Diameter Intelligence Hub 1.2

DIH Alarm List

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Tekelec

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Chapter

1

Introduction

Topics:

This section contains an overview of the available information for DIH alarms and events. The contents include sections on the scope and audience of the documentation, as well as how to contact Tekelec for assistance.

Overview

This alarms guide provides a list of alarms (events) for Diameter Intelligence Hub (DIH). With each alarm are the explanation, severity level (warning, minor, major, etc.), and probable cause. The alarms are grouped according to type. The types are listed here.

- Host
- Generic
- IXP
- Message Feeder
- MSW
- Platform
- Probe ATM 155
- ProTrace
- ProTraq

Note: For Platform alarms, the user must have *Platform Alarms* documentation readily available. This documentation is found on the Customer Support Web site.

Note: Do not use the Function Keys (F1 through F12) when using NSP. Function keys work in unexpected ways. For example, the F1 key does not open NSP help but opens the help for the browser in use. The F5 key does not refresh a specific screen, but refreshes the entire session and results in a loss of any entered information.

For the purposes of this DIH 1.2 release the terms DIH and PIC are used interchangeably.

xMF is a generic term for the data collector PMF.

In addition the term "site" is synonymous with the term "enclosure." Therefore there can be multiple (two) sites shown in CCM, but they are located on the same enclosure, not in different geographical locations as was possible when CCM was configured in previous PIC releases.

GUI references to PIC or xMF are legacy items and as this product undergoes a change in naming convention the screens will be updated. In addition, some menu items, protocols, subsystem settings, etc. may not be functional when CCM is set to function in DIH mode

Scope and Audience

This manual provides alarm names, descriptions, severity levels, and probable causes. It is intended for anyone who is responsible for monitoring or troubleshooting alarms for the DIH and related hardware or software systems.

Manual Organization

Introduction contains general information about this document, how to contact the Tekelec *Customer Care Center*, and *Locate Product Documentation on the Customer Support Site*.

DIH Feature Overview provides general information about the application's alarms and events.

Generic: List of Specific Problems provides information on Generic alarms.

Host: List of Specific Problems provides information on Host alarms.

IXP: List of Specific Problems provides information on IXP alarms.

Message Feeder: List of Specific Problems provides information on Message Feeder alarms.

ProTrace: List of Specific Problems provides information on ProTrace alarms.

ProTraq: List of Specific Problems provides information on ProTraq alarms.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1: Admonishments

	DANGER: (This icon and text indicate the possibility of *personal injury*.)
	WARNING: (This icon and text indicate the possibility of *equipment damage*.)
	CAUTION: (This icon and text indicate the possibility of *service interruption*.)

Related Publications

DIH customer documentation and online help are created whenever significant changes are made that affect system operation or configuration. Revised editions of the documentation and online help are distributed and installed on the customer system. Consult your NSP Installation Manual for details on how to update user documentation. Additionally, a Release Notice is distributed on the Tekelec Customer Support site along with each new release of software. A Release Notice lists the PRs that have been resolved in the current release and the PRs that are known to exist in the current release.

Listed is the entire DIH documentation library of online help.

- xIH-OAM Configuration Online Help
- ProTrace Online Help
- System Alarms Online Help
- Reference Data Online Help

Customer Care Center

The Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Tekelec Technical Assistance Centers are located around the globe in the following locations:

Tekelec - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

  Phone:

  1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

  1-919-460-2150 (outside continental USA and Canada)

  TAC Regional Support Office Hours:

  8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Caribbean and Latin America (CALA)**

  Phone:

  +1-919-460-2150

  TAC Regional Support Office Hours (except Brazil):

  10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

  - **Argentina**

    Phone:

    0-800-555-5246 (toll-free)

  - **Brazil**

    Phone:

    0-800-891-4341 (toll-free)

    TAC Regional Support Office Hours:

    8:00 a.m. through 5:48 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

  - **Chile**

Phone:

1230-020-555-5468

- **Colombia**

  Phone:

  01-800-912-0537

- **Dominican Republic**

  Phone:

  1-888-367-8552

- **Mexico**

  Phone:

  001-888-367-8552

- **Peru**

  Phone:

  0800-53-087

- **Puerto Rico**

  Phone:

  1-888-367-8552 (1-888-FOR-TKLC)

- **Venezuela**

  Phone:

  0800-176-6497

- **Europe, Middle East, and Africa**

  Regional Office Hours:

  8:30 a.m. through 5:00 p.m. (GMT), Monday through Friday, excluding holidays

  - **Signaling**

    Phone:

    +44 1784 467 804 (within UK)

  - **Software Solutions**

    Phone:

    +33 3 89 33 54 00

- **Asia**

  - **India**

    Phone:

    +91-124-465-5098 or +1-919-460-2150

    TAC Regional Support Office Hours:

10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays

- **Singapore**

Phone:

+65 6796 2288

TAC Regional Support Office Hours:

9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the *Tekelec Customer Support* site.

   Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.

2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

Chapter

2

DIH Feature Overview

Topics:

This chapter provides an overview of the Diameter Intelligence Hub feature, as well as instructions for setting various preferences on the DIH feature

About the Diameter Intelligence Hub (DIH) feature

The Diameter Intelligent Hub (DIH) is a fully integrated feature of the DSR and used to monitor and troubleshoot a LTE network. DIH enables the user to create trace filters on the DSR to capture messages needed for troubleshooting service issues and presenting those traces in through a graphic interface. DIH provides the capability not only to configure and manage traces from the DSR, but also filter, view and store the results for later analysis. These troubleshooting capabilities can supplement other network monitoring functions provided by a customer's OSS and network support centers to help pinpoint root causes fo signaling issues associated with connections, peer signaling nodes or individual subscribers. The DIH:

- Provides filtering, data feed, tracing, decoding, and SNMP functions.
- Enables the selective collection and storage of diameter traffic.
- Provides nodal diameter troubleshooting.
- Provides data export for diameter messages.
- Supports both IPv4 and IPv6 traffic simultaneously.
- Provides trace data using the ProTrace application.
- Uses Diameter protocol exclusively.

