

DIH 1.2

ProPerf User Guide

910-6514-001 Revision A

August 2012



**Copyright 2011 – 2012 Tekelec. All Rights Reserved. Printed in USA.
Legal Information can be accessed from the Main Menu of the optical disc or on the
Tekelec Customer Support web site in the *Legal Information* folder of the *Product Support* tab.**

Table of Contents

Chapter 1: About this manual.....	4
Overview.....	5
Scope and Audience.....	5
About the Diameter Intelligence Hub (DIH).....	5
Setting User Preferences.....	6
Customer Care Center.....	13
DIH Documentation Library.....	15
Locate Product Documentation on the Customer Support Site.....	16
Diameter Intelligent Hub (DIH) - Copyright, Notice, Trademarks, and Patents.....	16
Chapter 2: Understanding ProPerf.....	18
Overview.....	19
Accessing and Logging into the NSP Portal.....	19
ProPerf Functionality.....	20
Opening ProPerf.....	20
The ProPerf Screen.....	20
Page Layout.....	21
Dashboard Layout.....	21
Dashboard and Panel Links.....	21
Dashboard Display.....	21

List of Figures

Figure 1: Time Formatting Page.....7
Figure 2: Directory Page.....8
Figure 3: Mapping Page.....9
Figure 4: Point Code Tab.....10
Figure 5: CIC Page.....11
Figure 6: Alarms Page.....12
Figure 7: Privacy Page.....13
Figure 8: ProPerf Main Page.....20
Figure 9: Dashboard Screen With 2,1 Configuration22

Chapter 1

About this manual

Topics:

- *Overview.....5*
- *Scope and Audience.....5*
- *About the Diameter Intelligence Hub (DIH).....5*
- *Customer Care Center.....13*
- *DIH Documentation Library.....15*
- *Locate Product Documentation on the Customer Support Site.....16*
- *Diameter Intelligent Hub (DIH) - Copyright, Notice, Trademarks, and Patents.....16*

Overview

ProPerf is a specific-purpose read-only application, that is part of the DIH system. The ProPerf application enables operators to view specific performance and quality indicators in real-time or using historical data that has been configured at installation.

Performance or quality indicators, calculated with xDRs, are provided by the probes and/or defined with the ProTraq application. The data is stored into statistical sessions within remote applications such as IXP and managed using Centralized Configuration Manager (CCM). ProPerf enables the user to view, in graphic format, real-time indicators based on Traffic or IP service Quality monitoring:

Using ProPerf enables the user to see failures and overloads instantly. In addition, trends can be easily estimated according to the shape of the curve.

Scope and Audience

This online help provides information about understanding the ProPerf application's dashboard as well as opening ProPerf's graphic interface to view KPI sessions in graphic format.

Note: ProPerf is configured to be "read-only." The user can execute certain filtering capabilities in the dashboard to view specific KPI sessions.

This guide is designed around the principle task such of understanding the ProPerf dashboard and panel layouts to view these 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 certain User Preferences that apply to the following NSP applications:

- Alarm Forwarding
- Audit Viewer
- ProAlarm Configuration
- ProAlarm Viewer
- ProPerf
- ProPerf Configuration
- ProTraq
- Security
- System Alarms

These User Preferences include

- Time specifications (date format, time zone, etc.)
- Directory names (for exporting, uploading, and downloading)
- Enumeration values (numerals vs. text)
- Node name and node link display
- 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.

User preferences

Time | Directory | Enumeration | Point code | CIC | Alarms | Privacy

time related displays

Date format: dd/MM/yyyy *

Time format: HH:mm:ss *

Date and time fields: dd/MM/yyyy HH:mm:ss *

Duration fields: hhh:mm:ss.ms

Time zone: (GMT-05:00) America/New_York

Tips: above fields represents the format that will be applied to different types of fields. Here is an help about authorized values and their meanings. Separators are allowed, and will be restituted "as is". Please note that these formats are case sensitive.

yy or **yyyy**: Year (number)
dd: Day in month (number)
EEE: Day in week (string)
MM or **MMMM**: Month in year (respectively number or string)
aa: AM/PM marker (string)
HH: Hour in day (0-23)
hh: Hour in AM/PM (1-12)
mm: Minute in hour (number)
ss: Second in minute (number)

Reset for Time

Reset | Save as default | Apply | Cancel

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 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.

