Lucent Technologies
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WaveStar™ OLS 80G
Enhanced Optical Networking (EON)
Release 7.5

Alarm Messages and Trouble Clearing Guide (AMTCG)

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About this information product

Purpose of this Guide

Guide for ITM-SC

The purpose of the Alarm Messages and Trouble Clearing Guide (AMTCG) is to provide the maintenance personnel with all information necessary to solve the alarms in a specific Network Element (NE), using the Integrated Transport Management-Subnetwork Controller (ITM-SC).

The Alarm Messages and Trouble Clearing Guide (AMTCG) is a network oriented manual and will be shipped to all sites where an ITM-SC is available.

The philosophy behind the maintenance of Network Elements within a network is that the network is already installed, configured and service has been provided to the network after first installation.

Intended Audience

Tasks and required knowledge

This document is intended for maintenance personnel who take care of the daily activities on Network Elements, using the Integrated Transport Management Sub-network Controller (ITM-SC).

Maintenance personnel have to perform the following tasks:

- Identify alarms and/or performance degradation
- Gather information about the alarms and/or performance degradation
- Interpret alarm information:
  - alarm location
  - alarm priority (service affecting)
  - correlate alarms
  - set priorities in case of multiple alarms.
- Resolve alarms
  - determine strategies for correcting alarms and the consequences of these strategies
  - determine when best time to correct problems (depending on alarm severity)
  - make an action plan to correct alarms or performance degradation
  - divide tasks for execution of action plan.

    Request to re-route traffic when sources are not available.
    Instruction to replace system parts.
    Instruction to perform specific measurements that can be used for analyzing the problem.
    Check results of action plan and instructions.
    Restore the original network configuration when re-routing was necessary to correct the problem.
- Perform preventive maintenance.
  - gather performance data for preventive maintenance
  - schedule tests/self-tests
  - switch to protection parts if necessary to take corrective action.

□

How to use this document

Organization of this Guide

The Alarm Messages and Trouble Clearing Guide (AMTCG) is divided into chapters. In the chapter "Alarm Messages" all related alarms, for one specific NE type or EMS type, are listed in alphabetic order.
For each listed alarm a table with additional information is included.

This guide is divided into the following chapters:

- **About this information product**
  Brief description over how to use this guide.
- **Alarm Messages**
  Alphabetic list of all related alarms for one specific NE type.
- **Glossary**
  In this chapter, all the special terms used in this manual are listed.
- **Index**
  In this chapter, references to the most important terms and words used in this manual are listed.



Conventions Used

Samples of windows

The samples of windows shown in this guide are examples of typical windows. The contents (text) on a window as well as the window itself may differ from the window displayed on the ITM-SC.

Special Notations

This guide will use the following notations:



DANGER

Suggests the possibility of a personal injury



CAUTION

Suggest the possibility of a service interruption



WARNING

Suggests the possibility of equipment damage or software corruption

3 *Gives supplementary information*

- Actions for the Maintenance Operator are labeled with this “terminal” icon. These actions, e.g. running a test, is done by the Maintenance Operator.
- Local actions for the Maintenance Technician are labeled with this “tool” icon. The Maintenance Operator will combine these actions into a trouble ticket and delegate them to the Maintenance Technician.

□

Approval Mark

CE-Mark The following CE approval mark applies to this product.



CE Marking is the indicator for products conform with relevant European Community (EC) Directives.

CE stands for Conformité Européenne. The CE-marked Transmission equipment is compliant with one EC Directive: 89/336/EEC - Electro-magnetic compatibility (EMC).

In this manual you will find several chapters in relation with the CE-marking, for example the use of EMC closed connector Hoods, filtered connectors, and warnings to use a wrist strap when handling equipment.

□

EMC/ESD Safety Guidelines

Background

The EMC/ESD boundary has been defined at Rack/Subrack level. The principle is based on the “Faraday Cage” theory. If there are doors, then the doors must be closed.

With every rack/subrack an ESD (electrostatic discharge) earth socket and an ESD sticker are supplied. On the Rack frame ETSI an ESD bonding point for an ESD wrist strap is present. It is mounted in a way that it’s always accessible for installation, normal operation and maintenance activity.

Wrist Strap

The wrist strap must be worn when opening the Subrack doors.

Electrostatic Sensitive Devices

The equipment described in this guide contains static sensitive devices.

Electrostatic Discharge Precautions should be taken when operating or working on this equipment.

Special handling precautions apply whenever installing or removing parts of the equipment include:

- Leaving components or equipment in original packaging until required for use.
- Removing plug-in units with previously discharged hands (e.g. using grounded wrist straps connected to the ESD Bonding Point on the Cabinet).
- Returning items for repair in suitable antistatic packaging.

Reference

ESD instructions SIP-I-WI-061 2403.

□

Laser Safety Guidelines

Background

Lightwave/lightguide systems, their associated test sets, and similar operating systems use semiconductor laser transmitters that emit light at wavelengths between approximately 800 nanometers and 1600 nanometers. The emitted light is above the red end of the visible spectrum, which is normally invisible to the naked eye. Although radiant energy at near-infrared wavelengths is officially designated invisible, some people can see the shorter wavelength energy even at power levels several orders of magnitude below any that have been shown to cause injury to the eye.

Laser Products Subject to Safety Regulations

The intense monochromatic light beam of conventional lasers may be visible or invisible to the eye. Because the beam is small, the power density (also called irradiance) is very high. Consequently, lasers and laser products are subject to international standards for their safe operation as well as some local federal and state regulations.

Lasers and Eye Damage

Light energy emitted by laser and high-radiance LEDs in the 400-1400 nm range may cause eye damage if absorbed by the retina. The damage is caused by heating. Damage is not instantaneous. It occurs only when one looks at the light sufficiently long that the product of the retinal irradiance and the viewing time exceeds the damage threshold.

Classification of Lasers

The International Electro-technical Commission is an international standards body that writes laser safety standards. These standards, the IEC 825 and its supplements, require manufacturers to classify their laser products as belonging to one of five major classes, Classes 1, 2, 3A, 3B, and 4. Manufacturers of lasers and laser products in the U.S.A. are regulated by the Food and Drug Administration's Center for Devices and Radiological Health (FDA/CDRH) under 21 CFR 1040.

Classification schemes are similar to the IEC with Categories such as Class I, II, lla, IlIa, lllb, or IV. In both cases, laser products are classified according to the accessible emission levels and their potential for causing injury. Lightwave systems are generally classified as Class 1 / I, because, under normal operating conditions, all energized laser transmitting circuit packs are terminated on optical fibers which enclose the laser energy with the fiber sheath forming a protective housing. Covers are usually in place over circuit pack shelves.

□

Risk conditions

In a normal operating mode, lightwave systems are totally enclosed and present no risk of eye injury. It is a Class 1/I laser product under the IEC/FDA schemes.

When the lightguide cables that interconnect various components of a lightwave system are disconnected or broken, people may be exposed to lightwave emission.

Certain measurement and service procedures may expose a technician to emission from the laser circuit pack during installation and servicing.

Distance of eye from lasers

The power density of conventional lasers decreases rapidly with distance. The greater the distance, the less energy will enter the eye, and the less potential risk for eye injury.

Viewing an unterminated fiber or damaged fiber with the unaided eye at distances greater than 150 mm (6 inches) will normally not cause eye injury, provided the power in the fiber is less than a few mW at the shorter wavelengths. Higher power levels are acceptable at the longer wavelengths.

Damage may occur if an optical instrument such as a microscope, magnifying glass or eye loupe is used to view the energized fiber end.



DANGER

Use of controls, adjustments and procedures other than those specified herein may result in hazardous laser radiation exposure!

□

Safety Precautions for Enclosed Systems

Rules for enclosed systems safety

Under normal operating conditions, lightwave transmission systems are completely enclosed. However, the following precautions must be observed:

1. Because of the potential for eye damage, technicians should neither disconnect any lightwave cable nor splice and stare into the optical connectors terminating the cables.
2. Under no circumstance shall lightwave/lightguide operations be performed by a technician before satisfactorily completing an approved training course.
3. Since viewing lightwave emissions directly with an optical instrument such as an eye loupe greatly increases the risk of eye damage, technicians shall be trained never to use optical instruments to view a fiber or unterminated connector. an appropriate label must appear in plain view, in close proximity to the optical port, on the terminal equipment.

The label shall read as follows:

Figure 0-1 IEC compliance label to be placed on access panel

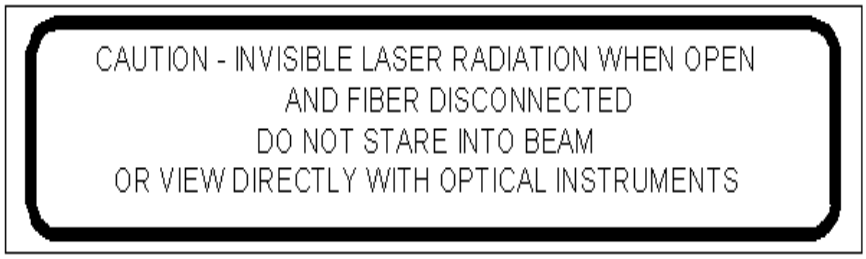
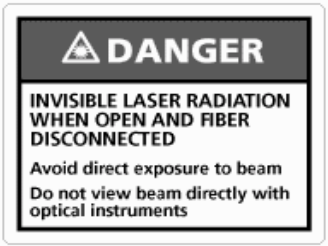


Figure 0-2 FDA compliance service entry label





DANGER

Unterminated optical connectors may emit laser radiation. Avoid direct exposure to the beam.
Do not view this beam with optical instruments!

□

Safety Precautions for Unenclosed Systems

Definition

During service, maintenance, or restoration, a lightwave transmission system is considered unenclosed.

Safety Rules for Unenclosed Systems

Under these conditions, follow these rules:

1. Only authorized, trained personnel should be permitted to carry out service, maintenance and restoration activities. Avoid exposing the eye to emissions from unterminated, energized optical connectors at close distances.
2. Connectors associated with lightwave regenerators are recessed, which limits the exposure distance. However, technicians removing or replacing regenerators should not stare or look directly into the vacant regenerator slot with optical instruments or magnifying lenses. Normal eyewear or indirect viewing instruments such as Find-R-Scopes, are not considered magnifying lenses or optical instruments.
3. Only authorized, trained personnel should use the lightwave test equipment during installation or servicing since this equipment contains semiconductor lasers. Some examples of lightguide test equipment are OTDR's, Hand-Held Loss Test Sets, and Feature Finders.
4. Under no circumstances should any personnel scan a fiber with an optical test set without verifying that all lightwave sources on the fiber are turned off.
5. All unauthorized personnel should be excluded from the immediate area of lightwave transmission systems during installation and service.

More Information

Consult IEC-825 "Safety of laser products, Part 1: Equipment classification, requirements and user's guide", ANSI Z136.1 American National Standard for Safe Use of Lasers" in the U.S.A., or specific local regulations for guidance on the safe use of lasers in the workplace.

□

Related Documents

Customer Documentation NE Related

- For more detailed information of an NE system, technical characteristics, features, cross-product interworking and system planning and engineering, refer to the:
  APPLICATION AND PLANNING GUIDE
- For information on the physical installation of an NE and for connecting the cabling, refer to the:
  SUBRACK CABLE LAYOUT MANUAL
- For information on installation of an NE with the use of the Craft Interface Terminal (CIT), refer to the:
  NETWORK ELEMENT INSTALLATION GUIDE
- For information on maintenance of an NE with the use of the Craft Interface Terminal (CIT), refer to the:
  NETWORK ELEMENT MAINTENANCE GUIDE
- For information on maintenance of an NE with the use of the Craft Interface Terminal (CIT), refer to the:
  NETWORK ELEMENT MAINTENANCE GUIDE
- For information on corrective procedures and action tables of the Network Elements refer to the:
  ALARM MESSAGES AND MAINTENANCE.

Customer Documentation Subnetwork Controller Related

- For more detailed information of the Integrated Transport Management-Subnetwork Controller (ITM-SC), technical characteristics, features, cross-product interworking and system planning and engineering, refer to the:
  ITM-SC APPLICATION AND PLANNING GUIDE
- For information on installation of the Integrated Transport Management-Subnetwork Controller (ITM-SC), refer to the:
  ITM-SC INSTALLATION GUIDE
- For information on how to give users access to the Integrated Transport Management-Subnetwork Controller (ITM-SC) and to backup and restore databases, refer to the:
  ITM-SC ADMINISTRATION GUIDE.
- For information on maintenance of the Network Elements with the use of the Integrated Transport Management-Subnetwork Controller (ITM-SC), refer to the:
  ITM-SC MAINTENANCE GUIDE
- For information on corrective procedures and action tables of the Integrated Transport Management-Subnetwork Controller (ITM-SC) refer to the:
  ITM-SC ALARM MESSAGES AND MAINTENANCE.

1 *WaveStar*™ OLS80G Enhanced Optical Networking (EON) Alarm Messages and Trouble Clearing

About this chapter

Purpose

This chapter contains a description of all *WaveStar*™ OLS 80G EON (Enhanced Optical Networking) related failures and how to solve them. It gives instructions for correcting failures, and it also provides maintenance personnel with procedures for tracing possible faults.

Enhanced Optical Networking (EON) has been added to the product name to highlight the fact that the WaveStar OLS 80G is a family of optical network equipment, inclusive of hardware and software, used by service providers in broadband applications to increase and manage bandwidth.

Reference to System Administrator

The term System Administrator refers to the ITM-SC System Administrator ("*i2kadmin*"). In general no actions of the actual computer System Administrator ("root") of the platform software are required.

□

CenterLink Added Comments

Purpose

These comments are added to show the discrepancy of alarm reporting on the ITM-SC and the CenterLink (local craft interface) application. The alarm tables in the next chapter show the comments for the CenterLink application.

Definition of a Condition reported on CenterLink

With the CenterLink it is possible to get all conditions in an NE. A condition is a process running on a specific moment. An alarm is also a process (interrupt) or a condition.Select ***Fault->Retrieve->Condition->All*** toretrieve the conditions of an NE with the CenterLink application.