The Diameter Protocol

The Diameter protocol has evolved from the Radius protocol and enables diameter applications to extend the base protocol by adding new commands and/or attributes, such as those for use of the Extensible Authentication Protocol (EAP).

The Diameter protocol provides for an Authentication, Authorization, and Accounting (AAA) framework that overcomes the limitations of Radius, (a protocol that handles AAA and EAP), which cannot effectively deal well with remote access, IP mobility and policy control. The Diameter protocol defines a policy protocol used by clients to perform Policy, AAA and Resource Control. This allows a single server to handle policies for many services.

As mentioned above, the Diameter protocol provides AAA functionality, but in addition it is made more reliable by using TCP and SCTP instead of UDP. The Diameter protocol is further enhanced by the development of the 3rd Generation Partnership Project (3GPP) IP Multimedia Subsystem (IMS). Through the use of extensions, the protocol was designed to be extensible to support Proxies, Brokers, Strong Security, Mobile-IP, Network Access Servers (NASREQ), Accounting and Resource Management.

Setting User Preferences

Users can set User Preferences that apply across all the NSP applications. These include:

- Time specifications (date format, time zone, etc.)
- Directory names (for exporting, uploading, and downloading)
- Enumeration values (numerals vs. text)
- Point code specifications
- CIC specifications
- Default alarm colors
- Default object privacy privileges

Setting Time Format

Follow these steps to set the time format:

1. Click **User Preferences** on the Application board.
    The User Preferences page is displayed.

2. Click the **Time** tab.
    The Time page is displayed. The red asterisk denotes a required field.

    Note: Use the tips on the page to help you configure the time format.

Figure 1: Time Formatting Page

3. Enter the format for these time-related displays.

    *   **Date format**
    *   **Time format**
    *   **Date and time fields**

4. Select the formats for these time-related displays by using the drop-down arrow.

    *   **Duration fields**
    *   **Time zone**

        Note: You must choose your time zone to get local time.

5. If you want to reset the time-related displays to default settings, click **Reset for Time**. (The bottom **Reset** button resets all the tabbed pages to default settings.)

6. Click **Apply** to save settings.

Setting Directory Preferences

Use the User Preferences feature to set the Export, Upload and Download directory paths for your system. These paths define where xDRs, dictionary files, and other elements are stored.

Follow these steps to set the directory preferences.

1. Click **User Preferences** on the Application board.

    The User Preferences page is displayed.

2. Click the **Directory** tab.
    The Directory page is displayed. The red asterisk denotes a required field.

Figure 2: Directory Page

3. Type in the following:

    *   **Export directory**
    *   **Upload directory**
    *   **Download directory**

4. If you want to reset the directories to default settings, click **Reset for Directory.** (The bottom **Reset** button resets all the tabbed pages to default settings.)

5. Click **Apply** to save your settings.

Setting Mapping Preferences

You can set the Mapping settings using the User Preferences feature.

Follow these steps to set Mapping preferences.

1. Click **User Preferences** in the Application board.
    The User Preferences page is displayed.

2. Click the **Mapping** tab.
The Mapping page is displayed.
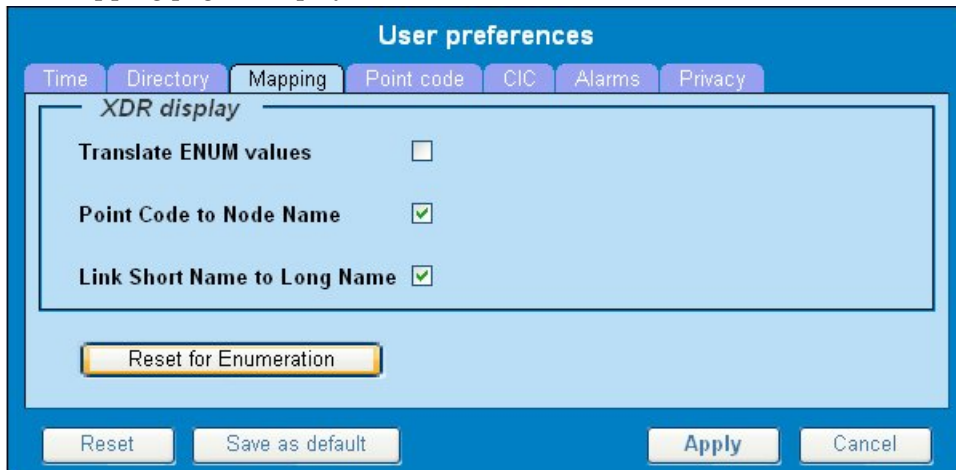
Figure 3: Mapping Page

3. Check **Translate ENUM values** to display text instead of numerals.

Enumeration is used by xDRs to display text values instead of numeric. Rather than showing the numeral for Alarm Severity, the user interface will show the actual word, such as "Major" or "Critical."

4. Check **Point Code to Node Name** to display the custom (user-defined) name of the node. Otherwise, the Point Code value is displayed.

5. Check **Link Short Name to Long Name** to display the custom (user-defined) link name or the Eagle link name. Otherwise, the short name is displayed, which is the name that begins with an asterisk (*).

6. To reset the Mapping values to the default, click **Reset for Enumeration**.

Note: The bottom **Reset** button resets all the tabbed pages to default settings.

7. Click **Apply** to save the changes.

Setting Point Code Preferences

The User Preferences feature enables you to set the Point Code preferences for your system. A Point Code is a unique address for a node (Signaling Point), used to identify the destination of a message signal unit (MSU).

Follow these steps to set the Point Code preferences.