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.

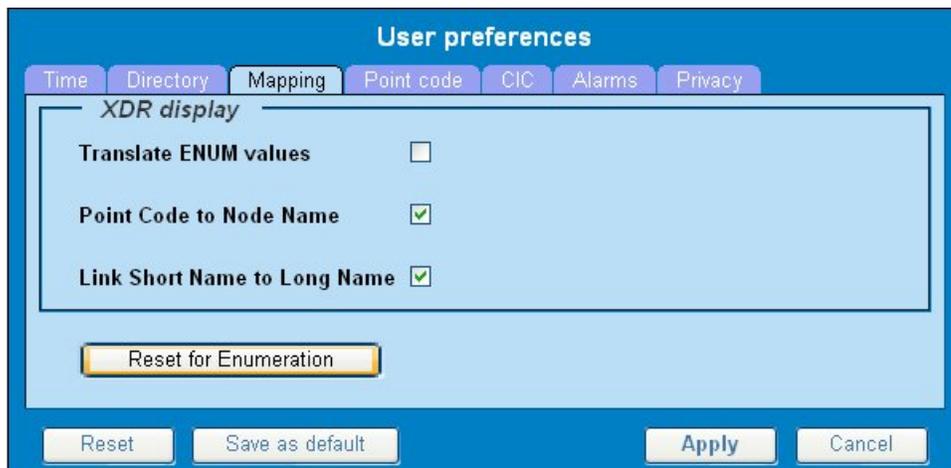


Figure 3: Mapping Page

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

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.

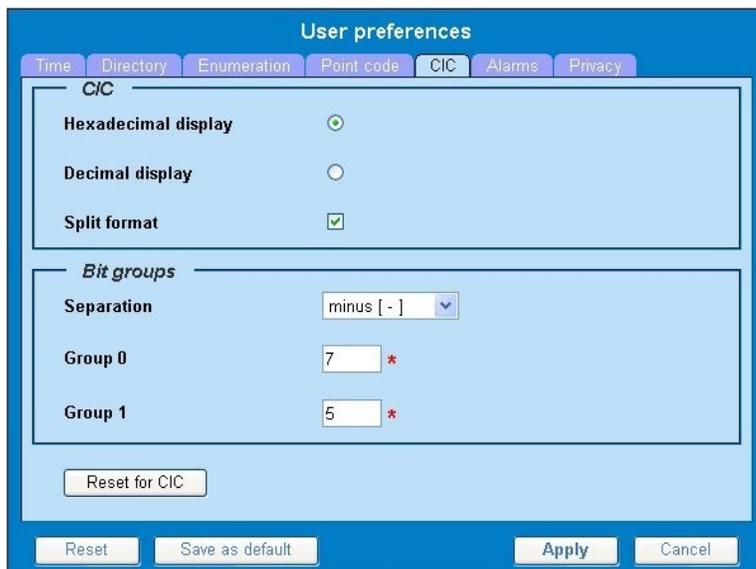


Figure 5: CIC Page

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.

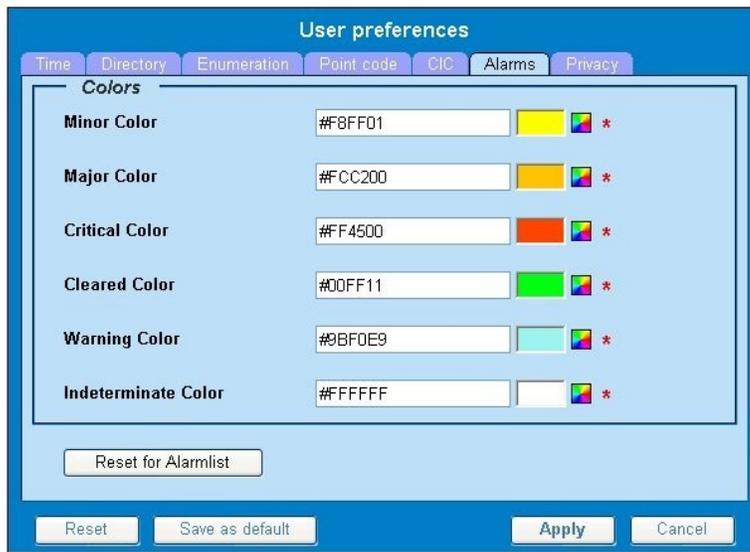


Figure 6: Alarms Page

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.