Conditions reported on the Centerlink only

There are some conditions that are only reported on the CenterLink and not on the ITM-SC. The conditions (and corresponding description) that are reported only on the CenterLink are:

- DCC APS data error: An error has been detected in the DCC APS byte.
- CMISE interface not ready: The IAOLAN/CMISE interface is not available.
- inconsistent OTPM association: An association between an OTPM and an optical channel is inconsistent with the side configuration.
- inconsistent OTU association: An association between an OTU and an optical channel is inconsistent with the side configuration.
- INITSWD:IP: Initiate software download in progress.
- logins inhibited: Logins are disabled.
- MIB lock in progress: An operations system is uploading the network element management information base.
- NE status comm failure: The NE is not associated with an AGNE or the AGNE can not establish associations with all of the NEs in the alarm group.
  If the AGNE loses power, all NEs in the alarm group will report this condition; however, the condition may not be reported for several minutes.
- provisionedcontrolpt: The specified control point (miscellaneous discrete output) is active. This is the default message. The actual message that appears in the condition description report, for this condition can be provisioned. See ***Configuration->Retrieve-> Attribute-> Cont*** and ***Configuration->Set->Attribute->Cont.***

- System incomplete: The designated Directory Server Network Element (DS-NE) is unable to create a complete ring because of a controller or transmission failure in the network.
- System startup in progress: This is normally a transient condition that indicates the network is starting up.
- test alarm in progress: An office alarm test is in progress.
- test auto turnup in progress: An auto turnup test is in progress.
- test telemetry in progress: A telemetry test is in progress.
- TL-1 link failure: An incoming TL-1 link failure has been detected.

Refer to the chapter (9) Maintenance Description of the User/Service Manual (USM) for a description of the conditions (alarms) reported on the CenterLink.

Discrepnacy CenterLink-ITM-SC

The next table shows a summary of only the discrepancy of alarm reporting on the ITM-SC and the CenterLink application. All of these alarms are reported on the ITM-SC as WaveStar ™ OLS 80G EON alarms.

Alarm reported on ITM-SC	**Alarm reported on the CenterLink**
Alarming inhibited	inhibit alarms-LAN/office/X.25
Automatic power down active (Far-end command)	APSD-active-FE
Automatic power down active (Near-end command)	APSD-active-NE
Auto switch to primary	OPS auto switch to primary
Auto switch to secondary	OPS auto switch to secondary
Boot in progress	reset in progress
DCC failure	inc. (from Supr) DCC failure
DCC startup	DCC startup in progress
Duplicate node name	Duplicate node name
Forced switch to primary	OPS forced switch to primary
Forced switch to secondary	OPS forced switch to secondary
Inconsistent OA item codes	different OA types in side
Item code incompatible with OA Mode provisioning	equipage/prov mode inconsistent

Alarm reported on ITM-SC	**Alarm reported on the CenterLink**
Loss of low speed broadband signal	incoming LSBB failure
Loss of OPS Primary signal	incoming OPS Primary LOS
Loss of OPS Secondary signal	incoming OPS Secondary LOS
Loss of Q2-communications	incoming LAN link failure
Maximum NM configuration exceeded	TID address map full
MDI #: <user entered string>	provisionedenvironmentalalpt
MEM failure	SYSMEM failure
NVM contents invalid	SYSMEM unrecognizable code
OA State-OA Mode mismatch	opr/prov mode inconsistent
OMSP-APD configuration conflict	APSD-OPS sw mode conflict
OMSP configuration failure	OPS configuration error
Optical line misconnection	optical line ID mismatch
OTPM duplicate wavelength	OTPM duplicate
OTU duplicate wavelength	OTU duplicate
RS trace identifier mismatch	J0 mismatch
STC (system controller) failure	SYSCTL failure
STM-1 Loss of frame alignment	incoming CMS LOF
STM-1 Loss of input signal	incoming CMS LOS
STM-1 loss of signal/frame alignment	incoming STM1 failure
STM-1 MS Excessive bit error rate	incoming CMS SF
STM-1 MS Moderate bit error rate-service degraded	incoming CMS SD
STM-4 loss of signal/frame alignment	incoming STM4 failure
STM-16 loss of signal/frame alignment	incoming STM16 failure
Supervisory excessive bit error rate	incoming supr chnl SF
Supervisory loss of frame alignment	incoming supr chnl fail **(Not**e: this alarm is reported twice, see next alarm)

Alarm reported on ITM-SC	Alarm reported on the CenterLink
Supervisory loss of signal/frame alignment incoming supr chnl fail	incoming supr chnl fail
Supervisory moderate bit error rate	incoming supr chnl SD
Switch lockout	OPS inhibit
SW version mismatch	SYSMEM/SYSCTL code mismatch
System memory removed	SYSMEM removed
TOC failure	TOHCTL failure
TOC removed	TOHCTL removed
Wrong unit	unexpected CP type

Other Discrepancies

The ITM-SC related alarms also called the EMS alarms on the ITM-SC, are not reported on the CenterLink. These alarms deal with the server/ workstations issues on which the ITM-SC application is running. These alarms are not WaveStar TM OLS 80G EON alarms.

The CenterLink contains a Maintenance Log file. Some alarms reported on the ITM-SC are only available in this Maintenance Log file of the CenterLink (not reported status on the CenterLink). Select ***Fault ->Retrieve->Log*** to retrieve the Maintenance Log File of an NE.

Alarms reported on the CenterLink may have Prompt (*Major) or Deferred (*Minor) as severity. (*When system setting is SONET.)

The alarms with severity of Information on the ITM-SC are not reported on the CenterLink as an alarm but as a condition.

The alarms related to SONET signals are not reported on the ITM-SC, but only on the CenterLink in the case SONET signals are used. These alarms are: **incoming OC-3, OC-12, OC-48 failure**.

The Threshold Crossing Alerts (TCAs) are not reported as alarms on CenterLink. Select ***Performance->Retrieve->Performance_Monitoring*** to retrieve the TCAs of a specific parameter.

□

About Alarm Messages

Format of alarm descriptions

Each alarm message is accompanied by a table describing the following information.

Alarm Data	What It Means
Mnemonic	Shows the fault identifier.
Information	Describes the fault, and gives additional information about the function of the equipment involved.
Severity	Describes the severity of the alarm message. An alarm message can have the following severities: • PROMPT, for prompt maintenance alarm. • DEFERRED, for deferred maintenance alarm. • INFORMATION, for maintenance event information. • INDETERMINATE, for an instantaneous alarm which does not have a concept of severity attached to it. The PROMPT, DEFERRED and INFORMATION severities can either be default, which means that it can be changed by a user command, or fixed, which means that it cannot be changed.
Category	Describes the type of alarm, to help locate the origin: • EQUIPMENT messages refer to unit failures. Most of the time replacement of the indicated unit will solve the problem. Most of the units have their own processor, perform self tests, and draw conclusions. • TRANSMISSION messages refer to a failure of communications to the network element, or between the network element and the subscriber. Most of the time further investigation on the origin of the problem is required. • ENVIRONMENT messages relate to equipment that does not directly relate to the EMS, for example, the housing, the air conditioning. • PROCESSING messages relate to processing of non-payload data in the STM link. • QUALITY OF SERVICE messages relate to alarms raised when the network element Performance Monitoring thresholds have been exceeded.

Local results	Describes the visual and audible alarm indicators generated at the place of the network element location. This information to describes what the Maintenance Technician should check before performing any corrective actions. Depending on the severity of the reported alarm one of the following LEDs on the User Panel is on: PROMPT, DEFERRED or INFO LED. The LED information that is given with each separate alarm message is depending on the *default* severity; If the default severity is changed then this information is not valid anymore. Station Alarm Interface information is not given on each individual alarm message. How the Station Alarm Interface is used depends on the settings and configuration of each customer.
Cause	Refers to the cause; here more information is given about the reason why the message is generated. It gives more details on the origin of the fault which will help understanding and solving difficult problems.
Actions	Describes the actions that may help solve the problem, and suggestions tests to perform for further investigation.  Actions for the Maintenance Operator are labeled with this “terminal” icon. These actions, for example, running a test, is done by the Maintenance Operator.  Local actions for the Maintenance Technician are labeled with this “tool” icon. The Maintenance Operator will combine these actions into a trouble ticket and delegate them to the Maintenance Technician.
Note	Describes possible side effects of the alarm, and alerts the Maintenance Technician to special conditions encountered when correcting faults.
CenterLink Comments	Shows the comments for the CenterLink application.

Alarming inhibited

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	ALMcINH
Information	In one of the regenerators of the span the station alarms are inhibited.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	• The INFO-N LED on the user panel is illuminated. • The station alarm in the local station are switched off (if available).
Cause	The station alarms were disabled via the management system.
Actions	Enable the station alarms on the management system.
Note	The indicated condition was initiated by a user command. You must determine, by consulting with the appropriate maintenance personnel, whether the need for the user-initiated condition still exists.
CenterLink comments	These alarms ar not reported on the CenterLink as alarms,but as conditions (Fault-Retrieve-Condition-All). Thefollowing interfaces can be inhibited: • Alarms-LAN (reported as: **inhibit alarms-LA**N) • Alarms-Office (reported as: **inhibit alarms-office alarm**s) • Alarms-X.25 (reported as: **inhibit alarms-X.2**5) • Alarms-Parallel. This is reported on the ITM-SC as another alarm: Inhibited alarms-parallel telemetry.

Automatic power down active (Far end command)

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	LINEFEcPWD
Information	An automatic optical amplifier power shut down is active due to a incoming loss of signal at the far end network element. The optical amplifiers are powered down to Class 1 levels for protection against possible exposure and optical surges.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-F LED on the user panel is illuminated.
Cause	The network element received a telemetry remote defect indicator (TLM-RDI) which caused the activation of an automatic optical amplifier power shutdown. The TLM-RDI is sent out by the upstream adjacent network element. This upstream network element has detected a incoming loss of signal caused by: • a fiber cut, or • removed connectors, or • equipment failures.
Actions	 Solve the problem in the upstream network element.
Note	After the problems are solved an automatic optical amplifier power restart will be initiated. Within a second of the restart procedure the optical amplifiers adjust to their normal power levels.
CenterLink Comments	Reported as: **APSD-active-F**E. Reported as a condition on the CenterLink.

Automatic power down active (Near end command)

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	LINENEcPWD
Information	An automatic optical amplifier power shut down is active due to the detection of incoming loss of signal at the local network element.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	• The INFO-N LED on the user panel is illuminated. • The FAULT LED on the optical amplifier is flashing. • In the downstream direction, a telemetry remote defect indicator (TLM-RDI) is activated.
Cause	The detection of incoming loss of signal is caused by: • dirty connectors, or • removed connectors, or • a fiber cut, or • equipment failures.
Actions	 Clean and connect the connectors, or Repair the fiber, or check the optical amplifiers, or check the upstream external cable or equipment.
Note	After the problems are solved an automatic optical amplifier power restart will be initiated. Within a second of the restart procedure the optical amplifiers adjust to their normal power levels.
CenterLink Comments	Reported as: **APSD-active-N**E. Reported as a condition on the CenterLink.



Auto switch to primary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	AUTOcSWP
Information	An automatic OPS switch to Primary is active.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	A loss of signal condition was detected on the Secondary line, which in that case was the active line, and caused an automatic switch to the Primary line.
Actions	 Check the upstream equipment.
Note	
CenterLink Comments	Reported as: **OPS auto switch to Primar**y. Reported as a condition on the CenterLink.

□

Auto switch to secondary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	AUTOcSWS
Information	An automatic OPS switch to Secondary is active.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	A loss of signal condition was detected on the Primary line, which in that case was the active line, and caused an automatic switch to the Secondary line.
Actions	 Check the upstream equipment.
Note	
CenterLink Comments	Reported as a condition on the CenterLink. Reported as: **OPS auto switch to Secondar**y.

□

BC LAN 1 failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	BCLAN1cUPF
Information	Control bus 1 of the duplicated BCLAN fails or is not available. The BCLAN transports control information between the Optical Translator Controller (OTCTL) and the Optical Translator Units (OTU and Quad OTU).
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• If caused by a defect of one or more of the above mentioned units the FAULT LED on the faulty unit is illuminated. • The PROMPT LED on the user panel is illuminated. • A protective switch to the other control bus is initiated and, depending on the availability of that bus, the switch over is effectuated.
Cause	Possibly one of the connecting units (OTCTL, OTU or Quad OTU) hangs up this bus.
Actions	 Localize the fault by replacing the units in the following order: Quad OTU, OTU, OTCTL.
Note	The replacing actions could affect the transmission services provided by the system.
CenterLink Comments	Reported as a condition on the CenterLink. Reported as: **Board controller LAN1 failure (BC-LAN-1-Fail**).

□

BC LAN 2 failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	BCLAN2cUPF
Information	Control bus 2 of the duplicated BCLAN fails or is not available. The BCLAN transports control information between the Optical Translator Controller (OTCTL) and the Optical Translator Units (OTU and Quad OTU).
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• If caused by a defect of one or more of the above mentioned units the FAULT LED on the faulty unit is illuminated. • The PROMPT LED on the user panel is illuminated. • A protective switch to the other control bus is initiated and, depending on the availability of that bus, the switch over is effectuated.
Cause	Possibly one of the connecting units (OTCTL, OTU or Quad OTU) hangs up this bus.
Actions	 Localize the fault by replacing the units in the following order: Quad OTU, OTU, OTCTL.
Note	The replacing actions could affect the transmission services provided by the system.
CenterLink Comments	Reported as a condition on the CenterLink. Reported as: **Board controller LAN2 failure (BC-LAN-2-Fail**).



Boot in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SYScBOOT
Information	Boot in progress due to user actions or automatic recovery.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The PROMPT LED on the user panel is illuminated.
Cause	• A user action was initiated on the management system, or • the system is powering up.
Actions	None.
Note	
CenterLink Comments	Reported as: **reset in progres**s. Severity: PROMPT.

□

CP reset in progress

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	UPcRST
Information	A circuit pack has been installed and the necessary software is being downloaded to the circuit pack.
Severity	INFORMATION (fixed)
Category	EQUIPMENT
Local results	The INFO-N LED on the user panel is illuminated.
Cause	A software download to a circuit pack is still in progress.
Actions	None.
Note	A software download takes: • 15 minutes for SYSCTL and SYSMEM, or • 10 minutes for OTCTL and TOHCTL, or • 1 minute for all other circuit packs.
CenterLink Comments	Reported as a condition on the CenterLink. Reported as: **CP reset in progres**s.