1. Click **User Preferences** in the Application board.
The User Preferences page is displayed.

2. Click the **Point Code** tab.
The Point Code page is displayed. The red asterisk denotes a required field.

Figure 4: Point Code Tab

3. Select either **Hexadecimal display** or **Decimal display**.

4. Select or de-select **Split format**.
   If **Split format** is checked, the Bit groups settings in the box below are active. If **Split format** is not checked, Bit groups settings are not applicable.

5. If you selected Split format above, go to the next step. If you did not select Split format, go to step *Step 8*.

6. In the Bit groups panel, use the drop-down box to select the **Separation** type .

7. Type in values for **Groups 0-3**.

8. To reset the point code preferences to default settings, click **Reset for Point code**. (The bottom **Reset** button resets all the tabbed pages to default settings.)

9. Click **Apply** to save your settings.

Setting CIC Preferences

The Circuit Identification Code (CIC) provides a way to identify which circuit is used by the Message Signaling Unit (MSU). This is important in ProTrace applications. Use the User Preferences feature to set the CIC settings for your system.

Complete these steps to set the CIC preferences:

1. Click **User Preferences** in the Application board.
   The User preferences page is displayed.

2. Click the **CIC** tab.
   The CIC page is displayed. The red asterisk denotes a required field.

Figure 5: CIC Page

3. Select either **Hexadecimal display** or **Decimal display**.

4. Select or de-select **Split format**.
   If **Split format** is checked, the Bit groups settings in the box below are active. If **Split format** is not checked, Bit groups settings are not applicable.

5. If you selected Split format above, go to the next step. If you did not select Split format, go to step *Step 8*.

6. In the Bit groups panel, use the drop-down box to select **Separation** type.

7. Type in values for **Group 0** and **Group 1**.

8. If you want to reset CIC preferences to the default, click **Reset for CIC**. (The bottom **Reset** button resets all the tabbed pages to default settings.)

9. Click **Apply** to save your settings.

Setting Alarms Preferences

Use the Alarms tab in User Preferences to define the default colors that indicate alarm severity. The colors are displayed in the Perceived Severity column of alarms tables and on object icons in maps.

Follow these steps to modify alarm status colors.

1. Click **User Preferences** in the Application board.
   The User preferences page is displayed.

2. Click the **Alarms** tab.
   The Alarms page is displayed. The red asterisk denotes a required field.
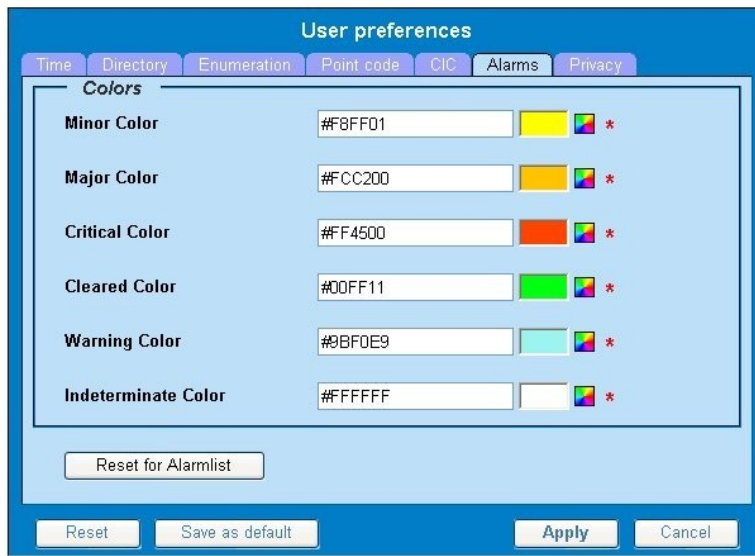
Figure 6: Alarms Page

3. Click the color palette (icon on the right side of the screen) associated with the alarm status color(s) you want to modify.
    A pop-up palette window is displayed.

4. Click the color you want for the type of alarm.
    The color palette pop-up is closed and the color box for the alarm displays the selected color. The number for the color is also displayed.

5. If you want to reset the Alarm preferences to the default, click **Reset for Alarmlist**. (The bottom **Reset** button resets all the tabbed pages to default settings.)

6. Click **Apply** .
    The changes do not take effect until you log out of and in again to NSP.

Setting Default Object Privacy

All NSP users can set default access privileges for Objects (data) they create in NSP applications. An owner has full rights to modify or delete the object . Other users are assigned to a Profile and have access to these Objects through that Profile's associated Privacy Roles.

To enter the default Object Privacy (data) settings, follow these steps:

1. Click **User preferences** in the Application board menu.
    The User Preferences window is displayed. The **Time** tab is active by default.

2. Click the **Privacy** tab .
    The Privacy page is displayed.
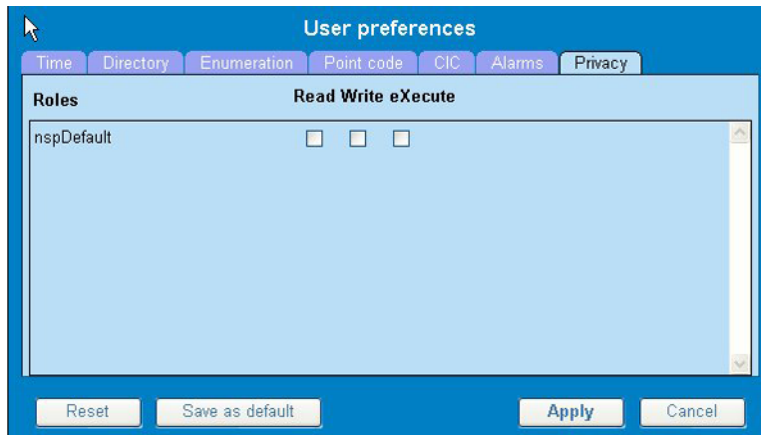
Figure 7: Privacy Page

3. Click the appropriate box to select **Read**, **Write**, or **eXecute**. If you want the role to have no access to the selected object(s), ensure that no box is checked.

