Table of Contents

Chapter 1: About This Help Text...............................................................5
  System Alarms Overview.................................................................................6
  Scope and Audience.........................................................................................6
  About the Diameter Intelligence Hub (DIH).......................................................6
    Setting User Preferences..............................................................................7
  Customer Care Center......................................................................................14
  DIH Documentation Library............................................................................16
  Locate Product Documentation on the Customer Support Site..........................17
  Diameter Intelligent Hub (DIH) - Copyright, Notice, Trademarks, and Patents....17

Chapter 2: System Alarms Procedures............................................................19
  Overview of Functionality..............................................................................20
  Accessing System Alarms..............................................................................20
  Understanding Alarm Pages............................................................................20
    Alarms: Opened Page....................................................................................21
    Alarms: Terminated Page.............................................................................22
    Events Page...................................................................................................24
    Comments Page.............................................................................................25
    Troubleshooting Page....................................................................................26
  Sorting Columns in Alarm Pages.....................................................................26
  Drilling Down to Troubleshoot ProTraq Cell Alarms..........................................27
  Configuring Preferences.................................................................................28
    Modifying Application Preferences..............................................................28
    Modifying User Preferences........................................................................30
  Closing System Alarms....................................................................................30
List of Figures

Figure 1: Time Formatting Page..........................................................................................................8
Figure 2: Directory Page.......................................................................................................................9
Figure 3: Mapping Page.....................................................................................................................10
Figure 4: Point Code Tab....................................................................................................................11
Figure 5: CIC Page...............................................................................................................................12
Figure 6: Alarms Page........................................................................................................................13
Figure 7: Privacy Page........................................................................................................................14
Figure 8: Alarms Opened Page with Troubleshooting Column..................................................27
Figure 9: ProPerf Chart Screen..........................................................................................................27
Figure 10: Alarms Opened Page with Troubleshooting Column................................................28
Figure 11: ProTrace Viewer Screen...................................................................................................28
Figure 12: SysAlarm Application Preferences Dialog....................................................................29
List of Tables

Table 1: Alarms: Opened Icons.................................................................21
Table 2: Alarms: Opened Columns............................................................22
Table 3: Alarms: Terminated Icons.........................................................23
Table 4: Alarms: Terminated Columns.....................................................23
Table 5: Events Icons...........................................................................24
Table 6: Events Page Columns...............................................................25
Table 7: Comments Page Icons...............................................................25
Table 8: Comments Page Columns.........................................................26
Table 9: Troubleshooting Page Icons.....................................................26
Table 10: Fields in SysAlarm Application Preferences Dialog.....................29
Chapter 1

About This Help Text

Topics:

- System Alarms Overview.....6
- Scope and Audience.....6
- About the Diameter Intelligence Hub (DIH).....6
- Customer Care Center.....14
- DIH Documentation Library.....16
- Locate Product Documentation on the Customer Support Site.....17
- Diameter Intelligent Hub (DIH) - Copyright, Notice, Trademarks, and Patents.....17
System Alarms Overview

System Alarms is a "read-only" application designed for viewing and filtering alarms for pre-defined KPI sessions and graphically represented in the ProPerf (also read-only) and ProTrace applications.

From this application one can use the ProTraq Cell filter in the Managed Object Class drop-down list to view specific pre-defined KPI sessions and then by clicking the specific link in the Troubleshooting Actions column within the Alarms List screen.

Scope and Audience

This online help is designed for users, for example users assigned the role NSPMonitoringUser, who are monitoring DIH alarms for pre-defined KPI sessions.

About the Diameter Intelligence Hub (DIH)

The Diameter Intelligent Hub (DIH) is used to monitor a LTE network. DIH also creates a small hardware “footprint” for customers who administer 3G and 4G diameter networks. The DIH:

• Is a single blade server and storage blade collocated within a single or dual Diameter Signaling Router (DSR) enclosure(s).
• Provides filtering, data feed, tracing, decoding, and SNMP functions.
• Enables the selective collection and storage of diameter traffic within one or more instances of PMF and IXP.
• Provides nodal diameter troubleshooting.
• Provides data export for diameter messages.
• Supports both IPv4 and IPv6 traffic simultaneously.
• Provides KPI tracking using ProTrace application as well as viewing KPIs in graphic format using ProPerf dashboard configured at installation.
• Provides filtering for alarms using ProTraq Cell filter (see system alarms online help).
• Uses diameter protocol exclusively.

