrd35778: EQPS: EC manual switch permitted in startup phase**

  This issue is resolved.

- **Issue TSDrd35868: EQPT: After power cycle some collectors cards are not able to go IS when 4094 SVLAN are configured**

  This issue is resolved.

Facility category

- **Issue TSDrd36255: EM+EQPS : After multiple switches of SLC, Data ports on PP1GESY module went OOS-AU,FLT state forever**

  This issue is resolved.

- **Issue TSDrd36455: REJ:TSDrd36365::MIGR 3.12-20 to 3.22-31: Default ALSWTR and ALSTXTIM values on STM4 facilities (10xANY) not correct**

  This issue is resolved.

- **Issue TSDrd33570: DOSM(ANSI):PLM not reported for PP10MS VCAT.**

  This issue is resolved.

- **Issue TSDrd34735: ALM_DOSM[ETSI] : False VCGPLC reported after plugout/in of 10xANY board.**

  This issue is resolved.

- **Issue TSDrd34938: DOSM[ETSI] : LOVC3 traffic lost in switching LOA (by extraction) from slot 21 to 24. (LOVC12 is OK)**

  This issue is resolved.

- **Issue TSDrd35900: DOSM[ANSI] : Frames are being discarded by Gauss if the VCG traffic on the MS Board is >6.4G**

  This issue is resolved.

- **Issue TSDrd36246: FM : Retrieving/ Editing the OTU2 with Grouping and Ranging Crashes the FLC**

  This issue is resolved.

Protection category

- **Issue TSDrd36464: ORIG.SHORT DESCRIPTION:MSP on one single board is not poss**

  This issue is resolved.

- **Issue TSDnm82644: MS-SPRING wrong with TSS320**

  This issue is resolved.

Connection category

- **Issue TSDrd34966: SNCP HO: Wrong management of SNCP XC HO with MVC4 in TO field.**

  This issue is resolved.

- **Issue TSDrd35699: CONN (ETSI_ZIC): Unable to execute Split and Join operation on LOVC3 cross-connection**

  This issue is resolved.

Data Category

- **Issue TSDrd36371: PB ser +ZIC:- Node goes to unreachable on retrieval of PB xc after migration from SWP 3.2.1 to 3.2.2**

  This issue is resolved.

- **Issue TSDnm84292: LoopBack on vpls doesn't work**

  This issue is resolved.

- **Issue TSDrd36194: Cant delete PW on ZIC.**

  The following issue is resolved:

  It is not possible to create any transit pseudowires after a NE FLC restart whose DB already contains at least 1 transit pseudowire. FLC restart happens also during migration. The failure leaves the DB in a dirty state. Migration to R3.2.2 includes a tool to clean-up the DB as intermediate step.

- **Issue TSDrd36317: EOAM + ZIC - MD creation link is hidden in ZIC**

  This issue is resolved.

- **Issue TSDrd36319: EOAM + ZIC - MD name is accepted while creation with type as "None"**

  This issue is resolved.

- **Issue TSDrd36330: Migration 1.4->3.2: CLI, error in alarm profile config string**

  This issue is resolved.

- **Issue TSDrd36331: EOAM + ZIC - Partial config accepted on MA creation with VPLS associated PW**

  This issue is resolved.

- **Issue TSDrd36362: XCOM: IP Tunnel goes down after migration from 3.21.60 to 3.22.31 (due to mismatch in the NSAP addr)**

  This issue is resolved.

- **Issue TSDrd36381: TMPL-MP:It is not possible to create any transit pseudowires after power off-power on**

  This issue is resolved.

- **Issue TSDrd33717: EOAM: NO linktrace response from remote MEP when the MIP is activated on transmission path**

  The following issue is resolved:

  NO linktrace response from remote MEP when the MIP is activated on transmission path. Only the MIP is responding for the linktrace messages.

- **Issue TSDrd33738: EOAM connectivity Ko if the MIP is created with different vpls having same UNI with dontcare classifier**

  The following issue is resolved:

  Unidirectional EOAM connectivity Ko if the MIP is created on different vpls instance having same UNI interface involved on EOAM transmission path with dontcare classifier

- **Issue TSDrd34323: MSTP: port pathcost on LAG is not considered for port election during MSTP reconvergence**

  The following issue is resolved:

  MSTP: port pathcost on LAG is not considered for port election during MSTP reconvergence.

- **Issue TSDrd34177: OAM:MIP on MPLS configuration doesn't work**

  The following issue is resolved:

  In some specific conditions, MIP on MPLS configuration doesn't work.

- **Issue TSDrd33836: TMPLS+PM:PM counter for tuseg stops working after PW movement.**

  The following issue is resolved:

  PW movement from tunnel1 to tunnel2 stops PM counter for tuseg.

- **Issue TSDrd35625: LPT causes link toggling if traffic is overbooked**

  This issue is resolved.

- **Issue TSDrd32956: SingTel CE Trial - 802.1ag Interworking between TSS3 and TSS**

  This issue is resolved.

- **Issue TSDrd34916: MM Locked after 16K EVPLAN services (3.2.2 Golden)**

  This issue is resolved.

- **Issue TSDrd34918: Tunnel Edit failed during Stress Test (3.2.2 Golden)**

  This issue is resolved.

- **Issue TSDrd35200: LPBK [ANSI] : Continuous OPR-LPBK-GBE command on a port causes FLC Crash**

  This issue is resolved.

- **Issue TSDrd35427: ETHOAM: Wrong PW association on MA with type PW**

  This issue is resolved.

- **Issue TSDrd35443: ETHOAM:loopback does not work on TMPLS config**

  This issue is resolved.

- **Issue TSDrd35471: LAG:aggregation port to Lag using ZIC fails**

  This issue is resolved.

- **Issue TSDrd35574: CLI: command rejected due to insufficient memory during full load test bench configuration**

  This issue is resolved.

- **Issue TSDrd35585: CLI: ETS traffic descriptor userlabel disappears after 790 bidir EVPLAN services (Golden Rel 3.2)**

  This issue is resolved.

- **Issue TSDrd35611: TMPLS-MP: PWSEG edit on pwswap ko**

  This issue is resolved.

- **Issue TSDrd35711: Pbridge (Stress Test):Wrong matrix EPS management for a NE with 4094 VLAN and 4094 XC**

  This issue is resolved.

- **Issue TSDrd35712: Pbridge (Stress Test):Huge traffic hit during matrix EPS for a NE with 4094 VLAN and 4094 XC**

  This issue is resolved.

- **Issue TSDrd35783: LPT causes link toggling if traffic is overbooked**

  This issue is resolved.

- **Issue TSDrd35784: LPT causes link toggling if traffic is overbooked**

  This issue is resolved.

- **Issue TSDrd35786: OAM:ZIC does not show linkagg ports**

  This issue is resolved.

- **Issue TSDrd35870: DATA: It is not possible to create traffic descriptor when 4094 SVID are configured (OS)**

  This issue is resolved.

- **Issue TSDrd36001: TMPLS: Traffic is not running correctly with 16K XC between UNI and PWs**

  This issue is resolved.

- **Issue TSDrd36049: REJ:TSDrd34692::TMPLS-MP:wrong TUNNEL STATE while LOC condition is cleared (OAM DISABLE)**

  This issue is resolved.

- **Issue TSDrd36056: Pbridge (Stress Test):Traffic down during matrix EPS with 4094 SVLAN and 4094 XC**

  This issue is resolved.

- **Issue TSDrd36152: MAC blackhole prevention: flushing is not performed on PW of remote node**

  This issue is resolved.

- **Issue TSDrd36160: QoS: Traffic with be/bk/reg/reg(1) TDs dropped after plugout/in/restart of MSPP (with remote ETB ports)**

  This issue is resolved.

- **Issue TSDrd36195: REJ:TSDrd35965::Migration: Excess traffic after migration from R3.0/R3.1 to R3.2.2 due to wrong port offset config**

  This issue is resolved.

- **Issue TSDrd36219: XConn+LAG: Changing TD in the inflowclassifier Window is not effective for ETS LAG.**

  This issue is resolved.

- **Issue TSDrd36308: MAC blackhole prevention: flushing is not performed on PW**

  This issue is resolved.

- **Issue TSDrd36320: PM_DATA:Wrong management of in/outflow tab on LAG service with 4094 XC**

  This issue is resolved.

- **Issue TSDrd36582: In 1:1 PROT after failure recovery wkg tunnel is still LOST on transit/tail node**

  This issue is resolved.

- **Issue TSDrd36583: In 1:1 PROT after delete Traffic Descriptor associated to prot tunnel is not deleted**

  This issue is resolved.

WDM Category

- **Issue TSDrd35829: REJ:TSDrd31929::ALM(ETSI):User Defined ASAP profile not effective on GBE10 facility.**

  The following issue is resolved:

  User Defined ASAP profile are not effective on GBE10 facility of DWLA10X.

- **Issue TSDrd35246: FM(DWDM):Unable to modify GBE10 facility**

  This issue is resolved.

- **Issue TSDrd35343: PM (DWDM): ZIC session expired for set PM on GBE10 client facility of DWLA10X module.**

  This issue is resolved.

- **Issue TSDrd35455: DWDM (ETSI): Not possible to read RI of SFP of CWLA board**

  This issue is resolved.

- **Issue TSDrd35463: LPBK (DWDM / ANSI): it is not possible to perform LPBK on OC-192 client side of DWLA board**

  This issue is resolved.

- **Issue TSDrd35741: REJ:TSDrd35439::REJ:TSDrd34901::LPBK + DWLA: traffic is down after a DB restore on a client of a DWLA where LPBK is configured**

  This issue is resolved.

- **Issue TSDrd36070: Reboot FLC when sent loopback on Dwla10x**

  This issue is resolved.

Alarm Category

- **Issue TSDrd36204: ALM (ETSI) : VCGSSF not declared on VCG incase of VCLOM on the constituent member/s.**

  This issue is resolved.

- **Issue TSDrd36725: REJ:TSDrd36616::After migration from 3.12.20 to 3.22.35 ASAPTUSEG is corrupted**

  This issue is resolved.

- **Issue TSDrd35235: ZIC_ALM(ETSI):ZIC throws parser error for retrieve COND/ALM on OG line facility**

  This issue is resolved.

- **Issue TSDrd35873: DOSM: Different behaviors in LOM alarm detection**

  This issue is resolved.

Performance Monitoring Category

- **Issue TSDrd36347: PM Performance Monitoring Global File Collection doesn't work**

  This issue is resolved.

- **Issue TSDnm84864: TSS320 R3.2:PMInflowOutflowHistoryData15mins**

  This issue is resolved.

- **Issue TSDnm87456: POM AU4 pmtps always shown as misaligned aft**

  This issue is resolved.

- **Issue TSDrd35224: ZIC_PM: Retrieval of the GBE PM gives PARSER ERROR.**

  This issue is resolved.

- **Issue TSDrd35510: PM_LOVCn(ETSI): LOVC12 PM functionality is not correct**

  This issue is resolved.

- **Issue TSDrd35865: PM TMPLS+ZIC: PM DATA tab not present after TMPLS remote port activation**

  This issue is resolved.

Management category

- **Issue TSDrd35334: DBM (ETSI/ANSI) : No Response for RTRV-RFILE with invalid directory path**

  This issue is resolved.

- **Issue TSDrd36287: Migration tool**

  This issue is resolved.

- **Issue TSDrd36288: EM+MIGR: Wrong collector card management during SWP migration**

  This issue is resolved.

- **Issue TSDrd36356: IAU: It is not possible to activate new SWP after INIT-SYS-NEW because FLC continue to reboot (OS)**

  This issue is resolved.

- **Issue TSDnm83189: TSS320 NE not sending REPT^ISU**

  This issue is resolved.

- **Issue TSDnm83632: Command not logged on CLOG for TSS320**

  This issue is resolved.

- **Issue TSDrd35029: Full load bench causes ZIC crashing**

  This issue is resolved.

- **Issue TSDrd35345: Migration: PHP-CGI thread delays the swp downloading**

  This issue is resolved.

- **Issue TSDrd36252: Migration 1.4->3.2: wrong parameter for ENT-EQPT CADM4,**

  This issue is resolved.

Security Category

- **Issue TSDrd33119: Cross-Connection Unprotect action not logged in securitylog.txt**

  The following issue is resolved:

  Cross-connection unprotect action not logged in securitylog.txt

External communication category

- **Issue TSDrd36428: ZIC: wrong message when create a hoplist**

  This issue is resolved.

- **Issue TSDrd34693: TSS320 vs sw download problem on NE reached via lap-d**

  This issue is resolved.

- **Issue TSDrd34616: TSS320 vs. resource isolation**

  This issue is resolved.

- **Issue ONDvx45467: Bad defense with InFiberIn band in TSS320 ring**

  This issue is resolved.

- **Issue ONDvx45459: restart of NE: long time to recover IP routes (In band management case)**

  This issue is resolved.

- **Issue TSDrd35543: Instability on the boards of the sites 10G POS INT and INT S**

  This issue is resolved.

- **Issue TSDrd35544: ALL UNITS RESTARTED WITHOUT REASON // EQUIPAMENTO REINICIALI**

  This issue is resolved.

- **Issue TSDrd34693: TSS320 vs sw download problem on NE reached via lap-d**

  This issue is resolved.

- **Issue TSDrd34629: IAU: Wrong management of SWP installation with official procedure (OS)**

  This issue is resolved.

- **Issue TSDrd35261: XCOM (ANSI) : DCC Line channel is not reflecting alarms, in case of link failure/mismatch**

  This issue is resolved.

- **Issue TSDrd35729: Problem inband management traffic**

  This issue is resolved.

- **Issue TSDrd36063: IFIB+FLC: FLC gets rebooted if routing protocol is changed after activating IFIB**

  This issue is resolved.

- **Issue TSDrd36116: IFIB+LAG: IFIB connectivity through LAG is KO if primary port is unbind from LAG**

  This issue is resolved.

Synchronization category

- **Issue TSDrd35430: SyncEth not initialized after upgrade**

  This issue is resolved.

- **Issue TSDrd34771: After migrating TSS320 from rel. 3.0 to Rel. 3.2 some LAN Q**

  The following issue is resolved:

  The parameter to enable the LAN connection on GNE node is selectable between:

  “Channel used by” = [MNGPLANE] or [none]

  In rel. 3.0, this parameter is ignored and the LAN connection is always enabled, while in rel. 3.2, the parameter is correctly managed.

If in rel. 3.0 the “Channel used by” = [none] the GNE is always reachable, but after migration in rel. 3.2.x, previous to R3.2.2, the NE goes in resource isolation.

See also Operational Notice ON-0580-OMSN-1850TSS-320

- **Issue TSDrd35768: Hamburg_26: TL1 DB stuerzt nach Verbindung mit NMS ab**

  This issue is resolved.