4. Click **Save as default**.

5. To reset all the tabbed pages to default settings, click **Reset**.

6. Click **Apply**.
   The settings are saved.

Chapter

3

Generic: List of Specific Problems

Topics:

CPU Cycles Limit Exceeded

Description

CPU cycles limit exceeded for the host.

Severity Level

N/A

Probable Cause

CPU cycles limit exceeded

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Queue Size Exceeded

Description

Too many items in the queue. The application cannot process all of them. Some items can be lost.

Severity Level

N/A

Probable Cause

Queue Size Exceeded

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Software Error

Description

The software abnormally terminated.

Severity Level

N/A

Probable Cause

Software program abnormally terminated.

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Storage Capacity Problem

Description

Storage device free space is low.

Note: There is the possibilty of multiple alarms for some faults.

Severity Level

N/A

Probable Cause

Storage capacity problem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Watch Dog

Description

The remote application cannot be reached or does not send any event.

Severity Level

N/A

Probable Cause

Loss of Signal

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Chapter

4

Host: List of Specific Problems

Topics:

Communication Alarm

Description

Network card problem has been detected on host.

Default Severity Level

Warning/Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Communications Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Configuration Error

Description

SNMP Monitor Configuration is missing.

Severity Level

N/A

Probable Cause

Configuration or customization error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

CPU Cycles Limit Exceeded

Description

CPU cycles limit exceeded.

Default Severity Level

Warning/Minor/Major/Critical (depending on duration)

Probable Cause

CPU cycles limit exceeded

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Equipment Malfunction

Description

Other problems (OS related)

Default Severity Level

Warning/Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Equipment Malfunction

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Fan Problem

Description

Server fan failure

Default Severity Level

Warning/Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Heating, Ventilation, Cooling

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Host Monitoring Internal Error

Description

Internal error occurred in the Host Monitoring program software.

Default Severity Level

N/A

Probable Cause

Software program abnormally terminated

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Low Available Physical Memory

Description

Low available physical memory

Default Severity Level

Warning/Minor/Major/Critical (depending on duration)

Probable Cause

Congestion

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Network Interface Capacity Exceeded

Description

Network interface capacity exceeded.

Default Severity Level

Warning/Minor/Major/Critical (depending on duration)

Probable Cause

Transmit failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

NSP Weblogic/Oracle Problem

Description

Startup/shutdown or administrative state change

Default Severity Level

Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Application Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Oracle Notification

Description

Problem has been detected with Oracle.

Severity Level

N/A

Probable Cause

Software Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Power Problem

Description

Server power failure

Default Severity Level

Warning/Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Power Problem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Storage Capacity Limit Exceeded

Description

Internal error occurred in the Host Monitoring program software.

Default Severity Level

Minor/Major/Critical (depending on threshold)

Probable Cause

Storage Capacity Problem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Storage Problem

Description

Server disk failure

Default Severity Level

Warning/Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Storage Capacity Problem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Temperature Unacceptable

Description

Temperature sensor detected threshold crossed condition

Default Severity Level

Warning/Minor/Major/Critical (depending on SNMP trap received)

Probable Cause

Temperature Unacceptable

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Threshold Crossed

Description

Oracle/Weblogic monitoring threshold crossed

Default Severity Level

Minor

Probable Cause

Threshold Crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Chapter

5

IXP: List of Specific Problems

Topics:

Buffer Loss

Description

Possible data loss due to buffer error count in interface between OCEAN probe and IXP.

Default Severity Level

Warning

Probable Cause

Loss of Frame

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Close License Expiry

Description

xDR Builder license will expire within a few days. Ask for a new license key.

Default Severity Level

Major

Probable Cause

Configuration or Customization Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Data Timeout

Description

No more PDU or xDR on a data flow processing input stream for several minutes.

Default Severity Level

Major

Probable Cause

Remote node transmission error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Data Warehouse Connection Error

Description

Connection to xDR storage or external xDR data warehouse fails.

Default Severity Level

Major

Probable Cause

Application Subsystem Failure

Recovery Procedure

1. Check Oracle service on the xDR storage server.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Abnormal Number of Reconnect

Description

More than 12 xDR/KPI feed transport errors.

Default Severity Level

Major

Probable Cause

Threshold Crossed

Recovery Procedure

To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Disk Space Exceeded

Description

80% of available space is exceeded.

Default Severity Level

Minor

Probable Cause

Threshold Crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

DataExport Disk Space Exceeded Critical

Description

100% of available space is used.

Default Severity Level

Critical

Probable Cause

Resource At or Nearing Capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

DataExport Disk Space Exceeded Major

Description

90% of available space is exceeded.

Default Severity Level

Major

Probable Cause

Threshold Crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

DataExport Error Creating and Starting Exporter

Description

Error creating and starting Exporter.

Default Severity Level

Major

Probable Cause

Software program error

Recovery Procedure

1. Ensure configured resources are available such as remote server, remote file system, and remote directory.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Fails to Connect to Target Oracle

Description

Connection to the target database is not possible because of possible login password error.

Default Severity Level

Critical

Probable Cause

Application Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*..

DataExport Fails to Read Data Source

Description

Error reading configuration data or connection to persistence fails. Ensure IXP Oracle server is running or reachable.

Default Severity Level

Critical

Probable Cause

Application Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

DataExport Fails To Read From the Data Source Oracle

Description

An error is returned when attempting to read data from the IXP embedded xDR storage.

Default Severity Level

Critical

Probable Cause

Application Subsystem Failure

Recovery Procedure

1. Check the Oracle service.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Fails to Read/Write From/To the Target Oracle

Description

An error is returned when executing an attempt to read or write the target database.

Default Severity Level

Critical

Probable Cause

Application Subsystem Failure

Recovery Procedure

1. Check that database server is up and reachable.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*

DataExport File System Is Not Writable

Description

Error writing to NFS remote file system.

