Lucent Technologies
Bell Labs Innovations

WaveStar® ITM-SC Release 8.0

Alarm Messages and Trouble Clearing Guide

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Notice

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Mandatory Customer Information

Overview EMC/ESD Safety

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

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.

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Information product support

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	Yes	*No*	*Not applicable*
In the language of your choice?	☐	☐	☐
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2. Please rate the effectiveness of this information product:

	Excellent	*More than satisfactory*	*Satisfactory*	*Less than satisfactory*	*Unsatisfactory*	*Not applicable*
Ease of use	☐	☐	☐	☐	☐	☐
Level of detail	☐	☐	☐	☐	☐	☐
Readability and clarity	☐	☐	☐	☐	☐	☐
Organization	☐	☐	☐	☐	☐	☐
Completeness	☐	☐	☐	☐	☐	☐
Technical accuracy	☐	☐	☐	☐	☐	☐
Quality of translation	☐	☐	☐	☐	☐	☐
Appearance	☐	☐	☐	☐	☐	☐

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Organization	☐	☐	☐	☐	☐	☐
Completeness	☐	☐	☐	☐	☐	☐
Technical accuracy	☐	☐	☐	☐	☐	☐
Quality of translation	☐	☐	☐	☐	☐	☐
Appearance	☐	☐	☐	☐	☐	☐

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Contents

About this information product

Purpose

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.

Reason for reissue

First issue.

Safety labels

The safety guidelines are stated in Appendix A

Intended audience

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 degradationGather information about the alarms and/or performance degradationInterpret alarm information:alarm locationalarm priority (service affecting)correlate alarmsset priorities in case of multiple alarms.Resolve alarmsdetermine strategies for correcting alarms and the consequences of these strategiesdetermine when best time to correct problems (depending on alarm severity)make an action plan to correct alarms or performance degradationdivide 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 maintenanceschedule tests/self-testsswitch to protection parts if necessary to take corrective action.

How to use this information product

The Alarm Messages and Trouble Clearing Guide (AMTCG) is divided into a number of chapters.

This guide is divided into the following chapters:

- About this guide: Brief description over how to use this guide.
- Alarm Messages: This chapter holds an alphabetic list of all alarms for the WaveStar® AM 1 Plus
- Glossary: In this chapter all the special terms and all the abbreviations and acronyms, used in this manual, are listed.

Conventions used

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.

This guide will use the following notations

DANGER

Suggests the possibility of a personal injury

CAUTION

Suggests the possibility of service interruption

WARNING

Suggests the possibility of equipment damage or software corruption

Important! Gives supplementary information

Approval 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.

Related documents

The following documents are network element (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 physical installation of an NE and for connecting the cabling, refer to the: NETWORK ELEMENT INSTALLATION GUIDE
- For information on provisioning and maintenance of the NE with the use of the Craft Interface Terminal (CIT), refer to the: CRAFT USER GUIDE

The following documents are 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 provisioning of the Network Elements with the use of the Integrated Transport Management-Subnetwork Controller (ITM-SC), refer to the: ITM-SC PROVISIONING GUIDE
- For information on maintenance of the NEs with the use of the Integrated Transport Management-Subnetwork Controller (ITM-SC) refer to the: ITM-SC MAINTENANCE GUIDE

How to comment

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How to order

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1 ITM-SC Alarm Messages

Overview

Purpose

This chapter contains a description of all alarms related to ITM-SC failures. It gives instructions for correcting failures, and it also provides maintenance personnel with procedures for tracing possible faults in the ITM-SC.

Reference to ITM-SC administrator

When the term System Administrator is used, always a reference to the ITM-SC System Administrator (″i2kadmin″) is made. In general no actions of the actual System Administrator (″root″) of the platform are required.

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About Alarm Messages

Format of alarm descriptions

Each alarm message is described in a table. The alarm message descriptions are listed in alphabetical order by the message text reported by the EMS.

Alarm Data	What it means
Mnemonic	Shows the fault Identifier.
Information	Explains the alarm and supplies additional information about the function of the equipment.
Severity	States the default severity of the alarm message. An alarm message can have the following severities: • PROMPT • DEFERRED • INFORMATION.
Category	Describes the type of failure, focusing on the origin of the failure. • MANAGEMENT messages indicate a lack of communication or control of the EMS by the Transmission System. • EMS messages relate to the EMS itself, such as EMS database failures or communication failures with an NMU.
Local results	Describes visual and audible indicators generated at the place the fault occurs, for example, unit LED is on. These indicators are always generated at the network element location. Use this information to inform the Maintenance Technician about what to expect, and what to check before performing corrective actions. Depending on the severity of the alarm, one of the following LEDs on the user panel is on: PROMPT, DEFERRED or INFO. The LED description for each alarm message depends 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 individual alarm messages. Using the Station Alarm Interface depends on the settings and configuration at your location.

Alarm Data	What it means
Cause	Refers to the cause of the alarm and gives more information about why the message was generated. Gives more details on the origin of the fault which helps you to understand and solve difficult problems.
Actions	States actions that may help solve the problem, or suggests running certain tests for further failure origin investigation. The Maintenance Operator can combine these actions into a trouble ticket and delegate them to the Maintenance Technician.
Note	Alerts the Maintenance Operator on side effects and things that need to be kept in mind when doing the corrective action.

A disk has failed

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

Alarm Data	What It Means
Mnemonic	LM_DISK_FAILED
Information	The indicated disk has failed.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The disk is no longer usable.
Cause	Power may have been removed from the disk. The disk may have been removed. The disk may have a hardware problem.
Actions	Ask the system administrator to investigate what the cause of the problem is and take corrective action.
Note	

A protection switch occurred on a cross connection

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

Alarm Data	What It Means
Mnemonic	PROTECTION_SWITCH_EVENT
Information	A protection switch has occurred on a VC12, VC3 or VC4 cross connection at the indicated network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	None. Information that a protection switch has occurred at a network element only.
Cause	An automatic switch or a manual command caused traffic to be swapped between the worker and protection sides of the cross connection.
Actions	Check the protection switch information screens for the indicated network element to obtain further details.
Note	

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Abnormal EMS shutdown

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

Alarm Data	What It Means
Mnemonic	ABNORMAL_EMS_SHUTDOWN
Information	The EMS stopped managing the network due to a failure in the management system.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	The network is no longer managed via this EMS.
Cause	An overload occurred in the EMS.
Actions	Ask System Administrator to restart EMS.
Note	

Add Protection operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_ADD
Information	Add Protection failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The Add Protection operation is incomplete. Until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

A LAN card on the indicated client is reporting TCP/IP problems

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

Alarm Data	What It Means
Mnemonic	RM_TCPIP_PROBLEMS
Information	The indicated LAN card on the indicated client is reporting TCP/IP errors.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The ITM-SC may have performance problems.
Cause	There may be a faulty wire/connection in the TCP/IP LAN or faulty LAN card.
Actions	If the symptoms persist, then investigate what is causing the TCP/IP problems.
Note	

Alarm History log on NE deleted while attempting to read

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

Alarm Data	What It Means
Mnemonic	ALRM_HIST_LOG_DELETED_ON_READ
Information	The alarm history log on the network element was deleted when the ITM-SC attempted to retrieve its contents during re-association.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Alarm information stored in the network element alarm history log has been lost. The ITM-SC has initiated a full re-evaluation fo fault status for the network element. This means that the ITM-SC will retrieve details of all alarms raised on the network element at the time of re-association. However, the alarm raise or clear times of some alarms raised or cleared during loss of association may not be recovered.
Cause	This is due to an interface error which arose when the ITM-SC attempted to retrieve its contents during re-association.
Actions	None. Re-evaluate fault status will be performed automatically.
Note	

Alarm History log on NE has been reset

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

Alarm Data	What It Means
Mnemonic	ALRM_HIST_LOG_RESET
Information	The alarm history log on the network element has been deleted and reset since the last recovery.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The network element Alarm history log may not hold a complete record of alarm information since last recovered. The ITM-SC has initiated a full re-evaluation fo fault status for the network element. This means that the ITM-SC will retrieve details of all alarms raised on the network element at the time of re-association. However, the alarm raise or clear times of some alarms raised or cleared during loss of association may not be recovered.
Cause	The alarm history log on the network element has been deleted and reset since the last recovery.
Actions	None. Re-evaluate fault status will be performed automatically.
Note	

Alarm History Recovery aborted

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

Alarm Data	What It Means
Mnemonic	ALRM_HIST_RCVRY_ABORT
Information	Alarm raise of clear notifications reported by a network element during Alarm History Recovery have been received intermittently out of sequence at the ITM-SC.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	Association with the network element has been released. The Alarm History Recovery for this network element has been automatically disabled.
Cause	This is due to either too many alarms being received at the same at the ITM-SC, or intermittent reading and overflowing of the network element alarm history log during recovery.
Actions	Re-enable association with the network element ensuring Alarm History Recovery is disabled. This will re-evaluate all outstanding alarms on the network element without attempting to read the network element alarm history log.
Note	Their correct raise and clear times cannot be retrieved.