- **Issue TSDrd35475: EQPT, SYNC: migration from 3.1 to 3.2.2 (Golden)**

  This issue is resolved.

- **Issue TSDrd36241: SYNC: Problem on reset of CDR on PP1GBESY, when selected as synchro reference.**

  This issue is resolved.

Control plane category

- **Issue TSDrd36157: CP: delete a tunnel involved in a ffp before is deny**

  This issue is resolved.

- **Issue TSDrd36568: CP:after a power off/on the tunnel ACD=LOST but the traffic is working**

  This issue is resolved.

- **Issue TSDrd36573: CP: prot. group not created if Status=OFF about prot. tunnel path-one-to-one**

  This issue is resolved.

- **Issue TSDrd36575: CP:when create a prot tunnel the field "Identifier" is empty**

  This issue is resolved.

- **Issue TSDrd36595: CP: "Working Use" and "Protection Oper." are not manage correctly on prot. tunnel**

  This issue is resolved.

Known issues

Known issues in Release 3.2.7:

Equipment category

- **Issue TSDrd44276: EC320 HWFAIL happened during S/W upgrade from R3.2.2 to R3.4**

  FLC Hard Disk defect is not detected by RAID management.

Known issues in Release 3.2.6:

No new known issues

Known issues in Release 3.2.5:

Management category

- **Issue TSDrd41877: 1850TSS320 DB Backup Failed**

  In some conditions, due to a memory leak, the Hard Disk can appear full, preventing the DB backup operation.

  Workaround:

  Restart the FLC as explained in the Operational Notice ON-703-OMSN-1850.

- **Issue TSDnm96634: Restart FLC TSS320 3.2**

  Stressing the equipment from the NMS with a cycle of Show Equipment, opening and then closing the embedded ZIC, the NE may become unreachable via secondary management interface and as a consequence there is a node isolation. The condition is spontaneously cleared, since upon this condition the FLC is automatically reset by the NE.

Known issues in Release 3.2.4:

Equipment category

- **Issue TSDrd39026: EM: Temporary HWFAIL status during provtype changing from ETH to ETHSY**

  When modifying a non-synchronous packet module to a synchronous-capable packet module, at the physical insertion of the new PM, the board could transit through an HWFAIL status before automatically going in-service.

Facility category

- **Issue TSDrd37099: DOSM: Wrong LCAS management by Gauss on VCG having LOVC12 members (traffic impacted)**

  In some cases with LOVC12 and LCAS, LOVC12 traffic is never coming up, and MON-LCAS shows more than one member having EOS status.

  Workaround:

  Deactivate all the members with LCAS and reactivate them again with LCAS.

- **Issue TSDrd39072: DOSM:loss of packets after increase/decrease of VC3 bandwidth [VC12 cross-talk]**

  Sometimes, in particular mixed LOVCAT configurations, it could happen that the resizing of a VCG causes a temporary frame loss on a different LO VCs.

Protection category

None.

Connection category

None.

Data category

- **Issue TSDrd37816: EOAM: Egress mac identifier is not updated in case of MIP is disabled**

  Using the Link Trace OAM tool, the end Up MEP in absence of any MIP does not provide the egress MAC identifier (that is filled with zeros instead).

WDM category

- **Issue TSDrd37141: After migration from R3.22.01 to R3.21.92, occurred node iso**

  If migration is performed with LOFA laser state = Enabled, the laser will be switched off.

  Workaround:

  Before to start migration set LOFA laser state to Forced ON (laser will remain ON); once that migration is completed set laser state to Enabled.

Alarm category

None.

Performance monitoring category

None.

Management category

None.

Security category

None.

External communication category

None.

Synchronization category

None.

Control Plane category

None.

Known issues in Release 3.2.3:

Facility category

- **Issue TSDrd37227 CSF: CSF entries are not cleared during the deletion /recreation of VCG**

  CSF entries are not automatically cleared during the deletion / recreation of a VCG.

  Workaround:

  Disable CSF before deleting the VCG.

Synchronization category

- **Issue TSDrd37195: electrical SFP port automatically send out sync**

  On 1GBE electrical i/f, Ethernet SSM synch frames are always transmitted.

  Workaround:

Disable TX frames by TL1.

Known issues in Release 3.2.2:

Equipment category

- **Issue TSDrd35120: EQPT: Wrong FLC LED management after STBY FLC deletion**

  In some cases, after an ENT-EQPT command for the spare FLC is issued, the protection group is correctly created, but the EPS LED for both FLC are switched off.

- **Issue TSDrd35472: EQPS: Wrong Management of the FLC states**

  In case of presence of two FLCs, and one FLC is logically removed and deleted, followed by a NE power cycle, the deleted state is not respected.

- **Issue TSDrd35600: EM(ETSI):EPS LED on FLC module not managed correctly**

  EQPS LED (i.e., LED2) should be switched off if EPS not configured. If the NE is equipped with 2 FLC's (slot#1 and slot#20) but FLC in slot#20 is not provisioned, in this condition the EQPS LED is lit as green in slot#1 FLC and amber in slot#20 FLC.

- **Issue TSDrd35759: EQPT: Power Supply Board wrong PROVISIONEDTYPE supported**

  In Release 3.2, the PROVISIONEDTYPE supported for Power Supply Board includes also the PSF320JP, PSF320JPNTT types, that are not allowed.

- **Issue TSDrd36085: EQPT:Sometimes during data service configuration, STBY matrix is reconfigured (MISC led blinks)**

  During a service configuration, it could happen that the STBY matrix changes from IS to OOS with SW download condition, and the MISC led starts to blink. However, after some minutes the situation is autonomously recovered, with the STBY matrix going back to IS.

- **Issue TSDrd36354: EM: Wrong collector LED management during migration**

  During SWP migration the Packet Modules LED changes from green to blinking green, passing from red.

- **Issue TSDrd36369: MIGR : After migration from 3.02.48 to 3.22.31 STM64 Client port on OT2TDM went into AINS state**

  The existing in-service facility should not go to AINS after the software migration. However, STM64 Client port on OT2TDM goes into AINS state.

- **Issue TSDrd36553: REJ:TSDrd36305::EQPS:PSI SST is missing during FLC1+1 raidsync**

  When plugging in a spare FLC, the RAIDSYNC condition is raised, but PSI secondary status is not showed for both FLC.

Facility category

- **Issue TSDrd34712: FM(ANSI): DBCHG message shows wrong state when OC-192 on OT2TDM logically removed /restored**

  After Logically removing/ restoring the OTU2 facility shows UAS as SST in the DBCHG message.

- **Issue TSDrd34812: REJ:TSDrd33662::REJ:TSDrd33243::REJ:TSDrd32797::REJ:TSDrd30881::DBM(ANSI):EDIT ACD denied for ANSI facility.**

  EDIT ACCESS CONTROL DEVICE (ED-MGRACD) command action is denied for ANSI facility.

- **Issue TSDrd35290: CTLC : When Secondary FLC is reset , SWDL state not set**

When standby FLC is re-booted via INIT-SYS command or via hard reset button the FLC board, there is no indication given to the operator. FLC remains in IS state . FLC state should be changed from IS to OOS-AU,SWDL to alert the operator.

- **Issue TSDrd35329: EM (ETSI) : AUTOPROV parameter not displayed when slot is in UAS &UEQ state.**

  AUTOPROV parameter is not displayed when the IO slot is in OOS-AUMA,UAS&UEQ state.

  Because of this issue, the operator is unaware as to whether or not AUTOPROV is ON or OFF on a slot which was previously logically deleted via the DLT command.

- **Issue TSDrd35431: DOSM[ANSI] : Wrong MON-LCAS info while just created and activated VCG members (not cross-connected)**

  When the Members are enabled but not cross-connected the CTRL pk info shall be ADD. Few members are having the CTRL pkt TX state as NORMAL instead of ADD even if the cross-connection is not present for any of the members.

- **Issue TSDrd35486: Pulse width timer not restarted after reissuing OPR-ALS command**

  If the laser is turned on (as a result of the OPR-ALS command) and the user reissues an OPR-ALS command, the laser should remain on, but the pulse width timer should be restarted. However, after reissuing the OPR-ALS::STM16:::MODE; the laser remains on, but the pulse width timer is not restarted.

- **Issue TSDrd35513: FM(TL1):Abnormal condition not reported during OPR-ALS**

  Abnormal condition is not reported during OPR-ALS with TEST mode.

- **Issue TSDrd35636: DOSM[ETSI] : VCSQM not causing OOS to the affected VCG members**

After creating the VCSQM on the VCG Members the alarm got reported but the VCG Member (LOVCn) are still in IS-NR state.

- **Issue TSDrd36005: REJ:TSDrd35546::FM(ETSI) : OPR-ALS(TEST) operation not as per requirement**

  The 90-second TEST pulse duration gets interrupted is a LOS is cleared and restored during the TEST pulse period.

- **Issue TSDrd36129: FM(ETSI): UNEQ-V (TRMT) is not reporting once delete the cross-connection.**

  UNEQ-v should be reported in transmission direction in case of no cross-connection. At the first provisioning, before cross-connecting the traffic, UNEQ-V is correctly reported. However, after cross connection deletion, UNEQ-V TRMT (transmit direction) is not reported for TU-12.

- **Issue TSDrd36132: FM(ETSI): SSF -V TRMT is not reporting once delete/create cross-connection.**

  SSF-V TRMT should be reported in transmission direction when a TUn facility sends out AIS-V in transmit direction. At the first provisioning, SSF-V TRMT is correctly reported, upon AIS-V condition. However, after cross-connection deletion, SSF-V TRMT (transmit direction) is not reported for TU-12.

- **Issue TSDrd36170: REJ:TSDrd35700::REJ:TSDrd33852::FM(ETSI):VCG member states are not managed correctly in physical absence of LOA module.**

  In case of LOA10G card pre-provisioned in a slot, but physically not present, the lower order VCG members utilizing this LOPOOL facilities report URU-V condition, however PST and SST show IS-NR, PMD&VCIDLE respectively instead of OOS-AU, PMD&SGEO&VCIDLE.

- **Issue TSDrd36227: REJ:TSDrd36068::FM[ANSI]- Manual switch does not change SSTs of path facility involved in 2WAYPR XC of UPSR-UPSR**

  In back-to-back 2WAYPR cross-connections, on executing protection switches by command, SST of the preferred/alternate STSn path facilities are not changed.

- **Issue TSDrd36353: TSS320: after migration from 3.21.60 in 3.22.31, Abnormal Condition lost**

  After the migration, the Abnormal Condition (ALS Laser=N_ON), is lost. This it is just a report problem since the laser continues to be forced ON.

- **Issue TSDrd36401: DOSM(ETSI):VC channel that has the most differential delay depicted with wrong AID**

  When LCAS is enabled, the VCG member that has the greatest differential delay is reported with a wrong AID. Example, VCGVC4-1-1-xx-1-255 instead of VCGVC4-1-1-xx-1-1.

Protection category

- **Issue TSDrd35586: EM : EPS LED of LOA10G was off after plugging in the STBY LOA in slot 24**

  When the shelf configuration is done with AUTOEQ-AUTOFC mode, plugging-in an additional LOA, the EPS LED of the protection LOA could not turn ON.

- **Issue TSDrd36027: LOA 10G: with WTR active, the force switch is refused**

  The a LOA 10G is in protection and in WTR status, a FORCE switch is refused.

- **Issue TSDrd36470: EQPS(ETSI):WTR condition on one Protecting module not cleared by another module plugout event**

Using LOA10G, when WTR is preempted by a higher priority switch (i.e., plug-out) on the other working card, WTR condition is not cleared.

- **Issue TSDrd36766: FFP_TMPLS(SDH): WTR condition cleared based on currently modified RVRTTIM value**

  While the RVRTTIMer is currently active (happens when a defect is cleared) and the user edits the RVRTTIM value, no changes will be done to the current RVRTTIM. However, the new value shall be accepted and applied next time the RVRTTIMer is started.

- **Issue TSDrd36497: EQPS(ETSI):VCGSSF caused by manual and automatic protection switching on LOA10 module**

  In some cases, the LOA EPS in presence of VCAT can cause a traffic hit up to about 70 ms.

Connection category

- **Issue TSDrd35361: FM[ETSI] : False Trace values (Incoming) were observed on Lower order path**

  Lower order path Trace values are fake and continuously changing. The issue was observed on MVC4TU# (Un-terminated) and VCGLOVC3 (Terminated).

- **Issue TSDrd35732: CONN[ANSI]- States are not managed properly if role of STS1 involved in multiple 1WAYPR connections**

  When STS-1 facilities are involved in more than one 1WAYPR connections, and if STS-1 has different roles in different 1WAYPR connections, SST of that STS-1 does not indicate SST corresponding to each of the 1WAYPR connection.

- **Issue TSDrd36281: CONN (ANSI): Not reporting any Primary state after switching from PROTN to WKG**

  A cross-connection should always have a primary state. On a UPSR 2WAYPR connection, after a switch from PROTN to WKG is executed, the primary state of the connection disappears from the report.

- **Issue TSDrd36283: CONN (ANSI):- Showing fake Primary State on 2WAYPR CRS Connecting UPSR-UPSR ring .**

  When all the facilities involved in cross-connection are in IS state , cross-connection state should be IS. However, back to back 2WAYPR cross-connection between two USPR rings shows the state as OOS-AU,SGEO instead of IS.

Data category

- **Issue TSDnm83798: L2CP field EMPTY on ETS LAG**

  The L2CP field parameter of the LAG is not showing the default value, and is empty.

- **Issue TSDrd35165: PM[ANSI] : TCA not raised for the EIFE on the MAU and GBE**

  TCA transient conditions are not raised on MAU and GBE for EIFE.

- **Issue TSDrd35373: CLI:-Not possible to disable the port shaping through CLI and conflict in alignment b/w ZIC &CLI**

  It is not possible to disable the port shaping through CLI. Moreover, CLI allows configuring the port shaping in multiples of 8 only, but from ZIC the granularity is 1

- **Issue TSDrd35605: Static: TUSEG wrong OAM parameter retrieve when OAM is disabled**

  Creating a TUSEG with OAM parameters set to default value (all fields disable or empty), and performing a RTRV-TMPLS-TUSEG command, the default value of EXPMEP-ID= is reported as 65535.

- **Issue TSDrd36133: CLI: interface show command doesn't report all MPLS objects (PW) created**

  The CLI interface show command doesn't report all MPLS objects (PW) created.

  Workaround:

  Use the TL1 RTRV command.

- **Issue TSDrd36142: CAC:tunnel and pw TD PIR versus VT PIR check failure**

  Modification of tunnel / PW TD PIR beyond VT PIR should be denied, instead it is accepted.