Default Severity Level

Critical

Probable Cause

Communications Protocol Error

Recovery Procedure

1. Ensure the configured remote file system or remote directory have the correct permissions.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Invalid Configuration Parameter

Description

Configuration parameter is invalid.

Default Severity Level

Major

Probable Cause

Configuration or Customization Error

Recovery Procedure

1. Ensure the configuration values entered in the client are correct.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Is Behind Real Time

Description

Export is behind real time by n periods (n configurable with a default period of 3).

Default Severity Level

Major

Probable Cause

Threshold Crossed

Recovery Procedure

To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Mount or Unmount Fails

Description

Error mounting or unmounting NFS remote file system.

Default Severity Level

Critical

Probable Cause

Communications Protocol Error

Recovery Procedure

1. Ensure the configured remote file system is included in the NFS server configuration on the configured remote server.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport Number of Files Exceed

Description

The number of files present in the NFS remote directory exceeds a threshold value.

Default Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

DataExport Oracle Transport Destination Schema Does Not Match

Description

Source and destination schemas (column names or types) do not match.

Default Severity Level

Critical

Probable Cause

Application Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

DataExport Remote File System Is Not Accessible

Description

Error in accessing NFS remote file system.

Default Severity Level

Critical

Probable Cause

Communications Protocol Error

Recovery Procedure

1. Ensure the remote file system configuration is correct and the configured NFS server is reachable.

2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

DataExport: Export Period Dropped

Description

Due to more latency than the system buffer capacity, the export period is removed from feed and not exported to the export server. This creates a hole in exported data.

Default Severity Level

Critical

Probable Cause

Loss of Frame

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*..

Dictionary Discrepancies -- Critical

Description

A new version of xDR builder was installed and the output format of records has changed. This alarm is generated each time an xDR building DFP is restarted. Despite the alarm, the records are processed but their content is adapted to the old record format, which causes resource usage and possible loss of some fields. At this level of severity, the most significant change is that more than 20% of the columns have changed. It is possible that there is a configuration error in which a fully different format of record replaces an old one.

Default Severity Level

Critical

Probable Cause

Configuration or Customization Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Dictionary Discrepancies -- Major

Description

A new version of xDR builder was installed and the output format of records has changed. This alarm is generated each time an xDR building DFP is restarted. Despite the alarm, the records are processed but their content is adapted to the old record format, which causes resource usage and possible loss

of some fields. At this level of severity, the most significant change is that one or several fields of previous format have been removed, but less than 20%.

Default Severity Level

Major

Probable Cause

Configuration or Customization Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Dictionary Discrepancies -- Minor

Description

A new version of xDR builder was installed and the output format of records has changed. This alarm is generated each time an xDR building DFP is restarted. Despite the alarm, the records are processed but their content is adapted to the old record format, which causes resource usage and possible loss of some fields. At this level of severity, the most significant change is the size of an address field (A-number, B-number, IMSI, MSISDN, ...).

Default Severity Level

Minor

Probable Cause

Configuration or Customization Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Dictionary Discrepancies -- Warning

Description

A new version of xDR builder was installed and the output format of records has changed. This alarm is generated each time an xDR building DFP is restarted. Despite the alarm, the records are processed but their content is adapted to the old record format, which causes resource usage and possible loss of some fields. At this level of severity, the most significant change is the size of a field, or new fields have been added. (Their content is dropped by conversion.)

Default Severity Level

Warning

Probable Cause

Configuration or Customization Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

End of Stream Connection Attempts

Description

The maximum number of connection attempts to third-party OCEAN probe is reached. No new connection attempt will be made before a change in the configuration of the corresponding data source occurs in CCM.

Default Severity Level

Warning

Probable Cause

Receive Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Error During Backup Process on Export Server

Description

Backup task on Export server ended with a system error.

Default Severity Level

Major

Probable Cause

Equipment Malfunction

Recovery Procedure

1. Check backup hardware.
2. To contact Tekelec Customer Care Center, see *Customer Care Center*.

Event List Size Exceeded

Description

A chronological sorting PDU list (input of data flow processings of type Building) or xDR list (input of a data flow processing of type Operation or Storage) is full.

Default Severity Level

Critical

Probable Cause

Queue size exceeded

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Event List Size Threshold Crossed

Description

A chronological sorting PDU list (input of data flow processings of type Building) or xDR list (input of a data flow processing of type Operation or Storage) is more than 75 % full or is more than 95% full.

Default Severity Level

Minor (75 % full), Major (95 % full)

Probable Cause

Threshold Crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

FSE File Size Threshold Crossed

Description

The size of at least one FSE file exceeds 10 MB.

Default Severity Level

Warning

Probable Cause

Threshold Crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Incorrect Data

Description

Unexpected event sent by third-party OCEAN probe. May be due to different versions of OCEAN API used on OCEAN probe and IXP.

Default Severity Level

Major

Probable Cause

Version mismatch

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

License Expiry

Description

xDR Builder license has expired. No xDR will be generated until a new license is installed.

Default Severity Level

Critical

Probable Cause

Configuration or Customization Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Main Data Warehouse Full

Description

More than 90% of xDR database space or index space is used; system starts urgent purge defense mechanism.

Default Severity Level

Major

Probable Cause

Resource At or Nearing Capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Memory Allocation Error

Description

Process out of memory on an IXP. There is no automatic clear of this condition; requires manual clear once the error condition is resolved.

Default Severity Level

Critical

Probable Cause

Out of Memory

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

No Event Timeout Exceeded

Description

No event received by a Q.752 xDR builder since a given duration. See Q.752 xDR builder user's manual.

Default Severity Level

Minor

Probable Cause

Remote Node Transmission Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

No Frame Timeout Exceeded

Description

No PDUs received by an xDR builder during the value of the general parameter "No PDU timeout."

Default Severity Level

Major

Probable Cause

Remote node transmission error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Oracle Purge Too Long

Description

Urgent purge of records in Oracle database (when more than 90% of disk space is used) lasts more than 900 seconds.