An unauthorised access attempt has been made

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

Alarm Data	What It Means
Mnemonic	LM_ILLEGAL_ACCESS
Information	An unauthorised attempt was made to access the indicated server.
Severity	PROMPT (default)
Category	EMS
Alarm indications	Someone unauthorised may be trying to access the indicated server.
Cause	Someone unauthorised may be trying to access the indicated server.
Actions	Check the system log file for details. Notify your security representative.
Note	

Association Loss Switch operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_ASSOC_LOSS
Information	Association Loss Switch failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The geographic redundancy operation is incomplete. Until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

Association released by Disable Management operation

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

Alarm Data	What It Means
Mnemonic	MANUAL_RELEASE
Information	Communication with a previously managed network element has been manually disabled.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Alarm indications in the originator of the alarm message.
Cause	The communication to a previously managed network element has been disabled.
Actions	None.
Note	

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Association released due to the NE database being busy

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

Alarm Data	What It Means
Mnemonic	CTLOVERALSTATE_BUSY
Information	The ITM-SC's attempt to associate with the network element has failed during the check to determine whether the database is busy.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	The network element is not being managed by the ITM-SC.
Cause	The network element is performing some internal activity, which is causing the database state to be busy.
Actions	Drop the association and try again later.
Note	

Association released due to software version mismatch

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

Alarm Data	What It Means
Mnemonic	SOFTWARE_VERSION_MISMATCH
Information	Network element software version mismatch.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Alarm indications generated in the originator of the alarm message.
Cause	The version of the network element software is not supported by the current release of the EMS.
Actions	Verify the version of the network element software. Check that the version of the network element software matches the expected version by the EMS release.
Note	Contact Lucent Technologies Customer Technical Support if the version of the network element software does not match the expected version by the EMS release.

Automatic GR switch taking place - NE being switched to secondary

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

Alarm Data	What It Means
Mnemonic	GR_AUTO_SW_START
Information	A network element is undergoing an automatic switch of management to the secondary ITM-SC as the current ITM-SC has lost the association with the network element and cannot reassociate with it.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Secondary ITM-SC is trying to gain management control of the network element, current ITM-SC has geographic redundancy management status of ‘No Control’.
Cause	Loss of association with the network element for a confirmed period of time, automatic geographic redundancy switch to secondary ITM-SC has started.
Actions	Alarm raised to indicate the management control of a network element is being switched from the current ITM-SC. If secondary ITM-SC cannot perform a successful MIB upload from the network element then management control will be returned to the current ITM-SC.
Note	Alarm raised on the primary system.

Cannot resolve GR state - link forced to failed state

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

Alarm Data	What It Means
Mnemonic	GR_STATE_ILLEGAL
Information	Extreme error. When established the link between peer ITM-SC systems, errors were encountered which the rules for state resynchronization could not resolve.
Severity	PROMPT (default)
Category	EMS
Alarm indications	Peer to peer link goes to failed state.
Cause	Most likely cause is database restore of one of a pair of peers with an inconsistent database to the other. Other possible cause is a software bug.
Actions	System Administrator should examine EMS error log to determine which node caused the error.
Note	If the cause of the error is not obvious and cannot easily be resolved, Lucent Technologies Customer Technical Support should be contacted.

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CIT login detected

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

Alarm Data	What It Means
Mnemonic	CIT_LOGIN
Information	A CIT user has logged into a network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	A CIT user has logged into a network element and may change its configuration.
Cause	
Actions	Check CIT Access List to determine whether login is legitimate. Log out may be forced if required.
Note	

Communication with NE released due to the failure of NE type check

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

Alarm Data	What It Means
Mnemonic	NE_TYPE_FAILURE
Information	On attempting to associate with a network element, the ITM-SC's check of the network element type failed.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The association with the network element is dropped and the network element is unmanageable by the ITM-SC.
Cause	The network element that ITM-SC is attempting to associate with is of a different type to that expected.
Actions	Check the NSAP address of the network element. If wrong, delete the network element and repeat the operation. Alternatively if the NSAP is correct, delete the network element and repeat the operation specifying the correct network element type.
Note	Contact Lucent Technologies Customer Technical Support if the network element type check still fails and the NSAP address is correct.

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Confirmed loss of link to Peer ITM-SC

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

Alarm Data	What It Means
Mnemonic	GR_PEER_LINK_LOSS
Information	The connection used to send information between peer ITM-SC has been lost for the ‘Confirmed Link Loss Period’ (default 5 minutes).
Severity	PROMPT (default)
Category	EMS
Alarm indications	ITM-NM data updates no longer transferred to peer manager. The local ITM-SC will attempt to gain management of the network elements that it is protecting for the remote ITM-SC, and similarly the remote ITM-SC will be doing the same.
Cause	The communications line has been damaged or equipment at either end is faulty. Also the remote ITM-SC may not be operational.
Actions	Check the connection between peer ITM-SCs. If the fault is repaired, communications between the peer ITM-SCs will be restored. If you do not want the peer ITM-SCs to attempt automatic switches due to loss of peer to peer communication, get a user on the peer system to disable geographic redundancy for the network elements involved.
Note	

Connection to Peer ITM-SC refused: Incompatible software versions

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

Alarm Data	What It Means
Mnemonic	GR_BAD_SW_VERSIONS
Information	On link establishment the peers detected different software versions.
Severity	PROMPT (default)
Category	EMS
Alarm indications	No geographic redundancy protection is available from that peer.
Cause	One (but not both) peer has been upgraded to an incompatible software version. Geographic redundancy is impossible until both peers are running the same software version again.
Actions	System Administrator should upgrade the out of date ITM-SC to the new software version.
Note	

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Creation of NE failed

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

Alarm Data	What It Means
Mnemonic	NE_CREATE_NODE_FAIL
Information	The attempt to create the network element failed.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The network element has not been configured as requested and is unmanageable by the ITM-SC.
Cause	The network element was unable to configure itself in line with the configuration sent by the manager.
Actions	Check that the configuration is compatible with the network element.
Note	Contact Lucent Technologies and provide information about the network element type and the configuration.

Creation of NE from template or pre-provisioning failed

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

Alarm Data	What It Means
Mnemonic	DB_INVALID_MIBSTATE_RE_ASSOC
Information	The network element has not configured itself in line with the request sent by the manager.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	The network element is no longer managed by the ITM-SC.
Cause	The template or pre-provisioning data sent to the network element was not compatible with the network element type.
Actions	For a pre-provisioned network element or user-defined template, reconfigure it according to the network element type. For a factory-defined template, if possible create a user-defined template from it and then configure this template.
Note	

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Current list absolute limit exceeded

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

Alarm Data	What It Means
Mnemonic	LIST_ABS_LIMIT_EXCEEDED
Information	The maximum number of alarms stored in the EMS Current Alarm list exceeds a configured value. This limit is set by the System Administrator.
Severity	DEFERRED (default)
Category	EMS
Alarm indications	The operation of the EMS is affected. If the absolute limit is exceeded, 15% of the cleared alarms are moved from the Current Alarm List to the History List automatically.
Cause	This is generated to indicate that the Current Alarm List is full.
Actions	Instantaneous alarm. No clearing action required.
Note	Contact your System Administrator if the absolute limit should be reconfigured to another value.

Current list threshold exceeded

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

Alarm Data	What It Means
Mnemonic	LIST_THOLD_EXCEEDED
Information	The alarms stored in the EMS Current Alarm List exceeds a configured value. This limit is set by the System Administrator.
Severity	DEFERRED (default)
Category	EMS
Alarm indications	The effects in the long term affect the operation of the EMS.
Cause	This is generated to indicate that the Current Alarm List is becoming full.
Actions	The cleared alarms should be deleted from the Current Alarm List manually. The extent of the deletion depends upon maintenance strategies, for example, deleting all cleared alarms that have been in the Current Alarm List for a certain length of time. This should be done as part of routine EMS maintenance. When the alarm store size has dropped to 75% of the threshold value, this alarm is cleared.
Note	Contact your System Administrator if the warning threshold should be reconfigured to another value.