- **Issue TSDrd36688: REJ:TSDrd36687::EOAM: Not possible to create EOAM down mep on PW for the vpls service**

  In case you create a VPLS instance and cross-connect ETS ports, with PW binded to the VPLS instance, you can not configure down MEP for Ethernet services on the PW connected tot he VPLS.

- **Issue TSDrd36510: TMPLS-MP+TL1:L2ENCAPPROF-AID must be rejected if applied to TUSEG on Remote MPLS port**

  L2ENCAPPROF-AID must be rejected if applied to TUSEG on Remote MPLS port. However, the NE accepts the command.

- **Issue TSDrd36764: FFP_TMPLS :Far end WTR status shown as WTR instead of WTR-FE**

  The RTRVFFPTMPLS command reports far end WTR status as WTR instead of WTR-FE.

WDM category

- **Issue TSDrd34752: FOADM: during the provisioning of a client of DWLA, some alarms are raised up and cleared**

  During the provisioning of a client on DWLA board, LOF/LOS alarms are raised up and cleared in few seconds.

- **Issue TSDrd36366: MIGR 3.12-20 to3.22-31(ETSI): AINSTH value of OTU2 set to 000-00 instead of the default value 000-01**

  After the migration, the OTU2 facility on OT2TDM board shows AINSTH = 000-00 instead of 000-01 (that is the valid value for the ETSI region).

Alarm category

- **Issue TSDrd35338: PM(ANSI):TCA is not reported for UASL threshold crossings on user created TCA**

  TCA is not reported for UASL threshold crossings on user created TCA.

- **Issue TSDrd35399: ALM(ETSI):For VCGLOVC12 TCA Parameters MONVAL, THLEV not reported**

  For VCGLOVC12 the TCA Parameters MONVAL, THLEV are not reported.

- **Issue TSDrd35488: PM(ETSI):Raised TCA for 15 min not cleared after assigning null profile to VC4 facility**

  When changing the TCA profile to Null for PM on STM-16 VC4 facilities, all the 1-Day TC alerts are correctly cleared immediately, but after the next 15-minute measurement period, the 15-minute TC alerts are not cleared.

- **Issue TSDrd36205: ALM (ETSI) : VCLOM not reported for the disabled LOVC3 members of the VCG (OK for LOVC12)**

  If a member in the VCG is disabled, the same member has to report VCLOM and VCG should report VCGSSF. But no VCLOM reported on the LOVC3 member. This works ok for LOVC12 members.

- **Issue TSDrd36267: ALM(ETSI) : Wrong SRVEFF after deleting the cross connection on LOVCn members**

  After deletion of some LOVC12 cross-connection the LOVC12 are shown having the alarm UNEQ-V (as expected) with SRVEFF = SA (wrong).

- **Issue TSDrd36367: MIGR[ETSI] : UAT-RS,TRMT missing from default profile after migration from 3.21.60 to 3.22.31**

  After migration, UAT-RS,TRMT is missing from default ASAPSTMn profiles.

- **Issue TSDrd36395: MIGR 3.21-60 to 3.22-31 (ANSI): OTU2 ASAP shows duplicate entry for T-FECC condition.**

  After migration, on retrieval of ASAP-OTU2 there is a duplicate entry for T-FECC; i.e., T-FECC (NSA) is shown twice in the output.
- **Issue TSDrd36604: After matrix EPS the MPLS interfaces go down for about 1 min**

  It could happen that after matrix EPS, all T-MPLS are reported as down. This is a fake alarm; the duration of the event is about 1 minute and then the situation is autonomously cleared.

Performance monitoring category

- **Issue TSDrd35326: PM(ETSI):BBE-RS error counts are not increasing upon B1 error injection.**

  BBE-RS error counts are not increasing upon B1 error injection. This problem is seen only when MT320LO card is configured.

- **Issue TSDrd35331: DBM(ETSI):Wrong NE Release version in PM Global descriptor file**

  NE release version in PM Global descriptor file shows R03.00.00 instead of R03.02.02.

- **Issue TSDrd36123: PM(ANSI): Incomplete ED-TH-PROF DBCHG message on deleting default threshold profile**

  After deleting user defined threshold profile with DFLT=Y, the ED-TH-PROF generated is not complete, since 'DFLT=Y' is missing in the message.

- **Issue TSDrd36554: PM HO:Wrong management of BBE counter after matrix**

  The BBE counter could decrease after matrix EPS.

Management category

- **Issue TSDnm87230: State notified from EML to PKT**

  In rare, random cases the Local Access Control (LAC) is set spontaneously as GRANTED in PKT. This means that in this case is not possible anymore to manage the NE with PKT.

  Workaround:

  Stop the supervision and then start the supervision again.

- **Issue TSDrd34810: REJ:TSDrd33661::REJ:TSDrd33242::REJ:TSDrd32749::REJ:TSDrd31385::DBM Ansi-Etsi: Modify SID and DB-LABEL**

  When perform act-db-backup the SID is not set to new value in primary Database.

- **Issue TSDrd35237: ALM(ETSI):Non-alarmed events of OG are not available in condition log**

FLC/LDC/SLC sw version showed by ZIC in the FW/SW version field is not displayed in complete way: the last characters are missing.

- **Issue TSDrd35355: DBM [ETSI] : MGRACD not changed for MAUVCG and GBEVCG after ED-MGRACD command (ok for VCG)**

  There are two different problems with ED-MGRACD.

  (1) for the MAUVCG the Command ED-MGRACD is denied (if it is set to MGNPLN)

  (2) For GBEVCG, the command is completed but the Retrieval shows MGRACD as For the VCG on PP10AD. This works OK.

- **Issue TSDrd35572: TL1 : ACT-USER with TID is denied if the TID is having 1 : (Colon) within**

  It is not possible to do the ACT-User command if the TID is having the : (Colon) in between.

- **Issue TSDrd36033: EM: RTRV-PRMTR-NE shows SWP as 3.22.18 instead of 3.22.19**

  SWP shown in RTRV-PRMTR-NE is not correct.

Security category

- **Issue TSDrd35866: SECU(ETSI):Security audit log doesn't capture CLI events**

  CLI & serial events are not displaying in the security log file after logon to the NE.

- **Issue TSDrd36002: REJ:TSDrd35890::SECU: No login authentication for Serial interface on Data boards**

A user is able to access data cards (PP10E and PP10Gsy) through serial cable without any authentication.

External communication category

- **Issue TSDrd36008: XCOM: Deny Scenario with ENT-MAP**

  The operations:

  - Create MAP with same IP address of NE

  - Create MAP with different TID but same IP address should be denied, instead they are accepted.

- **Issue TSDrd36368: REJ:TSDrd36307::REJ:TSDrd35396::XCOM : Q-LAN not working if the LAN cable is on the STBY matrix (problem with lanswtich mechanism)**

  Q-LAN is not working if the LAN cable is on the Stand-by matrix, for the matrices with the following codes: 3AL92108AA**, 8DG08044AA**, 3AL92108AD**.

  Workaround:

  Use two redundant cables for the DCN connection.

Synchronization category

- **Issue TSDrd36180: SYNC: Transient reference switch when Forced Command is present on reference in signal fail.**

  Transient reference switch when Forced Command is present on reference in signal fail.

Control Plane Category

None

Known issues in Release 3.2.1A / 3.2.1B:

Equipment Category

- **Issue TSDrd28894: EM (ETSI) Init-sys causes wrong state change sequence on packet processor**

  Upon successful completion of Init-sys on packet processor cards, a wrong state change sequence is being emitted "OOS-AU,HWFAIL,SWDL,(SWDWN)]=>IS,,]" a HWFAIL autonomous report against the module.

- **Issue TSDrd30929: FM_ETSI(CWDM): Able to delete CWLA module when traffic is being carried**

  Deletion of CWLA module is not denied even if traffic is being carried.

- **Issue TSDrd33428: REJ:TSDrd32521::DBM(ANSI):Wrong REPT^DBCHG message format for GBE/MAU facility.**

  REPT DBCHG message displayed while deleting GBE/MAU message is incorrect.

- **Issue TSDrd33298: EQPT(ETSI):INITIALIZE SYSTEM on LOA10G module caused MTXLNKFAIL**

  Init sys on working or protection LOA10G module caused MTXLNKFAIL condition. The alarm is cleared after some time. There is no traffic impact.

- **Issue TSDrd31554: FOADM(ANSI): LOFA LEDs AB1 and AB2 switched ON after plug out plug in**

  After plugging out/in LOFA board, LEDs AB1 and AB2 stay ON even if traffic is working. The expected status of LEDs is restored when a real LOS happens and disappears. After INIT-SYS of the board, the same behavior occurs.

- **Issue TSDrd33522: EM(ANSI):Matrix PROVISIONEDTYPE MT320LO allowed**

In ANSI context, the command to change the PROVISIONEDTYPE of one matrix from MT320 to MT320LO should be denied with the following error code: IPNC Input, Parameter Not Consistent. BUT by using TL1 command ED-EQPT, after logical remove, the operation is performed.

- **Issue TSDrd33675: CLEI code is not reported in the Remote Inventory of electrical module**

  CLEI code is not reported in the Remote Inventory of electrical module.

Facility category

- **Issue TSDrd28735: CTLC:(ETSI/ANSI) INIT and SYSTEM-READY conditions not raised upon NE restart**

  INIT and SYSTEM-READY conditions are not raised upon NE restart.

- **Issue TSDrd28848: LPBK(ANSI):Matrix loopback not inserted maintenance signal in downstream**

  The appropriate maintenance signal (AIS-P) is not inserted downstream when the matrix loopback command is executed.

- **Issue TSDrd28854: LPBK(ANSI): Matrix loopback not functioned after changing the existing cross-connection**

  After operating an STS1 with matrix loop back, all matrix loopback functions are working fine. But after deletion of the existing cross-connection, the Matrix loopback was not present any more but the operated STS facility still carried LPBK in its SST.

- **Issue TSDrd29579: EM (ETSI): WARM reset is not managed for data cards**

  WARM reset is not managed for data cards.

- **Issue TSDrd29877: DOSM: Wrong management of MON-LCAS**

  On VCG LOVC3 / LOVC12, activating LCAS (without XC), MON-LCAS will show NORMAL for all members instead of ADD. MON-LCAS should show ADD for all members.

- **Issue TSDrd30213: PM Ansi Data : THP missing for Data module**

  The output of command RTRV-TCAP-ASGNMT for Data card is missing.

- **Issue TSDrd31345: LPBK(ETSI):SST of SDEE not set on LPBK participated GBE10 facility**

  On GBE10 card with configured lpbk, secondary state SST is not properly set in SDEE.

- **Issue TSDrd31354: FM(ETSI): ACT and SDEE states are not set on all VC4nC facilities of OTU under OT2TDM module**

  After Provisioning two OTU facilities and performing all AU416C/AU44C level cross connections, ACT and SDEE states are not set on all VC4nC path facilities.

- **Issue TSDrd31490: REJ:TSDrd30817::DOSM(ANSI):All disabled members in GBE/MAU VCG carried GFPLOF condition**

  In a point to point connection between two Non-LCAS enabled VCGs, after making all VCG members idle on both side, both VCGs carry GFPLOF instead of null alarms.

- **Issue TSDrd31924: ALM(ETSI):Wrong management of LOA on LOVCAT**

  In some conditions, VCG of type LOVC3 could report both VCGSSF and VCGLOA condition, instead of VCGSSF only.

- **Issue TSDrd32980: FM(ETSI):MGRACD output parameter not shown on OG port.**

  RTRVOG command doesn't display MGRACD output parameter on OG port of CWLA module. AMGR ACD determines how the facility is managed (i.e. to which manager assigned). The port should be either not managed, or managed by TDM Control Plane, or by Management Plane

- **Issue TSDrd32981: DBM(ETSI):EDIT ACCESS CONTROL DEVICE with OGPORT AID denied.**

  TL1 command "EDIT ACCESS CONTROL DEVICE" applied to OG port is denied with out any error message.

- **Issue TSDrd33080: AID(ETSI):Retrieve condition on OG port with ranging and grouping not working**

  TL1 retrieve condition specifying range and group on OG port does not work properly (displays only the first value of the range).

- **Issue TSDrd33229: DOSM(ETSI): DOSM: Monitor LCAS for LO-VCAT carried wrong MST received value.**

  Retrieval of VCG information in case of LCAS disabled shows in the parameter LO-VCG CHNSTATERX"OK" instead of "FAIL". It works fine with HO-VCG.

- **Issue TSDrd33380: DBM(ETSI):EDIT ACCESS CONTROL DEVICE for DWLA10X module Line and Client facility denied**

  TL1 command "EDIT ACCESS CONTROL DEVICE" applied to DWLA10X module, denies the setup of Line and Client facilities without error message.

- **Issue TSDrd33699: DOSM(ANSI):HLDOFFTIME functionality not working on VCAT**

  Holdoff time can be specified while editing a VCG. It specifies the time, in number of 100milliseconds, to wait before considering a member of the addressed virtual

concatenation group in failure condition after a defect has occurred on that member. Valid only if LCAS is Enabled. Results not consistent with expectation.

- **Issue TSDrd33830: PM(ETSI) : MONVAL,THLEV,TMPER are not reported in RTRV-ALM-OTU2 output response**

  MONVAL,THLEV,TMPER are not reported in RTRV-ALM-OTU2 output response.

- **Issue TSDrd29727: FM(ETSI): Puls width timer is not restarted after reissuing OPR-ALS command**

  If the laser is turned on (as a result of the OPR-ALS command) and the user reissues an OPR-ALS command, the laser remains on, but the pulse width timer is restarted.

- **Issue TSDrd31337: LPBK(CWLA): MAN condition is cleared on line and client facilities of CWLA after power cycle**

  LPBK(CWLA): MAN condition is cleared on line and client facilities of CWLA after power cycle.

- **Issue TSDrd30219: FM(ETSI): FECTYPE value EFEC2 should be denied on DWLA10X**

  As per DWDM FM TL1 RRS FECTYPE, value EFEC2 is applicable only for OTU2 facility on OT2TDM. So EFEC2 should not be allowed for OTU2 on DWLA10X.

- **Issue TSDrd31249: FM(CWLA): URU-O is not reporting on client facilities of CWLA module**

  Provisioning client and line facilities on a CWLA w/o SFP, URU-O alarm is not reported for all the facilities.

- **Issue TSDrd31332: LPBK(CWLA): ACTLPBK condition is not reporting on line facility under CWLA module**

  ACTLPBK condition is not reported on line facility under CWLA module.

- **Issue TSDrd33354: FM(ETSI):Condition on VCG members changed after logical RMV/RST of VCG**

  UNEQ-P condition on VCG member reported after deleting cross connection on VCG with no LCAS. This UNEQ-P condition on VCG member cleared and reported EBER and RFI, after logical remove and restore of VCG.