CP (unknown type) failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	UNKNcCPF
Information	Failed or wrong circuit pack, whose type is unknown to the software, has been inserted.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The PROMPT LED on the user panel is illuminated. • The LED on the corresponding unit (circuit pack) is illuminated.
Cause	Insertion of wrong unit type or circuit pack has failed.
Actions	 Replace the unit.
Note	
CenterLink Comments	Reported as: **CP (unknown type) failur**e. Severity: PROMPT

□

CP (unknown type) removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	UNKNcCPR
Information	Failed or wrong circuit pack, whose type is unknown to the software, has been removed.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	Circuit pack removed.
Actions	 Replace the unit.
Note	
CenterLink Comments	Reported as: **CP (unknown type) remove**d. Severity: PROMPT



CT login

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	LOCCITcIN
Information	A user is logged in via a Craft Interface Terminal (CIT) to the indicated network element.
Severity	INDETERMINATE
Category	PROCESSING
Local results	None.
Cause	An CIT user is locally logged in into the network element.
Actions	 If you have the highest priority to make changes to the MIB of this network element you can change the "Lock-out state" in the "Edit CIT Access Control Information window of the ITM-SC.
Note	you must have Supervisor privileges to make changes to the "Edit CIT Access Control Information" window.
CenterLink Comments	This alarm is not reported as an alarm on the CenterLink. In the Maintenance Log file a record is kept of all logins and logouts of an NE. (Clear this alarm with ACKNOWLEDGE on the ITM-SC.)



CT logout

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	REMCITcIN
Information	A user is logging out via a Craft Interface Terminal (CIT) from the indicated network element.
Severity	INDETERMINATE
Category	PROCESSING
Local results	None.
Cause	An CIT user is logging out from the network element.
Actions	None, wait 15 minutes to let the CIT user log out if you want to make changes to the network element.
Note	
CenterLink Comments	This alarm is not reported as an alarm on the CenterLink. In the Maintenance Log file a record is kept of all logins and logouts of an NE. (Clear this alarm with ACKNOWLEDGE on the ITM-SC.)



DCC failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	DCCcFLR
Information	The local network element cannot communicate through the supervisory signal data communications channel (DCC).
Severity	DEFERRED (provisionable via CenterLink)
Category	PROCESSING
Local results	The DEFERRED LED on the user panel is illuminated.
Cause	• The Overhead Controller - Tributary (TOHCTL) is starting up. • Failure in the upstream network element. • Failure of the Overhead Controller - Tributary (TOHCTL). • Hardware failures at the source of the incoming supervisory signal.
Actions	 Wait 10 minutes for the TOHCTL circuit pack to reboot. Replace the TOHCTL. Solve the problem at the upstream network element.  Refer to other associated alarm messages.
Note	
CenterLink Comments	Reported as: **inc. (from Supr) DCC failur**e.Severity: DEFERRED.

□

DCC startup

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	QLANcSTU
Information	The Data Communication Channel (DCC) is starting up.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	DCC is starting up due restoration of the management link.
Actions	Wait 15 minutes until the alarm is cleared before trying to reach the nodes for management purposes.
Note	The interaction between the network elements takes from 10 to 15 minutes. Communication with other network elements may result in DCC failure.
CenterLink Comments	Reported as a condition on the CenterLink. Reported as: **DCC startup in progres**s. **(DCC-INI**T)

Duplicate node name

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	TIDcFLR
Information	The node name for this network element is not unique in the network, so network maintenance is not available for this node.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The DEFERRED LED on the user panel is illuminated.
Cause	The DSNE-node refuses to register the local network element because another node with the same node name has already been registered.
Actions	 Change one of the duplicate node names to a name which is unique in the network.
Note	
CenterLink Commnets	Reported as: **duplicate TID define**d. Severity: Deferred.

□

Forced switch to primary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	FORcSWP
Information	A forced OPS switch to Primary is active.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The indicated OPS circuit pack has been forced to select the Primary input.
Actions	 Issue a CLEAR request.
Note	The indicated condition was initiated by a user command. You must determine, by consulting with the appropriate maintenance personnel, whether the need for the user-initiated condition still exists.
CenterLink Comments	Reported as: **OPS forced switch to Primar**y. Reported as a condition on the CenterLink.



Forced switch to secondary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FORcSWS
Information	A forced OPS switch to Secondary is active.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The indicated OPS circuit pack has been forced to select the Secondary input.
Actions	 Issue a CLEAR request.
Note	The indicated condition was initiated by a user command. You must determine, by consulting with the appropriate maintenance personnel, whether the need for the user-initiated condition still exists.
CenterLink Comments	Reported as: **OPS forced switch to Secondar**y. Reported as a condition on CenterLink.

□

Fuse/power failure A Shelf 1

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRA1cFLR
Information	A blown fuse or power failure in feeder A of OT shelf 1 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or power failure in feeder A, or • a power failure in OT shelf 1, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure** A. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure A Shelf 2

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRA2cFLR
Information	A blown fuse or power failure in feeder A of OT shelf 2 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder A, or • a power failure in OT shelf 2, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure** A. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure A Shelf 3

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRA3cFLR
Information	A blown fuse or power failure in feeder A of OT shelf 3 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder A, or • a power failure in OT shelf 3, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure** A. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure A and B Shelf 1

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRAB1cFLR
Information	Blown fuses or power failure in feeders A and B of OT shelf 1 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder A and B, or • a power failure in OT shelf 1, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink comments	Reported as: **fuse/power failure A and** B. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure A and B Shelf 2

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	FUSPWRAB2cFLR
Information	Blown fuses or power failure in feeders A and B of OT shelf 2 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder A and B, or • a power failure in OT shelf 2, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure A and** B. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure A and B Shelf 3

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRAB3cFLR
Information	Blown fuses or power failure in feeders A and B of OT shelf 3 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse a power failure in feeder A and B, or • a power failure in OT shelf 3, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure A and** B. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure B Shelf 1

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRB1cFLR
Information	A blown fuse or power failure in feeder B of OT shelf 1 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder B, or • a power failure in OT shelf 1, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure** B. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure B Shelf 2

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	FUSPWRB2cFLR
Information	A blown fuse or power failure in feeder B of OT shelf 2 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder B, or • a power failure in OT shelf 2, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure** B. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Fuse/power failure B Shelf 3

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	FUSPWRB3cFLR
Information	A blown fuse or power failure in feeder B of OT shelf 3 is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	In case the user panel is not affected by the fuse/power failure the PROMPT LED on the user panel is illuminated.
Cause	The network element has: • a blown fuse or a power failure in feeder B, or • a power failure in OT shelf 3, or • a defective filter board.
Actions	 Replace the lighted fuse. Check the power feeder cables. Replace the defective filter board in the filter panel.
Note	
CenterLink Comments	Reported as: **fuse/power failure B**. Severity: PROMPT. Information about the shelf is reported further in the alarm description.

□

Incoming GbE-1 failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	GBEHScFAIL
Information	A GbE-1 signal loss condition has been detected.
Severity	DEFAULT (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the reporting circuit pack is flashing. • The DEFERRED LED on the user panel is illuminated.
Cause	Input signal has been removed.
Actions	 Measure the signal strength. Check signal source. Reseat pack. Update the system.
Note	
CenterLink Comments	Reported as: **GbE-1 LOS**. Severity: DEFAULT.

□

Incoming LAN failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	LANcUPF
Information	The incoming LAN bus fails or is unavailable.
Severity	DEFERRED (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting unit is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	The on board selftest circuitry indicates that a essential function of the reporting unit has failed.
Actions	 Remove the unit and replace it with a new one.
Note	The replacing action could effect the transmission services provided by the system.
CenterLink Comments	Reported as: **incoming LAN link failur**e. Severity: Deferred.

□

Inconsistent OA item codes

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OACODEScINC
Information	There are two different types of Optical Amplifier (OA) circuit packs detected on the same side of an end terminal network element. The OA circuit packs on the same side of the end terminal network element must be of the same type.
Severity	DEFERRED (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the OA is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	An incorrect Optical Amplifier type is inserted.
Actions	 Replace the incorrect OA type by the correct OA type.
Note	Dual facing terminals are capable of supporting OAs of different types on each side of the terminal. So this implies the OAs in optical line pairs 1 and 3 (side 1) could be of a different type than the OAs in the optical line pairs 2 and 4 (side 2). But the OAs in a side (side 1 or side 2) must be of the same type. Since (non-dual) end terminal and repeater network elements have only 1 side, all OAs in this network element must be of the same type. The only exception to this is LEA6 and LEA7 when the network element is provisioned to operate in mode A.
CenterLink Comments	Reported as: **different OA types in sid**e. Severity: DEFERRED. Information about the side is reported further in the alarm description.

□

Inconsistent OA item codes in side 1

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OACODES1cINC
Information	There are two different types of Optical Amplifier (OA) circuit packs detected on side 1 of the dual facing terminal network element. The OA circuit packs on the same side of the dual facing terminal network element must be of the same type.
Severity	DEFERRED (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the OA is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	An incorrect Optical Amplifier type is inserted.
Actions	 Replace the incorrect OA type by the correct OA type.
Note	Dual facing terminals are capable of supporting OAs of different types on each side of the terminal. So this implies the OAs in optical line pairs 1 and 3 (side 1) could be of a different type than the OAs in the optical line pairs 2 and 4 (side 2). But the OAs in a side (side 1 or side 2) must be of the same type. Since (non-dual) end terminal and repeater network elements have only 1 side, all OAs in this network element must be of the same type. The only exception to this is LEA6 and LEA7 when the network element is provisioned to operate in mode A.
CenterLink Comments	Reported as: **different OA types in sid**e. Severity: DEFERRED. Information about the side is reported further in the alarm description.



Inconsistent OA item codes in side 2

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OACODES2cINC
Information	There are two different types of Optical Amplifier (OA) circuit packs detected on side 2 of the dual facing terminal network element. The OA circuit packs on the same side of the dual facing terminal network element must be of the same type.
Severity	DEFERRED (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the OA is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	An incorrect Optical Amplifier type is inserted.
Actions	 Replace the incorrect OA type by the correct OA type.
Note	Dual facing terminals are capable of supporting OAs of different types on each side of the terminal. So this implies the OAs in optical line pairs 1 and 3 (side 1) could be of a different type than the OAs in the optical line pairs 2 and 4 (side 2). But the OAs in a side (side 1 or side 2) must be of the same type. Since (non-dual) end terminal and repeater network elements have only 1 side, all OAs in this network element must be of the same type. The only exception to this is LEA6 and LEA7 when the network element is provisioned to operate in mode A.
CenterLink Comments	Reported as: **different OA types in sid**e. Severity: DEFERRED. Information about the side is reported further in the alarm description.



Inhibit alarms-parallel telemetry

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	PTELMcINH
Information	Alarm reporting via the parallel telemetry interface is disabled.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The alarm reporting was disabled on the management system.
Actions	 Enable the alarm reporting via the parallel telemetry interface on the management system.
Note	The indicated condition was initiated by a user command. You must determine, by consulting with the appropriate maintenance personnel, whether the need for the user-initiated condition still exists.
CenterLink Comments	Reported as condition: **inhibit alarms-parallel telem.**

□

Item code incompatible with OA Mode provisioning

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OACODEcMIS
Information	The equipped Optical Amplifier (OA) circuit pack is not compatible with the provisioned terminal configuration mode.
Severity	DEFERRED (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the OA circuit pack is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	• A wrong or faulty OA circuit pack is inserted, or • the OA circuit pack is not correctly provisioned.
Actions	 Replace the OA circuit pack by a correct OA type.  Provision the OA correctly on the management system.
Note	
CenterLink Comments	Reported as: **equipage/prov mode inconsistent** Severity: DEFERRED.

□

Loss of internal channel

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	ICHANcLOS
Information	A loss of internal channel on the network element is detected.
Severity	DEFERRED (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting circuit pack is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	When a downstream association is established between the Optical Channel and OTU/OTPM, and the signal into the OMU is lost.
Actions	 Replace the circuit pack that reports the fault.
Note	
CenterLink Comments	This alarm is related with channel association (downstream). It is only reported on the SC in the next situation

□

Loss of internal tributary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	ITRIBcLOS
Information	A loss of internal tributary on the network element is detected.
Severity	DEFERRED (default)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting circuit pack is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	When the upstream association is established between the Optical Channel and OTU/OTPM, and the signal into the OTU/OTPM is lost.
Actions	 Replace the circuit pack that is reporting the fault.
Note	
CenterLink Comments	This alarm is related with channel association (upstream). It is only reported on the SC in the next situation

□

Loss of low speed broadband signal

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	LSBBcLOS
Information	A loss of low speed broadband signal on a incoming low speed broadband port has been detected.
Severity	DEFERRED (default)
Category	TRANSMISSION
Local results	• The FAULT LED on the reporting circuit pack is flashing. • The DEFERRED LED on the user panel is illuminated.
Cause	• A failure of the low speed broadband circuit pack. • A loss-of-signal (LOS) failure in the incoming upstream low speed broadband line (receive fiber).
Actions	 Check the far-end equipment. Check the incoming fiber. Replace the faulty Quad OTU or OTPM.
Note	
CenterLink Comments	Reported as: **incoming LSBB failur**e. Severity: DEFERRED.

□

Loss of OPS Primary signal

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OPScPLOS
Information	An optical line loss-of-signal (LOS) condition has been detected at the Primary input of an OPS circuit pack.
Severity	DEFERRED (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting circuit pack is flashing. • The DEFERRED LED on the user panel is illuminated. • An automatic switch to the Secondary is initiated.
Cause	• Failure at upstream equipment. • Cable rupture or dirty connectors. • Failure at the OPS circuit pack.
Actions	 Check upstream equipment. Check cabling or clean the connectors. Replace the faulty OPS circuit pack.
Note	This alarm messages is accompanied with the message "**Auto switch to secondary**".
CenterLink Comments	Reported as: **incoming OPS Primary LO**S. Severity: DEFERRED.