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Database archive failed - archive timed out

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_FAIL_TIMOUT
Information	An archive request has failed due to the archive process timing out.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	Either the Informix archive process (tbtape) took more than 1 minute to start or the archive took longer than 12 minutes.
Actions	If situation persists, shut ITM-SC down and perform an immediate archive.
Note	

Database archive failed - insufficient bandwidth to remote host

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_FAIL_BANDWIDTH_LOW
Information	An archive request has failed due to insufficient bandwidth to the remote host.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	Insufficient bandwidth to remote host where database archive is to be stored.
Actions	Increase bandwidth to remote host
Note	-

Database archive failed - insufficient disk space available

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_FAIL_DISK_SPACE
Information	An archive request has failed due to insufficient disk space in the file system containing the specified archive directory.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	Insuffient disk space in the file system containing the specified archive directory.
Actions	Create more space in the file system containing the specified archive directory (e.g. by deleting old archives). If this is not possible, select another directory with sufficient space.
Note	-

□

Database archive failed - MIB upload/download in progress or network element controller card busy

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_FAIL_MIB_CTL_BUSY
Information	An archive request has failed due to MIB upload or download in progress or network controller card busy.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	MIB upload or download in progress or network element controller card busy.
Actions	Check MIB unlocked and network element controller card not busy and either wait for next periodic archive or request an immediate archive.
Note	

Database archive to tape failed - non-database archive on the tape

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_FAIL_TAR
Information	An archive request has failed due to the tape in the tape device containing a non-database archive.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	The tape in the tape device containing a tape archive from another subsystem.
Actions	Replace the tape in the tape device with either a new tape or a tape which was previously used for database archives.
Note	

Disable Protection operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_DISABLE
Information	Disable Protection failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The Disable Protection operation is incomplete; until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

□

Detection of incomplete alarm information

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

Alarm Data	What It Means
Mnemonic	INCOMPLETE_ALRM_INFO_DETECTED
Information	An alarm raise of clear notification reported by a managed network element has been received out of sequence at the ITM-SC.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	One or more alarm raise or clear notifications from the network element have been lost.
Cause	This may be due either to problems with the DCN network, or too many alarms reported at the same time.
Actions	Update the MIB Image of the network element with Alarm History Discovery disabled. This will re-evaluate all outstanding alarms on the network element. Note their correct raise and clear times cannot be retrieved.
Note	

□

Detection of incomplete alarm information during Alarm History Recovery

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

Alarm Data	What It Means
Mnemonic	INCOMPLETE_ALRM_HIST_RCVRY
Information	An alarm raise of clear notification reported by a network element during Alarm History Recovery has been received out of sequence at the ITM-SC.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	A re-evaluation of fault status is automatically performed for that network element. The alarm raise or clear times of some alarms raised or cleared during loss of association may not be recovered.
Cause	This could be due to an overflow of the network element alarm history log during loss of association. Otherwise this may be due either to problems with the DCN network, or too many alarms reported at the same time.
Actions	None. Re-evaluate fault status will be performed automatically.
Note	

□

Enable Management operation failure - Association Released

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

Alarm Data	What It Means
Mnemonic	ASSOC_FAILURE
Information	Management with a previously managed network element cannot be enabled.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Alarm indications in the originator of the alarm message.
Cause	Card failure. Removal or severance of one or more optical fibres. LAN interface failure. LAN terminating impedance removed. Additional equipment installed on a shared LAN.
Actions	Identify the cause of the alarm and correct it.
Note	

Enable Protection operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_ENABLE
Information	Enable Protection failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The Enable Protection operation is incomplete; until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

Expired alarms deleted

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

Alarm Data	What It Means
Mnemonic	EXP_ALARMS_DELETED
Information	Periodic deletion of history alarms which have been cleared for longer than a user configurable time (default = 10 days).
Severity	DEFERRED (default)
Category	EMS
Alarm indications	Expired alarms are removed from the history list.
Cause	Cleared alarms in the history list expiring.
Actions	Instantaneous alarm - no clearing.
Note	The deletion of expired alarms can be disabled.

Failed to associate with new node

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

Alarm Data	What It Means
Mnemonic	NEW_NODE_ASSOC_FAILED
Information	Communication to a new created network element is not possible.
Severity	DEFERRED (default)
Category	MANAGEMENT
Alarm indications	It is not possible to manage the new network element.
Cause	Some impediment is stopping correct communication between the EMS and the network element.
Actions	Check for communications addresses being correct. Check for correct gateway network element identification. Check that line port units of all network elements through which the Data Communication Channel (DCC) is needed are in service. Check that the new network element has all cards installed properly and that the correct version of software is installed on the new system controller card of the network element.
Note	

Failed to associate with previously managed node

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

Alarm Data	What It Means
Mnemonic	EXISTING_NODE_ASSOC_FAILED
Information	Communication with a previously managed network element has stopped working.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	It is not possible to manage the network element.
Cause	Card failure. Removal or severance of one or more optical fibres. LAN interface failure. LAN terminating impedance removed. Additional equipment installed on a shared LAN.
Actions	Identify the cause of the alarm and correct it.
Note	

Failed to recover association

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

Alarm Data	What It Means
Mnemonic	ASSOC_RECOVERY_FAILED
Information	Communication between the EMS and a network element cannot be recovered.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Management communications to the two involved parties ceases until the association is recovered.
Cause	Addresses incorrect following card replacement Breakages of optical fibres which stops DCC communications Ethernet connections failure Ethernet termination impedances removed or incorrect causing data reflections on the LAN.
Actions	Identify the cause of the alarm and correct it.
Note	

Filesystem has exceeded its allocated maximum disk space

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

Alarm Data	What It Means
Mnemonic	RM_FSHIGHWATER_EXCEEDED
Information	The total “blocks in use” of a filesystem exceeds the higher threshold.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The filesystem is running out of space.
Cause	The files in the filesystem have taken up all their allocated disk space.
Actions	Contact the system administrator.
Note	

Filesystem has exceeded its allocated maximum number of files

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

Alarm Data	What It Means
Mnemonic	RM_INODEHIGHWATER_EXCEEDED
Information	The total “I-Nodes in use” of a filesystem exceeds the higher threshold.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The filesystem is running out of I-nodes.
Cause	There are too many files for the filesystem to handle.
Actions	Contact the system administrator.
Note	

□

Filesystem is approaching its upper limit for number of files

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

Alarm Data	What It Means
Mnemonic	RM_INODELOWWATER_EXCEEDED
Information	The total “I-nodes in use” of a filesystem exceeds the lower threshold.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	The filesystem is close to running out of I-nodes.
Cause	There are too many files in the filesystem.
Actions	Contact the system administrator.
Note	

Filesystem is approaching the upper limit for disk space

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

Alarm Data	What It Means
Mnemonic	RM_FSLOWWATER_EXCEEDED
Information	The total “blocks in use” of a filesystem exceeds the lower threshold.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	The filesystem is close to running out of disk space.
Cause	The files in the filesystem are taking up too much space.
Actions	Contact the system administrator.
Note	

Filesystem is unmounted

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

Alarm Data	What It Means
Mnemonic	RM_FSUNMOUNTED
Information	A filesystem is no longer mounted.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The file ystem can no longer be accessed.
Cause	A filesystem is no longer mounted.
Actions	Contact the system administrator to find out why the filesystem is no longer mounted.
Note	

Free swap space is running low

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

Alarm Data	What It Means
Mnemonic	RM_SWAP_LOW
Information	The amount of pseudo-swap in use has risen above a pre-determined limit.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The ITM-SC may fail due to a lack of memory.
Cause	The system is running out of memory.
Actions	Ask the system administrator to investigate what the cause of the problem is and take corrective action.
Note	

GR operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED
Information	A geographic redundancy operation failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The geographic redundancy operation is incomplete; until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

GR Protection Disabled for NE on peer link re-establishment

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

Alarm Data	What It Means
Mnemonic	GR_PROT_DISABLED_RESYNC
Information	The geographic redundancy Protection has been disabled for the network element on the peer ITM-SC while the peer to peer link was disconnected, the protection has now been disabled on both ITM-SCs.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The Geographic Redundancy NE Information screen now shows the node as having protection disabled.
Cause	You disabled geographic redundancy protection for the network element while the peer link was disconnected.
Actions	None. For information only.
Note	

GR Protection removed on NE while peer link down

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

Alarm Data	What It Means
Mnemonic	GR_PROT_REMOVED_NO_LINK
Information	A geographic redundancy protection has been removed on an element while the peer to peer link was down.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	If the peer was the secondary for that network element, when the peer is re-established, protection will be added back for the network element unless protection has also been removed on the primary manager.
Cause	A protection is removed for a network element while the peer to peer link is down.
Actions	Warning message to indicate that difficulties may be experienced later.
Note	

History list absolute limit exceeded - oldest 15% alarms deleted

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

Alarm Data	What It Means
Mnemonic	HLIST_ABS_LIMIT_EXCEEDED
Information	The maximum number of alarms stored in the EMS History list exceeds a configured limit set by the system administrator.
Severity	DEFERRED (default)
Category	EMS
Alarm indications	The operation of the EMS is affected. If the absolute limit is exceeded, 15% of the oldest of the cleared alarms are deleted from the history list automatically.
Cause	This is generated to indicate that the History list is full and that the oldest 15% of alarms have been deleted as a consequence.
Actions	Instantaneous alarm. No clearing action required.
Note	Contact your system administrator if the warning threshold should be re-configured to another value.