- **Issue TSDrd31927: ALM(ETSI):Wrong management VCLOM condition on Lo-VCAT members**

  Wrong management VCLOM condition on Lo-VCAT members: Lower order VCG members carries wrong VCLOM conditions along with UNEQ-P condition on some members.

- **Issue TSDrd32224: ZIC_LPBK(ETSI): DENY pop up errror message on completion of OPR-LPBK on DWLA client**

  Its observed that on selecting OPR-LPBK-STM64 on DWLA client, the command is COMPLD, but the pop up message shows DENY instead of COMPLD.

- **Issue TSDrd30783: FOADM(ANSI): Client of DWLA10x always OOS-AU even if traffic is working**

  On STM64 facility the Primary state of OTPORT-1-1-x-C1 is always OOS-AU even if no condition is reported.

- **Issue TSDrd32521: DBM(ANSI):Wrong REPT^DBCHG message format for GBE/MAU facility**

  GBE/MAU get provisioned with wrong format REPT^DBCHG message.

- **Issue TSDrd31663: FM(ANSI) :States on OTU2 not shown on pre-provisioning**

  It is observed that on pre-provisioning the OTU2TDM card (w/o plugging in physically the card) the states of the OTU2 are not correctly shown on retrieval. In both ANSI & ETSI region.

- **Issue TSDrd30571: FM(ETSI): Remove AINSTH parameter from OTU2 line facility on DWLA10X**

  AINS functionality is not supported on line facility of DWLA10X. So RTRV-OTU2 against line facility should not show AINSTH parameter in the output, BUT it does even if Modifying AINSTH value using ED-OTU2 is correctly denied.

- **Issue TSDrd30135: FM(ANSI):SDEE state is not set on OT2TDM when LPBK is present**

  On OTU2 facility SDEE state is not set on EQPT and facilities when LPBK is present on underlying facilities.

- **Issue TSDrd29475: LPBK(ANSI):SDEE stae not carried by OTU2 upon loopback.**

  SDEE is not reported on SST of facility on OTU2.

- **Issue TSDrd28952: LPBK(ANSI):ACTLPBK condition on OTU2 facility not retrieved.**

  ACTLPBK condition is not retrieved correctly by RTRV-COND-OTU2 command when the facility is in under loopback.

- **Issue TSDrd31139: FM_ETSI(CWDM): MAN condition on OG ports are not reporting autonomously**

  During removal of OGPORT, MAN condition is not reported by autonomous messages.

- **Issue TSDrd31340: ALM(ETSI):Changed ASAP profile not affected to OTU2 facility of DWLA10X module**

  The changing of ASAP profile from default to None (LBL-ASAPOTU2-None) does not affect OTU2 facility of DWLA10X module: LOS alarm not cleared from alarm list.

- **Issue TSDrd30925: ETSI(DWDM): Line OTU2 facility under DWLA module is reporting wrong AINSTH value**

  AINSTH value of OTU2 line facility on DWLA10X is reporting as 000-00 instead of AINSTHDFLT value.

- **Issue TSDrd30989: FM(DWDM): ACTLPBK command is not reporting autonomously on DWLA line and client facilities**

  IN ANSI region, operating on a provisioned DWLA card a Facility and Terminal loopback on DWLA line facility, ACTLPBK Autonomous msgs are not reported.

- **Issue TSDrd28828: LPBK(ANSI):RTRVLPBKOC/STS command completed for wrong AID**

  RTRV-LPBK-OC/STS command completed for wrong AID, even if there is no output response.

- **Issue TSDrd32111: DOSM (ANSI): EDVCG command denied with wrong error code.**

  If the VCG specified in the AID field is in a UAS secondary state, the command should be denied and an error message with the following error code shall be sent to the user: SNVS Status, Not in Valid State. But ED-VCG command, changing PST of a VCG not provisioned (i.e. in UAS secondary state) into OOS, is denied with error message SAOS instead of SNVS.

- **Issue TSDrd31077: DBM(ETSI):REPT DBCHG for OGPORT contains dissimilar TL1 command**

  Creation and deletion of OGPORT in CWLA3 have different REPT DBCHG format. For OGPORT creation REPT the DBCHG message contains a TL1 command as ENT-STM16:OGPORT-1-1-x-xx but for deleting it is DLT-OG:OGPORT-1-1-x-xx command.

- **Issue TSDrd33521: DOSM(ANSI):EDVCG command denied with wrong error code.**

  ED-VCG command is applied to a VCG not provisioned (i.e., in UAS state) changing PST into OOS, gives a SAOS error message instead of SNVS Status, Not in Valid State.

- **Issue TSDrd33532: FM(ETSI):Logical restore of GBE10 facility not denied when facility under LPBK state.**

  RMV-GBE10 is completed even if the facility is involved in a loopback. After that, there was no LPBK SST value on that facility but LPBK was present.

- **Issue TSDrd33506: DOSM:EDVCG format shown extra parameter**

  ED-VCG shows a wrong additional parameter 'GB'.

- **Issue TSDrd33526: CONN(ETSI): ACT& SDEE states missing on cross connected AU4nCs on OTU2**

  Some concatenated facilities AU44C and AU416C do not have SDEE& ACT state present on them even though they are involved in a cross connection.

- **Issue TSDrd33530: FM(ETSI):Retrieve STM16 facility denied on 1st port of CWLA module**

  Retrieve STM-16 facility denied on port without provisioned SFP in CWLA module.

- **Issue TSDrd33431: EM(ANSI):DIGITAL DIAGNOSTIC MONITORING retrieved for electrical SFP**

  DIGITAL DIAGNOSTIC MONITORING retrieved for electrical SFP . It displays fake values.

- **Issue TSDrd33531: FM(ETSI):OG line facility retained connected client port aid in absence client port.**

  removal of the client port didn't match with the retrieval of the status of the CONPORTAID field.

- **Issue TSDrd33425: EM(ETSI): INIT-SYS is allowed on OMDX8**

  INIT-SYS should not be supported on OMDX8.

- **Issue TSDrd33462: AID(ANSI): ISU commands are not denied even if the extra blocks are given in command**

  TL1 ISU commands are not denied if extra blocks are given in the command.

- **Issue TSDrd33662: DBM(ANSI):EDIT ACD denied for ANSI facility**

  EDIT ACCESS CONTROL DEVICE (ED-MGRACD) command action denied for ASNI facility.

- **Issue TSDrd33703: LPBK(ETSI) : RTRV-LPBK-STM64 on DWLA client retrieves the loopback on STM64 with wrong output format**

  RTRV-LPBK-STM64 with wrong output format for the DWLA client port STM64.Due to this ZIC is not retrieving the current Loopback status and hence gives the "Parser Error".

- **Issue TSDrd33747: FM(ETSI) : It is possible to Restore the OTU2 under Loopback(i.e. OTU2 with a LPBK secondary state)**

  It is possible to Restore the OTU2 under Loopback (i.e., OTU2 with a LPBK secondary state). It should be denied.

- **Issue TSDrd30814: FM(ANSI) : RTRV-STM64 retrieves OTPORTs in ANSI region**

  The command RTRV-STM64, applied to DWLA, is COMPLD with output parameters in an ANSI environment.

- **Issue TSDrd33852: FM(ETSI):VCG member states are not managed correctly in physical absence of LOA module**

  LO VCG members' states on PP10MS are not managed correctly in physical absence of LOA module.

- **Issue TSDrd31240: FM(ETSI): Some parameters are missing on retrieval of OGClient on CWLA**

  Retrieval of OG client port does not display RSBRSINTVL & RSBRSTTH fields. TCAPROF parameter is reported as UNKNOWN.

- **Issue TSDrd33959: FOADM(ANSI): Client of DWLA10x always OOS-AU even if traffic is working**

  The Primary state of OTPORT-1-1-x-C1 on OC192 is always OOS-AU even if no condition is declared against the facility.

- **Issue TSDrd33748: FM(ANSI/ETSI) : MODE parameter not managed in RMV-GBE10 command**

  Not possible to set MODE parameter for the GNE10 facility (both ETSI/ANSI) Command is denied with IBEX.

- **Issue TSDrd33799: DOSM(ETSI):Logival removal of VCG in NORM mode denied**

  Logival removal of VCG in NORM mode denied.

- **Issue TSDrd33787: DOSM(ETSI):Undesired alarms on just created lower order VCG members**

When VCG has been just created, no cross-connection is in place for members. Some of the VCG members reported with UNEQ-V and rest of all with EBER, VCLOM, RFI. This EBER, VCLOM, RFI. Alarms on members not cleared even after cross-connection (traffic was flowing).

- **Issue TSDrd33765: ALM(ETSI):Service Effecting code for VCG member changed after enter/delete cross-conn**

  VCG members, before cross-connecting them, are in "NSA " condition, as expected. After cross connecting and deleting of the XC, some of the VCG members kept the "SA" condition.

- **Issue TSDrd29727: FM(ETSI): Pulse width timer not restarted after reissuing OPR-ALS command**

  After reissuing the OPR-ALS::STMn:::MODE; the laser remains on, but the pulse width timer is not restarted.

Protection category

- **Issue TSDrd28989: MSP(ETSI): SF on protn raises APSB; FOP does not clear LOCKOUT**

  When LOCKOUTOFPR on MSP is present on the near-end FFP and SF is injected on FarEnd-protection APSB (alarm on K1,K2) is raised due to mismatch between SF and LOCKOUT on the near-end STM4 facility. CURRREQ=FOP (failure of protocol) on near-end FFP is raised due to consequent action of APSB 3. Even though FOP is present, LOCKOUTOFPR is not cleared on the near-end FFP.

- **Issue TSDrd29516: LOA 1+1: MAN command is not maintained after INIT-SYS**

  Performing a manual command to switch from working LOA A to protecting LOA B and then performing INIT-SYS (COLD-FRCD) on LOA A, MAN command is lost.

- **Issue TSDrd33263: UPSR(ANSI): WTR reported on editing RVRTV=N to RVRTV=Y**

  The Wait To Restore (WTR) period should only be initiated when:

  1. The path provisioned is revertive, and
  2. At the time all SF or SD defects on the Preferred path are cleared.

  BUT after editing the RVRTV parameter from N to Y with out any failure on the preferred path, WTR condition is reported (causing a switch from alternate path to preferred one if the traffic was running in the alternate one).

- **Issue TSDrd31618: CONN(ANSI): PSI state set on the PTED & PING leg on the 1WAYPR & 2WAYPR connections.**

  In case of 1WAYPR & 2WAYPR connections, protection switch inhibit is displayed only on ED and ING facilities instead of on the TO one.

- **Issue TSDrd30163: CONN(ANSI) In a 2WAYPR X-Con, the ACTIVE shows PREF when WKSWPR is active**

  When the traffic is switched to the ALTERNATE/WORKING facility in consequence of a failure or external switch request, the current ACTIVE parameter of a 2WAYPR connection should show ACTIVE=ALTERNATE/PREF. Also an EVENT should notify that the selector is on ALTERNATE/PREF by raising WKSWPR/WKSWBK autonomous report respectively BUT It is seen that when a WKSWPR event is notified, the current active parameter of a 2WAYPR shows PREFERED.

- **Issue TSDrd33241: UPSR(ANSI): CURREQ showing as NR when we have EBER on the path facility.**

  After injecting the EBER on the working path facility, traffic is correctly switched, but WRSWPR condition is cleared after injecting the EBER. Because of this condition, CURREQ parameter value shown as NR.

- **Issue TSDrd32454: SDH application, 1850TSS-320: trail protection (SNCP) protec**

(SNCP) - protection switching is not possible (nor Manual, neither forced). Synchronize Switch function does not work.

Connection category

- **Issue TSDrd29093: CONN(ANSI):RTRVCRSSTS command retrieved xconn with descending order**

  RTRV-CRS-STS command retrieves cross connections in descending order (from lowest FROM AID to largest FROM AID) instead of ascending order (from lowest FROM AID to largest FROM AID).

- **Issue TSDrd29843: CONN(ANSI):NE is capable of executing only 9 X-con per second instead of 20 connections**

  NE is able to execute 9 cross connections per second. As per the RRs it should be able to execute 20 connections per second.

- **Issue TSDrd31551: REJ:TSDrd30653::REJ:TSDrd30161::CONN(ANSI):The STS path doesn't show all possible states, if it is involved in multiple 1WAYPR**

  The STS path doesn't show all possible states (i.e., switch condition, IS, OOS), if it is involved in multiple 1WAYPR.

- **Issue TSDrd32697: ZIC : Xconn "Deactivate" option should be removed**

  For a SVLAN Xconn Ingress flow & Egress flow, ZIC displays an option "Deactivate" .When clicked on "Deactivate" it denies saying "Flow is connected". Since connection deactivation is not supported, the "Deactivate" option should be removed from ZIC as it might mislead the user.

- **Issue TSDrd28368: CONN:ENTCRSSTS denied with wrong error code.**

  If this command ENTCRSSTS1 is issued with FROM and TO addressing a different shelf, then the command shall be denied and an error message [ANSI] IPNC Input, Parameter Not Consistent BUT there is a wrong error message: SNVS instead of IPNC.

- **Issue TSDrd28996: CONN(ANSI):EDCRSSTS command modified the CKTIDTF value to CKTID**

  Editing a Xc, if CKTID field is defined and CKTIDTF is not, both will be filed with CKTID.

- **Issue TSDrd32139: DBM(ANSI):KYWDBLK parameter value in REPTDBCHG unpopulated for modify Conn**

  TL1 command ED-CRS-STS should be followed by a REPTDBCHG autonomous message carrying, among all, also the KYWDBLK field, but it is unpopulated.

- **Issue TSDrd32525: CONN(ANSI) 1WAY cross-connection comes to OOS state upon traffic disruption**

  For facilities which are 1 way connected, the cross connection should transit into OOSAU, SGEO state only if the FROM path is in OOS state It is seen that some of the multicast 1WAY connection come to OOS state when the FROM path facility is in IS state.

  Workaround:

  Delete the 1WAY cross connection and recreate it.

- **Issue TSDnm69509: Impossible to split bidir conn into unidir**

  Split of a bidir Xc is not working using TL1 command if the AID is specified with FROM. It works if the command is specified with TO. On ZIC, the issue is not present.

- **Issue TSDrd33649: FM(ANSI): Wrong deny description upon edit the STS facility under Linear FFP**

  Upon editing the STS facility in a linear FFP, command is denied with a wrong description saying that “The UPSR companion facility is not provisioned.” Even though the command is denied, the requested modification is actually performed.

- **Issue TSDrd32185: CONN(ANSI) Wrong state management of a 2WAYPR cross-connection for logical RMV**

  For facilities which are path protected connections, the cross-connection should transit into OOS-AU, SGEO state if the selected (e.g., WRK) path is in OOS state and/or if the associated TO facility is in OOS state (e.g., if the connection is a 2WAY type protection connection). In a 2WAYPR connection, the cross-connection does not transit into OOS-AU, SGEO state when the selected (WRK) facility (OCn/STSn) is logically removed (i.e., OOS-MA).