Default Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

PDU Disk Full

Description

More than 90% of disk available for PDU storage is used; system starts urgent purge defense mechanism.

Default Severity Level

Major

Probable Cause

Resource At or Nearing Capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Pool Connection Error

Description

No server of a storage pool could be successfully connected. Check state of all xDR storage servers of the subsytem, if they are not in a query-only, inactive or unreachable state.

Default Severity Level

Critical

Probable Cause

Application Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Process Heartbeat Timeout

Description

Heartbeat signal loss with a process for more than 1 minute. Application makes automatic attempt to restart the process.

Default Severity Level

Major

Probable Cause

Application Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Server Heartbeat Timeout

Description

Heartbeat signal loss with a server of the subsystem for more than 1 minute. Server may be down or disconnected.

Default Severity Level

Major

Probable Cause

Equipment Malfunction

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

SLS Failure

Description

All signalling links of a linkset are in failure.

Default Severity Level

Major

Probable Cause

Remote Node Transmission Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Software Error

Description

Unexpected error condition. Needs to be forwarded to Tekelec TAC with additional information

Default Severity Level

Critical

Probable Cause

Software Error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Stream Connection Loss

Description

A data flow processing input stream has disconnected.

Default Severity Level

Major

Probable Cause

Communications subsystem failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Stream Data Loss

Description

Data loss due to record count error in third-party OCEAN probe.

Default Severity Level

Warning

Probable Cause

Loss of Frame

Recovery Procedure

  Contact Tekelec Customer Care Center. See *Customer Care Center*.

Transfer Late

Description

Current stored xDRs have more than 5 minutes lag to current time. System performance exceeded or database outage or the system may be in a recovery period after outage.

Default Severity Level

Major

Probable Cause

Performance Degraded

Recovery Procedure

  Contact Tekelec Customer Care Center. See *Customer Care Center*.

xDR Consumer Frame Loss

Description

I/O conflict in the directory /opt/TKLCixp/pdu (possible disk full condition)

Default Severity Level

Minor

Probable Cause

Configuration or Customization Error

Recovery Procedure

  Contact Tekelec Customer Care Center. See *Customer Care Center*.

xDR Loss

Description

Unable to send an xDR to an output stream.

Default Severity Level

Major

Probable Cause

Communications Subsystem Failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder: List of Specific Problems

Topics:

Non-Eagle Message Feeder Alarms

LIM - Received 2 of 3 Invalid Backward Sequence Numbers

Description

The backward sequence number (BSN) is the sequence number of a signal unit being acknowledged. The link has received 2 out of 3 invalid BSNs from the far end.

Severity Level

Warning

Probable Cause

Call establishment error

Recovery Procedure

If the problem persists, follow local procedures to determine why the far-end is not responding correctly.

LIM - Received 2 out of 3 Invalid Forward Indicator Bits

Description

Forward Indicator Bits (FIBs) are used in the basic error control method to perform the signal unit sequence control and acknowledgement functions. Received 2 of 3 invalid FIBs. The signaling link has received 2 out of 3 invalid FIBs from the far end.

Severity Level

Warning

Probable Cause

Call establishment error

Recovery Procedure

If the problem persists, follow local procedures to determine why the far-end is not responding correctly.

LIM - Signal Unit Error Rate Monitor (SUERM) Threshold Exceeded

Description

The signal unit error rate monitor (SUERM) has exceeded the threshold because there are too many errors detected on a link. Can be caused by too-short signal units, too-long signal units (over 278 bytes), signal units with bad FCS, or signal units with bad sequence numbers.

Severity Level

Warning

Probable Cause

Call establishment error

Recovery Procedure

Follow local procedures to test the link facilities.

LIM Alarm Indication Signal

Description

The far end is transmitting an alarm indication signal (AIS) due to an excessive bit error rate, loss of signal, or loss of frame.

AIS response is an unframed, all 1's pattern on the line to the remote host. It is used to tell the far end it is still alive. Has an associated Clear event.

Severity Level

Warning

Probable Cause

Receiver failure M3100

Recovery Procedure

Contact the far-end office to determine the cause of the AIS and to correct the problem

LIM Card Error

Description

Card association error. Cause can be either a hardware or software issue. Has an associated Clear event.

Severity Level

Major

Probable Cause

Equipment malfunction

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

LIM Remote Alarm Indication

Description

RAI alarm is transmitted on Loss of Frame Alignment (LFA) or Loss of Signal (LOS). RAI will be transmitted back to the far end that is transmitting frames in error. Has an associated Clear event.

Severity Level

Warning

Probable Cause

Receive failure

Recovery Procedure

Contact the far-end office to determine the cause of the AIS and to correct the problem.

SS7Link Is Available

Description

The link has become available for EAGLE SS7 signaling traffic. SS7 traffic has been restored to the link.

Severity Level

Clear

Probable Cause

Call establishment error

Recovery Procedure

This message indicates a previous fault has been corrected. No further action is necessary

LIMDS1 Loss of Frame Alignment

Description

LFA condition, also called an out-of-frame (OOF) condition, occurs when there are errors in the incoming framing pattern. The number of bit errors that provokes the condition depends on the framing format. Has an associated Clear event.

Severity Level

Major

Probable Cause

Receive failure

Recovery Procedure

Contact the far-end office to correct their framing problem.

Destination Traffic Over Specified Threshold

Description

Total outgoing traffic at the xMF to a particular destination is beyond the configured maximum for any destination. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

 Contact Tekelec Customer Care Center. See *Customer Care Center*.

Destination Traffic Over Specified Threshold

Description

Total outgoing traffic at the xMF to a particular destination is beyond the configured low threshold for any destination. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

 Contact Tekelec Customer Care Center. See *Customer Care Center*.

Ethernet Disconnected Error

Description

Ethernet cable has been disconnected or is broken. Has an associated Clear event..