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History list threshold exceeded

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

Alarm Data	What It Means
Mnemonic	HLIST_THOLD_EXCEEDED
Information	The alarms stored in the EMS History list exceeds a configured value. This limit is set by the System Administrator.
Severity	DEFERRED (default)
Category	EMS
Alarm indications	In the long term this problem could affect the operation of the EMS.
Cause	This is generated to indicate that the History list is becoming full.
Actions	Alarms should be deleted from the History list manually. The extent of the deletion depends upon maintenance strategies, for example, deleting all cleared alarms that have been in the History list for a certain length of time. This should be done as part of routine EMS maintenance. When the alarm store size has dropped to 75% of the threshold value, this alarm is cleared.
Note	If no action is taken “History list absolute limit exceeded” alarm-message is generated. Contact your system administrator if the warning threshold should be reconfigured to another value.

Interface error

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

Alarm Data	What It Means
Mnemonic	INTERFACE_ERROR
Information	A protocol error occurred on association with the element, and the association was released.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Association failed.
Cause	The element is not compatible with the ITM-SC.
Actions	Attempt a manual enable of the association.
Note	Contact the Lucent Technologies Customer Technical Support if the problem persists.

Invalid mibState for GR recovery by MIB upload

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

Alarm Data	What It Means
Mnemonic	INVALID_MIBSTATE_GR_RECOVERY
Information	The geographic redundancy facility has automatically initiated an MIB upload, which cannot be performed because the network element is in the wrong state.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The ITM-SC repeatedly drops the association with the network element and then attempts to re-associate.
Cause	The network element may have reset.
Actions	Investigate why the geographic redundancy switch was requested with the network element in the incorrect state. Remove the network element from the geographic redundancy scheme, re-associate with the network element, then put the network element back into the geographic redundancy scheme.
Note	

ITM-NM association lost

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

Alarm Data	What It Means
Mnemonic	DACSCAN_ASSOCIATION_LOST
Information	The connection used to communicate between ITM-NM and ITM-SC is broken.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	Request may no longer be received from ITM-NM and events may no longer be notified to ITM-NM.
Cause	The communications medium has been damaged or termination equipment at either end is faulty.
Actions	Check continuity of the communication medium and check the state of termination equipment. If the fault is repaired communication is re-established between ITM-NM and ITM-SC.
Note	

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ITM-SC now managing NE as the result of a manual GR switch

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

Alarm Data	What It Means
Mnemonic	GR_NE_SWITCHED_MANUAL
Information	On the peer ITM-SC, you requested a manual geographic redundancy switch of control of the network element to this ITM-SC.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The network element is now being managed by this ITM-SC and has an geographic redundancy state of Actively Managing, control of the network element is only handed back to the peer ITM-SC after a Retrieve operation on the peer ITM-SC.
Cause	An action on the primary peer ITM-SC for the network element.
Actions	Warning message to indicate that the ITM-SC is now managing an additional network element.
Note	Raised on the secondary ITM-SC for the network element.

ITM-SC now managing NE as the result of an automatic GR switch

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

Alarm Data	What It Means
Mnemonic	GR_NE_SWITCHED_AUTO_ASSOC
Information	Management control of the network element has been passed to this ITM-SC from the primary ITM-SC as a result of an automatic geographic redundancy switch due to association loss on the primary ITM-SC.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The network element is now being managed by this ITM-SC and has an geographic redundancy state of Actively Managing, control of the network element is only handed back to the peer ITM-SC after a Retrieve operation on the peer ITM-SC.
Cause	The primary ITM-SC has been unable to gain association with the network element for a confirmed period of time.
Actions	Warning message to indicate that the ITM-SC is now managing an additional network element.
Note	Raised on the secondary ITM-SC for the network element.

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ITM-SC now managing NE as the result of a automatic GR switch

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

Alarm Data	What It Means
Mnemonic	GR_NE_SWITCHED_AUTO_LINK
Information	The ITM-SC has gained management control of the network element as a result of an automatic geographic redundancy switch due to loss of the peer to peer communications link.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The network element is now being managed by this ITM-SC and has a geographic redundancy management state of Actively Managing, control of the network element is only handed back to the peer ITM-SC after a Retrieve operation on the peer ITM-SC.
Cause	The peer to peer communications link has been out of service for a confirmed period of time.
Actions	Warning message to indicate that the ITM-SC is now managing an additional network element.
Note	Raised on the secondary ITM-SC for the network element.

Link to peer ITM-SC removed by user

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

Alarm Data	What It Means
Mnemonic	GR_PEER_LINK_REMOVED
Information	The connection used to send information between peer ITM-SC has been removed following a user request.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	The peer no longer appears in the GR Manager Information Screen.
Cause	You requested removal of the peer to peer link.
Actions	None. For information only.
Note	

Loss of link to peer ITM-SC

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

Alarm Data	What It Means
Mnemonic	GR_PEER_LINK_DOWN
Information	The connection used to send information between peer ITM-SCs is broken.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	ITM-NM data updates no longer transferred to the peer manager. After the ‘Confirmed Link Loss Period’ has elapsed (the default is 5 minutes) the peer manager attempts to gain control of the network elements of this manager.
Cause	The communications line has been damaged, equipment at either end is faulty, or the remote ITM-SC is not operational.
Actions	Check the connection between peer ITM-SCs. If the fault is repaired communications between the peer ITM-SCs are restored. If you do not want the peer ITM-SCs to attempt automatic switches due to loss of peer to peer communication, use the peer system to disable geographic redundancy for the network element(s) involved.
Note	

Management of NE returned to Primary ITM-SC

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

Alarm Data	What It Means
Mnemonic	GR_NE_RET_TO_PRIM
Information	Management of the network element has been returned to the primary ITM-SC as the result of a geographic redundancy Retrieve operation.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The current ITM-SC is now not trying to manage the network element. Association has been dropped.
Cause	On the primary ITM-SC, you requested the operation.
Actions	None.
Note	

Managing NE after GR Retrieve

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

Alarm Data	What It Means
Mnemonic	GR_NE_RETRIEVED
Information	On the current ITM-SC, you performed a geographic redundancy Retrieve operation for the network element and now the current ITM-SC is managing it.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The local ITM-SC is now associated to the node and managing it. This may have caused a number of alarms to appear from the network element.
Cause	User action on the current ITM-SC.
Actions	None.
Note	

Manual Switch operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_MANUAL
Information	Manual Switch failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The Manual Switch operation is incomplete; until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

□

Maximum archive attempts exceeded

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_RETRIES_EXCEEDED
Information	The maximum number of archive attempts has been exceeded for a scheduled periodic archive.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	Archive device in use or insufficient resources.
Actions	If situation persists, shut ITM-SC down and perform an immediate archive.
Note	

MIB Download failed

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

Alarm Data	What It Means
Mnemonic	MIB_DNLOAD_FAIL
Information	The MIB download has failed.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	The MIB of the network element has been lost.
Cause	The network element did not accept the MIB that was downloaded.
Actions	Attempt another download or re-create the network element.
Note	Contact Lucent Technologies Customer Technical Support if the 12NC of the network element software does not match the 12NC as expected by the EMS release.