  Workaround:

  W/A Note: the cross-connection transits into OOS-AU,SGEO when both the facilities (WEST & EAST)are logically removed.

Data category

- **Issue TSDrd31201: CLI+Clienttype: Change of client type from MPLS to ETS for Remote ports is not effective in CLI**

  Change of client type from MPLS to ETS for remote ports is not effective in CLI. message as “already present values.”

- **Issue TSDrd31829: LINKOAM:l2cp_rx_frame and linkoam_max_symberror parameters in LinkOAM are not updated**

  PM on message on linkOAM are not working.

- **Issue TSDrd32541: RSTP: Designated port priority is wrongly reported**

  Priority of the designated port is wrongly reported on CLI (in ZIC it's ok) even if works properly.

- **Issue TSDrd32716: Signaling: the srcport-id and destport-id are still present in the ent-tmpls-tunnel command**

  In the tl1 command ent-tmpls-tunnel the fields srcport-id and destport-id are present while they should not.

- **Issue TSDrd33062: CLI:Showing Static mac for VPlS binded PW command discrepancy**

  CLI Expected Syntax for showing PW static entry in a VPLS lacks of PW ID field.

- **Issue TSDrd33292: VPLS:CLI error while creating a mac for a PW which is not present in ELAN service**

  CLI should display an error message when creating a mac for a pw which is unavailable at the mentioned ELAN service: but if tried twice, it will be showed a message saying mac entry is already present.

- **Issue TSDrd33458: MSTP:Traffic loop for nearly 1-3 seconds during new root bridge election based on MAC address**

  During the root bridge transition there is a traffic loop for 2-3 seconds.

- **Issue TSDrd33477: MSTP: Traffic KO for 1 min upon changing the vlan-MSTI association on root bridge**

  Changing the association of the multiple spanning tree instance with vlan the traffic will drop for 1 minute.

- **Issue TSDrd33559: MSTP: MAC flushing KO on multiboard upon MSTP reconvergence**

  MAC flushing KO on multiboard upon MSTP reconvergence.

- **Issue TSDrd33712: REJ:TSDrd29044::VT+LAG:ZIC allows to bind VT to a LAG (not supported in R3.2)**

  ZIC is not denying to bind a VT to a LAG (binding VT to a LAG port is a feature not supported).

- **Issue TSDrd34281: ZIC does not display SOAM linktrace's test result correctly**

  OAM over PW interworking test between TSS5 (release 7.2) and TSS320 (release 3.2.1 SWP3.21.55), it was observed that the WEB GUI does not display link trace's test result correctly: the format for egress MAC address is not displayed correctly. Issue present only on ZIC, not on CLI.

- **Issue TSDrd34310: EOAM UNP alarm is not getting cleared even after the deletion of EOAM entities like MD,MA,MEP**

  EOAM UNP alarm is not getting cleared even after the deletion of EOAM entities like MD,MA,MEP.

- **Issue TSDrd34320: MSTP: MSTI bridge mac address is not updated when DB is taken from another node**

  MSTI bridge mac address is not updated when DB is taken from another node. The mac address is updated with the previous nodes MAC information.

- **Issue TSDrd34328: MSTP: MSTP convergence gets blocked when continuous MSTP reconvergence is initiated**

  Changing the VLAN-MSTI mapping and then restoring it, the port states may get blocked if the transition time is less than 2 seconds. Ports states are not updated. The time needed to update the port state may vary depending upon network scenario.

  Workaround:

  Wait more than 10s between the transitions.

- **Issue TSDrd32895: Port MRU: Remote Port MRU value can be configured lesser than 1574.**

  Remote Port MRU value can be configured less than 1574 but as per the External spec-320-Ed-4-It-10, configuration is limited between 1574-9242.

- **Issue TSDrd32897: DBM(ANSI):No REPT^DBCHG msg for provisioning changes to GBE10 entity**

  No REPT^DBCHG msgs observed for any parameter change and PST change of GBE10 facility.

- **Issue TSDrd32848: ZIC:Invalid VLAN protocol profile creation:no error message**

  During the creation of VLAN protocol profile through ZIC, when user enters a non-hexadecimal value ethertype or an empty profile name in the vlan protocol profile, the creation doesn't give any error message such as “invalid protocol profile EtherType.”

- **Issue TSDrd32571: Deny check needed for creation of user def vlanprotocol profile with type value less than 600(hex)**

  The system (agent) should deny creation of vlan protocol profile with type value less than 600 (hex), BUT The Ethernet frame with ether type field with value less than 600(hex) will be misinterpreted as length field (Ethernet I) and the frames are discarded

- **Issue TSDrd32646: ZIC+LAG:LAG HASH input default value is selected wrongly in ZIC while creating.**

  When LAG is created, HASH key is set by default to "C000" instead of "EAF0."

- **Issue TSDrd33331: EOAM: Runtime CCM interval modification is effective only after existing CCM timer expiration**

  Changing the CCM interval and then reverting it back to previous value won't clear immediately the EOAM alarm. The alarm gets cleared after 10 minutes.

- **Issue TSDrd32616: ZIC+Static MAC:No option to modify the Static MAC entries.**

  Once created a Static Unicast entry as for any Port & VLAN, it's not possible to modify it via ZIC.

  Workaround:

  Modify it via CLI.

- **Issue TSDrd33273: TMPLS:ZIC: Can able to create Traffic Descriptor CBS,PBS value more than 64MB**

  CBS,PBS max value defined by pop up window on ZIC can be wrongly overcome. An error message is displayed but nonetheless the Traffic Descriptor is created as Inactive TD.

- **Issue TSDrd32589: ZIC_DOSM(ANSI/ETSI):Remove "Last change" parameter from local and remote port**

  Last change parameter on local and remote port is not working: its value is always 1970-01-01 00:00:00.

- **Issue TSDrd32772: Runtime Change of Bridge Default pri is allowed for ETB LAG on CLI**

  Runtime Change of "Bridge Default pri" value is allowed for ETB LAG on CLI. But there is no impact on Traffic. It should be denied.

- **Issue TSDrd33048: FFP: Wrong reporting of current request after deletion & recreation of FFP in remote node.**

  Wrong reporting of the current request after deletion and recreation of FFP in the remote node: condition of the current request is not reset properly at the time of deletion of FFP, and it will be restored once the FFP is recreated.

- **Issue TSDrd33332: EOAM: Possible to modify the VPLS/Vlan id on MA after the MEP creation**

  The modification of Vpls/vlan id associated to a MA containing a MEP on it, should be denied.

- **Issue TSDrd33684: ZIC:accepts vlan id with a special character for pushing.**

  ZIC should display an pop up error as follows: "Invalid value on VLANId."

- **Issue TSDrd33681: ZIC:Mac address is deleted when refreshing the page.**

  Once a MAC has been assigned to a port, refreshing the page shows a pop up error and deletes the created MAC.

- **Issue TSDrd31858: ETHOAM: Creation of MEP with invalid values or alphabets is accepted by CLI and created as MEP 0**

  Creation of MEP with invalid values or alphabets is accepted by CLI and created as MEP 0. It should accept only numbers 0-8191.

- **Issue TSDrd32410: ETS inflow: L2control frames not managed on ETS LAG**

  L2Control frames (tunneling) are not managed on ETS LAG. L2control frames are not dropped when the L2control bits are set to drop.

- **Issue TSDrd33780: ZIC:Disabling admin state for a ETS LAG throws Error.**

  ZIC when disable the admin state of ETS LAG is throwing an Error.

- **Issue TSDnm80340: No check on Traffic desc for PIR values**

there's no check on PIR value inserted on Traffic descriptor configuration.

- **Issue TSDrd31819: LINKOAM+CLI: Maximum or greater value of Threshold for LinkOAM events hangs the CLI**

  Configuring the Errored Frame Seconds Event threshold value above the maximum value, CLI hangs and throws an message "Unreachable NE." CLI gets operational again only after some time.

  Workaround:

  Configure the threshold via ZIC.

- **Issue TSDrd32251: CLI+PM: Not able to deactivate CD & HD counters for Flows (15min & 24h)**

  Not able to deactivate CD & HD counters for Flows (15 min & 24h).

  Workaround:

  Deactivate the counters via ZIC.

- **Issue TSDrd33749: inflow: CLI crash for the retrieval of inflow classifier having range of values**

  CLI gets crashed when the inflowclasifier with range of value is retrieved.

WDM Category

- **Issue TSDrd32994: FM(CWDM): REPT^DBCHG not reported for state change from OOS-AU,AINS->IS-NR on CWLA OG port**

  No REPT^DBCHG message is reported when the state of the CWLA line port changes from OOS-AU,AINS to IS-NR,due to the decrement of the AINS-timer.

- **Issue TSDrd31677: DBM(ANSI):Incomplete DBCHG msg for ent GBE10 belongs to DWLA10X module**

  The REPT DBCHG message for provisioning of GBE10 facility in DWLA10X module does not show PST value (IS-NR or OOS-AU).

- **Issue TSDrd32188: FM(ETSI): Incorrect state shown for the DWLA client facility, when no alarms present**

  On retrieval of STM64 facility (DWLA client), the state shows OOS-AU when it should be IS-NR as there are no alarms or conditions present on the facility.

Alarm Category

- **Issue TSDrd30834: DOSM(ANSI/ETSI):Wrong reporting of VCGPLC in MAU and GBE VCG**

  After having configured two point to point connections with LCAS enabling VCG with 21 members and routing separately 12 VCGs in one way and 9 VCG in another way, a cut on the path involving the 9 VCG has affected on the other path involving the 12 VCG. On the second path the traffic keeps running fine but VCGPLC were raised.

- **Issue TSDrd31470: ALM(ANSI):LOS defect on OTU2 not re-reported after its SST change.**

  Upon LOS condition on OTU2 port NTFCNCDE=MN,SRVEFF=NSA as expected (AINS was deactivated), after provisioning OC192 and STS1 in side that, after SST got changed by cross connection on OTU2, the LOS not re-reported as NTFCNCDE=CR,SRVEFF=SA but after deactivate and activating AINS on OTU2 port, LOS reported with NTFCNCDE=CR,SRVEFF=SA.

- **Issue TSDrd31702: Static: User created Default TUSEG ASAP not assigned to newly provisioned TUSEGs**

  User created DFLT profile should be assigned to every newly provisioned entity, but it doesn't for TUSEG.

- **Issue TSDrd31890: ALM(ANSI/ETSI):Alarm Log file size limited to 1 MB**

  The log file size should be 5 MB (mega bytes), Not persistent (i.e. it is not required to survive NE restart), Circular (i.e. events logging shall wrap the event file and old events shall be overwritten. Alarm Log file size limited to 1 MB instead of 5MB

- **Issue TSDrd32529: ALM(ANSI):SRVEFF not managed on GBE facility for LOS condition.**

  In GBE facility for lOS condition SRVEFF should be "SA" regardless of it SST, but it is not managed.

- **Issue TSDrd32945: DOSM(ETSI):SDMODE enabled LO-VCAT doesn't fail its member when signal degrade condition.**

  The Signal Degrade Mode indicates if the signal degrade on the constituent member of the VCG contributes to its fail condition The mode is valid only when LCAS is enabled. However, LO-VCAT doesn't fail its member when there is a signal degrade condition: SDBER alarm is reported but the VCGs do not report VCGPLC condition and there is also no impact on traffic.

- **Issue TSDrd33377: FM(ETSI):Remove SSBITS parameter from STMn facility.**

  Retrieve STMn facility by using TL1 command RTRV-STMn shows SSBITS parameter, but it should not.

- **Issue TSDrd33788: DOSM(ETSI):Making ACTSTE=IDLE on lovcat member caused UNEQ-V defect**

  After making ACTSTATE=IDLE on VCG on local node, corresponding remote VCG members receive UNEQ-V condition.

- **Issue TSDrd33960: DOSM(ANSI):Backward CSF does not persistent with module plugout/plugin**

in front of a detected SDH AIS, a VCG forwards a CSF alarm. It can also be sent backward a CSF alarm. These two alarms are not correctly managed.

- **Issue TSDrd33226: DOSM(ETSI):LOP-V condition on LO-VCAT members**

  After increasing VCG size from 21 to 63 members (21 are cross connected and without alarm),22nd and 43rd members of the VCG reported with LOP-V alarm and UNEQ-V instead of UNEQ-P (High order). All remaining members reported with UNEQ-V (low order) alarm.

- **Issue TSDrd33313: SNCP(ETSI):WTR is not cleared on new time, if the RVRTTIM is set to some valid value**

  WTR is not cleared on new time, when the RVRTTIM is reset to some valid value. If the current state is WTR and RVRTTIM=1 and then RVRTTIM is set to new value, say, 2 minute, WTR will be cleared in 1 minute time.

- **Issue TSDrd33024: ALM(ETSI):Condition log omitted STM16 condition of CWLA module under aidtype STM16**

  Condition log omitted STM16 condition of CWLA module when retrieved under aid of STM16 (RTRV-COND-LOG::STM16), but it was retrieved along with AID of ALL with AIDTYPE as OGPORT (RTRV-COND-LOG::ALL).

- **Issue TSDrd32714: DOSM(ETSI):SSF condition on LOVCAT reported along with LOA**

  Some of the VCG of type LOVC12 carried VCGLOA along with a faked condition: VCGSSF,after activating members.

- **Issue TSDrd31904: ALM(ETSI):User Defined ASAP profile not effective on VC4 facility**

  User Defined ASAP profile not effective on VC4 facility.

- **Issue TSDrd32998: DOSM(ANSI):Undesired GFPEXM on GBEVCG.**

There was point to point connection between two Non-LCAS VCGs with 21 ACTIVE members on both side, after disabling 9 members on one end VCG, other end VCG reported GFPEXM instead of GFPLOF.

- **Issue TSDrd32726: ALM(ETSI):Retrieve profile not shown assigned VCGLOVC3 entity**

  VCGLOVC3 entities assigned with system default alarm profiles cannot be correctly retrieved specifying USERLABEL=LBL-ASAPLOVC3-SYSDFLT

- **Issue TSDrd31929: ALM(ETSI):User Defined ASAP profile not effective on GBE10 facility**

  ASAP profiles created and assigned by user for GBE10 of DWLA10X module entity are not effective: After changing the NTFCNCDE, LANLOS alarms are not re-reported.

- **Issue TSDrd33079: ZIC: Runtime change of ASAP is not allowed in LAG**

  Runtime modification of ASAP is not allowed for LAg on ZIC. ASAP can be only modified during LAG is Admin down.