Note: The DIH system can use other protocols if the Diameter mode has not been selected and system is in Standard mode. (Default setting is Standard mode. For more information on selecting Diameter mode, see Centralized Configuration Manager Administration online help, "Setting System to Diameter Mode."

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, 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.
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 xDR’s, 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.

   ![Directory Page](image)

   **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.
3. Check **Translate ENUM values** to display text instead of numerals. 
   Enumeration is used by xDRs to display text values instead of numeric. (For example, 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**. (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.
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.
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.
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.

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:
  USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-free)
  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
• 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:
  +91 124 436 8552 or +91 124 436 8553
  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

DIH Documentation Library

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.

• Centralized Configuration Manager Administration Online Help
• Alarm Forwarding Administration Online Help
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.

Diameter Intelligent Hub (DIH) - Copyright, Notice, Trademarks, and Patents

© 2012 Tekelec

All Rights Reserved

Printed in U.S.A.

Notice

Information in this documentation is subject to change without notice. Unauthorized use, copying, or translation of this documentation can result in civil or criminal penalties.

Any export of Tekelec products is subject to the export controls of the United States and the other countries where Tekelec has operations.

No part of this documentation may be reproduced, translated, or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording, for any purpose without the express written permission of an authorized representative of Tekelec.

Other product names used herein are for identification purposes only, and may be trademarks of their respective companies.
RoHS 5/6 - As of July 1, 2006, all products that comprise new installations shipped to European Union member countries will comply with the EU Directive 2002/95/EC "RoHS" (Restriction of Hazardous Substances). The exemption for lead-based solder described in the Annex will be exercised. RoHS 5/6 compliant components will have unique part numbers as reflected in the associated hardware and installation manuals.

WEEE - All products shipped to European Union member countries comply with the EU Directive 2002/96/EC, Waste Electronic and Electrical Equipment. All components that are WEEE compliant will be appropriately marked. For more information regarding Tekelec's WEEE program, contact your sales representative.

Trademarks
TEKELEC, EAGLE, G-Flex, G-Port, and CAMIANT are registered trademarks of Tekelec. The Tekelec logo, A-Port, EAGLE 5, EAGLE 5 ISS, IP7, IP7 Secure Gateway, V-Flex, ngHLR, BLUESLICE, and Subscriber Data Server (SDS) are trademarks of Tekelec. All other trademarks are the property of their respective owners.

Patents
This product may be covered by one or more of the following U.S. and foreign patents:

U.S. Patent Numbers:
6,456,845; 6,765,990; 6,968,048; 7,043,001; 7,155,512; 7,206,394; 7,215,748; 7,231,024; 7,286,516; 7,286,647; 7,401,360; 7,706,343; 7,844,033; 7,860,799;

Foreign Patent Numbers:
None.
Chapter 2

System Alarms Procedures

Topics:

• Overview of Functionality.....20
• Accessing System Alarms.....20
• Understanding Alarm Pages.....20
• Sorting Columns in Alarm Pages.....26
• Drilling Down to Troubleshoot ProTraq Cell Alarms.....27
• Configuring Preferences.....28
• Closing System Alarms.....30
Overview of Functionality

System Alarms is a "read-only" application designed to monitor pre-defined KPI session alarms graphically represented in the ProPerf application (read-only) as well as in tabular form in ProTrace xDR Viewer application (also read-only) that resides on the Diameter Intelligence Hub (DIH) network. System Alarms lists all alarms generated and the user can view specific pre-defined alarms generated by using the ProTraq Cell filter in the Managed Object Class drop-down list.

Note: Java plug-in 1.6.0-13 (or higher) must be installed to ensure proper functioning of the application.