More NEs are licenced than the platform can support

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

Alarm Data	What It Means
Mnemonic	TOO_MANY_NES_LICENCED
Information	There are more network elements licenced than the platform can support. The number of network elements that the platform can support is indicated.
Severity	PROMPT (default)
Category	EMS
Alarm indications	There are more network elements licenced than can be managed.
Cause	There are more network elements licenced than the platform can support.
Actions	Contact Lucent Technologies Customer Technical Support.
Note	

NE Clock not adjusted due to the excessive load detected on the network

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

Alarm Data	What It Means
Mnemonic	NE_CLOCK_SYNC_FAIL_NETWORK_LOAD
Information	An excessive load was detected on the network. The NE clock was not adjusted as it could not be accurately synchronised in these circumstances.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	If the NE has lost synchronisation with the rest of the network to a significant extent then erroneous or invalid Performance Monitoring Data will be received.
Cause	This may be caused by one or more NEs on the path to the NE being synchronised being heavily loaded or there being a large amount of traffic on the path through the network that the synchronisation message used.
Actions	If this alarm repeatedly occurs ensure the synchronisation sequence is being initiated at an appropriate (i.e. quiet) time of day. The offset added to minimum round trip times can be increased if it is impractically low for this network. Investigate if there is faulty or overloaded equipment in the network. Ultimately it may be necessary to reconfigure part of the network to overcome the problem.
Note	Accurate NE Synchronisation is also necessary for the support of TCM emulation.

NE Clock not adjusted due to the instability detected in the network

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

Alarm Data	What It Means
Mnemonic	NE_CLOCK_SYNC_FAIL_NETWORK_UNSTABLE
Information	A significant instability was detected in the network. The NE clock was not adjusted as it could not be accurately synchronised in these circumstances.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	If the NE has lost synchronisation with the rest of the network to a significant extent then erroneous or invalid Performance Monitoring Data will be received.
Cause	This may be caused by one or more NEs on the path to the NE being synchronised being intermittently busy or there being bursts of traffic on the path through the network that the synchronisation message used.
Actions	If this alarm repeatedly occurs ensure the synchronisation sequence is being initiated at an appropriate (i.e. quiet) time of day. The maximum variation allowed in message round trip times can be increased if it is impractically low for this network. Investigate if there is faulty or overloaded equipment in the network. Ultimately it may be necessary to reconfigure part of the network to overcome the problem.
Note	Accurate NE Synchronisation is also necessary for the support of TCM emulation.

□

NE control lost - secondary system unable to gain association after auto switch

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

Alarm Data	What It Means
Mnemonic	GR_NE_CONTROL_LOST
Information	An automatic geographic redundancy protection switch has failed due to association loss on the current ITM-SC. The protecting secondary ITM-SC has also failed to make association with the network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - agent busy

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_AGENT_BUSY
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the protecting secondary ITM-SC has also failed to make association with the network element due to agent busy.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element due to agent busy.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - association down

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_ASSOC_DOWN
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the protecting secondary ITM-SC has also failed to make association with the network element due to association down.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element due to association down.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - invalid 12NC

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_INVALID_12NC
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the protecting secondary ITM-SC has also failed to make association with the network element due to invalid 12NC.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element due to invalid 12NC.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - invalid NE state

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_INVALID_STATE
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the protecting secondary ITM-SC has also failed to make association with the network element due to invalid network element state.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element due to invalid network element state.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - no association available

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_NO_ASSOCIATION
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the protecting secondary ITM-SC has also failed to make association with the network element due to no association being available.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element due to no association available.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - primary timed out

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_PRI_TIMED_OUT
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the primary ITM-SC has timed out waiting for the protecting secondary ITM-SC to make association with the network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the primary manager timed out waiting for the secondary manager to associate with the network element.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE control lost on secondary after auto switch - timed out

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

Alarm Data	What It Means
Mnemonic	GR_NE_LOST_TIMED_OUT
Information	An automatic geographic redundancy protection switch, due to association loss on the current ITM-SC, has failed as the protecting secondary ITM-SC has also failed to make association with the network element due to time out.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Current ITM-SC has management control of the network element.
Cause	Following an automatic switch, the secondary manager could not associate with the network element due to time out.
Actions	Investigate why both managers are unable to associate with the network element.
Note	

NE management lost to secondary ITM-SC - automatic switch

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

Alarm Data	What It Means
Mnemonic	GR_AUTO_SW_MAN_COMPLETE
Information	A network element has undergone an automatic switch to a peer manager.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Management of the network element has been automatically switched to the peer ITM-SC which now has control of the network element.
Cause	Loss of association to the network element.
Actions	None. For information only.
Note	

NE management lost to secondary ITM-SC - manual switch

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

Alarm Data	What It Means
Mnemonic	GR_MAN_SW_MAN_COMPLETE
Information	A network element has been manually switched to a peer manager.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Management of the network element has been manually switched to the peer ITM-SC which now has control of the network element.
Cause	You performed a manual switch of the network element.
Actions	None. For information only.
Note	

NE time drift still excessive following NE clock adjustment

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

Alarm Data	What It Means
Mnemonic	NE_CLOCK_SYNC_FAIL_DRIFT_EXCESSIVE
Information	The NE clock was adjusted as no significant load or instability was detected on the network, but a subsequent check showed the NE had not been synchronised correctly.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	If the NE has lost synchronisation with the rest of the network to a significant extent then erroneous or invalid Performance Monitoring Data will be received.
Cause	This may be caused by one or more NEs on the path to the NE being synchronised being intermittently busy or there being bursts of traffic on the path through the network that the synchronisation message used.
Actions	If this alarm repeatedly occurs ensure the synchronisation sequence is being initiated at an appropriate (i.e. quiet) time of day. The time drift allowed in an NE's clock and the number of queries sent to a network element can be increased if they are impractically low for this network. Investigate if there is faulty or overloaded equipment in the network. Ultimately it may be necessary to reconfigure part of the network to overcome the problem.
Note	Accurate NE Synchronisation is also necessary for the support of TCM emulation.

□

No user response was received

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

Alarm Data	What It Means
Mnemonic	USER_CONF_TIMEOUT
Information	No response to a user confirmation request.
Severity	DEFERRED (default)
Category	MANAGEMENT
Alarm indications	Alarm indications in the originator of the alarm message.
Cause	You failed to respond in time to a prompt from the EMS for the preferred synchronization mechanism following an association recovery.
Actions	None.
Note	If you do not respond, the EMS defaults to the MIB upload mechanism following an association recovery.

Number of jobs running has exceeded the info alarm threshold

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

Alarm Data	What It Means
Mnemonic	SJS_INFOTHRESHOLD_EXCEEDED
Information	System performance will be affected because the total number of active jobs exceeds the information alarm threshold.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	No unnecessary tasks should be started.
Cause	The system is running too many tasks.
Actions	Do not start any unnecessary tasks until the alarm is cleared.
Note	

□

Number of running jobs has exceeded the prompt alarm threshold

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

Alarm Data	What It Means
Mnemonic	SJS_PROMPTTHRESHOLD_EXCEEDED
Information	System performance will be severely affected because the total number of active jobs exceeds the prompt alarm threshold.
Severity	PROMPT (default)
Category	EMS
Alarm indications	No unnecessary tasks can be started.
Cause	The system is running too many tasks.
Actions	If situation persists, stop any unnecessary tasks.
Note	

On-line archive failed due to tape or device error

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_FAIL_TAPE
Information	An archive request has failed due to tape or device error.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	Device error or tape error.
Actions	Check device and tape then either wait for next periodic archive or create an immediate or scheduled archive.
Note	

On-line archive refused

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_REFUSED
Information	An immediate archive request has been refused by the Archive Broker.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If archive to tape, tape should not be stored.
Cause	Archive device in use or insufficient resources.
Actions	Request immediate archive.
Note	

On-line archive succeeded

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

Alarm Data	What It Means
Mnemonic	ON_LINE_ARCHIVE_SUCCESS
Information	A periodic or immediate archive request has been successfully executed.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	
Cause	A periodic or immediate archive request has succeeded.
Actions	None. For information only.
Note	

Protection removed on peer link establishment

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

Alarm Data	What It Means
Mnemonic	GR_PROT_REMOVED_RESYNC
Information	Following establishment of the peer to peer link, protection was removed for the network element automatically.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Network element removed from the protecting domain on the (secondary) ITM-SC system.
Cause	Network element is protecting domain on secondary manager but not in protected domain on primary manager. Removed from protection to make system consistent.
Actions	If desired, add network element back in the protection on primary manager.
Note	

□

Remove Protection operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_REMOVE
Information	Remove Protection failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The Remove Protection operation is incomplete; until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

Retrieve operation aborted due to peer link failure

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

Alarm Data	What It Means
Mnemonic	GR_REQUEST_ABORTED_REVERT
Information	Retrieve failed to complete due to the peer to peer link failing.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The retrieve operation is incomplete; until peer connectivity is re-established, the peers may be in an inconsistent geographic redundancy state due to the operation partially completing.
Cause	Peer to peer link failing.
Actions	None. For information only.
Note	

Secondary ITM-SC failed to manage NE after association loss GR switch

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

Alarm Data	What It Means
Mnemonic	GR_ASSOC_LOSS_SW_UPLOAD_FAILED
Information	The secondary ITM-SC could not complete an MIB upload operation for the network element which had been switched automatically due to association loss on the primary ITM-SC, management control has been returned to the primary system.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Management control of the network element protected under geographic redundancy has been passed back to the primary ITM-SC. The secondary ITM-SC has stopped trying to manage the network element.
Cause	The secondary ITM-SC could not complete an MIB upload operation from the network element after successfully gaining an association with the element.
Actions	Check that the primary ITM-SC is able to manage the network element. Investigate why the secondary ITM-SC could not manage the element.
Note	Alarm raised on both the primary and secondary managers.