- **Issue TSDrd31705: ALM_XCOM(ANSI):User Defined ASAP profile not effective on LANFAIL Alarm**

  a LANFAIL alarm (with default ASAP profile) is reported as MN. Creating a new ASAP profile and defining the LANFAIL as CR and assigning it to the NE doesn't change the report of the alarm, still MN,SA instead of CR,SA

- **Issue TSDrd33366: DOSM(ETSI):Failed lovcat member carried Differential delay in out of range**

  The Differential delay measured by TL1 MONLCAS command on failed member shows different values on each retrieval and these values may be out of range. Differential delay is a parameter calculated with respect to the Virtual Concatenation group Master channel (given in CHFRDIFFDLY parameter), and it is measured in milliseconds (DIFFDLYRX= {0-64}).

- **Issue TSDrd33023: DOSM(ANIS):Hierarchy of the VCG conditions are not managed**

  The hierarchy of VCG conditions should be as follows in descending order

  VCGURU

  VCGLOA

  VCGSSF

  VCGRFI (only applicable with LCAS, does not hide further conditions)

  VCGPLC (only applicable with LCAS, does not hide further conditions)

  VCGPLM

  GFPLOF

  GFPEXM

  GFPUPM

  GFPCSF

  But the Observed Behavior is that a VCGLOA condition on VCG is cleared by VCGSSF and same behavior was observed for GFPUPM and

  GFPCSF

- **Issue TSDnm66426: Granularity not sent for UAT alarms**

  Inconsistency between RPT ALM and RTRV ALM ALL. On autonomous RPT alarm, it is specified what time period the TCA refers to (i.e., 1DAY). On RTRV ALM ALL this information was missing.

- **Issue TSDrd33427: ALM(ETSI):User Defined ASAP profile not effective on VC4 facility**

  There was user created ASAP profiles for VC4 entity and it was assigned. After changing the NTFCNCDE for the any VC4 alarms, the alarms are not re-reported.

- **Issue TSDrd33557: ALM(ANSI):Alarms on OTU2 facility not reported autonomously**

  There was OTU2 facility provisioned with user created ASAP profile. After modifying the profile, LOS condition not re-reported autonomously, but RTRV-COND-OTU2 carried the changed notification code value.

- **Issue TSDrd33549: ALM(ETSI):Alarms on OTU2 path facilities reported with wrong format**

  Clearing of UNEQ-P condition on STS1 cross connections belonging to OTU2 were reported with aid generically as 'MDL' and instead of reporting REPT ALM STS1, was reported with REPT ALM VC4.

- **Issue TSDrd33448: ALM(ANSI):Retrieve profile not shown assigned TUSEG entity.**

  There was TMPLS TUSEG entities assigned with system default alarm profiles. The retrieve profile not shown these entities in the list when we retrieved with ASAPTYPE=TUSEG but it is working with USERLABEL, ASAP-AID.

- **Issue TSDrd33691: ZIC:RACK state not managed correctly**

  The PST and SST values of RACK are not shown in the home window.

Performance monitoring category

- **Issue TSDnm80541: TSS320: validity wrong if card plug out**

  Setting two NTP servers on the NE, the NE switch from server to the other having as consequence a not correct PM report. Removing one server from the NTP configuration the validity is correctly reported.

- **Issue TSDrd28671: PM ANSI: increment ahead time not OK**

  Changing the time, the current measurement period shall be closed immediately and the current registers values saved into the history data. BUT after 15min expired the data is lost.

- **Issue TSDrd29891: PM (ETSI): ED-TH-PROF with THLEV and w/o MONTYPE-TMPER should be denied.**

  ED-TH-PROF (threshold profile) should be denied if the command is issued with THLEV parameter but without setting the related MONTYPE-TMPER parameter (TimePeriod type).

- **Issue TSDrd29969: PM LO:Wrong management of history PM after NE time change (ETSI)**

  If the NE clock is adjusted ahead increasing it, the history PM related to the impacted time interval is missing also in DB. The time period impacted by the change is however reported correctly with PRTL validity flag.

- **Issue TSDrd30121: PM DATA inflow counters: sometimes Frame SIZE is with decimals**

  Sometimes the Octets/frames size reported in the PM counters give a value with decimals.

- **Issue TSDrd31586: REJ:TSDrd29789::PM : EINF - EINB local port aggregate current data incoming counters are not correctly reported**

  EINF (Ethernet incoming frames)- and EINB (Ethernet incoming byte) counters on ingress ETS port involved in a P2P Xc are not correctly reported.

- **Issue TSDrd31754: PM+ZIC: Creation of 15m/24H Performance Monitoring throws an error message in ZIC.**

  Creation of 15m/24H Performance Monitoring is not possible in the ETSinflow.

- **Issue TSDrd33483: CurrentData CLI cmd gives error for Port & Flow counters.**

  CLI command show of the CD counters for Port and Flows doesn't work. No display.

- **Issue TSDrd33599: PM: PM global file descriptor have rel 3.00.00 instead of 3.02.00**

PM global file descriptor file is showing indication of release 3.00.00.

- **Issue TSDrd33775: PM(ETSI):RTRV-PMMODE-OTU2 retrieves the values in different lines (if TMPER=BOTH & PMSTATE are same)**

  If the PMMODE is retrieved for both 15-MIN and 1-DAY (means TMPER=BOTH) and the PMSTATE for both are same, they are reported separately (in two lines).

- **Issue TSDrd29676: PM : TTO not correctly reported**

  Maintenance TX PM counters reports (egress port) wrong TTO value (lower than expected).

- **Issue TSDrd33050: FM(CWDM): PMMODE does not change to MON after AINS timer value reaches 0 on CWLA client port.**

  Even after the AINS timer is decremented to zero, the state of the CWLA client port doesn't to change to IS-NR.

- **Issue TSDrd33547: PM (ANSI): UASS not managed for OC192 in system/user defined TCA profiles**

  UASS montype should be supported for OC-192 facility but it is not managed in the system defined and user defined TCA profiles for OC-192 facilities. It is also observed that UASS is correctly managed for OC-12, OC-3 and OC-48.

- **Issue TSDrd33600: PM: Reporting fake PMGLBREADY autonomous message without creating the global file.**

  PMGLBLREADY report is wrongly reported in case PM global file creation is started twice, without waiting the correct reporting of the first creation. The Copy of the global file to RFS server will consequently fail as "PM Global files does not Exist". Actually collecting the PM global file is not stopped (even if not reported). After some time it is possible to copy the file to RFS server successfully.

- **Issue TSDrd33598: TL1: PMGLB commands not denied if the Extra input Blocks are given**

  Giving the STA-PMGLB with extra blocks like STA-PMGLB:::::::; is completed successfully. Giving the RTRV-PMGLB-STATUS with extra blocks like rtrv-pmgLB-STATUS:::::::; is completed successfully.

- **Issue TSDrd33781: ZIC+TMPLS:PM counter time period15min retrieve option is not available for TUSEG/PWSEG.**

  In ZIC,PM retrieve do not have an option for retrieving PM counters for 15 min.

Management category

- **Issue TSDrd29430: XCOM(ANSI): LAPD bouncing during SW download only if the FTP server is a Linux Machine**

  During SW download, LAPD, that carries traffic on, goes periodically down and up. The interval of LAPD failure varies between 50 seconds and a couple of minutes. The download process survives the interface failure. This problem is only experienced when the FTP server is a Linux Machine.
- **Issue TSDrd29499: XCOM(ANSI): MASK of loopback Address is always /32 in spite of user's configuration**

  PLATFORM can not manage MASK different from 255.255.255.255 about loopback address (host_id); so reporting and accepting an other MASK might be misleading for the user.

- **Issue TSDrd29514: DBM (ANSI/ETSI): REPT^COPY^RFILE autonomous msg: commas omitted**

  COPY-RFILE command should have an autonomous message response with a particular format, with commas among optional parameters: BUT mandatory commas among optional position-defined parameters are omitted.

- **Issue TSDrd29547: ANSI CTLC: SWDWN on FLC stan-by**

Pressing Standby FLC reset button States of the Standby FLC should be reported SWDWN. After downloading software state changes to IS, STBYH and the LED colors should be amber and green. BUT No SWDWN report by TL1.

- **Issue TSDrd29733: XCOM(ANSI): ri_dum_grt reports unexpected number of entries**

  ri_dum_grt (debug command) should display also a list of all IPoverCLNP tunnels. It reports unexpected number of entries.

- **Issue TSDrd29901: UITS DCC dependent on US/NS**

  When provisioning DCC with L3QOS=UITS, one NE must be provisioned with L2SIDE=USER and the other NE must be provisioned with 2SIDE=NETWORK. If both NEs are provisioned the same, DCC will fail. This will be a silent failure, meaning there will be no alarm or condition reported

- **Issue TSDrd30983: REJ:TSDrd29302::tl1 and ftp via IP Tunnel drop due to slow osi re-routing (with fiber cut)**

  The tl1 and ftp via IP Tunnel drop due to slow osi re-routing (with fiber cut).

- **Issue TSDrd31202: XCOM(ANSI): FLC reboot on issue of RTRV-TARPCACHE after RTRV-TARPLDB deny**

  RTRV-TRAPCACHE command reboots FLC.

- **Issue TSDrd33144: DBM(ANSI) : % completion not reported in the REPT^COPY^RFILE for STBYDB to RFSDB transfer**

  Copying the database from NE to local PC doesn't report %COMPLETION neither the final completion report.

- **Issue TSDrd33442: IPv6 pass through with the IPv4DSCP classification**

  IPv6 is not discarded at TSS160/320 with IPv4 classifier.

- **Issue TSDrd33463: EQPS(ANSI): FLC switch not taking place after initiating the switch duplex on EC320**

  After switch duplex, observed that EC320 slot 1 is ACTIVE and EC320 in slot 20 is STANDBY. Same PST states are shown before and after SWITCH duplex.

- **Issue TSDrd34318: ZIC: FLC/SLC/LDC sw version is cut**

  FLC/LDC/SLC sw version showed by ZIC in the FW/SW version field is not displayed in complete way: the last characters are missing.

- **Issue TSDrd32803: In ZIC second DB entry is not requesting to update ELAN service option**

  In ZIC, while creating a second filtering DB entry without editing ELAN service of previous entry is not throwing. Any error msg however the second DB is not created its displays DB entry is created.

- **Issue TSDrd31449: XCOM(ANSI): RTRV-NSAP with L1ROUTID not showing the TID values**

  L1ROUTID This function retrieves the NSAPs and the TIDs of all the reachable Level 1 ISs within all the areas, the NE is part of, including NEs and Gateway NEs. BUT RTRV-NSAP with L1ROUTID not showing the TID values.

- **Issue TSDrd32461: DBM_XCOM(ANSI): After XCOM DB UPLOAD the Default route not shown in the RTRV-NE-IPRT**

  TBUS module shall contain a copy of FLC XCOM data. At the NE restart, if FLC deep switches are in the NORMAL position, FLC data shall be copied to TBUS. At the NE restart, if FLC deep switches are in the UPLOAD position, TBUS data shall be copied to FLC.BUT After Keeping the DIP switch in UPLOAD position, the default route learnt is not shown in the RTRV-NE-IPRT.

- **Issue TSDrd33304: ZIC_XCOM: Not possible to set the Gateway MAP with the Special Characters within the NETID field**

  With TL1 it is possible the set the Gateway MAP with the NETID which has special characters within. (for example "ABCDEFGHG1234%^&*") But when you try to configure the same using ZIC (COMMUNICATION >> NETWORK DOMAIN >> GATEWAY MAP TABLE), the Error message comes with "REQUEST MESSAGE IS NOT IN EXPECTED FORMAT" Obviously the MAP created with such NETID using TL1 are not able to get deleted with ZIC page.

- **Issue TSDrd32828: XCOM(ANSI): TL1 session over OSI is KO (DCC over OC192, DCC-S over LAPD)**

  The command shall support the following input parameter and input parameter value and format. TID <VALID TID VALUE> <1-40 HEXADECIMAL NSAP CHARACTERS> Default: <SID> Addressing: None description: Target IDentifier, identifies the network node TID for the command but the NE is not accepting NSAP while CANC-USER with NSAP. (works well with SID).

- **Issue TSDrd33311: ZIC_XCOM: Retrieval of NSAP using ZIC not showing NETID with "" when TID is having spl. characters**

  If the SID has the special characters within then Retreival of NSAP with TID using ZIC not showing the NETID with double quotes ("").

- **Issue TSDrd33372: XCOM : RTRV-NE-IPRT shows the routes learnt via IFIB (inconsistent behavior in different types routes)**

  Routes are not managed by RTRV-NE-IPRT for the entries learnt via IFIB (due to lack of the AID). Consequently routes should not be (direct or over dynamic) shown by RTRV-NE-IPRT.

- **Issue TSDrd33121: XCOM_ANSI:RTRV-NE-IPT shows REMOTE TID for tunnel made with FAKE NSAP values**

The retrieve of NE-IPT should omit in the reply response the Remote TID information if this cannot be resolved. RTRV-NE-IPT shows the TID of the NE even if the NSAP given while creating the IPT was Fake.

- **Issue TSDnm75787: Tss320v.3.0:question mark not managed by ZIC**

  Question marks are not accepted in SID definition.

- **Issue TSDrd31384: TSS160C: EML Constructor user cannot execute mib backup and software download**

  ZIC using operator constructor of EML is not able to execute MIB backup and software download. Same operations are possible directly by EML. Functional Access Domains (FAD) should be synchronize with EML in order to allow Constructor to execute MIB backup and Software download. Opening ZIC via EML with operator and viewer profile it is possible change admin password from ZIC Giving a look at FAD, ED_PID is allow for admin constructor operator and viewer while it should be available only for admin and constructor.

- **Issue TSDnm66260: Wrong DLT-NTP-ADDR TL1 command syntax**

  Manager is waiting IP=X instead of NETADDR=X.

- **Issue TSDnm69831: can not supervise NE when NE SID has :**

  Cannot supervise Alcatel-Lucent 1850 TSS 320 with SID set in double quotes".

- **Issue TSDnm75781: TSS320v3.0:\ characters not managed from ZIC**

  \(back slash) character should not be managed in setting the SID. But it works.

- **Issue TSDrd31008: NTP server can not be deleted via ZIC**

When deleting a NTP server via the ZIC menu, you will get an error message "Input Parameter not valid " (see attachment). The same error message appears, when using the TL1 command " DLT-NTP-ADDR::::::NETADDR=<IP address of NTP server>

Workaround: To get rid of the NTP server, the TL1 command "DLT-NTP-ADDR::::::IP=<IP address of NTP server> has to be used.

- **Issue TSDrd33661: DBM Ansi-Etsi: Modify SID and DB-LABEL**

  Backup DB, then change SID. This action should change the label of DB, BUT retrieving the label of DB shows it is not changed.

- **Issue TSDrd34309: Activation date and time is missing**

  After installation of R3.2.1 or after a upgrade to R3.2.1 the fields "Activation date" and "Activation time" are missing.