□

Loss of OPS Secondary signal

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OPScSLOS
Information	An optical line loss-of-signal (LOS) condition has been detected at the Secondary input of an OPS circuit pack.
Severity	DEFERRED (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting circuit pack is flashing. • The DEFERRED LED on the user panel is illuminated. • An automatic switch to the Primary is initiated.
Cause	• Failure at upstream equipment. • Cable rupture or dirty connectors. • Failure at the OPS circuit pack.
Actions	 Check upstream equipment. Check cabling or clean the connectors. Replace the faulty OPS circuit pack.
Note	This alarm messages is accompanied with the message "**Auto switch to secondary**".
CenterLink Comments	Reported as: **incoming OPS Secondary LO**S. Severity: DEFERRED.

□

Loss of optical channel

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OCHANcLOS
Information	An optical channel loss-of-signal (LOS) condition has been detected on an incoming optical channel.
Severity	PROMPT (provisionable via CenterLink)
Category	TRANSMISSION
Local results	• The FAULT LED on the reporting circuit pack is flashing. • The DEFERRED LED on the user panel is illuminated.
Cause	For the receive direction: • Optical line power levels are marginal. For the transmit direction: • OMU failures. • Fiber jumper or connector failures between the OMU and the OA circuit pack. • Multiple incoming failure conditions due to a bridge in the OPS circuit pack. • Upstream failure conditions have been changed to not monitored.
Actions	 Check the upstream equipment. Correct the fiber jumper or clean or replace the connectors. Replace the faulty circuit pack.
Note	
CenterLink Comments	Reported as: **incoming optical channel LO**S. Severity: PROMPT.

□

Loss of Q2-communications

Alarm meaning The table below gives the meaning of the alarm**:**

Alarm Data	**What It Means**
Mnemonic	MLQ2
Information	No Communication between EMS and the transmission system network element. The EMS system communicates via the QLAN with the local node.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the SYSCTL is flashing. • The INFO-N LED on the user panel is illuminated.
Cause	• Addresses incorrect following card replacement, this can occur during provisioning. • Breakages of physical connection (coaxial cable). • Ethernet (QLAN) connections failure. • Ethernet termination impedances removed or incorrect, causing data reflections on the QLAN. • Hardware/interface failure of the connected SYSCTL.
Actions	 If this alarm message is reported during provisioning, then check addressing, refer to the Provisioning Operator.  Check the cabling. Check the interface connections. Check QLAN termination. Check the SYSCTL in the indicated network element.
Note	
CenterLink Comments	This alarm is not reported on the ITM-SC, but does this alarm has a relation with the alarm **incoming LAN link failure** or other DCC failure related alarms? If yes, then which ones?



Loss of tributary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	TRIBcLOS
Information	A loss of tributary on the network element is detected.
Severity	PROMPT (provisionable via CenterLink)
Category	TRANSMISSION
Local results	• The FAULT LED on the reporting circuit pack is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	Loss-of-signal into OMU when no association established.
Actions	 Establish association.
Note	
CenterLink Comments	This alarm is only reported on the ITM-SC in the next situation without a channel association.

□

Manual switch to primary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	MANcSWP
Information	A manual OPS switch to Primary is active.
Severity	INDETERMINATE
Category	PROCESSING
Local results	None.
Cause	The indicated OPS circuit pack has been manually switched to the Primary input.
Actions	 Issue a CLEAR request.
Note	The indicated condition was initiated by a user command. You must determine, by consulting with the appropriate maintenance personnel, whether the need for the user-initiated condition still exists.
CenterLink Comments	This alarm is only reported on the ITM-SC.The status of the OPS can be checked with the command ***Fault->Retrieve->State->OPS*** with the CenterLink.



Manual switch to secondary

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	MANcSWS
Information	A manual OPS switch to Secondary is active.
Severity	INDETERMINATE
Category	PROCESSING
Local results	None.
Cause	The indicated OPS circuit pack has been manually switched to the Secondary input.
Actions	 Issue a CLEAR request.
Note	The indicated condition was initiated by a user command. You must determine, by consulting with the appropriate maintenance personnel, whether the need for the user-initiated condition still exists.
CenterLink Comments	This alarm is only reported on the ITM-SC. The status of the OPS can be checked with the command Fault-Retrieve-State-OPS with the CenterLink.

□

Maximum NM configuration exceeded

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	NMCONFcOVFL
Information	The local subnetwork has exceeded the maximum number of network elements.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The PROMPT LED on the user panel is illuminated.
Cause	You have added a network element to the local subnetwork while the number of network elements was at its maximum.
Actions	 Remove the just added network element from the local subnetwork. Rearrange the local subnetwork.
Note	
CenterLink Comments	Reported as: **TID address map full**. Severity: PROMPT.

□

MDI #: < user entered string>

Alarm meaning The table below gives the meaning of the alarm**:**

Alarm Data	**What It Means**
Mnemonic	MDcIPXXX
Information	This entry represents all external environment alarms: the Miscellaneous Discrete Inputs (MDI). For each MDI alarm the name is provisionable by the user. It is assumed one of the MDI-alarms is active.
Severity	DEFERRED (default)
Category	ENVIRONMENT
Local results	The DEFERRED LED on the user panel is illuminated.
Cause	User defined external event.
Actions	 Check the external equipment connected to the corresponding terminals on the connector area.
Note	XXX = any number ranging from 1 to 144. Miscellaneous discrete inputs are user provisionable and can be used to scan the status of external, user definable, alarm points.
CenterLink Comments	Reported as: **provisionedenvironmentalp**t. Severity: DEFERRED (default).

MEM failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SYSMEMcUPF
Information	Failure of the SYSMEM (system memory).
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the SYSMEM unit is detected, or • the SYSMEM is starting up.
Actions	 Wait 15 minutes for the SYSMEM to startup. If alarm message still present remove the unit from its slot and replace it with a new one.
Note	The installation of a replacement SYSMEM circuit pack may generate certain unexpected alarm conditions. Ignore these indications until this condition has been cleared, then clear any remaining condition(s).
CenterLink Comments	Reported as: SYSMEM failure. Severity: PROMPT.



Multiple DSNEs defined

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	DSNEcFLR
Information	More than one network element is defined as DSNE (Directory Service Network Element), so that network maintenance is not available.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The DEFERRED LED on the user panel is illuminated.
Cause	An DSNE network element (facilitating remote alarming and remote login) has identified another DSNE network element in the network, which is a condition of failure, as only one network element in the network is allowed to be the DSNE network element.
Actions	 First provision all DSNE-provisioned network elements to non-DSNEs, then provision one network element as the DSNE.
Note	
CenterLink Comments	Reported as: **multiple DS-NEs define**d. Severity: DEFERRED.



NVM contents invalid

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SYSMEMcNVM
Information	Code in nonvolatile memory of the SYSMEM (system memory) is invalid.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The PROMPT LED on the user panel is illuminated.
Cause	System download procedure was broken off (nonvolatile memory is erased and left invalid).
Actions	 Execute a system download procedure again.
Note	
CenterLink Comments	Reported as: **SYSMEM unrecognizable cod**e. Severity: PROMPT.

□

OA failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OAcUPF
Information	OA (optical amplifier) failure.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • The unit is starting up.
Actions	 If the alarm is still present after 1 minute, then remove the unit and replace it with a new one.
Note	
CenterLink Comments	Reported as: **OA failur**e. Severity: PROMPT.

□

OA LAN failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OALANcUPF
Information	The internal Overhead Access (OA) LAN bus fails or is unavailable.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	The on board selftest circuitry indicates that a essential function of the reporting unit has failed.
Actions	 Remove the unit and replace it with a new one.
Note	The replacing action could effect the transmission services provided by the system.
CenterLink Comments	Reported as **OA LAN failur**e. Severity: PROMPT.

□

OA output disabled

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OAcDIS
Information	The output of the specified Optical Amplifier (OA) circuit pack has been shutdown because of a problem with the Optical Demultiplexer Unit (ODU) at the downstream network element.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	A failure of the ODU of the downstream network element has caused a shutdown of the output of the OA.
Actions	 Check the ODU in the downstream network element.
Note	
CenterLink Comments	Reported as: **OA output disable**d. Reported as a condition on the CenterLink.

□

OA removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OAcUPR
Information	An Optical Amplifier (OA) has been removed from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The OA is not present.
Actions	 Insert the unit back into its slot and wait 1 minute until the OA has initialized again.
Note	
CenterLink Comments	Reported as: **OA remove**d. Severity: PROMPT.

□

OA State - OA Mode mismatch

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OASTATEcMIS
Information	The received Optical Amplifier (OA) mode does not match the provisioned OA mode.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• Provisioned values for OA not correct. • Wrong OA inserted in slot.
Actions	 Provision the correct values for the OA mode.  Insert the right OA in its slot.
Note	
CenterLink Comments	Reported as: **opr/prov mode inconsisten**t. Severity: PROMPT.Information about the side is reported further in the alarm description.

□

OA State - OA Mode mismatch in side 1

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OASTATE1cMIS
Information	The received Optical Amplifier (OA) mode in side 1 does not match the provisioned OA mode.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• Provisioned values for OA not correct. • Wrong OA inserted in slot.
Actions	 Provision the correct values for the OA mode.  Insert the right OA in its slot.
Note	
CenterLink Comments	Reported as: **opr/prov mode inconsisten**t. Severity: PROMPT.Information about the side is reported further in the alarm description.

OA State - OA Mode mismatch in side 2

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OASTATE2cMIS
Information	The received Optical Amplifier (OA) mode in side 2 does not match the provisioned OA mode.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• Provisioned values for OA not correct. • Wrong OA inserted in slot.
Actions	 Provision the correct values for the OA mode.  Insert the right OA in its slot.
Note	
CenterLink Comments	Reported as: **opr/prov mode inconsisten**t. Severity: PROMPT.Information about the side is reported further in the alarm description.

ODU warmup in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	ODUcWMU
Information	An Optical Demultiplexer Unit (ODU) is warming up to a stable operating temperature.
Severity	INFORMATION (fixed)
Category	EQUIPMENT
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The ODU is installed and a stable operating temperature is not yet reached.
Actions	None, wait 15 minutes until a stable operating temperature is reached.
Note	
CenterLink Comments	Reported as: **ODU warmup in progres**s. Reported as a condition on the CenterLink.

OMSP-APD configuration conflict

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OMSPAPDcCFL
Information	A conflict in the OMSP-APD configuration is detected.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The PROMPT LED on the user panel is illuminated.
Cause	This alarm is generated when APD is “enabled” and OMSP communication is “unidirectional”.
Actions	 To resolve either change APD to “disabled” or change OMSP communication mode to “bidirectional”.
Note	
CenterLink Comments	Reported as: **APSD-OPS sw mode conflic**t. Severity: PROMPT.

□

OMSP configuration failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OMSPcCONF
Information	An OMSP configuration failure.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The OMSP configuration failure is raised when the OMSP operational state is “disabled”. The operational state is only “enabled” when: • the slot specified in OPS location is equipped with an OPS unit. • the slot specified in OMU/SPOMU location is equipped with an OMU/SPOMU unit. • the slot specified in SPODU location is equipped with an SPODU unit. • the network element is in a 2 OA configuration.
Actions	 Correct the configuration setup.
Note	
CenterLink Comments	Reported as: **OPS configuration erro**r. Severity: PROMPT.

□

OMU/ODU mismatch or missing

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OMDUcMIS
Information	An OMU (Optical Multiplexer Unit) or ODU (Optical Demultiplexer Unit) mismatch is detected or an OMU/ODU is missing.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	• Incorrect provisioned end terminal. • Incorrect fiber connection at end terminal. • Not installed OMU/ODU.
Actions	 Correct the provisioning for the end terminal.  Correct the fiber connection at the end terminal. Install the OMU/ODU.
Note	
CenterLink Comments	Reported as: **OMU/ODU mismatch or missin**g. Severity: PROMPT.

□

OPS failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OPScEQF
Information	A failure of an OPS (Optical Switch) circuit pack is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the reporting circuit pack is continuously illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the circuit pack. • The circuit pack is starting up.
Actions	 If the alarm is still present after 5 minutes, then remove the circuit pack and replace it with a new one.
Note	
CenterLink Comments	Reported as: **OPS failur**e. Severity: PROMPT.

□

OPS power converter failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OPScPCF
Information	Failure of one of the two redundant OPS (Optical Switch) power converters.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The PWR ON LED of the failed power converter on the user panel is extinguished. • The PROMPT LED on the user panel is illuminated.
Cause	Hardware failure of the indicated power converter.
Actions	 Remove the power converter and replace it with a new one.
Note	
CenterLink Comments	Reported as: **OPS power converter failur**e. Severity: PROMPT.

□

OPS removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OPScEQR
Information	An OPS (Optical Switch) circuit pack is missing from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The OPS circuit pack is not present.
Actions	 Insert the circuit pack into its slot and wait 5 minutes until the circuit pack has started up again.
Note	
CenterLink Comments	Reported as: **OPS remove**d. Severity: PROMPT.

□

OPS warmup in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OPScWMU
Information	An OPS (Optical Switch) circuit pack is warming up to a stable operating temperature.
Severity	INFORMATION (fixed)
Category	EQUIPMENT
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The OPS circuit pack is installed and a stable operating temperature is not yet reached.
Actions	None, wait 15 minutes until a stable operating temperature is reached.
Note	
CenterLink Comments	Reported as: **OPS warmup in progres**s. Reported as a condition on the CenterLink.

Optical channel input power threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OCRXPWRcTHR15
Information	User definable optical channel input power threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty or faulty optical connectors. • Loss of signal. • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_ Monitoring.

□

Optical channel input power threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OCRXPWRcTHR24
Information	User definable optical channel input power threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty or faulty optical connectors. • Loss of signal. • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_Monitoring.

□

Optical line input power threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OLRXPWRcTHR15
Information	User definable optical line input power threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty or faulty optical connectors. • Loss of signal. • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_ Monitoring.

□

Optical line input power threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OLRXPWRcTHR24
Information	User definable optical line input power threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty or faulty optical connectors. • Loss of signal. • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_Monitoring.