□

Secondary timed out attempting to associate to NE - Automatic Switch

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

Alarm Data	What It Means
Mnemonic	GR_SEC_AUTO_SW_TIMEOUT
Information	Following an automatic switch, the secondary manager was unable to make an association with the network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	For an automatic switch due to loss of association, management of the network element is transferred back to the primary manager and the secondary manager stops trying to associate to the network element. For an automatic switch due to loss of peer to peer link, the secondary manager attempts to associate to the network element; this alarm is for information only.
Cause	Following an automatic switch, the secondary manager could not associate with the specified network element.
Actions	Investigate why the secondary manager could not associate with the network element.
Note	

Secondary timed out attempting to associate to NE - Manual Switch

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

Alarm Data	What It Means
Mnemonic	GR_SEC_MAN_SW_TIMEOUT
Information	Following a manual switch, the secondary manager was unable to make an association with the network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Management of the network element is transferred back to the primary manager and the secondary manager stops trying to associate to the network element.
Cause	Following a manual switch, the secondary manager could not associate with the specified network element.
Actions	Investigate why the secondary manager could not associate with the network element. If there is no management path to the network element then investigate the routing of DCC paths to the network element and check management paths of the secondary ITM-SC to the network element. If the network element is down then wait until the network element is up again. If the network element data is corrupt then investigate locally with the aid of an ITM-CIT.
Note	

□

Synchronisation failed

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

Alarm Data	What It Means
Mnemonic	SYNC_FAILURE
Information	The re-synchronisation between the element and the ITM-SC has failed.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Association failed.
Cause	Synchronisation between the element and ITM-SC failed.
Actions	Attempt a manual enable of the association.
Note	Contact the Lucent Technologies Customer Technical Support if the problem persists.

The A/C power has failed

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

Alarm Data	What It Means
Mnemonic	LM_UPS_POWERFAIL
Information	The A/C power input to the UPS has failed. The UPS is running off batteries. The system shuts down if the A/C power to the UPS is not restored soon.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS is now running on battery power.
Cause	The UPS is not receiving any external power.
Actions	Ask the system administrator to check the system log for more details.
Note	

□

The Informix read cache hit rate is low

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

Alarm Data	What It Means
Mnemonic	RM_READ_CACHE_RATE_LOW
Information	The Informix read cache hit rate is lower than recommended.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	The Informix on-line system and ultimately the ITM-SC may experience performance problems.
Cause	The Informix read cache is not being used efficiently.
Actions	If the symptoms persist, then contact Lucent Technologies Customer Technical Support.
Note	

The Informix write cache hit rate is low

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

Alarm Data	What It Means
Mnemonic	RM_WRITE_CACHE_RATE_LOW
Information	The Informix write cache hit rate is lower than recommended.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	The Informix on-line system and ultimately the ITM-SC may experience performance problems.
Cause	The Informix write cache is not being used efficiently or the server is not very busy.
Actions	If the server is not very busy, raise the thresholds. If the buffer is not correctly sized, re-size it. If the symptoms persist, then contact Lucent Technologies Customer Technical Support.
Note	It is possible that this alarm occurs when the network is relatively quiet. The alarm is there to indicate that the Informix database buffer cache hit-rates should be checked. The alarm is triggered when the hit rate falls below some configurable threshold. This can happen if the server in question is not very busy, or the buffer cache is not correctly sized.

□

The ITM-SC could not manage an NE after manual GR switch

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

Alarm Data	What It Means
Mnemonic	GR_MAN_SW_UPLOAD_FAILED
Information	The ITM-SC could not complete a MIB upload operation for the network element which had been switched manually from the primary ITM-SC. Management control has been returned to the primary system.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	Management control of the network element protected under geographic redundancy has been passed back to the primary ITM-SC. The current ITM-SC has stopped trying to manage the network element.
Cause	The current ITM-SC could not complete an MIB upload operation from the network element after successfully gaining an association with the element.
Actions	Investigate why the ITM-SC could not manage the element.
Note	Alarm raised on the secondary manager.

□

The ITM-SC unable to manage an NE after automatic peer link loss GR switch

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

Alarm Data	What It Means
Mnemonic	GR_LINK_LOSS_SW_UPLOAD_FAILED
Information	The ITM-SC is unable to complete an MIB upload operation for a network element for which it is trying to gain management control due to the failure of the peer to peer communications link. The ITM-SC periodically re-attempts to manage the element until the operation succeeds or the peer to peer link is re-established.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The ITM-SC periodically re-attempts the MIB upload operation for the network element. The network element has a geographic redundancy management state of “Expecting Management”.
Cause	The current ITM-SC could not complete an MIB upload operation from the network element after successfully gaining an association with the element.
Actions	Investigate why the ITM-SC cannot manage the element.
Note	Alarm raised on the secondary manager.

□

The Physical volume has stale physical extents

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

Alarm Data	What It Means
Mnemonic	RM_PV_STALE_PES
Information	The physical volume is reporting stale physical extents.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The ITM-SC may fail due to a hardware problem with the physical volume.
Cause	There is a problem with the physical volume. This may be due to the power supply, the connection to the device, or a media problem.
Actions	Ask the system administrator to investigate what the cause of the problem is and take corrective action.
Note	

The Transport Mode of the NE could not be set to SDH

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

Alarm Data	What It Means
Mnemonic	UNABLE_TO_SET_TRANSPORT_MODE
Information	On association recovery the network element could not be set to SDH mode.
Severity	PROMPT (default)
Category	MANAGEMENT
Alarm indications	The association with this node has been released.
Cause	Setting the transport mode causes a reset of the node. This node has no software in its backup store to recover after the reset.
Actions	Use the CIT to download code into the backup store and then enable the association from ITM-SC.
Note	

The UPS battery voltage is high

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

Alarm Data	What It Means
Mnemonic	LM_UPS_BATTERY_VOLTAGE_HIGH
Information	The UPS has detected a high battery voltage.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may fail.
Cause	There may be a fault with the UPS battery.
Actions	Ask the system administrator to check the system log for more details.
Note	

□

The UPS battery voltage is low

Alarm meaning

The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	LM_UPS_BATTERY_VOLTAGE_LOW
Information	The UPS has detected a low battery voltage.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may fail.
Cause	There may be a fault with the UPS battery.
Actions	Ask the system administrator to check the system log for more details.
Note	

□

The UPS monitor daemon is not running or has a configuration problem

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

Alarm Data	What It Means
Mnemonic	LM_UPS_NOT_RUNNING
Information	The UPS monitor daemon is not running or has a configuration problem. Ask the system administrator to check the system log for more details.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS monitor daemon cannot shut down the system properly if there is a power failure.
Cause	The UPS monitor daemon is not running, or is not configured correctly.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS has a battery failure

Alarm meaning

The table below gives the meaning of the alarm.