Accessing System Alarms

Note: NSP only supports versions of IE 7.0 or later and Firefox 3.6 or later. Before using NSP, turn off the browser pop up blocker for the NSP site.

1. To access System Alarms, log in to NSP using your Web browser.
   The Application board is displayed.

2. Click System Alarms in the Surveillance group.
   The Alarms interface is displayed.

Understanding Alarm Pages

The alarm information is displayed on five tabbed pages (all read only):

- Alarms: opened screen - provides details for all open alarms; filters can be set to customize the view
- Alarms: terminated screen - provides details for terminated alarms; filters can be set to customize the view
- Events screen - provides the details of events associated with a selected alarm record
- Comments screen - allows a user to add and edit comments applicable to a specific alarm when acknowledging or terminating the alarm
- Troubleshooting screen - allows a user with the NSPConfigManager role to add and edit troubleshooting guidelines for a specific alarm

Each type of screen is discussed in this online help.

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.
Alarms: Opened Page

The Alarms: opened page displays a table with information about alarms that are still active. Each active alarm is a single record in the Alarms: opened table.

You can perform the following actions in the Alarms: opened page:

- View all opened alarms for Managed Objects.
- View the details of an alarm.
- Drill down to charts and Key Performance Indicators (KPIs) to further analyze the alarm (for ProTraq cell alarms only).
- Terminate an alarm. (When the probable cause of an alarm has been rectified, the Alarm has to be cleared or terminated.)

  **Note:** You can terminate an alarm only if you belong to group NSPMonitorPowerUser.

- Acknowledge an alarm.

  **Note:** You can acknowledge an alarm only if you belong to group NSPMonitorUser.

- Manage the display by setting filters, turning Automatic Refresh on and off, setting the number of rows per page, and sorting columns.

Filters in Alarms: Opened Page

You can filter alarms by using any combination of the three filters on the Alarms: opened page. Each filter defaults to No Filtering. The filter fields are

- **Perceived Severity** - to filter by specific severity (critical, major, minor, warning).
- **Managed Object Class** - to filter by class level of the object.

  **Note:** ProTraq Cell is the only functional filter in the Managed Object Class drop-down list.

- **Alarm Type** - to filter by type (for example, communications, environment, equipment).

Icons in Alarms: Opened Page

Table 1: Alarms: Opened Icons

<table>
<thead>
<tr>
<th>Alarm Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Terminate alarm icon" /></td>
<td>Terminate alarm - to terminate selected alarms</td>
</tr>
<tr>
<td><img src="image" alt="Acknowledge alarm icon" /></td>
<td>Acknowledge alarm - to acknowledge selected alarms</td>
</tr>
<tr>
<td><img src="image" alt="Change records per page icon" /></td>
<td>Change records per page - to refresh the view to show the number of rows entered in the Number of Rows field</td>
</tr>
</tbody>
</table>
## Alarm Icon

<table>
<thead>
<tr>
<th>Alarm Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Alarm Icon" /></td>
<td>View details - to view events, comments, and troubleshooting tips for a selected alarm (or the last alarm selected in a group of alarms)</td>
</tr>
</tbody>
</table>

### Columns in Alarms: Opened Page

#### Table 2: Alarms: Opened Columns

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>check box to select alarm record(s)</td>
</tr>
<tr>
<td>Alarm Identifier</td>
<td>unique ID for that alarm</td>
</tr>
<tr>
<td>Perceived Severity</td>
<td>alarm severity level (color coded)</td>
</tr>
<tr>
<td>Managed Object</td>
<td>specific object on which the alarm occurred, if the alarm is associated with an object</td>
</tr>
<tr>
<td>Probable Cause</td>
<td>cause of the alarm based on history of similar alarms</td>
</tr>
<tr>
<td>Specific Problem</td>
<td>alarm name</td>
</tr>
<tr>
<td>Raised Time</td>
<td>time the alarm was registered</td>
</tr>
<tr>
<td>Changed Time</td>
<td>time the status of the alarm was changed</td>
</tr>
<tr>
<td>Event Count</td>
<td>number of events for the alarm</td>
</tr>
<tr>
<td>Managed Object Class</td>
<td>class level of the object (for example, IXP, IMF, Host) if the alarm is associated with an element</td>
</tr>
<tr>
<td>Acknowledge</td>
<td>• state of the acknowledged alarm; check denotes &quot;yes&quot;; yellow triangle denotes &quot;no.&quot;</td>
</tr>
<tr>
<td></td>
<td>• time the alarm was acknowledged</td>
</tr>
<tr>
<td></td>
<td>• user who acknowledged the alarm</td>
</tr>
<tr>
<td>Alarm Type</td>
<td>type of alarm (for example, equipment, processing error, quality of service).</td>
</tr>
<tr>
<td>Troubleshooting Action</td>
<td>drill-down links (for ProTraq cell alarms only) to chart and KPI data</td>
</tr>
</tbody>
</table>