Severity Level

Warning

Probable Cause

Input/Output device error

Recovery Procedure

 Contact Tekelec Customer Care Center. See *Customer Care Center*.

Ethernet Loss of Frame

Description

Some ethernet frame has been dropped, probably because the xMF server is overloaded with too much traffic. Has an associated Clear event.

Severity Level

Warning

Probable Cause

Loss of Frame

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Ethernet Network Interface Board Error

Description

Hardware error detected on NIC (network interface card/board) on the xMF server. Has an associated Clear event.

Severity Level

Warning

Probable Cause

Communication subsystem fail

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

False Congestion Restart

Description

Signaling link has entered a congested state even though the traffic on the linkset is not high enough to cause congestion.

Severity Level

Warning

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Group Failover Failed

Description

A server has failed, and its functionality could not be taken over by another server in the site.

Severity Level

Critical

Probable Cause

Application subsystem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Group Failover Successful

Description

A server with a monitoring group has failed, and a spare server has taken over the monitoring group successfully.

Severity Level

Minor

Probable Cause

Application subsystem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Link Connected

Description

All the events of the link are cleared.

Severity Level

Clear

Probable Cause

Configuration or customizing error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Link Failure

Description

Detection of SIOS signal units in the Rx or Tx direction. See ITU-T Q.703 recommendation, paragraph 1.7 All the signaling links of the linkset are unavailable (because of failure, inhibition or processor outage) The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Link Occupancy Rate (Rx) Major

Description

Rx SLOR high threshold overrun. The SLOR indicates the number of transmitted bytes from signal units other than FISU divided by the maximal theoretical number of bytes that can be transmitted. This rate is integrated over 10-second periods. Using preventive cyclic retransmission, retransmitted signal units are not taken into account. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Link Occupancy Rate (Tx) Major

Description

Tx high SLOR threshold overrun. The SLOR indicates the number of transmitted bytes from signal units other than FISU divided by the maximal theoretical number of bytes that can be transmitted. This rate is integrated over 10-second periods. Using preventive cyclic retransmission, retransmitted signal units are not taken into account. SLOR value is measured with a 10-second integration time. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Link Occupancy Rate (Tx) Minor

Description

Tx low SLOR threshold overrun. The SLOR indicates the number of transmitted bytes from signal units other than FISU divided by the maximal theoretical number of bytes that can be transmitted. This rate is integrated over 10 seconds periods. Using preventive cyclic retransmission, retransmitted signal units are not taken into account.SLOR value is measured with a 10-second integration time. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Local Changeover

Description

Detection of a COO or ECO signal unit, acknowledged by a COA signal unit or unacknowledged at the end of a given time delay. See ITU-T Q.704 recommendation, paragraph 5. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Major

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Local Inhibition

Description

Detection of LIA signal unit in the Rx direction in response to an LIN signal unit in the Tx direction. See ITU-T Q.704 recommendation, paragraph 10. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Major

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Manual Group Failover

Description

Someone executed the failover command to manually transfer a monitoring group from one server to a spare server.

Severity Level

Warning

Probable Cause

Information modification detected

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder PDU Loss

Description

Some PDU was lost during the processing and was not sent to the IXP. Has an associated Clear event.

Severity Level

Major

Probable Cause

Information Missing

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder PDU Timestamps Are Delayed Beyond Configured Limit

Description

PDUs coming at the xMF have timestamps that are too far back in time compared to the current time and acceptable delay. Has an associated Clear event.

Severity Level

Major

Probable Cause

Delayed information

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Capacity Exceeding

Description

System out of shared memory. Has an associated Clear event.

Severity Level

Major

Probable Cause

Resource at or nearing capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Dropping Messages

Description

MsgFeeder is dropping MSUs because is unable to write MSUs into the IDB, or the throughput is over the defined threshold. Has an associated Clear event.

Severity Level

Critical

Probable Cause

Congestion

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Incoming Gb Traffic Over the Specified Threshold

Description

Total incoming Gb traffic at the xMF is beyond the configured maximum. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Incoming IP Traffic Over the Specified Threshold

Description

Total incoming IP traffic at the xMF is beyond the configured low threshold. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Incoming MSU Traffic Over the Specified Threshold

Description

Total incoming MSU traffic rate at the xMF is beyond the configured maximum (measured in megabytes/second). Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Incoming MSU Traffic Over the Specified Threshold

Description

Total incoming MSU traffic rate at the xMF is beyond the configured low threshold (measured in megabytes/second). Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Incoming Traffic Over the Specified Threshold

Description

Sum total incoming traffic at the xMF is beyond the configured maximum. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Incoming Traffic Over the Specified Threshold

Description

Sum total incoming traffic at the xMF is beyond the configured low threshold. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Message Route Getting Behind

Description

The output stream connected to IXP is lagging. The PDUs are not sent in real time but are delayed, probably because IXP or PMF is overloaded. Has an associated Clear event.

Severity Level

Major

Probable Cause

Delayed information

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Message Out of Sequence

Description

Reading stored MSUs on the xMF showed that MSUs are out of sequence. Has an associated Clear event

Severity Level.

Major

Probable Cause

Resource at or nearing capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Outgoing IP Traffic Over the Specified Threshold

Description

Total outgoing IP traffic at the xMF (to ICPs/IXPs) is beyond the configured low threshold. Has an associated Clear event

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Outgoing IP Traffic Over the Specified Threshold

Description

Total outgoing IP traffic at the xMF (to ICPs/IXPs) is beyond the configured maximum. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Outgoing MSU Traffic Over the Specified Threshold

Description

Total outgoing MSU traffic rate at the xMF (to the ICPs/IXPs) is beyond the configured maximum (measured in megabytes/second). Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Outgoing Traffic Over the Specified Threshold

Description

Sum total outgoing traffic at the xMF (to ICPs/IXPs) is beyond the configured maximum. Has an associated Clear event.