Alarm Data	What It Means
Mnemonic	LM_UPS_BATTERY_FAILURE
Information	The UPS has detected a battery failure.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may fail.
Cause	There may be a fault with the UPS battery.
Actions	Ask the system administrator to check the system log for more details.
Note	

□

The UPS has a charger fault

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

Alarm Data	What It Means
Mnemonic	LM_UPS_CHARGER_FAULT
Information	The UPS has detected a charger fault.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS battery may not being charged.
Cause	There may be a fault with UPS charger.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS has a current overload

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

Alarm Data	What It Means
Mnemonic	LM_UPS_CURRENT_OVERLOAD
Information	The UPS has detected a current overload.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may fail.
Cause	There may be a fault with UPS or too many devices connected to it.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS has an inverter failure

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

Alarm Data	What It Means
Mnemonic	LM_UPS_INVERTER_FAILURE
Information	The UPS has detected an inverter failure.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may fail.
Cause	There may be a fault with UPS inverter.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS has no battery

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

Alarm Data	What It Means
Mnemonic	LM_UPS_NO_BATTERY
Information	The UPS has detected that there is no UPS battery installed.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS will fail if the AC power fails.
Cause	The UPS battery is not installed or is installed incorrectly.
Actions	Ask the system administrator to check the system log for more details.
Note	

□

The UPS is overheating

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

Alarm Data	What It Means
Mnemonic	LM_UPS_TOO_HOT
Information	The UPS has detected a high ambient temperature.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may switch itself off.
Cause	There may be a fault with the UPS, or the temperature around the UPS is too high.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS output voltage is high

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

Alarm Data	What It Means
Mnemonic	LM_UPS_OUTPUT_VOLTAGE_HIGH
Information	The UPS has detected a high output voltage.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may switch itself off.
Cause	There may be a fault with the UPS or the power supply to it.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS output voltage is low

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

Alarm Data	What It Means
Mnemonic	LM_UPS_OUTPUT_VOLTAGE_LOW
Information	The UPS has detected a low output voltage.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may switch itself off.
Cause	There may be a fault with the UPS or the power supply to it.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS cannot communicate with the UPS monitor daemon

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

Alarm Data	What It Means
Mnemonic	LM_UPS_BAD_COMMS
Information	The UPS cannot communicate with the UPS monitor daemon via its tty device.
Severity	INFORMATION (default)
Category	EMS
Alarm indications	If this is the only UPS, then the system is vulnerable to a power failure.
Cause	There may be a poor connection between the UPS and the server.
Actions	Ask the system administrator to check the system log for more details.
Note	

The UPS tty has failed

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

Alarm Data	What It Means
Mnemonic	LM_UPS_TTY_FAIL
Information	The UPS tty device has failed - requires repair.
Severity	PROMPT (default)
Category	EMS
Alarm indications	The UPS may not be able to communicate with the UPS monitor daemon.
Cause	There may be a fault with the UPS tty, or the connection between the UPS and the server.
Actions	Ask the system administrator to check the system log for more details.
Note	

There is a discrepancy in node name between ITM-SC and the NE

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

Alarm Data	What It Means
Mnemonic	INCONSISTENT_NODE_NAME
Information	The system has detected that the node name used in the ITM-SC is different from that stored in the network element.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	
Cause	The node name has been changed by the CIT.
Actions	Change node name back at the CIT.
Note	

Unable to communicate to NE after GR Retrieve

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

Alarm Data	What It Means
Mnemonic	GR_NE_RETRIEVED_NO_ASSOC
Information	On the current ITM-SC you performed a geographic redundancy Retrieve operation for the network element and the current ITM-SC has resumed control of it. However the communications between the ITM-SC and the network element have not recovered.
Severity	INFORMATION (default)
Category	MANAGEMENT
Alarm indications	The local ITM-SC is trying to gain association with the network element. If it is unable to make association for 10 minutes the network element switches to the protecting ITM-SC.
Cause	The local ITM-SC may not be able to communicate with the network element, or the network element may be slow in responding to the association attempts.
Actions	Check whether the network element is now associated. If not check the communication path to the network element. Also check whether there is a problem with the MIB state of the network element.
Note	

□

Glossary

#

5ESS
Number 5 Electronic Switching System

5TAD
Five Tributary Add Drop subrack (WaveStar® ADM 16/1)

9TAD
Nine Tributary Add Drop subrack (WaveStar® ADM 16/1)

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

AAU
Alarm Adapter Unit (RR)

AC
Alternating Current

ACU
Alarm Collection Unit (RR)

ADM
Add-Drop Multiplexer

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.

ALS
Automatic Laser Shutdown

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.

ANSI
American National Standards Institute

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

APS
Automatic Protection Switching

AS
Alarm Suppression assembly

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

Asynchronous
See Non-synchronous.

ATC
Auxiliary Transmission Channel

ATM
Asynchronous Transfer Mode

ATPC
Automatic Transmit Power Control

AU
Administrative Unit

AU4AD
Administrative Unit 4 Assembler/Disassembler

AUG
Administrative Unit Group

AUTO
Automatic

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

B3ZS
Bipolar 3-Zero Substitution

B8ZS
Bipolar 8-Zero Substitution

BBTR
Backplane Bus TRansceiver

BC
Board Controller

BCC
Board Controller Complex

BIN
BINary

BIP
Bit Interleaved Parity

BISDN
Broadband Integrated Services Digital Network

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)

BLD OUT LG
Build-Out Lightguide

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.

BUSTR
BUS Transmitter and Receiver

C

CAS
Channel Associated Signalling

CAT
CATastrophic

CC
Cross-Connection Cross-Connect (WaveStar® ADM 16/1)

CCIR
See ITU-R.

CCITT
See ITU-T.

CCS
Common Channel Signaling

CEPT
Conférence Européenne des Administrations des Postes et des Télécommunications

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.

CIT
Craft Interface Terminal

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.

CMI
Coded Mark Inversion

CO
Central Office

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.

CONN PCB
Connector Printed Circuit Board

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.

Common Object Request Broker Architecture (CORBA)
CORBA allows applications to communicate with one another no matter where they are located or who has designed them.

CP
Circuit Pack

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

CRC
Cyclic Redundancy Check

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.

CV
Code Violation

D

DACS
Digital Access & Cross-connect System

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.

DC
Direct Current

DCF
Data Communications Function

DCN
Data Communications Network

DCS
Digital Cross-connect System

DDF
Digital Distribution Frame

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.

DIL
Dual In Line

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.

DPLL
Digital Phase Locked Loop

DPS
Data communication Packet Switch (ISM)

DR
Digital Radio

DRI
Dual Ring Interworking

DS-n
Digital Signal, Level n

DTMF
Dual Tone Multi-Frequency

DUS
Do not Use for Synchronization

DWDM
Dense Wavelength Division Multiplexing

E

EC-n
Electrical Carrier, Level n

ECC
Embedded Control Channel

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.

EMC
ElectroMagnetic Compatibility

EMI
ElectroMagnetic Interference

EOW
See Orderwire.

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

Errored Second (ES)
A performance monitoring parameter.

ES
End System

ESD
ElectroStatic Discharge

ESPG
Elastic Store & Pointer Generator

ETSI
European Telecommunication Standardisation Institute

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.

FAS
Frame Alignment Signal

FAW
Frame Alignment Word

FC
Full contact Connector

FCC
Federal Communications Commission

FDDI
Fiber Distributed Data Interface

FEP
Front End Processor

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.

GUI
Graphical User Interface

H

HE
Host Exchange

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 Virtual 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.

HMI
Human Machine Interface

HO
High Order

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.

HP-UX
Unix Operating System for Hewlett Packard platform.

HS
High Speed

I

ICB
Interconnection Box

ICP
InterConnection Panel

IEC
International Electrotechnical Committee

IEEE
Institute of Electrical and Electronic Engineers

IF
Intermediate Frequency

IFT
InterFace Terminal

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.

Intergrated Transport Management Craft Interface Terminal (ITM-CIT)
Local manager for SDH Network Elements in a subnetwork. Also referred to as Craft Interface Terminal.

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

IPS
Inter Processor Status

IS
In-Service

ISDN
Integrated Services Digital Network

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.

ISO
International Standards Organisation

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.

ITU
International Telecommunications Union

ITU-R
International Telecommunications Union - Radio standardization sector. Formerly known as CCIR: Comité Consultatif International Radio; International Radio Consultative Committee.

ITU-T
International Telecommunications Union - Telecommunication standardization sector. Formerly known as CCITT: Comité Consultatif International Télégrafique & Téléphonique; International Telegraph and Telephone Consultative Committee.

J Jitter

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

L LAN

Local Area Network

LBA

Lightwave Booster Amplifier.

LCN

Local Communications Network

LDI

Linear Drop/Insert (Add-Drop)

LED

Light Emitting Diode

LEN

Local Exchange Node

LF

Low Frequency

LH

Long Haul

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.

LNC

LiNe Controller (SLM)

LO
Low Order

LOF
Loss Of Frame

LOM
Loss Of Multiframe

LOP
Loss Of Pointer

LOS
Loss Of Signal

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.

LPU
Line Port Unit (ISM)

LPU155
Line Port Unit 155 Mbit/s (WaveStar® ADM 4/1)

LRX
Line Receiver (SLM)

LS
Low Speed

LTA
Line Terminal Application (SLM)

LTX
Line Transmitter (SLM)

LTX/EML
Line Transmitter with Electro-absorption Modulated Laser (SLM)

M

MAF
Management Application Function

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.

MDI
Miscellaneous Discrete Input

MDO
Miscellaneous Discrete Output

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

MEF
Maintenance Entity Function (in NE)

MEM
System MEMory unit (for SLM ADM NEs)

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

MF
Mediation Function

MFS
Multi Frame Synchronization signal

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.