### Alarms: Terminated Page

The Alarms: terminated page displays a table that contains information about alarms that have been terminated. Each terminated alarm is a single record in the Alarms:terminated table.

**Note:** The system exports terminated alarms (with all their fields) for storage on a dedicated directory. The files are kept for 90 days, after which they are purged. This feature enables users to calculate statistics on alarms.
You can perform the following actions in the Alarms: terminated page:

- View all terminated alarms for Managed Objects for a designated time, ranging from the past hour through the past 30 days
- View the details of an alarm
- Drill down to charts and Key Performance Indicators (KPIs) to further analyze the alarm (for ProTraq cell alarms only).
- Manage the display by setting filters, setting the number of rows per page, and sorting columns

Filters in Alarms: Terminated Page

You can filter alarms by using any combination of the three filters on the Alarms: terminated page. The filter fields are

- **Alarm Type** - to filter by type (for example, communications, environment, equipment). The default is No Filtering.
- **Managed Object Class** - to filter by class level of the object. The default is No Filtering.
  
  Note: ProTraq Cell is the only functional filter in the Managed Object Class drop-down list.
- **Time Interval** - the time range during which the alarm was terminated. The default is Last Hour.

Icons in Alarms: Terminated Page

Table 3: Alarms: Terminated Icons

<table>
<thead>
<tr>
<th>Alarm Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Number of Rows" /></td>
<td>Number of Rows -- maximum number of rows to display on each page</td>
</tr>
<tr>
<td><img src="image" alt="Change records" /></td>
<td>Change records per page-- to refresh the view to show the number of rows entered in the Number of Rows field</td>
</tr>
<tr>
<td><img src="image" alt="View details" /></td>
<td>View details - to view events, comments, and troubleshooting tips for a selected alarm (or the last alarm selected in a group of alarms)</td>
</tr>
</tbody>
</table>

Columns in Alarms: Terminated Page

Table 4: Alarms: Terminated Columns

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>radio button to select a terminated alarm record</td>
</tr>
<tr>
<td>Alarm Identifier</td>
<td>unique ID for the alarm</td>
</tr>
<tr>
<td>Managed Object</td>
<td>specific object on which the alarm occurred, if the alarm is associated with an object</td>
</tr>
<tr>
<td>Probable Cause</td>
<td>cause of the alarm based on history of similar alarms</td>
</tr>
<tr>
<td>Column Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Specific Problem</td>
<td>alarm name</td>
</tr>
<tr>
<td>Raised Time</td>
<td>time the alarm was registered</td>
</tr>
<tr>
<td>Cleared Time</td>
<td>time that the alarm was terminated</td>
</tr>
<tr>
<td>Event Count</td>
<td>number of events for the alarm record</td>
</tr>
<tr>
<td>Managed Object Class</td>
<td>class level of the object (for example, IXP, IMF, Host), if the map is</td>
</tr>
<tr>
<td></td>
<td>associated with an element</td>
</tr>
<tr>
<td>User</td>
<td>user who terminated the alarm</td>
</tr>
<tr>
<td>Acknowledge</td>
<td>• indicator as to whether the alarm was acknowledged. (A check means</td>
</tr>
<tr>
<td></td>
<td>&quot;yes,&quot; and yellow triangle means &quot;no.&quot;)</td>
</tr>
<tr>
<td></td>
<td>• time that the alarm was acknowledged</td>
</tr>
<tr>
<td></td>
<td>• user who acknowledged the alarm</td>
</tr>
<tr>
<td>Alarm Type</td>
<td>type of alarm (for example, equipment, processing error, quality of</td>
</tr>
<tr>
<td></td>
<td>service)</td>
</tr>
<tr>
<td>Changed Time</td>
<td>time the alarm status was changed</td>
</tr>
<tr>
<td>Perceived Severity</td>
<td>alarm severity level (color coded)</td>
</tr>
<tr>
<td>Troubleshooting Action</td>
<td>drill-down links to chart and KPI data (for ProTraq cell alarms only)</td>
</tr>
</tbody>
</table>