□

Optical line loss of signal

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OLINEcLOS
Information	An optical line loss of signal (LOS) condition is detected on an incoming optical line. This alarm is provisionable by the user.
Severity	DEFERRED (provisionable)
Category	TRANSMISSION
Local results	• The FAULT LED on the reporting circuit pack is flashing. • The DEFERRED LED on the user panel is illuminated.
Cause	For the receive direction: • Optical line power levels are marginal. For the transmit direction: • Fiber cut on an incoming line. • OA/OMU failures. • Fiber jumper or connector failures between the OMU and the OA circuit pack. • Multiple incoming failure conditions due to a bridge in the OPS circuit pack.
Actions	 Check the upstream equipment. Correct the fiber jumper or clean or replace the connectors. Replace the faulty circuit pack.
Note	
CenterLink Comments	Reported as: **incoming optical line LO**S. Severity: DEFERRED.

□

Optical line misconnection

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OLINEcMIS
Information	A fiber misconnection is detected between network elements.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	The PROMPT LED on the user panel is illuminated.
Cause	• The optical connectors are not connected. • The optical connectors are interchanged
Actions	 Check the optical connections.
Note	
Cent	Reported as: **optical line ID mismatc**h. Severity: PROMPT.

□

Optical line reset in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OLINEcRST
Information	An optical line reset is in progress.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	• An optical line is transitioned from the AUTO state to the IN-SERVICE state. • The Optical Amplifier (OA) configuration is changed from the single OA configuration to a Dual OA configuration with missing circuit packs.
Actions	 Wait 15 minutes. Add the missing circuit packs to the configuration.
Note	
CenterLink Comments	Reported as: **optical line reset in progres**s. Reported as a condition on the CenterLink.

□

Optical tributary input power threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OTRXPWRcTHR15
Information	User definable optical tributary input power threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty or faulty optical connectors. • Loss of signal. • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_Monitoring.

□

Optical tributary input power threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTRXPWRcTHR24
Information	User definable optical tributary input power threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty or faulty optical connectors. • Loss of signal. • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_ Monitoring.

□

Optical tributary transmit power threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OTTXPWRcTHR15
Information	User definable optical tributary transmit power threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• A hardware failure of the transmitter. • A laser degradation of the transmitter.
Actions	 Remove the transmitter and replace it with a new one.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_ Monitoring***.

□

Optical tributary transmit power threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTTXPWRcTHR24
Information	User definable optical tributary transmit power threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• A hardware failure of the transmitter. • A laser degradation of the transmitter.
Actions	 Remove the transmitter and replace it with a new one.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_ Monitoring***.

□

OTCTL failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTCTLcEQF
Information	An OTCTL (Optical Translator Controller) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the OTCTL is detected. • The OTCTL is starting up.
Actions	 If the alarm is still present after 10 minutes, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **OTCTL failur**e. Severity: PROMPT.

□

OTCTL removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OTCTLcEQR
Information	The OTCTL (Optical Translator Controller) is removed.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The OTCTL is not present.
Actions	 Insert the unit back into its slot position and wait 10 minutes until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **OTCTL remove**d. Severity: PROMPT.

□

OTPM duplicate wavelength

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTPMcPDUP
Information	Duplicate OTPM circuit packs are detected.
Severity	PROMPT (fixed)
Category	TRANSMISSION
Local results	• The PROMPT LED on the user panel is illuminated • Loss of signal (LOS) on OTPM circuit pack.
Cause	Two OTPM circuit packs of the same wavelength are installed.
Actions	 Remove one of the OTPM circuit packs then update the system.
Note	
CenterLink Comments	Reported as: **OTPM duplicate**. Severity: PROMPT.

□

OTPM failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTPMcEQF
Information	An OTPM (Optical Translator Port Module) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the OTPM is detected. • The OTPM is starting up.
Actions	 If the alarm is still present after 1 minute, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **OTPM failur**e. Severity: PROMPT.

OTPM removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTPMcEQR
Information	The OTPM (Optical Translator Port Module) is removed.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The OTPM is not present.
Actions	 Insert the unit back into its slot position and wait 1 minute until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **OTPM remove**d. Severity: PROMPT.

□

OTPM unknown

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTPMcUNKN
Information	The OTPM (Optical Translator Port Module) in the indicated slot is unrecognizable.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	Wrong or failed unit inserted.
Actions	 Insert the correct unit into its slot position and wait 1 minute until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **OTPM unknow**n. Severity: PROMPT.

OTU duplicate wavelength

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OTUcPDUP
Information	Duplicate OTU circuit packs are detected.
Severity	PROMPT (fixed)
Category	TRANSMISSION
Local results	• The PROMPT LED on the user panel is illuminated • Loss of signal (LOS) on OTU circuit pack.
Cause	Two OTU circuit packs of the same wavelength are installed.
Actions	 Remove one of the OTU circuit packs then update the system.
Note	
CenterLink Comments	Reported as: **OTU duplicate**. Severity: PROMPT.

□

OTU failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OTUcEQF
Information	An OTU (Optical Translator Unit) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the OTU is detected. • The OTU is starting up.
Actions	 If the alarm is still present after 1 minute, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **OTU failur**e. Severity: PROMPT.

□

OTU removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	OTUcEQR
Information	The OTU (Optical Translator Unit) is removed.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The OTU is not present.
Actions	 Insert the unit back into its slot position and wait 1 minute until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **OTU remove**d. Severity: PROMPT.

□

QOTU failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	QOTUcEQF
Information	An Quad OTU (Optical Translator Unit) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • The unit is starting up.
Actions	 If the alarm is still present after 1 minute, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **QOTU failur**e. Severity: PROMPT.

□

QOTU removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	QOTUcEQR
Information	The Quad OTU (Optical Translator Unit) is removed.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The Quad OTU is not present.
Actions	 Insert the unit back into its slot position and wait 1 minute until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **QOTU remove**d. Severity: PROMPT.

□

RS Code violations threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	RSCVcTHR15
Information	User definable RS Code Violation threshold is exceeded during a 15 minutes monitoring period, determined by checking the B1 byte.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***.

□

RS Code violations threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	RSCVcTHR24
Information	User definable RS Code Violation threshold is exceeded during a 24 hours monitoring period, determined by checking the B1 byte.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***.

□

RS Near-end errored seconds threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	RSEScTHR15
Information	User definable RS Errored second threshold is exceeded during a 15 minutes monitoring period, determined by checking the B1 byte.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***.

□

RS Near-end errored seconds threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	RSEScTHR24
Information	User definable RS Errored second threshold is exceeded during a 24 hours monitoring period, determined by checking the B1 byte.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***`Performance->Retrieve->Performance_Monitoring`***.

□

RS Near-end severely ES threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	RSSEScTHR15
Information	User definable RS Severely Errored Seconds threshold is exceeded during a 15 minutes monitoring period, determined by checking the B1 byte.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***`Performance->Retrieve->Performance_Monitoring`***.

□

RS Near-end severely ES threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	RSSEScTHR24
Information	User definable RS Severely Errored Seconds threshold is exceeded during a 24 hours monitoring period, determined by checking the B1 byte.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling or equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***.

□

RS trace identifier mismatch

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	RScTIM
Information	The received RS (Regenerator Section) trace identifier, used to verify the continued connection to the intended regenerator, does not match the provisioned value.
Severity	INFORMATION (provisionable via CenterLink)
Category	TRANMISSION
Local results	• The INFO-N LED on the user panel is illuminated. • In the downstream direction, AIS is inserted into the next function.
Cause	Wrong routing somewhere in the network due to: • Wrong connected fibers. • Wrong Expected Trace Identifier filled in via the management system for the network element that reported the alarm.
Actions	 Determine in which network element(s) the fibers are wrongly connected by interpreting the received trace identifiers. Check correctness of expected trace identifier.  Correct wrong fiber connection.
Note	
CenterLink Comments	Reported as: **J0 mismatc**h. Reported as a condition on CenterLink.



Serial telemetry port 1 failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	TLM1cUPF
Information	A failure on the incoming serial telemetry port 1 link is detected.
Severity	DEFERRED (fixed)
Category	EQUIPMENT
Local results	The DEFERRED LED on the user panel is illuminated.
Cause	• A failure of the TOHCTL or SYSCTL. • Missing link.
Actions	 If this alarm is accompanied with a “TOHCTL failure” or “SYSCTL failure”, then first solve that alarm. Establish the link.
Note	
CenterLink Comments	Reported as: **SER TLM 1 port failur**e. Severity: DEFERRED.

□

Software download in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SFTWcDWN
Information	A software download from the management system to the SYSMEM is currently in progress.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	A software download was initiated on the management system.
Actions	None, wait for the download to be completed.
Note	A software download can take as long as 2 hours at 9600 baud (less time at a higher baud rate).
CenterLink Comments	Reported as: **software download in progres**s. Reported as a condition on CenterLink.

SPODU failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPODUcEQF
Information	An SPODU (Self Powered Optical Demultiplexing Unit) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • The unit is starting up.
Actions	 If the alarm is still present after 15 minutes, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **SPODU failur**e. Severity: PROMPT.

□

SPODU power converter failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPODUcPCF
Information	Failure of one of the two redundant SPODU (Self Powered Optical Demultiplexing Unit) power converters.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The PWR ON LED of the failed power converter on the user panel is extinguished. • The PROMPT LED on the user panel is illuminated.
Cause	Hardware failure of the indicated power converter.
Actions	 Remove the power converter and replace it with a new one.
Note	
CenterLink Comments	Reported as: **SPODU power converter failur**e. Severity: PROMPT.

□

SPODU removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPODUcEQR
Information	An SPODU (Self Powered Optical Demultiplexing Unit) is missing from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The SPODU is not present.
Actions	 Insert the unit back into its slot and wait 15 minutes until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **SPODU remove**d. Severity: PROMPT.

□

SPODU warmup in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPODUcWMU
Information	An SPODU (Self Powered Optical Demultiplexing Unit) is warming up to a stable operating temperature.
Severity	INFORMATION (fixed)
Category	EQUIPMENT
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The SPODU is installed and a stable operating temperature is not yet reached.
Actions	None, wait 15 minutes until a stable operating temperature is reached.
Note	
CenterLink Comments	Reported as: **SPODU warup in progress.** Reported as a condition on the CenterLink.

SPOMU failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPOMUcEQF
Information	An SPOMU (Self Powered Optical Multiplexing Unit) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • The unit is starting up.
Actions	 If the alarm is still present after 5 minutes, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **SPOMU failur**e. Severity: PROMPT.

□

SPOMU power converter failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPOMUcPCF
Information	Failure of one of the two redundant SPOMU (Self Powered Optical Multiplexing Unit) power converters.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The PWR ON LED of the failed power converter on the user panel is extinguished. • The PROMPT LED on the user panel is illuminated.
Cause	Hardware failure of the indicated power converter.
Actions	 Remove the power converter and replace it with a new one.
Note	
CenterLink Comments	Reported as: **SPOMU power converter failur**e. Severity: PROMPT.

SPOMU removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPOMUcEQR
Information	An SPOMU (Self Powered Optical Multiplexing Unit) is missing from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The SPOMU is not present.
Actions	 Insert the unit back into its slot and wait 5 minutes until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **SPOMU remove**d. Severity: PROMPT.

□

SPOMU warmup in progress

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SPOMUcWMU
Information	An SPOMU (Self Powered Optical Multiplexing Unit) is warming up to a stable operating temperature.
Severity	INFORMATION (fixed)
Category	EQUIPMENT
Local results	The INFO-N LED on the user panel is illuminated.
Cause	The SPOMU is installed and a stable operating temperature is not yet reached.
Actions	None, wait 15 minutes until a stable operating temperature is reached.
Note	
CenterLink Comments	Reported as: **SPOMU warmup in progres**s. Reported as a condition on the CenterLink.



STC (system controller) failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	SYSCTLcEQF
Information	SYSCTL (system controller) failure or failure of the SYSMEM (system memory).
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • the unit is starting up.
Actions	 Wait 15 minutes until the unit has initialized again otherwise remove the unit from its slot and replace it with a new one.  Check the software and the provisioning data on the SYSCTL.
Note	The installation of a replacement SYSMEM circuit pack may generate certain unexpected alarm conditions. Ignore these indications until this condition has been cleared, then clear any remaining condition(s).
CenterLink Comments	Reported as: **SYSCTL failur**e. Severity: PROMPT.

STM-1 Loss of frame alignment

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	STM1cLOF
Information	Alignment to the frame structure of the received STM-1 CMS signal is not possible. Therefore MS overhead and payload data cannot be extracted
Severity	DEFERRED (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	• Equipment faults in the upstream network element. • Local station erroneous routing of intermediate cabling.
Actions	 Check on the management system if a unit failure is reported for the unit generating the STM-1 frame alignment signal.  In that node, remove the unit and replace it with a new one. If the unit failure is not reported loop the STM-1 signal at the transmitting node and at the receiving node. In this condition, the node reporting STM-1 LOF contains the faulty unit. Check intermediate cabling.  Check the software and the provisioning data on the System Controller.
Note	In the upstream direction, “MS Remote Defect Indicator” is activated.
CenterLink Comments	Reported as: **incoming CMS LO**F. Severity: DEFERRED.

□

STM-1 Loss of input signal

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	STM1cLOS
Information	STM-1 CMS Loss Of Signal: The power level of the received signal is below a defined level and Loss Of Frame alignment (LOF) is detected.
Severity	DEFFERED (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The PROMPT LED on the user panel is illuminated.
Cause	• Cable rupture. • Dirty optical connector(s). • Equipment fault(s) in the upstream far end station of the node that reported the alarm.
Actions	 Check operation of the transmitter in the far-end station. Check for cable breaks, dirty connectors, etc.
Note	
CenterLink Comments	Reported as: **incoming CMS LO**S. Severity: PROMPT.

□

STM1 loss of signal/frame alignment

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	STM1cLOSLOF
Information	A failure in the received STM-1 (OTPM) signal: Loss Of Signal (LOS) and Loss Of Frame alignment (LOF).
Severity	DEFERRED (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	• Fault in an upstream network element. • Equipment fault(s) in the local station.
Actions	 Check the alarms in the upstream network elements.
Note	
CenterLink Comments	Reported as: **incoming STM1 failur**e. Severity: DEFERRED (default).