- **Issue TSDrd30836: TARP TID to NSAP request from ACT-USER does not wait for TARP T1 Timer to expire.**

  TARP T1 Timer is listed as 15 seconds, but ACT-USER request fails in a few seconds, not waiting the TARP T1 timer.

Security Category

- **Issue TSDrd29505: SECU (ANSI): CLI login/logout events not stored in SECU log file**

  CLI login/logout events are not stored in SECU log file.

- **Issue TSDrd33447: SECU(ETSI):Facility protection switching events are not logged in security log**

  Facility protection switching events are not recorded in security log for ETSI (ANSI is working).

External Communication Category

None.

Synchronization Category

- **Issue TSDrd30547: REJ:TSDrd30017::SYNC(ANSI):SYNCREFFAIL on ext ref upon matrix sw**

  Matrix switch on a node A providing a sync reference via BITS to another node B (locked to this clock) will cause a syncref failure on the second node B. It will last a couple of minutes.

- **Issue TSDrd31250: SYNC(ANSI):SYNCREFFAIL on reference after matrix switch**

  SYNC on reference moves temporary from LOCKED to FAIL, after matrix switch.

- **Issue TSDrd32513: TODS:Wrong NTP server management when more than one NTP server are configured**

  Assigning to a NE two NTP servers, NE starts to jump from first NTP server to second NTP server, passing by HOLDOVER status and back in a loop.

- **Issue TSDrd30017: SYNC(ANSI):SYNCREFFAIL on ext ref upon matrix sw**

  After performing matrix switch, there could be a transitory synchronism reference failure on T4 output, cleared autonomously after 2-3 minutes.

- **Issue TSDrd29549: SYNC(ANSI):Wrong adaptor value for 1,5Mbit signal.**

  Software shall be able to check the following identifier types:

  No external adapter, compatible with SDH 2-MHz/2-Mbit signal and SONET 1,.5-Mbit signal, [ANSI] wire wrap adapter, compatible with SONET 1.5-Mbit signal. But, retrieving BITS and BITSOUT, adaptor value is mantained as NOADAPT instead of wire-wrap adapter.

- **Issue TSDrd29797: SYNC(ETSI):Frequency off set of 20ppm causes MISC-1 and MTXLNKFAIL conditions.**

  NE with locked onto one line reference. Changing frequency off set of this line reference to 20 ppm causes SLTMSIG on line reference and MISC-1 and MTXLNKFAIL conditions on matrix.

- **Issue TSDrd30548: SYNC(ANSI):Switching between two references caused MISC-1 condition.**

  Node A LOCKED via external reference to another node B falls in MISC-1 condition when changing the quality of the reference in node A or after a failure. The failure is recovered after a couple of minutes.

- **Issue TSDrd32925: EM (ANSI): Remove SSBIT parameter from EC320-1-1-20**

  SSBIT parameter is applicable only for IO modules and it should not be managed on EC320 module BUT currently SSBITS attribute is managed on EC320-1-1-20 module. It was decided that there will be no denial if SSBIT is entered for equipments that do not support it. But SSBIT cannot be retrieved for other equipments than 10GSO, 2G5SO, 8XSO, 10XANY, OT2TDM.

- **Issue TSDrd31395: Ext. Synch not converted with 1.30.14 migration tool**

  Assignment of EXTREF to BITS is twisted by the conversion tool 1.3.14 when both external timing references are used in R1.4A13.Thus TL1 command fails to implement the ext. timing sources in R3.0.This leads to heavy pointer justification events until @ the external timing references are implemented manually in R3.0.

- **Issue TSDrd29417: (Sync)-RMV-EQPT::SFPxxx ,used for Sync, with NORM mode show wrong “error message”**

  Now logically remove the line timing reference with NORM mode(Result:Command is denied with error message SROF: Status, Requested 0peration Failed Equipment is in SDEE state , but the correct error message should be SNVS.

- **Issue TSDrd33851: SYNC(ETSI):EDBITSOUT denied with wrong error code**

  If the command is issued with FMT equal to 6.3 MHZ and the provisioned type of the Power Supply board is not the Japanese type (PROVISIONEDTYPE not equal to PSF320JP), then the command shall be denied with the following error code (and error reason) SNVS Status, Not in Valid State. But ED-BITS-OUT command with FMT=6.3MHZ is denied with error code IDNV.

Control plane category

- **Issue TSDrd31119: Routing: Wrong deny message in case of change about IPADDR with TE-LINK configured**

  In a control plane environment, once the TELINK is configured, TL1 commands to change loopback configuration ED-TMPLS-CPGLOBAL gives a wrong deny message.

- **Issue TSDrd31177: Routing: Maximum Reservable Band Width of a TE-LINK is not managed**

  Maximum Reservable Band Width of a TE-LINK is not managed.

- **Issue TSDrd32280: CP:after a power off/on the tunnel shoves a wrong Hop List-ID**

  In Control Plane context, a tunnel is configured. after a power off/on, Hoplist and restored Hoplist fields don't match.

- **Issue TSDrd33076: Signaling: the TL1 command rtrv-cp-hoplist is still present in the command menu**

  rtrv-cp-hoplist should not be available. Even if present, the command shows wrong information.

- **Issue TSDrd33586: Signaling: Missing data for ROUTE=COMPUTED option of RTRV-TMPLS-TUNNEL.**

A rtrv-tmpls-tunnel with option ROUTE=COMPUTED command applied to a working tunnel should display the path computed, but the command with option ROUTE=COMPUTED is empty.

- **Issue TSDrd33651: Signaling: An ADMIN=OFF tunnel is removed from transit/tail nodes in case of signaling failure.**

  In front of a LOS alarm on the port involved by a tunnel a different system behavior will be detected on the head and tail nodes. On the head node the tunnel is in LOST condition as it must be. On the tail and transit node the tunnel is missing, instead the tunnel should be present in LOST condition.

Restrictions

Known restrictions in Release 3.2.7

External Communication Category

- **Restriction TSDrd44227**

  Interworking with TSS-3 using more than one IFIB provisioned on a single 10x1G Packet Module card is not supported.

Known restrictions in Release 3.2.6

No new known restriction in this release

Known restrictions in Release 3.2.5

No new known restriction in this release

Known restrictions in Release 3.2.4

Equipment Category

- **Restriction TSDrd38775**

  For electrical module coming from older releases, it possible to provision the speed to 10 Mb, even if this speed is not supported.

- **Restriction TSDrd38462**

  In case inserting the spare FLC the board does not become active after more than one trial, restart the active FLC before reporting the spare FLC as broken.

  Workaround:

  Restart the stand-by FLC.

- **Restriction TSDrd38805**

  Migration of OTU-2 board is NOT supported.

- **Restriction TSDrd39020**

  Modify from PPGE (10x1GE PM) to PPGESY (10x1GE PM SYNCH) and from PP10GE (1x10GE PM) to PP10GESY (1x10GE PM SYNCH) is supported. However, Modify from PPGESY to PPGE card is not allowed, even if it is not denied.

  Workaround:

  The correct procedure to change back from a PPGESY to a PPGE card, if needed, is to delete the old card and to re-create the new one.

Facility Category

- **Restriction TSDrd38959**

  It possible (on electrical SFP module migrated from an old release) to configure half Duplex mode with speed 100 Mb.

Protection category

None.

Connection category

None.

Data category

- **Restriction TSDrd37350**

In case of IWI port interworking realized via a LAG port, the creation of Down MEP on the IWI port is not supported, and prevents the UP MEP connectivity on the UNI i/f.

- **Restriction TSDrd37452**

  The automatic disabling of the transmission of CCM is not supported upon Traffic Disable configuration. Moreover the automatic deletion of the MEP is not supported upon Down Port command.

  Workaround:

  Before to set the traffic disable or to set the port down, it necessary to disable the UP MEP.

- **Restriction TSDrd37914**

  The deny of the creation of a Down MEP with VLAN 0 on MPLS i/f is not supported.

- **Restriction TSDrd39416**

  The ID of an FFP cannot be assigned at creation. The ID must be assigned when the FFP already exists.

WDM category

None.

Alarm category

- **Restriction TSDrd39089**

  The retrieve of the Conditions list using in the filter with exactly the same values as start and end dates, doesn't get the list of TDM conditions.

Workaround:

Set different values in start and end field.

Performance monitoring category

- **Restriction TSDnm90826**

  In case of GNE a static route must be added connecting the Q interface by NMS in order to collect the PM file.

  Workaround:

  Add on NMS a static route to reach the Q interface of NE.

Management category

- **Restriction TSDrd37414**

  "Don't care" classifier is not supported for IFIB traffic.

  Workaround:

  Assign to IFIB traffic a classifier different than Don't care.

- **Restriction TSDrd37720**

  The ifAdminStatus event is not managed. I.e. when data port state change from UP-DOWN or DOWN-UP, no notification is sent to PKT.

Security category

None.

External communication category

- **Restriction TSDrd38571**

  Setting only the INTISIS parameter = N, routes are still propagated from GNE to RNE.

  Workaround:

  To disable routes propagation it is necessary to set to N both the INTISIS and the OSI parameters.

Synchronization category

- **Restriction TSDrd36376**

  When plugging-in several cards, you must wait at least ten seconds between each insertion.

Control plane category

None.

Resolved restrictions in Release 3.2.7

No new resolved restriction in R3.2.6

Resolved restrictions in Release 3.2.5

No new resolved restriction in R3.2.5

Resolved restrictions in Release 3.2.4

Equipment category

None.

Facility category

- **Restriction TSDrd37254**

  The following restriction is removed:

  Before deleting a VCG all the member should be in IDLE state.

Protection category

None.

Connection category

None.

Data category

None.

WDM category

None.

Alarm category

None.

Performance Monitoring category

None.

Management category

None.

Security category

None.

External Communication category

None.

Synchronization category

None.

Control plane category

None.

Known restrictions in Release 3.2.3

Facility category

- **Restriction TSDrd37308**

  The PROVMBRID parameter for VCG is in restriction.

  Workaround:

  Use the NUMPATH parameter.

- **Restriction TSDrd37254**

  Before deleting a VCG all the member should be in IDLE state.

Management category

- **Restriction TSDrd37297**

  Advertised static routes are not cleared immediately after the Static routes are deleted, but take some minutes.

Resolved restrictions in Release 3.2.3

None.

Known restrictions in Release 3.2.2

Equipment category

- **Restriction TSDrd35502**

  Each MS Packet Module card can be crossconnected to one single LOA10G card (N:1 relationship); one LOA card however can be crossconnected to different MS cards (1:N relationship).

- **Restriction TSDrd41037**

  LOA on slot 34 and 35 can manage only 8.75Gb/s LO traffic instead of 10Gb/s

  The maximum throughput reachable for LO cross-connections is therefore 37.5 Gb/s on TSS320 and 17.5Gb/s on TSS160

- **Restriction TSDrd35533**

  NE power-on sequence is not supported if there is a toggling LOS on a TDM i/f with a frequency equal or greater than 1s.

- **Restriction TSDrd35820**

  You must wait at least 1 minute between the extraction and subsequent insertion of the FLC; the ready status is signaled by the EPS LED switch off.

  You must wait at least 1 minute between the insertion and subsequent extraction of the FLC; the ready status is signaled by the EPS LED switch permanently on (not flashing).

- **Restriction TSDrd36257**

  The NE in full load Data configuration with the maximum number of services configured can take up to 2 hours to complete a power-on cycle or an EPS operation.

- **Restriction TSDrd36294**

  The management of HWFAIL alarm for a Matrix board with power problems at the insertion is not managed. However, the board does not go IS, as expected.

- **Restriction TSDrd36239**

  The NE does not support HD failure detection at FLC insertion. In this case, the FLC does not go in service. HD failure detection during normal functioning is supported.

Facility category

- **Restriction TSDrd37072**

  Deletion of a 2F-MSSPRing protection group in switching status is not supported. If performed, the AU4 used on the spare bandwidth remain in UNIQUIP status, therefore they are not available anymore. If the protection group is delete when it is NOT in switching status, no issue arises.

  Workaround:

  Two workarounds are possible:

1. Re-create the same MS-SPRing group, put the group in IDLE, and only then cancel the group.

2. In alternative to 1, you can extract and re-insert the board.

Protection category

- **Restriction 3.2.2-0002**

  LOA EPS1+1 protection has less than 50ms of traffic hit.

Connection category

None.

Data category

None.

WDM category

None.

Alarm category

- **Restriction TSDrd36102**

  The maximum number of ASAP profiles is 385 instead of 500.

Performance monitoring category

None.

Management category

- **Restriction TSDrd35517**

The feature for changing the System ID of the OSI address is not part of this release.

- **Restriction TSDrd36722**

  Migration from R3.x to R3.2.2 is available with the following note:

  RTRV-ASAP with type ALL is not working from ZIC.

  Workaround:

  Retrieve of the ASAP for the single facilities is available.

- **Restriction TSDrd36544**

  It is recommended to open no more than 3 concurrent ZIC windows, to have timely responsiveness by the NE.

- **Restriction 3.2.2-0001**

  After SW pack activation it is mandatory to clean the ZIC web browser cache.

Security category

- **Restriction TSDrd35781**

  NE takes long time to display the Security logs if the logs are nearly 10MB (Max UPSLG Value). During this time, the session may appear inaccessible because of continuous log display or due to intensive log file accessibility.

External communication category

- **Restriction TSDnm84514**

  In case of iIS-IS enabled on the Q-LAN interface, long SNMP packets could be randomly lost, for the matrices with the following codes: 3AL92108AA**, 8DG08044AA**, 3AL92108AD**.

Workaround:

Re-send the packet.

- **Restriction TSDrd35576**

  OSPF is in restriction.

- **Restriction TSDrd35620**

  The XCOM DB backup restoration using the DIP switch does not support retrieval of IFIB configuration.

  Workaround:

  1. When changing an FLC, make sure you are in 1+1 protected configuration. In this case the IFIB parameters are preserved.

  2. Perform DB restore via command.

Synchronization category

- **Restriction TSDrd36606**

  The NE supports the change of the board PROVISIONEDTYPE from PP10GESY to PP10GE, even if it is used as synch source.

- **Restriction TSDrd36978**

  The NE does not support the FORCED command of the external 2-MHz / 2-Mb/s synchronism in case of drift of the synch source outside the -/+4.6ppm range.

  Workaround:

FORCED command must be used only for maintenance activities, when the synch source connected as T3 is stable, and released as soon as the maintenance is completed.

Control plane category

- **Restriction TSDrd36828**

  Control Plane protection set-up is in restriction.

Resolved restrictions in Release 3.2.2

Equipment category

None.

Facility category

- **Restriction TSDrd32954**

  The following restriction is removed:

  Facility and terminal loopbacks are not supported on DWLA client facility.