Events Page

The Events page displays a table that details events for an alarm received from the Diameter Intelligence Hub (DIH). An alarm can have more than one event associated with it.

This page is "read only" and cannot be altered.

Icons in the Events Page

Table 5: Events Icons

<table>
<thead>
<tr>
<th>Alarm Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Change records per page-- to refresh the view to show the number of rows</td>
</tr>
<tr>
<td>Number of</td>
<td>entered in the <strong>Number of Rows</strong> field.</td>
</tr>
<tr>
<td>Rows 20</td>
<td>Number of rows -- indicates the number of rows for display on one page.</td>
</tr>
</tbody>
</table>
Columns in the Events Page

Table 6: Events Page Columns

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Identifier</td>
<td>unique identifier for the event; this identifier is different from that of the associated alarm</td>
</tr>
<tr>
<td>Event Time</td>
<td>date and time the event occurred</td>
</tr>
<tr>
<td>Specific Problem</td>
<td>description of the problem that occurred</td>
</tr>
<tr>
<td>Perceived Severity</td>
<td>event severity level (color coded)</td>
</tr>
<tr>
<td>Additional Text</td>
<td>additional information (optional) provided by the event originator</td>
</tr>
<tr>
<td>Alarm Type</td>
<td>type of alarm (for example, equipment, processing error, quality of service)</td>
</tr>
</tbody>
</table>

Comments Page

This page is “read only” and cannot be altered.

Icons in the Comments Page

Table 7: Comments Page Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit Comment</td>
<td>Edit Comment - to edit the comment for the selected alarm record</td>
</tr>
<tr>
<td>Delete Comment</td>
<td>Delete Comment - to remove the comment about the selected alarm from the Comments page</td>
</tr>
<tr>
<td>Number of Rows</td>
<td>Number of Rows - number of rows for display on each page</td>
</tr>
<tr>
<td>Change records per page</td>
<td>Change records per page - to refresh the view to show the number of rows entered in the Number of Rows field.</td>
</tr>
</tbody>
</table>
Columns in the Comments Page

Table 8: Comments Page Columns

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>radio button for selecting a comment to edit or delete</td>
</tr>
<tr>
<td>Comment Identifier</td>
<td>unique ID for the comment</td>
</tr>
<tr>
<td>Comment Time</td>
<td>time and date the comment was entered</td>
</tr>
<tr>
<td>User Name</td>
<td>person who entered the comment</td>
</tr>
<tr>
<td>Comment Text</td>
<td>body of the comment</td>
</tr>
</tbody>
</table>

Troubleshooting Page

An alarm can have a associated Troubleshooting guideline that provides specific recommendations for resolving the alarm.

You can perform the following actions in the Troubleshooting page:

- View a Troubleshooting guideline for a selected alarm
- Drill down to charts and Key Performance Indicators (KPIs) to further analyze the alarm

Icons in the Troubleshooting Page

Table 9: Troubleshooting Page Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Chart Icon]</td>
<td>Jump to chart - to open a chart in ProPerf to further troubleshoot the alarm (for ProTraq cell alarms only)</td>
</tr>
<tr>
<td>![KPI Icon]</td>
<td>Jump to KPI data - to access the KPI data in ProTrace to further troubleshoot the alarm (for ProTraq cell alarms only)</td>
</tr>
<tr>
<td>![Edit Guideline Icon]</td>
<td>Edit Guideline- to enter a new Troubleshooting guideline or edit an existing one for the selected alarm record</td>
</tr>
</tbody>
</table>