STM-1 MS Excessive bit error rate

Alarm meaning The table below gives the meaning of the alarm**:**

Alarm Data	**What It Means**
Mnemonic	MS1cEXC
Information	The Equivalent Bit Error Rate (EBER) of the incoming STM-1 CMS signal exceeds an excessive error threshold (10EXP-3). This EBER is determined by counting BIP24 errors.
Severity	DEFERRED (fixed)
Category	TRANSMISSION
Local results	• The LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated. If “invoke AIS on Excessive Errors on Section” is true: • In the upstream direction, “MS Remote Defect Indicator” is activated. • In the downstream direction, AIS is inserted into the next function.
Cause	• Equipment fault(s) in unit in adjacent upstream station. • Faults in external cabling.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Reported as: **incoming CMS S**F. Severity: DEFERRED

STM-1 MS Moderate bit error rate - service degraded

Alarm meaning The table below gives the meaning of the alarm**:**

Alarm Data	**What It Means**
Mnemonic	MS1cDEG
Information	The Equivalent Bit Error Rate (EBER) of the incoming STM-1 signal exceeds the Signal Degrade threshold. This EBER is determined by counting BIP24 errors. The Signal Degrade threshold can be provisioned via the management system.
Severity	DEFERRED (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	Fault(s) in upstream external cabling or equipment.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Reported as: **incoming CMS S**D. Severity: DEFERRED

STM4 loss of signal/frame alignment

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	STM4cLOSLOF
Information	A failure in the received signal: Loss Of Signal (LOS) and Loss Of Frame alignment (LOF).
Severity	DEFERRED (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	• Fault in an upstream network element. • Equipment fault(s) in the local station.
Actions	 Check the alarms in the upstream network elements.
Note	
CenterLink Comments	Reported as: **incoming STM4 failur**e. Severity: DEFERRED (default).

□

STM16 loss of signal/frame alignment

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	STM16cLOSLOF
Information	A failure in the received signal: Loss Of Signal (LOS) and Loss Of Frame alignment (LOF).
Severity	DEFERRED (fixed)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	• Fault in an upstream network element. • Equipment fault(s) in the local station.
Actions	 Check the alarms in the upstream network elements.
Note	
CenterLink Comments	Reported as: **incoming STM16 failur**e. Severity: DEFERRED (default).

Supervisory channel code violations threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPCVcTHR15
Information	User definable supervisory channel code violations threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_Monitoring.

□

Supervisory channel code violations threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPCVcTHR24
Information	User definable supervisory channel code violations threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in Performance-Retrieve-Performance_ Monitoring.

□

Supervisory channel errored seconds threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPEScTHR15
Information	User definable supervisory channel errored seconds threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***.

□

Supervisory channel errored seconds threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPEScTHR24
Information	User definable supervisory channel errored seconds threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

Supervisory channel laser bias current threshold cross 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPLBCcTHR15
Information	User definable supervisory channel laser bias current threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

□

Supervisory channel laser bias current threshold cross 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPLBCcTHR24
Information	User definable supervisory channel laser bias current threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

Supervisory channel optical input power threshold cross 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPRXPWRcTHR15
Information	User definable supervisory channel optical input power threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

Supervisory channel optical input power threshold cross 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPRXPWRcTHR24
Information	User definable supervisory channel optical input power threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

Supervisory channel severely errored seconds thresh cross 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPSEScTHR15
Information	User definable supervisory channel severely errored seconds threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

□

Supervisory channel severely errored seconds thresh cross 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPSEScTHR24
Information	User definable supervisory channel severely errored seconds threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

Supervisory channel unavailable seconds threshold cross 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPUAScTHR15
Information	User definable supervisory channel unavailable seconds threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

□

Supervisory channel unavailable seconds threshold cross 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPUAScTHR24
Information	User definable supervisory channel unavailable seconds threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

□

Supervisory excessive bit error rate

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPcEXC
Information	The Equivalent Bit Error Rate (EBER) of a supervisory signal exceeds an excessive error threshold.
Severity	DEFERRED (default)
Category	PROCESSING
Local results	The DEFERRED LED on the user panel is illuminated.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Reported as: **incoming supr chnl S**F. Severity: DEFERRED (default).

□

Supervisory loss of frame alignment

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	SUPcLOF
Information	Alignment to the frame structure of the received Supervisory signal is not possible.
Severity	DEFERRED (default)
Category	TRANSMISSION
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	• Equipment faults in the upstream network element. • Local station erroneous routing of intermediate cabling.
Actions	 Check on the management system if a unit failure is reported for the unit generating the Supervisory frame alignment signal.  In that node, remove the unit and replace it with a new one. If the unit failure is not reported loop the Supervisory signal at the transmitting node and at the receiving node. In this condition, the node reporting Supervisory LOF contains the faulty unit. Check intermediate cabling.  Check the software and the provisioning data on the System Controller.
Note	
CenterLink Comments	Reported as: **incoming supr chnl fai**l. Severity: DEFERRED (default).THIS ALARM IS REPORTED TWICE ON THE CENTERLINK! (See next alarm)

Supervisory loss of signal/frame alignment

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPcLOSLOF
Information	Failure in received signal: Loss of Signal (LOS) and Loss Of Frame alignment (LOF).
Severity	DEFERRED (provisionable via CenterLink)
Category	PROCESSING
Local results	• The FAULT LED on the unit is illuminated. • The DEFERRED LED on the user panel is illuminated.
Cause	• Fault in an upstream network element. • Equipment fault(s) in the local station.
Actions	 Check the alarms in the upstream network elements.
Note	
CenterLink Comments	Reported as: **incoming supr chnl fai**l. Severity: DEFERRED (default). THIS ALARM IS REPORTED TWICE ON THE CENTERLINK! (See previous alarm)

□

Supervisory moderate bit error rate

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	SUPcDEG
Information	The Equivalent Bit Error Rate (EBER) of the incoming signal exceeds the Signal Degrade threshold. This EBER is determined by counting BIP24 errors.
Severity	DEFERRED (default)
Category	PROCESSING
Local results	• The FAULT LED on the unit flashes. • The DEFERRED LED on the user panel is illuminated.
Cause	Fault(s) in upstream external cabling or equipment.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Reported as: **incoming supr chnl S**D. Severity: DEFERRED (default).

□

Switch lockout

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	LCKcSW
Information	A lockout of protection is active.
Severity	INFORMATION (fixed)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	A lockout command is executed.
Actions	 Execute a CLEAR command.
Note	
CenterLink Comments	Reported as: **OPS inhibi**t. Reported as a condition on the CenterLink.

SW version mismatch

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	SYSMEMcSWM
Information	Volatile/nonvolatile software identification mismatch.
Severity	PROMPT (fixed)
Category	PROCESSING
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	System download procedure was executed. The software version of the current software in SYSCTL is not equal to the downloaded software in the nonvolatile memory in SYSMEM.
Actions	 Execute a RESET command to make the downloaded software operational.
Note	
CenterLink Comments	Reported as: **SYSMEM/SYSCTL code mismatc**h. Severity: PROMPT.

System memory removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	SYSMEMcUPR
Information	An SYSMEM (system memory) is missing from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The SYSMEM is not present.
Actions	 Insert the unit back into its slot and wait 10 minutes until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **SYSMEM remove**d. Severity: PROMPT.

□

The DSNE is not reachable

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	DSNEcNRE
Information	Network routing information may not be up to date because the DSNE (Directory Service Network Element) is not reachable.
Severity	INFORMATION (provisionable via CenterLink)
Category	PROCESSING
Local results	The INFO-N LED on the user panel is illuminated.
Cause	• The local network element has lost contact with the DSNE-node. • The local network element has not identified the DSNE-node in the network.
Actions	 Restore connections (via DCC transmission channels or Q-LAN Bridge) with the node provisioned as the DSNE.  Provision a network element as the DSNE via the Centerlink.
Note	Remote alarming and remote login are not available if this condition arises within five minutes after start up (and will not be fully available if it rises after this period) due to missing routing information.
CenterLink Comments	Reported as: **DS-NE not reachabl**e. Reported as a condition on the CenterLink.

TLM failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	TLMcEQF
Information	An TLM (Telemetry controller) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • The unit is starting up.
Actions	 If the alarm is still present after1 minute, then remove the unit and replace it with an new one.
Note	
CenterLink Comments	Reported as: **TLM failur**e. Severity: PROMPT.

□

TLM removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	TLMcEQR
Information	An TLM (Telemetry controller) is missing from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The unit is not present.
Actions	 Insert the unit back into its slot and wait 1 minute until the unit has initialized again.
Note	
CenterLink Comments	Reported as: **TLM remove**d. Severity: PROMPT.

TOC failure

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	**What It Means**
Mnemonic	TOCcUPF
Information	An TOHCTL (Overhead Controller - Tributary) failure is detected.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	• A hardware failure of the unit is detected. • The unit is starting up.
Actions	 If the alarm is still present after10 minutes, then remove the unit and replace it with an new one.
Note	No remote login possible (no overhead bytes available).
CenterLink Comments	Reported as: **TOHCTL failur**e. Severity: PROMPT.

□

TOC removed

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	TOCcUPR
Information	An TOHCTL (Overhead Controller - Tributary) is missing from its slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	The PROMPT LED on the user panel is illuminated.
Cause	The unit is not present.
Actions	 Insert the unit back into its slot and wait 10 minutes until the unit has initialized again.
Note	No remote login possible (no overhead bytes available).
CenterLink Comments	Reported as: **TOHCTL remove**d. Severity: PROMPT.



Tributary laser bias current threshold crossing 15-min

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTLBCcTHR15
Information	User definable tributary laser bias current threshold is exceeded during a 15 minutes monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

□

Tributary laser bias current threshold crossing 24-hrs

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTLBCcTHR24
Information	User definable tributary laser bias current threshold is exceeded during a 24 hours monitoring period.
Severity	INDETERMINATE
Category	QUALITY OF SERVICE
Local results	None.
Cause	• Dirty optical connector(s). • Equipment fault(s) in the upstream station.
Actions	 Check upstream external cabling and equipment.
Note	
CenterLink Comments	Not reported as an alarm on CenterLink, but can be retrieved in ***Performance->Retrieve->Performance_Monitoring***

Unexpected OTPM type

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	OTPMcWUP
Information	The system detects a difference between what it expects in a OTPM (Optical Translator Port Module) slot and which OTPM is actually in the slot.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	Insertion of wrong or failed unit type.
Actions	 Replace the unit with one of the correct unit type.
Note	
CenterLink Comments	Reported as: **unexpected OTPM typ**e. Severity: PROMPT.

□

Wrong unit

Alarm meaning The table below gives the meaning of the alarm:

Alarm Data	What It Means
Mnemonic	WUPcUPF
Information	Unexpected unit type inserted or unexpected port type selected by hardware strap setting.
Severity	PROMPT (fixed)
Category	EQUIPMENT
Local results	• The FAULT LED on the unit is illuminated. • The PROMPT LED on the user panel is illuminated.
Cause	Slot filled with unit of wrong type.
Actions	 Remove the unit from the slot and insert the correct unit in the slot.
Note	
CenterLink Comments	Reported as: **unexpected CP typ**e. Severity: PROMPT.

□

Glossary

**12 digit Numerical Code (12NC)**
Used to uniquely identify an item or product.
The first ten digits uniquely identify an item.
The eleventh digit is used to specify the particular variant of an item.
The twelfth digit is used for the revision issue.
Items with the first eleven digits the same, are functionally equal and may be exchanged.

A **Add-Drop Multiplexer 155 Mbit/s Compact Subrack (ADM-155C)**
A network multiplexer that is designed to flexibly multiplex plesiochronous and STM-1 tributary port signals into STM-1 line port signals.

Administrative Unit (AU)
Carrier for TUs.

Administrative Unit Pointer (AU PTR)
Indicates the phase alignment of the VC-n with respect to the STM-N frame. The pointer position is fixed with respect to the STM-N frame.

Administrator
See ITM-SC System Administrator.

Agent
Performs operations on managed objects and issues events on behalf of these managed objects. All SDH managed objects will support at least an agent. Control of distant agents is possible via local "Managers".

Alarm
The notification (audible or visual) of a significant event.

See also Event.

Alarm Adapter Unit (AAU)
Radio Relay circuit pack that is used for collection of external alarms and remote control of external equipment.

Alarm Collection Unit (ACU)
Radio Relay circuit pack that performs collection of equipment alarms, analogue measurement from internal monitoring points and calculating data.

Alarm Indication Signal (AIS)
Code transmitted downstream in a digital Network that shows that an upstream failure has been detected and alarmed if the upstream alarm has not been suppressed.
Also referred to as All OneS.

Alarm Severity
An attribute defining the priority of the alarm message. The way alarms are processed depends on the severity.

Aligning
Indicating the head of a virtual container by means of a pointer, i.e. creating an Administrative Unit (AU) or a Tributary Unit (TU).

Alternate Mark Inversion (AMI)
A line code that employs a ternary signal to convert binary digits, in which successive binary ones are represented by signal elements that are normally of alternative positive and negative polarity but equal in amplitude and in which binary zeros are represented by signal elements that have zero amplitude.

American Standard Code for Information Interchange (ASCII)
A standard 8-bit code used for exchanging information among data processing systems and associated equipment.

Anomaly
A difference between the actual and desired operation of a function.

Assembly
Gathering together of payload data with overhead and pointer information (an indication of the direction of the signal).

Association
A logical connection between manager and agent through which management information can be exchanged.

Asynchronous
See Non-synchronous.

Automatic Transmit Power Control (ATPC)
Reduces the transmitter power output level during normal propagation conditions, and increase the power output to maximum level during fading periods trying to maintain nominal receiver input level.

Autonomous Message
A message transmitted from the controlled Network Element to the ITM-SC which was not a response to an ITM-SC originated command.

B

Bit Error Ratio (BER)
The ratio of bits received in error to bits sent.

Bit Interleaved Parity (BIP)
A method of error monitoring using a specified number of bits (BIP-8)

Board Controller Local Area Network (BC-LAN)
The internal local area network that provides communications between the Line Controller circuit pack and board controllers on the circuit packs associated with a high speed line.

Branching
Interconnection of independent line systems.