Severity Level

Major

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Outgoing Traffic Over the Specified Threshold

Description

Sum total outgoing traffic at the xMF (to ICPs/IXPs) is beyond the configured low threshold. Has an associated Clear event

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Output Congestion

Description

Message Feeder is congested and unable to send data to IXP. Has an associated Clear event.

Severity Level

Major

Probable Cause

Resource at or nearing capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Overload

Description

Incoming throughput is over 90% of defined threshold. Has an associated Clear event.

Severity Level

Critical

Probable Cause

Resource at or nearing capacity

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Overprovision

Description

Maximum links reached for Message Feeder. Has an associated Clear event.

Severity Level

Warning

Probable Cause

Software program error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Message Feeder Zero Timestamp

Description

The Eagle is not sending the timestamp to xMF in the EMP session. Has an associated Clear event.

Severity Level

Critical

Probable Cause

Information missing

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Network on Fast Copy Card

Description

The IMF server is not receiving the Fast Copy heartbeat from the card. Has an associated Clear event.

Severity Level

Minor

Probable Cause

LAN error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

No Failover Available Due To No Spare Service Available

Description

Failover was not possible because there was no spare server to fail to. Has an associated Clear event.

Severity Level

Major

Probable Cause

Application subsystem failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

No Server Available for New Group

Description

For an existing system with N servers for N groups, if a new group is created, it cannot be monitored because there is no server for it. Has an associated Clear event.

Severity Level

Critical

Probable Cause

Application subsystem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

No Spare Server Available; Cannot Failover

Description

The Failover feature provides for automatic failover of a failed IMF server in a subsystem of IMFs. Spare servers must be available for this purpose. If no spare server is available, this alarm is sent. Has an associated Clear event.

Severity Level

Critical

Probable Cause

Application subsystem

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Received Service Reject Message for the Link

Description

Eagle sent a service reject message. When IMF receives this message, an alarm is sent.

Severity Level

Warning

Probable Cause

Configuration or customizing error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Remote FE Loopback.

Description

Specified link has been looped back from the far end.

Severity Level

Warning

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Remote Processor Outage

Description

Detection of SIPO signal units in the Rx direction. See ITU-T Q.703 recommendation, paragraph 8. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Major

Probable Cause

Receiver failure M3100

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Route Unavailability

Description

Detection of a TFP signal unit in the Rx or Tx direction. See ITU-T Q.704 recommendation, paragraph 13. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Major

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Sent Service Reject Message for the Link

Description

The IMF sends this event to the Eagle when the Eagle Monitoring Protocol (EMP) is not followed.

Severity Level

Warning

Probable Cause

Configuration or customizing error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Server Failure, Out of Service

Description

In a subsystem of N+m servers, if a spare server fails, this subsystem has one less server available for failover. This incident does not impact functionality immediately but indicates increased risk if an active server fails. An alarm is generated for the failed spare server and clears when the failed server is recovered. Has an associated Clear event.

Severity Level

Major

Probable Cause

Equipment malfunction

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Spare Server Failed

Description

Failover considers a total number of N+m IMF servers in a subsystem, where N servers are monitoring links and are considered active and m servers are not assigned any links and are considered spare. The determination of active and spare is automatic. This alarm is sent when the server designated as a spare has failed. Has an associated Clear event.

Severity Level

Major

Probable Cause

Equipment malfunction

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Link Occupancy Rate (RX) Minor

Description

Rx SLOR low threshold overrun. The SLOR indicates the number of transmitted bytes from signal units other than FISU divided by the maximal theoretical number of bytes that can be transmitted. This rate is integrated over 10-second periods. Using preventive cyclic retransmission, retransmitted signal units are not taken into account. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

EROUTE System Capacity Is Exceeded.

Description

EROUTE system has reached a granting rate higher than its capacity (1700 grants per sec * N EROUTE cards).

Severity Level

Major

Probable Cause

Application subsystem failure

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Unavailable User Part Rx

Description

Detection of a UPU signal unit in the Rx direction. See ITU-T Q.704 recommendation, paragraph 2.4.2 No automatic clearing of alarm by subsystem. Must be done manually. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Unavailable User Part Tx

Description

Detection of a UPU signal unit in the Tx direction. See ITU-T Q.704 recommendation, paragraph 2.4.2 No automatic clearing of alarm by subsystem. Must be done manually. The alarm can be configured using the NSP administration application. Has an associated Clear event.

Severity Level

Minor

Probable Cause

Communication protocol error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

XDA - Excess Acknowledge Delay

Description

Far end is taking too long to acknowledge the messages sent to it by the signaling terminal. The T7 timer has timed out.

Severity Level

Warning

Probable Cause

Call establishment error

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

LIM DS1 Loss of Signal

Description

LOS condition occurs when no pulses have been detected on the line for between 100 to 250 bit times. This is the highest state alarm where nothing is detected on the line. The LOS may occur when a cable is not plugged in or when the far end equipment, which is the source of the signal, is out of service. Has an associated Clear event.

Severity Level

Major

Probable Cause

Loss of Signal

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Chapter

7

ProTrace: List of Specific Problems

Topics:

Clients Number Overrun

Description

Too many ProTrace clients using the ProTrace server.

Severity Level

N/A

Probable Cause

Underlying resource unavailabl

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Queries Number Overrun

Description

Too many queries opened on the data servers.

Severity Level

N/A

Probable Cause

Underlying resource unavailable

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

Chapter
8

ProTraq: List of Specific Problems

Topics:

ProTraq Events : Overflow

Description

Too many alarms to be generated according to criteria set by the user with ProTraq.

Severity Level

N/A

Probable Cause

Resource at or nearing capactiy

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.

ProTraq Threshold

Description

Measured value crosses threshold. Thresholds are set by the user with ProTraq.

Severity Level

N/A

Probable Cause

Threshold crossed

Recovery Procedure

Contact Tekelec Customer Care Center. See *Customer Care Center*.