Sorting Columns in Alarm Pages

You can sort records in ascending or descending order in the Alarm tables by clicking the column header. A small yellow arrow is displayed, indicating in which direction the column is sorted.
Drilling Down to Troubleshoot ProTraq Cell Alarms

You can drill down to view charts or KPI data using the ProTraq Cell filter in the Managed Object Class drop-down list. This feature enables a quicker view of alarm data for more in-depth analysis and easier troubleshooting.

Note: ProTraq Cell is the only functional filter in the Managed Object Class drop-down list.

To drill down to a chart in ProPerf, click the Jump to Chart icon in one of these locations:

• the Troubleshooting Action column of the Alarms: opened or Alarms: terminated page.

Figure 8: Alarms Opened Page with Troubleshooting Column

• the Troubleshooting page displayed in the Alarm details section (at the bottom of the screen)

The ProPerf chart is opened in another window shown in the figure. See ProPerf User Guide for details on interpreting the chart.

Figure 9: ProPerf Chart Screen

To drill down to a chart in ProTrace, click the Jump to KPI Data icon in one of these locations:

• the Troubleshooting Action column of the Alarms: opened or Alarms: terminated page.
Figure 10: Alarms Opened Page with Troubleshooting Column

- the Troubleshooting page displayed in the Alarm details section (at the bottom of the screen)

The ProTrace xDR Viewer is opened in another window. See ProTrace User Guide for details on interpreting the KPI data.

Note: The ProTraq configurations are pre-set for your system at installation.

Note: The ProTrace xDR Viewer is read-only. If the following message is displayed after you click the Jump to KPI Data icon, see ProTraq User Guide to turn on the drilldown function. (The message provides the session name, which is the identifier in ProTraq.)

Message: The drilldown is turned off for the statistical session: <session_name>.

Figure 11: ProTrace Viewer Screen

Configuring Preferences

Modifying Application Preferences

You can modify application preferences for System Alarms. These preferences apply only to the System Alarms application and do not affect preferences for other applications.

Note: Users must have the role of NSPMonitoringUser or NSPBusinessUser to manage alarm preferences.

1. From the System Alarms Menu Bar, select Display ➤ Preferences. The SysAlarm application preferences dialog is displayed.
Figure 12: SysAlarm Application Preferences Dialog

2. Modify the preferences as needed.

Table 10: Fields in SysAlarm Application Preferences Dialog

<table>
<thead>
<tr>
<th>Option</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Records Per Page</td>
<td>The number must be an integer from 1 to 300.</td>
</tr>
<tr>
<td>Selected Tab</td>
<td>Use the drop-down box to select either the Alarms: opened or Alarms: terminated screen.</td>
</tr>
<tr>
<td>Auto Comments</td>
<td>The option toggles between two settings:</td>
</tr>
<tr>
<td></td>
<td>• True - Allows automatic commenting of an alarm or group of alarms when the user acknowledges or terminates alarms.</td>
</tr>
<tr>
<td></td>
<td>• False - Disables automatic commenting.</td>
</tr>
<tr>
<td>Unfreeze delay</td>
<td>This delay is the amount of time the system waits before automatically reactivating the automatic refresh cycle. The unfreeze delay must be from 15 to 300 seconds.</td>
</tr>
<tr>
<td>Refresh interval</td>
<td>The refresh interval must be from 1 to 300 seconds.</td>
</tr>
</tbody>
</table>

3. Click **Apply**.
   The changes do not take effect until you log out and in again to the Network Software Platform.
Modifying User Preferences

User Preferences settings apply globally to Network Software Platform (NSP) applications. For information on setting User Preferences, see About This Help Text.

Note that within User Preferences, you can modify the default colors that indicate alarm severity. The colors are displayed in the Perceived Severity column of alarm tables.

Closing System Alarms

To close System Alarms, click Home to return to the Application board; or click Logout to exit NSP.