- **Restriction TSDrd33019**

  The following restriction is removed:

  CWLA transponder is in restriction.

Protection category

None.

Connection category

None.

Data category

- **Restriction TSDrd31231**

  The following restriction is removed:

  The Spanning Tree Network Element Priority zero in R1.4 is in fact configured as 32768. Upon migration, the Priority is seen as the actual and correct value 32768.

- **Restriction TSDrd33604**

  The following restriction is removed:

  Default Root port election is based on the MAXMBR bandwidth and it doesn't depend upon the no. of Active members in the VCG. For example, the vcg MAX member is 21 (Bandwidth= around 1Gbps] and the active member is 9 (bandwidth=450 Mbps), the Default root port should be elected as per the active member bandwidth irrespective of the max member. The problem is observed on LCAS disable.

- **Restriction TSDrd33783**

  The following restriction is removed:

  PM counter is not available for LAG bound with VPLS.

WDM category

- **Restriction 3.2.1A-0004**

  The following restriction is removed:

  The DWDM transponder is not supported.

Alarm category

- **Restriction TSDrd33552**

  The following restriction is removed:

Editing of ALMPROF for OTU2 facility on OT2TDM module is not allowed.

Performance monitoring category

None.

Management category

- **Restriction TSDrd33790**

  The following restriction is removed:

  Migration from R3.1A1 to R3.2.1 is available with the following notes:

  1. For the already installed GBE ports, the Synch Eth SSM is enabled in output. To enable it, the command mode must be forced (CMDMDE=FRCD).

  2. The AINS threshold is reset to 8 hours instead of 1 minute. The retrieve reports 0. The value must be reset on the facilities.

- **Restriction TSDrd32448**

  The following restriction is removed:

  Default route propagation takes > 10 minutes to get advertised on RNE when Q-gateway is modified.

- **Restriction TSDrd33736**

  The following restriction is removed:

  Default route is lost after migration.

Security category

None.

External communication category

- **Restriction TSDrd33739**

  The following restriction is removed:

  In case an Alcatel-Lucent 1850 TSS-5 managed through the Alcatel-Lucent 1850 TSS-320 as TTD gateway sends a TL1 DENY response, the connection with the TSS-5 is lost, due to a wrong format of the Alcatel-Lucent 1850 TSS-5 DENY response message, in case Alcatel-Lucent 1850 TSS-5 is equipped with VLNC2.

Synchronization category

None.

Control plane category

None.

Known restrictions in Release 3.2.1A / R3.2.1B

Equipment category

- **Restriction 3.2.1A-0009**

  To run the current SW release, the Second Level Controller hosted on the Matrix board needs 2GBytes of memory. Matrix board versions mounting SLCs with less than 2GB will not start-up.

- **Restriction 3.2.1A-0010**

  The support of CWDM 10G XFP modules is available on STM64 board (1X10G SYNC OPTICAL 3AL92111AA**) starting from ICS04.

- **Restriction 3.2.1A-0011**

  The Packet Module cards must be put in out of service before physical plug out.

Facility category

- **Restriction TSDrd29755**

  Path label mismatch on VCG lower order is not supported.

- **Restriction 3.2.1A-0012**

  Autonegotiation: remote capability (pause frame) is not available.

- **Restriction TSDrd32474**

  CWLA is not supported in ANSI Environment.

Protection category

- **Restriction TSDrd25991**

  WTR time and HOLDOFF time for VCAT services are not managed.

- **Restriction 3.2.1A-0013**

  EPS protection is not performed in case of internal line card – matrix link (called NGI) fail.

- **Restriction 3.2.1A-0001**

  MS-SPRING Signal Fail has more priority than Forced command.

Connection category

None.

Data category

- **Restriction 3.2.1A-0019**

10M Ethernet electrical interface is not supported.

- **Restriction TSDrd29766**

  MAC static entries are not supported on LAG ports.

- **Restriction TSDrd31751**

  On 10xANY card, a LOS failure on GBE port is correctly reported with CSF on remote VCG but traffic is affected bidirectionally instead of unidirectionally.

- **Restriction 3.2.1A-0014**

  On Packet Modules, the quanta sent for flow control are not accurate.

- **Restriction TSDrd27097**

  Frames with Destination MAC address of Pause Frames (01-80-c2-00-00-01) are not dropped by UNI port.

- **Restriction 3.2.1A-0015**

  When LACP is disabled and you recover from fault condition, there is a behavior difference between the TSS-3 and the TSS-320. In this casa, the TSS-3 is revertive and set the primary path as working, while the TSS-320 is not revertive and continue to stay in the spare path.

- **Restriction 3.2.1A-0016**

  T-MPLS tunnel linear 1:1 protection time in MultiPoint to MultiPoint scenarios is higher than 100ms, and typically around 250 ms.

- **Restriction 3.2.1A-0002**

MTU is fixed to 9216 and MRU setting at an odd value is accepted but approximated to the lower even value. Moreover, MRU is limited to 8978 at the UNI and 9000 at the NNI.

- **Restriction 3.2.1A-0003**

  Policing for “Flow group” is not supported.

  Workaround:

  The functionality is available via CLI.

- **Restriction 3.2.1A-0017**

  The maximum number of VT available is:

  - 409 VT for each GBEthernet port

  - 4090 for each 10GBEthernet port

WDM category

None.

Alarm category

- **Restriction 3.2.1A-0005**

  The BER threshold 1E-3 for AU4-16C and AU4-64C is not supported.

Performance monitoring category

- **Restriction Still open (was declared closed in R3.0A3 TSDnm65326), will issue new DDTS # as change request, see G. Marilli email 090616**

  Timestamp of PM collected for T-MPLS reports the starting time of the time interval, while the timestamp of PM collected for Ethernet reports the ending time of the interval.

- **Restriction 3.2.1A-0006**

  Data Performance Monitoring information (counters) not available per logical port aggregate (i.e., LAG). That is, there are no LAG port counters, and flow counters are available only on physical ports.

Management Category

- **Restriction TSDrd32718**

  The NE does not support the change of the System ID of the OSI address.

- **Restriction TSDrd33465**

  Once migrated from 3.0 to 3.2.x, init-sys-old command is not supported.

- **Restriction 3.2.1A-0008**

  OSI only over PPP is in restriction.

- **Restriction TSDrd24263**

  Database restoration causes an interruption of Data traffic that is then automatically recovered after 10 minutes.

Security category

None.

External communication category

- **Restriction 3.2.1A-0018**

  The maximum number of InFiber-InBand connections is 80.

- **Restriction TSDrd24765**

  FTP server bandwidth used for downloading the SW package must be limited to 50 kb/s.

Synchronization category

None.

Control plane category

- **Restriction TSDrd31779**

  The BUNDLE LINK option is not supported.

3 Software installation and upgrade

Overview

Purpose

This chapter provides the procedures to download the Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Release 3.2.7 software into an Alcatel-Lucent 1850 TSS-320/160 system.

Note: These procedures must be followed to ensure a successful installation.

Note: The following procedures refers to the SW installation and upgrade of the Network Element stand-alone. For the SW installation and upgrade in the context of a Network Release, please refer to the specific Network Release documentation.

Contents

This chapter covers these topics.

New software installation

Description

This procedure allows for loading and installing a new SW version.

Caution: This procedure could be traffic-affecting.

Precautions and recommendations

Read and understand the following:

- Read the entire software installation procedure before beginning.
- Read the reference documentation *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Turn-Up and Commissioning Guide (ETSI)*, 8DG09086JAAA for ETSI environment, or *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160)* I*nstallation and System Turn-up Guide(ANSI)*, 8DG09086MAAA for ANSI environment
- The procedure must be carried out by Alcatel-Lucent trained personnel only.

Prerequisites

The new SW package had been already copied on the FTP server from the upgrading CDROM.

Shelf preparation

- Verify that the Alcatel-Lucent 1850 TSS-320/160 shelf is installed and powered according to the *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Installation Guide,* 8DG09086HAAA
- Verify that the Alcatel-Lucent 1850 TSS-320/160 shelf is set-up according to the *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160*) *Turn-Up and Commissioning Guide (ETSI)*, 8DG09086JAAA for ETSI environment, or *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) Installation and System Turn-up Guide (ANSI),* 8DG09086MAAA for ANSI environment

Software installation procedure

Proceed as follows:

---

1 Access the main menu of the Alcatel-Lucent 1850 TSS-320 or TSS-160 CT (ZIC).

2 Follow the **System Management → DB Management → Remote File → Perform Copy** menu path.

The **Copy Remote File** panel will be displayed.

3 In the **From** field select the ***generic software on a remote file server (RFSSW)*** option by means of the combo-box.

4 In the **To** field select the ***standby software generic on the NE (STBYSW)*** option by means of the combo-box.

The other fields in the panel are relevant to the SW location on an RFS (Remote File Server) to be transferred, i.e.:

– **User**: the entry box allows to digit the user identifier used for the ftp connection on the RFS.

– **Password**: the entry box allows to digit the user password used for the ftp connection on the RFS.

– **Host**: the entry box allows to digit the IP address of the host (the Remote File Server)

– **Port**: the entry box allows to digit the port number to connect to. Most schemes designate protocols that have a default port number. The default port number for ftp is **21**.

– **URL Path**: the entry box allows to digit the details of how the specified resource (i.e. the directory where the file(s) reside) can be accessed. It has the following syntax: /<server-path>/<swpkg> where:

- <server-path> is the path which identifies the server directories location on FTP server (e.g.: **ALCATEL-LUCENT/1850TSS320/3.x/SWPKG**) according to the Customer standard
- <swpkg> is the path which identifies the Alcatel-Lucent directories location (i.e.: **1850TSS320-3.xx-xx/1850TSS320M/3_xx_xx**.)

– **Command Mode**: the combo-box allows copying an RFS SW to the secondary backup database on the system. Select the blank option.

- **Overwrite**: it allows copying the secondary backup database to an RFS SW. Indicates whether existing files should be overwritten. **Yes** as default value.

5 Click on **Apply**, to download the new software version.

END OF STEPS

Upgrade procedure

Description

This paragraph describes the steps to perform a Network Element software upgrade.

Upgrade paths

This section provides information regarding all supported upgrade paths to Release 3.2.7.

Table 3-1 Upgrade paths to Release 3.2.7

Source Release	Notes
R1.0Ax	Not supported
R1.1Ax	Not supported
R1.4-R1.4A15	Not supported
R1.4A16	Complex migration with possible HW changes. Please refer to the detailed migration documentation in the context of the reference Network Releases. The migration has traffic hit.
R2.0-R2.0.6	Not supported
R2.0.7	Complex migration with possible HW changes. Please refer to the detailed migration documentation MOP for ANSI region. The migration has traffic hit.
R3.0-R3.0A7	Not supported
R3.0A8, R3.0A9	The migration has worst-case traffic hit as per general formula here below
R3.1	Not supported
R3.1A1	The migration has worst-case traffic hit as per general formula here below. Remarks: 1. Migration of OTU2 card is not supported.

Source Release	Notes
	2. Migration from R3.1A1 is supported only with one FLC plugged in the Network Element. Migration of redundant FLC configuration is not supported.
R3.1A2, R3.1.3	Not supported.
R3.2, R3.2.1, R3.2.1A, R3.2.1B	The migration has worst-case traffic hit as per general formula here below for Packet traffic, and less than 6 seconds for TDM traffic.
R3.2.2, R3.2.3, R3.2.4, R3.2.5, R3.2.6	The migration has worst-case traffic hit as per general formula here below for Packet traffic, and less than 50-ms seconds for TDM and EoS Port-to-Port traffic

The foreseen general worst-case maximum traffic down duration for migration is:

- **DATA TRAFFIC:**
  - **6 minutes x N + 10 minutes (N= number of equipped DATA boards)**
- **TDM TRAFFIC:**
  - **1 minute x M (M= number of equipped TDM boards)**

Remark: migration TO all releases that reached DR4 before R3.2.7 availability is restricted.

Precautions and recommendations

Read and understand the following:

Note: Do not upgrade the Network Element Software unless it is known to be required. Once the software is upgraded, it is very difficult to return to a previous software release. If software needs to be returned to a prior release, CONTACT YOUR NEXT LEVEL OF SUPPORT BEFORE BEGINNING.

- Read the entire software installation procedure before beginning.
- Read the reference documentation *Alcatel-Lucent 1850 Transport Service Switch 320/160 (TSS-320/160) User Provisioning Guide*, 8DG09086KAAA.
- The procedure must be carried out by Alcatel-Lucent trained personnel only.

Preconditions

Before start migration, all preconditions listed below have to be checked for each NE:

- First of all, it is strongly recommended to perform a NE MIB backup.
- Verify via ZIC that the source release (e.g., 3.2.1A) is in Commit state.
- Verify that the DCN have high availability and is stable.
- Verify via ZIC the absence of any equipment alarm (board, XFP, SLC/FLC Alignment..) and transmission alarms (tunnel, PW, EVC) that could impact the traffic.
- Verify via ZIC that all boards are correctly working, and that no EPS switch is Active on MATRIX or FLC.
- Verify and note active MATRIX slot (either slot 10 or slot 11).
- Verify and note active FLC slot (either slot 1 or slot 21).
- If any faulty board is found, it must be substituted before starting the migration.
- It is mandatory to release all SNCP/MSPRING/EPS commands present on the Network Element that you are going to migrate.

Upgrade procedure

Proceed as follows:

---

1 New R3.2.7 download

- Start the download of the R3.2.7 without forced option (SW package previously installed).
- When the download is completed, verify that the new SW version has:

  i) Operational state → enabled

  ii) Current state → standby

---

2 Migration from source R3.x release to R3.2.7

- All the preconditions must be checked
- Via ZIC activate the R3.2.7
- Verify that the R3.2.7 is in Active state
- Verify that the source R3.x release is in stand-by state.

Note: The migration has TRAFFIC DOWN. The foreseen worst-case maximum traffic down duration is as per migration table.

Note: During the migration the NE restarts and the NE – ZIC connectivity is temporary lost.

3 Migration post-check:

- Verify via ZIC the absence of equipment alarms (board, XFP, SLC/FLC Alignment) and transmission alarms (tunnel, PW, EVC) that could impact the traffic.
- Verify via ZIC that all boards are correctly working, and that no EPS switch is Active on MATRIX or FLC.
- Verify active FLC slot (either slot 1 or slot 21) .
- Perform MATRIX switch over test: 10 → 11 (in case 10 is Active), 11 → 10 (in case 11 is Active).

Only in case of migration from R3.1A1:

1. Plug-in the stand-by FLC
2. Wait for FLC end of alignment: status LED green, EPS LED turned off (i.e. not blinking amber)

- Perform FLC switch over test : 1 → 21 (in case1 is Active), 21 → 1(in case 21 is Active).

END OF STEPS

Downgrades (if applicable)

Purpose

This is not applicable.