Broadband Communication
Voice, data, and/or video communication at greater than 2 Mbit/s rates.

Broadband Service Transport
STM-1 concatenation transport over the SLM for ATM applications.

C

Channel
A sub-unit of transmission capacity within a defined higher level of transmission capacity, e.g. a CEPT-4 (140 Mbit/s) within a 565 Mbit fiber system.

Circuit
A combination of two transmission channels permitting bi-directional transmission of signals between two points, to support a single communication.

Clear Channel (Cl. Ch.)
A provisionable mode for the 34 and 140 Mbit/s tributary outputs that causes parity violations to not be monitored or corrected before the 34 and 140 Mbit/s are encoded.

Client
Computer in a computer network that generally offers a user interface to a server.
See also Server.

Concatenation
A procedure whereby a multiplicity of Virtual Containers is associated one with another with the result that their combined capacity can be used as a single container across which bit sequence integrity is maintained.

Configuration Management (CM)
Subsystem of the ITM-SC that, among other things, configures the network and processes messages from the network.

Container (C)
Carries plesiochronous signal, the "payload".

Co-resident
A hardware configuration where the ITM-SC and ITM-NM applications can be active at the same time independently on the same hardware and software platform without interfering each others functioning.

Craft Interface Terminal (CIT)
Local manager for SDH Network Elements.

Cross-Connect Map
Connection map for an SDH Network Element; contains information about how signals are connected between high speed timeslots and low speed tributaries.
See also Squelch Map.

Cross Polarization Interference Cancellation
This feature permits both orthogonal polarizations of one Radio Frequency carrier to be used simultaneously, thus achieving greater spectral efficiency.

D

DACScan-T
See Integrated Transport Management Network Manager.

Database Administrator
A user who administers the database of the ITM-SC application.
See also User Privilege.

Data Communication Channel (DCC)
The embedded overhead communication channel in the SDH line. This is used for end-to-end communication and maintenance. It carries alarm, control, and status information between Network Elements in an SDH network.

Data Communication Equipment (DCE)
Provides the signal conversion and coding between the data terminating equipment and the line. The DCE may be separate equipment or a part of the data terminating equipment.

Data Terminating Equipment (DTE)
Originates data for transmission and accepts transmitted data.

Dedicated Protection Ring (DP-Ring)
A protection method used in ISM Network Elements.

Defect
A limited interruption of the ability of an item to perform a required function. It may or may not lead to maintenance action depending on the results of additional analysis.

Demultiplexing
A process applied to a multiplexed signal for recovering signals combined within it and for restoring the distinct individual channels of these signals.

Digital Link
A transmission span such as a point-to-point 2 Mbit/s, 34 Mbit/s, 140 Mbit/s, VC12, VC3 or VC4 link between controlled Network Elements. The channels within a digital link are insignificant.

Digital Section
A transmission span such as an STM-N or 565 Mbit/s signal. A digital section may contain multiple digital channels.

Directory Service Network Element (DSNE)
A designated Network Element that is responsible for administering a database that maps Network Elements names (node names) to addresses (node Id). There can be one DSNE per (sub)network.

Disassembly
Splitting up a signal into its constituents as payload data and overhead (an indication of the direction of a signal).

Domain
The domain of an ITM-SC is the set of all SDH Network Elements that are controlled by that particular ITM-SC.

Downstream
At or towards the destination of the considered transmission stream, i.e. looking in the same direction of transmission.

E

Electronic Industries Association (EIA)
A trade association of the electronic industry that establishes electrical and functional standards.

Element Management System (EMS)
See Integrated Transport Management Subnetwork Controller.

Equivalent Bit Error Ratio (EBER)
The calculated average bit error rate over a data stream.

Errored Second (ES)
A performance monitoring parameter.

Event
A significant change.
Events in controlled Network Elements include signal failures, equipment failures, signals exceeding thresholds, and protection switch activity. When an event occurs in a controlled Network Element, the controlled Network Element will generate an alarm or status message and send it to the ITM-SC.

Event Management (EM)
Subsystem of ITM-SC that processes and logs event reports of the network.

Externally Timed
An operating condition of a clock in which it is locked to an external reference and is using time constants that are altered to quickly bring the local oscillator's frequency into the approximate agreement with the synchronization reference frequency.

Extra Traffic
Unprotected traffic that is carried over the protection channels when that capacity is not used for the protection of service traffic.

F

Far End Block Error (FEBE)
An indication returned to the transmitting node that an errored block has been detected at the receiving node. A block is a specified grouping of bits.

Far End Receive Failure (FERF)
An indication returned to a transmitting Network Element that the receiving Network Element has detected an incoming section failure.

Free Running
An operating condition of a Network Element in which its local oscillator is not locked to any synchronization reference and is using no storage techniques to sustain its accuracy.

G Geographic Location

Location of the ITM-SC server. This is entered as part of the installation procedure of an ITM-SC.

Gateway Network Element (GNE)

Passes information between other Network Elements and management systems via a Data Communications Network.

Geographic Redundancy (GR)

Allows protection of management for a Network Element by assigning it to two ITM-SCs.
The first primary ITM-SC, usually manages the Network Element and is now in the protected domain.
If the primary ITM-SC or the link between the Network Element and the primary fails, the secondary ITM-SC will automatically take over management of the Network Element and is now in the protecting domain.
The two ITM-SCs are connected by a peer to peer link, which they use to pass Geographic Redundancy management information over. This link must be established before any Network Element can be protected by Geographic Redundancy.

Global Wait to Restore Time

Corresponds to the time to wait before switching back to the timing reference occurs after a timing link failure has cleared. This time applies for all timing sources in a system hence the name global.
This can be between 0 and 60 minutes, in increments of one minute.

H High Density Bipolar 3 code (HDB3)

Line code for e.g. 2 Mbit/s transmission systems.

High level Data Link Control (HDLC)

OSI reference model datalink layer protocol.

Higher order Path Adaptation (HPA)

Function that adapts a lower order Virtaul Container to a higher order Virtual Container by processing the Tributary Unit pointer which indicates the phase of the lower order Virtual Container Path Overhead relative to the higher order Virtual Container Path Overhead and assembling/disassembling the complete higher order Virtual Container.

Higher order Path Connection (HPC)

Function that provides for flexible assignment of higher order Virtual Containers within an STM-N signal.

Higher order Path Termination (HPT)
Function that terminates a higher order path by generating and adding the appropriate Virtual Container Path Overhead to the relevant container at the path source and removing the Virtual Container Path Overhead and reading it at the path sink.

Holdover
An operating condition of a clock in which its local oscillator is not locked to an external reference but is using storage techniques to maintain its accuracy with respect to the last known frequency comparison with a synchronized reference.

Host Name
Name of the server on which the ITM-SC is running.

I

Intelligent Synchronous Multiplexer (ISM)
A network multiplexer that is designed to flexibly multiplex plesiochronous and STM-1 tributary port signals into STM-1 or STM-4 line port signals.

Integrated Transport Management Network Module (ITM-NM)
Manager for SDH Network Elements in a network.
Formerly known as DACScan-T.

Intergrated Transport Management Subnetwork Controller (ITM-SC)
Manager for SDH Network Elements in a subnetwork.
Also referred to as Element Management System.

Intermediate System
A system which routes/relays management information. An SDH Network Element may be a combined Intermediate and end system.

IS-IS Routing
The Network Elements in a management network, route packets (data) between each other using a IS-IS level protocol.
The size of a network running IS-IS Level 1 is limited, and therefore certain mechanisms are employed to facilitate the management of larger networks.

For STATIC ROUTING, the capability exists for disabling the protocol over the LAN connections, effectively causing the management network to be partitioned into separate IS-IS Level 1 areas.
In order for the ITM-SC to communicate with a specific Network Element in one of these areas, the ITM-SC must identify through which socalled Gateway Network Element this specific Network Element is connected to the LAN.
All packets to this specific Network Element are routed directly to the Gateway Network Element by ITM-SC, before being re-routed (if necessary) within the Level 1 area.

For DYNAMIC ROUTING an IS-IS Level 2 routing protocol is used allowing a number of Level 1 areas to interwork.
The Network Elements which connect an IS-IS area to another area are set to run the IS-IS Level 2 protocol within the Network Element and on the connection between other Network Elements. Packets can now be routed between IS-IS areas and the ITM-SC does not have to identify the Gateway Network Elements.

ITM-SC Administrator
See ITM-SC System Administrator.

ITM-SC System Administrator
A user of the ITM-SC application with System Administrator privileges.
See also User Privilege.

J

Jitter
Short term variations of amplitude and frequency components of a digital signal from their ideal position in time.

L

License key
An encrypted code that is required to enable the use of specific modules in the ITM-SC.
Valid license keys can be obtained from your provider.

Line
Transmission line; refers to a transmission medium, together with the associated high speed equipment, required to provide the means of transporting information between two consecutive Network Elements, one of which originates the line signal and the other terminates the line signal.

Line Build Out (LBO)
An optical attenuator that guarantees the proper signal level and shape at the receiver input.

Line Overhead Controller (LOC)
SLM circuit pack that accesses the overhead bytes from the high speed line.

Lower order Path Adaptation (LPA)
Function that adapts a PDH signal to a synchronous network by mapping the signal into or de-mapping the signal out of a synchronous container.

Lower order Path Connection (LPC)
Function that provides for flexible assignment of lower order VCs in a higher order VC.

Lower order Path Termination (LPT)
Function that terminates a lower order path by generating and adding the appropriate VC POH to the relevant container at the path source and removing the VC POH and reading it at the path sink.

M

Management Connection
Identifies the type of routing used (STATIC or DYNAMIC), and if STATIC is selected allows the Gateway Network Element to be identified.
See also IS-IS Routing.

Management Information Base (MIB)
The database in the Network Element and contains the configuration data of the Network Element. A copy of each MIB is available in the ITM-SC and is called the MIB image. Under normal circumstances the MIB and MIB image of one Network Eelement are synchronized.

Manager
Capable of issuing network management operations and receiving events. The manager communicates with the Agent in the controlled Network Element.

Manufacturer Executable Code (MEC)
Network Element system software in binary format that after being downloaded to one of the stores can be executed by the system controller of the Network Element.

Mapping
Gathering together of payload data with overhead, i.e. packing the PDH signal into a Virtual Container.

Mediation Device (MD)
Allows for exchange of management information between Operations System and Network Elements.

Message Communications Function (MCF)
Function that provides facilities for the transport and routing of Telecommunications Management Network messages to and from the Network Manager.

MIB image
See Management Information Base.

Midspan Meet
The capability to interface between two lightwave Network Elements of different vendors. This applies to high speed optical interfaces.

Motif
X-Windows System supplied by Open Software Foundation.

Multiplexer Section OverHead (MSOH)
Part of the Section Overhead. Is accessible only at line terminals and multiplexers.

Multiplexer Section Protection (MSP)
Provides capability for switching a signal from a working to a protection section.

Multiplexer Section Shared Protection Ring (MS-SPRING)
A protection method used in SLM Add-Drop Multiplexer Network Elements.

Multiplexer Section Termination (MST)
Function that generates the Multiplexer Section OverHead in the transmit direction and terminates the Multiplexer Section OverHead in the receive direction.

Multiplexer Timing Source (MTS)
Function that provides timing reference to the relevant component parts of the multiplex equipment and represents the SDH Network Element clock.

Multiplexing
A procedure by which multiple lower order path layer signals are adapted into a higher order path, or the multiple higher order path layer signals are adapted into a multiplex section.

N

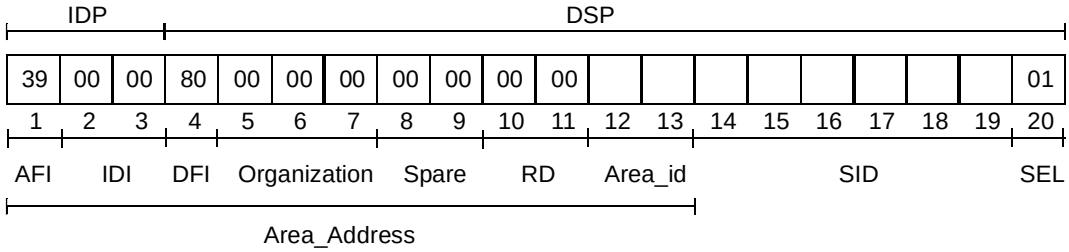
Network Element (NE)
A Network Element is comprised of telecommunication equipment (or groups/ parts of telecommunication equipment) and support equipment that performs network element functions and has one or more standard Q-type interfaces.
A Network Element is direct manageable by a management system.
See also Node.

Network Element Equivalent (NEE)
The functionality, database size and processing power required from the ITM-SC is different for each Network Element type supported. Therefore each type represents an amount of Network Element Equivalent.

Network Mediation Unit (NMU)
Used to collect fault and alarm events from transmission equipment. The ITM-SC can forward alarms to the NMU. The NMU can forward alarms to an Operations System.

Network Service Access Point (NSAP)
An end system address of the System Controller according to ISO 8348 AD2.

The format used is ISO_DCC_LUCENT, which has the following structure:



Where:

Field	Description	Length	Fixed Values
IDP	Initial Domain Part	3 octets	-
DSP	Domain Specific Part	17 octets	-
AFI	Authority and Format Identifier	1 octet	39
IDI	Initial Domain Identifier	2 octets	00 00
DFI	DSP Format Identifier	1 octet	80
Organization		3 octets	00 00 00
Spare		2 octets	00 00
RD	Routing Domain	2 octets	00 00
Area_id		2 octets	Provisionable
SID	System Identification	6 octets	-
SEL	NSAP Selector	1 octet	01
Area_Address	All Octets from AFI to Area_id	13 or 3 octets	-

Node

Defined as all equipment that is controlled by one system controller.
A node is not always direct manageable by a management system.
See also Network Element.

Non-revertive switching

In non-revertive switching there is an active and standby high speed line, circuit pack, etc.
When a protection switch occurs, the standby line, circuit pack, etc., is selected causing the old standby line, circuit pack, etc., to be used for the new active line, circuit pack, etc.
The original active line, circuit pack, etc., becomes the standby line, circuit pack, etc.
This status remains in effect when the faults clears.
Therefore, this protection scheme is non-revertive in that there is no switch back to the original status in effect before the fault occurred.