MMI
Man-Machine Interface Also referred to as Human Machine Interface (HMI)

MO
Managed Object

Motif
X-Windows System supplied by Open Software Foundation.

MS
Multiplexer Section

MTBF
Mean Time Between Failures

MTBMA
Mean Time Between Maintenance Activities

MTIE
Maximum Time Interval Error

MTPI
Multiplexer Timing Physical Interface

MTTR
Mean Time To Repair

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

NEF
Network Element Function

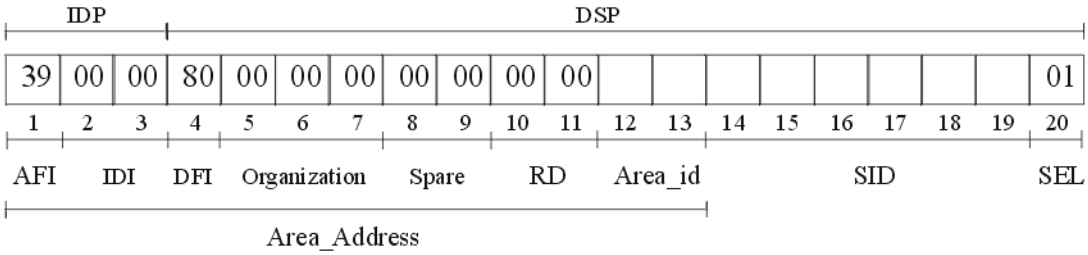
NEM
Network Element Manager

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 Octects from AFI to Area_id	13 or 3 octets	-

NMC
Network Maintenance Center

NMS
Network Management System

NNE
Non-SDH Network Element

NNI
Network Node Interface

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.

NOMC
Network Operation Maintenance Channel

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.

NPI
Null Pointer Indication

NRZ
Non-Return to Zero

NSA
Non-Service Affecting

NVM
Non-Volatile Memory

O

OA
Optical Amplifier (OLS)

OAA case tools
A software package/tool to aid the process of requirements, analysis, design and implementation of object orientated systems.

OAM&P
Operations, Administration, Maintenance and Provisioning

OC-n
Optical Carrier, Level n

ODF
Optical Distribution Frame

ODU
Optical Demultiplexer Unit (OLS)

OFS
Out of Frame Second

OI
Optical Interface (WaveStar® ADM 16/1)

OMU
Optical Multiplexer Unit (OLS)

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.

OOF
Out Of Frame

OOS
Out Of Service

OSB
Optical Splice Box

OSF
Open Software Foundation Operations System Function

OSF/Motif
The WaveStar® ITM-SC application has an X-windows graphical representation and the components used in the "Graphical User Interface" are OSF/Motif compliant, these components comprise of items such as: scrollbars, menus, radio buttons, etc.

OSI
Open Systems Interconnection

OW
(Engineering) Order Wire

P

PABX
Private Automatic Branch eXchange

Paddle Board - Peripheral Control and Timing link (PB-PCT)
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.

PC
Personal Computer

PCB
Printed Circuit Board

PCM
Pulse Code Modulation

PCT-link
Peripheral Control and Timing-link

PDH
Plesiochronous Digital Hierarchy

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.

PI
Physical Interface Plesiochronous Interface (WaveStar® ADM 16/1)

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.

PMA
Performance Monitoring Application

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.

POTS
Plain Old Telephone Service

PP
Pointer Processing

PPC
Pointer Processor and Cross-connect (ISM)

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.

PSA
Partially Service Affecting

PSDN
Public Switched Data Network

PSF
Power Supply Filter

PSF-SIP
Power Supply Filter; originally designed for Italian customer.

PSN
Packet-Switched Network

PSTN
Public Switched Telephone Network

PT
Protected Terminal Power supply filter and Timing circuit pack (WaveStar® ADM 16/1)

Q

QAF
Q Adapter Function (in NE)

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.

QOS
Quality Of Service

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

RA
Regenerator Application (SLM)

Radio Protection Switching system (RPS)
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 (RR)
A point-to-point Digital Radio system to transport STM-1 signals via microwaves.

RCU
Rigid Connect Unit (SLM)

RCVR Data Distribution Unit (RCVR)
Radio Relay circuit pack that performs distribution of the protection channel and the low priority traffic in the receiver side.

RDDU
RCVR Data Distribution Unit (RR)

RDI
Remote Defect Indicator. Previously known as Far End Receive Failure (FERF).

RDI
Ring Drop/Insert (Add-Drop)

RDSV
Running Digital Sum Violations

Receive-direction
The direction towards the cross-connect.

REGEN
Regenerator (SLM)

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

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

REI
Remote Error Indication. Previously known as Far End Block Error (FEBE).

Relay Unit (RU)
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.

RF
Radio Frequency

RFI
Remote Failure Indicator

RGU
ReGenerator Unit (SLM)

Route
A series of contiguous digital sections.

RPS
Ring Protection Switching

RSM
Remote Switching Module

RSOH
Regenerator Section OverHead; part of SOH.

RZ
Return to Zero

S

SA
Service Affecting Synchronous Adapter (WaveStar® ADM 16/1)

SAI
Station Alarm Interface

SC
Square coupled Connector

SD
Signal Degrade

SDH-TE
SDH - Terminal Equipment

Specification and Design Language (SDL)
This is a standard formal language for specifying (essentially) finite state machines.

SEC
SDH Equipment Clock

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 (SA)
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).

SEF
Support Entity Function (in NE)

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.

SH
Short Haul

SI
Synchronous Interface (WaveStar® ADM 16/1)

SIB
Subrack Interface Box

SLC
Subscriber Loop Carrier

SLM
Signal Label Mismatch

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.

SML
Service Management Level

SMN
SDH Management Network

SMS
SDH Management Subnetwork

SNC/I
SubNetwork Connection (protection) / Inherent monitoring

SNC/NI
SubNetwork Connection / Non Intrusive monitoring

SNR
Signal to Noise Ratio

Soft Windows
PC emulator package for HP platforms.

SONET
Synchronous Optical Network

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

SPB2M
Subrack Protection for 2 Mbit/s Board (WaveStar® ADM 4/1)

SPI
SDH Physical Interface Synchronous-Plesiochronous Interface (WaveStar® ADM 16/1)

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.

SSM
Synchronization Status Marker

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.

Station Clock Output (SCO)
A clock signal that can be used for other systems.

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.

STS
Synchronous Transport Signal; used in SONET.

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.

SUPV
Supervision unit (WaveStar® ADM 4/1)

SUPV_SVC
Supervision with Service Channel unit (WaveStar® ADM 4/1)

SVCE
Service

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

Switch Transmit Unit (SWT)
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. The Local (SSU_L) and Transit (SSU_T) types are available.

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

TCA
Threshold Crossing Alarm

TCP/IP
Transmission Control Protocol/Internet Protocol

TDEV
Timing DEViation

TDM
Timing Division Multiplexing

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.

TERM
Terminal Multiplexer

TGU
Timing Generator Unit

TI
Timing Interface (WaveStar® ADM 16/1)

TLM
TeLeMetry Unit (OLS)

TLP
Terminal with Line Protection

TMN
Telecommunications Management Network

TPU
Tributary Port Unit

TPU-PCT
Tributary Port Unit - Peripheral Control and Timing link

TPU2
Tributary port Unit 2 Mbit/s (WaveStar® ADM 4/1)

TPU34/45
Tributary port Unit 34 / 45 Mbit/s (WaveStar® ADM 4/1)

TPU155
Tributary port Unit 155 Mbit/s (WaveStar® ADM 4/1)

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.

TRF
TRansFer unit (WaveStar® ADM 4/1)

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 (TU PTR)
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.

TSA
Time Slot Assignment

TSI
Time Slot Interchange

TTP
Trail Termination Point

TUG
Tributary Unit Group

U

UAS
UnAvailable Seconds

ULDT
Ultra Long Distance Transmission

UIM/X
A package used for developing the WaveStar® ITM-SC GUI for X-windows.

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.

UPL
User PaneL

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

VF
Voice Frequency

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.

WAN
Wide Area Network

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.

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

WaveStar® Network Management System (NMS)
Manager for SDH Network Elements in a network. Formerly known as DACScan-T.

WDM
Wavelength Division Multiplexing

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.

WS
Work Station

WSF
Work Station Facility

X

XMTR
Transmitter (RR)

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

XPIC
Cross Polarization Interference Cancellation

XSU
XMTR Switch Unit (RR)

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

X-Windows
Graphical User Interface on Unix Systems.