Non-synchronous
The essential characteristic of time-scales or signals such that their corresponding significant instants do not necessarily occur at the same average rate.

Not Protected Domain
The not protected domain for the ITM-SC contains all the Network Elements which are managed by one ITM-SC and are not currently protected by another ITM-SC. If the ITM-SC fails, the Network Elements in this domain are not managed by any ITM-SC.
See also Geographic Redundancy.

O

Operations System (OS)
Operations System is the system which provides operations, administration and maintenance functions.

Operator
A user of the ITM-SC application with Operator privileges.
See also User Privilege.

Optical Line System (OLS)
A high-capacity lightwave system that is designed to multiplex eight optical signals with different wavelengths into one combined signal through an optical fiber. There is a difference of 1.5 micrometer in wavelength between two multiplexed signals.

P

Paddle Board - Peripheral Control and Timing link
Is a small circuit board used in a 5ESS exchange for protection switching and optical to electrical conversion of the PCT-link.

Path
A logical connection between a termination point at which a standard format for a signal at the given rate is assembled, and transmitted and another termination point at which the received standard frame format for the signal is disassembled.

Path Overhead (POH)
Virtual Container Path Overhead provides for integrity of communication between the point of assembly of a Virtual Container and its point of disassembly.

Peer ITM-SC
ITM-SC at the other end of the Peer to Peer link.

Peer to Peer link
Connection between two ITM-SCs with Geographic Redundancy. The link is used to co-ordinate the management of a Network Element.
See also Geographic Redundancy.

Performance Monitoring (PM)
Measures the quality of service and identifies degrading or marginally operating systems (before an alarm is generated).

Peripheral Control and Timing Facility Interface (PCTFI)
A proprietary physical link interface supporting the transport of 21 * 2 Mbit/s signals.

Platform
Family of equipment and software configurations designed to support a particular Application.

Plesiochronous Network
A network that contains multiple subnetworks, each internally synchronous and all operating at the same nominal frequency, but whose timing may be slightly different at any particular instant.

Pointer
An indicator whose value defines the frame offset of a virtual container with respect to the frame reference of the transport entity on which it is supported.

Primary ITM-SC
ITM-SC that is usually managing a Network Element. If the primary ITM-SC fails, management of the Network Element is passed over to the secondary ITM-SC. A Network Element should be provisioned normally on the primary ITM-SC and then be configured for use on the secondary.
See also Geographic Redundancy.

Primary Reference Clock (PRC)
The main timing clock reference in SDH equipment.

Protected Domain
The protected domain for an ITM-SC contains all the Network Elements this manager is the primary ITM-SC for and are protected by another secondary ITM-SC.
See also Geographic Redundancy.

Protecting Domain
The protecting domain for an ITM-SC contains all the Network Elements this manager is the secondary ITM-SC for.
See also Geographic Redundancy.

Protection
Extra capacity (channels, circuit packs) in transmission equipment that is not intended to be used for service, but rather to serve as backup against equipment failures.

Q

Q-LAN

Thin Ethernet LAN which connects the manager to Gateway Network Elements so that management information between Network Elements and management systems can be exchanged.

Quality Level (QL)

The quality of the timing signal(s) provided to clock a Network Element. The level is provided by the Synchronization Status Marker which can accompany the timing signal.
If the System and Output Timing Quality Level mode is “Enabled”, and if the signal selected for the Station Clock Output has a quality level below the Acceptance Quality Level, the Network Element “squelches” the Station Clock Output Signal, which means that no signal is forwarded at all.

Possible levels are:
- PRC (Primary Reference Clock)
- SSU_T (Synchronization Supply Unit - Transit)
- SSU_L (Synchronization Supply Unit - Local)
- SEC (SDH Equipment Clock)
- DUS (Do not Use for Synchronization)

R

Radio Protection Switching system

Its main function is to handle the automatic and manual switching from a main channel to a common protection channel in an N+1 system.

Radio Relay

A point-to-point Digital Radio system to transport STM-1 signals via microwaves.

RCVR Data Distribution Unit

Radio Relay circuit pack that performs distribution of the protection channel and the low priority traffic in the receiver side.

Receive-direction

The direction towards the cross-connect.

Regenerator Loop

Loop in a Network Element between the Station Clock Output(s) and one or both Station Clock Inputs, which can be used to dejitterize the selected timing reference in network applications.

Regenerator Overhead Controller

SLM circuit pack that provides user access to the SDH overhead channels at repeater sites.

Regenerator Section Termination
Function that generates the Regenerator Section Overhead (RSOH) in the transmit direction and terminates the RSOH in the receive direction.

Relay Unit
Radio Relay circuit pack whose main function is to perform protection switching when the Alignment Switch in the demodulator unit is unable to perform protection switching.

Restore Timer
Counts down the time (in minutes) during which the switch waits to let the worker line recover before switching back to it. This option can be set to prevent the protection switch continually switching if a line has a continual transient fault. This field is greyed out if the mode is non-revertive.

Revertive Switching
In revertive switching, there is a working and protection high speed line, circuit pack, etc.
When a protection switch occurs, the protection line, circuit pack, etc., is selected. When the fault clears, service reverts back to the original working line.

Route
A series of contiguous digital sections.

S

Secondary ITM-SC
Backup ITM-SC for a Network Element should the primary ITM-SC fail. A Network Element should be provisioned normally on the primary ITM-SC and then be configured for use on the secondary.
See also Geographic Redundancy.

Section
A transport entity in the transmission media layer network which provides integrity of information transfer across a section layer network connection by means of a termination function at the section layer.

Section Adaptation
Function that processes the AU-pointer to indicate the phase of the VC-3/4 POH relative to the STM-N SOH and assembles/disassembles the complete STM-N frame.

Section Overhead (SOH)
Capacity added to either an AU-4 or assembly of AU-3s to create an STM-1. Contains always STM-1 framing and optionally maintenance and operational functions. SOH can be subdivided in MSOH (multiplex section overhead) and RSOH (regenerator section overhead).

Self-healing
A network's ability to automatically recover from the failure of one or more of its components.

Server
Computer in a computer network that performs dedicated main tasks which require generally sufficient performance.
See also Client.

Severely Errored Frame Seconds (SEFS)
A performance monitoring parameter.

Severely Errored Second (SES)
A second with a binary error ratio and used as a performance monitoring parameter.

Severity
See Alarm Severity

Service
The operational mode of a physical entity that indicates that the entity is providing service. This designation will change with each switch action.

Smart Communication Channel (SCC)
A HDLC messaging channel between the SDH-TE and the 5ESS host node. Similar to the DCC messaging channels located in the STM-N section overhead.

Soft Windows
PC emulator package for HP platforms.

Space Diversity (SD)
Reception of the Radio signal via mirror effects on earth.

Squelch Map
Traffic map for SLM Add-Drop Multiplexer Network Elements that contains information for each cross-connection in the ring and indicates the source and destination Network Elements for the low speed circuit that the cross-connection is part of. This information is used to prevent traffic misconnection in rings with isolated Network Elements or segments.
See also Cross Connection Map.

Standby
The operational mode of a physical entity that indicates that the entity is not providing service, but standby. This designation will change with each switch action.

Station Clock Input (SCI)
An external clock may be connected to a Station Clock Input.

Streched Ring (STRING)
An open ring in which each node is an Add-Drop Multiplexer. The end nodes operate with one high speed line equipped.

Subnetwork
A group of interconnected/interrelated Network Elements. The most common connotation is an SDH network in which the Network Elements have data communications channels (DCC) connectivity.

Supervisor
A user of the ITM-SC application with Supervisor privileges.
See also User Privilege.

Supervisory Unit (SU)
Radio Relay circuit pack that gives comprehensive supervision and control facilities to the user by collecting information from the Alarm Collection Units and Alarm Adapter Units.

Switch Receive Unit
SLM circuit pack that provides the cross-connect in the receive direction between high speed line timeslots and low speed tributaries.

Switch Transmit Unit
SLM circuit pack that provides the cross-connect in the transmit direction between high speed line timeslots and low speed tributaries.

Switching Module (SM)
An access module from the 5ESS switch.

Synchronization Supply Unit (SSU)
A circuit pack that recovers and reshapes the clock signal in order to filter out jitter.

Synchronous
The essential characteristic of time-scales or signals such that their corresponding significant instants occur at precisely the same average rate.

Synchronous Digital Hierarchy (SDH)
A hierarchical set of digital transport structures, standardized for the transport of suitable adapted payloads over transmission networks.

Synchronous Equipment Management Function (SEMF)
Function that converts performance data and implementation specific hardware alarms into object-oriented messages for transmission over the DCC and/or Q-interface. It also converts object-oriented messages related to other management

functions for passing across the S reference points.

Synchronous Line Multiplexer (SLM)
A line multiplexer that is designed to multiplex VC-4 and STM-1 tributary port signals into STM-16 line port signals.

Synchronous Network
The synchronization of synchronous transmission systems with synchronous payloads to a master Network clock that can be traced to a single reference clock.

Synchronous Transport Module (STM)
The information structure used to support (section layer) connections in SDH.

System Administrator
A user of the computer system on which the ITM-SC application can be installed. See also User Privilege.

System Controller (CTL)
ISM circuit pack that controls the configuration of an Intelligent Synchronous Multiplexer system.

System Controller (SC)
WaveStar™ ADM 16/1 circuit pack that controls and provisions all units. It also contains the data communication packet switch functionallity which is necessary for routing of management information between Network Elements and their management system.

System Controller (SCT)
SLM Line Terminal and Regenerator Network Element circuit pack that provides the highest level of system control for the Synchronous Line Multiplexer system. The SCT circuit pack provides overall administrative control of the system. Its memory is included in the same one circuit pack.

System Controller (STC)
SLM Add-Drop Multiplexer Network Element circuit pack that provides the highest level of system control for the Synchronous Line Multiplexer system. The STC circuit pack provides overall administrative control of the system. Its memory is provided by the MEM circuit pack.

System Controller (SYSCTL)
OLS circuit pack that provides the highest level of system control for the Optical Line System. The SYSCTL circuit pack provides overall administrative control of the system. Its memory is provided by the SYSMEM circuit pack.

System Memory Unit (MEM)
SLM Add-Drop Multiplexer Network Element circuit pack that provides the highest level of system control for the Synchronous Line Multiplexer system.

The MEM circuit pack provides memory support for the System Controller (STC) circuit pack.

System Memory Unit (SYSMEM)
OLS circuit pack that provides the highest level of system control for the Optical Line System.
The SYSMEM circuit pack provides memory support for the SYSCTL circuit pack.

T

Template
A collection of parameters that define a specific Network Element configuration.

A Template gives the user the opportunity to configure parameters in a Network Element with a single operation. They are re-usable, and allow the user to configure the parameters in many Networks Elements in the same way. A set of Default templates is provided, and the user can create new templates and edit or delete user-created ones.
Note that a template is always associated with one specific Network Element type and can not be used for other Network Element types.

Transmit-direction
The direction outwards from the cross-connect.

Trellis Code Modulation
A combined coding and modulation scheme for improving the reliability of a digital transmission system without increasing the transmitted power or the required bandwidth.

Tributary
A signal of a specific rate (2 Mbit/s, 34 Mbit/s, 140 Mbit/s, VC12, VC3, VC4, STM-1 or STM-4) that may be added to or dropped from a line signal.

Tributary Overhead Controller (TOC)
SLM circuit pack that allows access to the overhead bytes of the incoming tributary signal.

Tributary Overhead Controller (TOHCTL)
OLS circuit pack that allows access to the overhead bytes of the Supervisory channel.

Tributary Unit (TU)
An information structure which provides adaptation between the lower order path layer and the higher path layer. Consists of a VC-n plus a tributary unit pointer TU PTR.

Tributary Unit Pointer
Indicates the phase alignment of the VC with respect to the TU in which it resides. The pointer position is fixed with respect to the TU frame.

U

Unavailable Seconds
A performance monitoring parameter.

Uninterruptable Power Supply (UPS)
Allows connected computer equipment to gracefully shutdown, therefore preventing damage in case of a power fail and absorb dips in the supplied power.

Universal Co-ordinated Time (UTC)
A time-zone independent indication of an event. The local time can be calculated from the Universal Co-ordinated Time.

Upstream
At or towards the source of the considered transmission stream, i.e. looking in the opposite direction of transmission.

User Privilege
Permissions a user has to perform actions on the computer system on which the ITM-SC application runs.
The following users can be distinguished:

User Type	User Name	Permissions
System Administrator; this is NOT an ITM-SC user	root (fixed)	maintain platform.
Database Administrator; this is NOT an ITM-SC user	informix (fixed)	maintain database.
ITM-SC System Administrator	i2kadmin (fixed)	maintain ITM-SC application, maintain Network Element templates, maintain MEC files on the ITM-SC, set default ITM-SC parameters.
Supervisor	free choice	perform all data retrieval functions, perform all alarm suppression functions, perform configuration changes.
Operator	free choice	perform all data retrieval functions, perform all alarm suppression functions.

V **Virtual Container (VC)**
Container with path overhead.

W **Wait to Restore Time (WRT)**
Corresponds to the time to wait before switching back after a failure has cleared, in a revertive protection scheme. This can be between 0 and 15 minutes, in increments of one minute.

Wander
Long term variations of amplitude frequency components (below 10 Hz) of a digital signal from their ideal position in time possibly resulting in buffer problems at a receiver.

WaveStar™ ADM 16/1
A network multiplexer that is designed to flexibly multiplex plesiochronous and STM-1 tributary port signals into STM-4 or STM-16 line port signals.

What You See Is What You Get (WYSIWYG)
Information as displayed on the screen will appear in the same way on printed output.

Wideband Communications
Voice, data, and/or video communication at digital rates from 64 kbit/s to 2 Mbit/s.

Windows
Graphical User Interface on PC systems.

Working
Label attached to a physical entity. In case of revertive switching the working line or unit is the entity that is carrying service under normal operation. In case of non-revertive switching the label has no particular meaning.

X **XMTR Switch Unit**
Radio Relay circuit pack that performs connections for protection switching and transmission of low priority traffic on the protection channel.

X-Terminal
Workstation that can support an X-Windows interface

X-Windows
Graphical User Interface on Unix Systems.

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