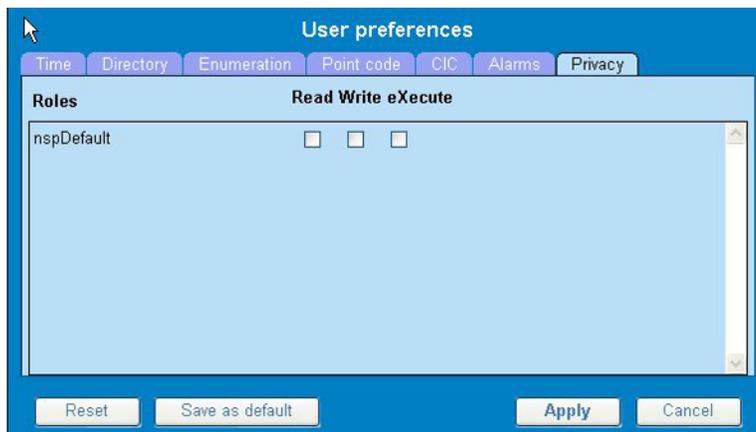


Figure 7: Privacy Page

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.

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**

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:

+91 124 436 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

- Diagnostic Utility Administration Online Help
- ProTrace Online Help
- System Alarms Online Help
- ProPerf Online Help
- ProTraq Configuration Online Help
- Data Feed Export Online Help
- Quick Start Online Help
- System Alarms 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

Understanding ProPerf

Topics:

- *Overview.....19*
- *Accessing and Logging into the NSP Portal.....19*
- *ProPerf Functionality.....20*
- *Opening ProPerf.....20*
- *The ProPerf Screen.....20*

Overview

ProPerf is a specific-purpose application that is part of DIH.

ProPerf is designed for managing performance indicators in real-time and from historical data with a display of curves and graphs to be viewed by users with role NSPBusinessUser. These indicators, calculated with message-based counters are provided by the probes and/or defined by the ProTraQ application.

Data is stored in statistical sessions organized as matrix of column and line filter results. This matrix defines cells named KPI (Key Performance Indicators).

ProPerf is based on a dashboard concept, that is, a single-page display of multiple KPI's in associated charts and tables (set up in Panels), determined according to predefined layouts. *ProPerf* offers two main dashboard functions:

- Dashboard Editing - Allows you to configure a dashboard to display as an independent page and automatically refresh it in real-time.
- Dashboard Display - Allows you to use global settings to display a dashboard, to specific properties of the KPI's used.

Note: Accessible to users in the group NSPBusinessUser (execute and read-only capability only).

Accessing and Logging into the NSP Portal

To access and log into NSP, follow these steps:

1. Open your Web browser.
2. In the Address bar, type the following **Uniform Resource Locator (URL)** for NSP:
http://nspserver/nsp, where the nspserver is the IP address of NSP.

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.

The NSP login screen opens.

Note: Before you can start NSP, you must first have a userid and password assigned to you by your NSP system administrator.

3. Type your **username** assigned to you in the *Username* field.
4. Type your **password** in the *Password* field.
5. Click **OK**.
The NSP *Application Board* opens.
6. Click on the *ProPerf* icon to open the application.

ProPerf Functionality

ProPerf application has two major functions.

- Filtering/Viewing - enables you to perform the following procedures:
 - Use the filter on the dashboard to view specific (pre-configured) sessions
 - View a pre-configured panel (line chart, bar chart, pie chart or table)
- Display - enables you to perform the following:
 - Leave a dashboard in a new page
 - Print or save a dashboard page
 - Zoom in or out to change the Reference Duration of the current view
 - View historical data for a given date and time
 - View the dashboard in real-time

Opening ProPerf

ProPerf is part of the *NSP Toolkit* and is opened from the *NSP Platform*.

Note: To log into ProPerf Configuration, you must first have a Network Software Platform (NSP) userid and password. For more information contact your NSP administrator.

Once you have logged into NSP , the *NSP Application Board* opens.

The ProPerf application only allows the user to display pre-defined dashboards and use the dashboard toolbar.

To view a dashboard, click the **ProPerf** icon under the Application heading. To configure or create a dashboard click the **ProPerf Configuration** icon under the Configuration heading. The *ProPerf Main* page opens displaying the *Dashboard list*.

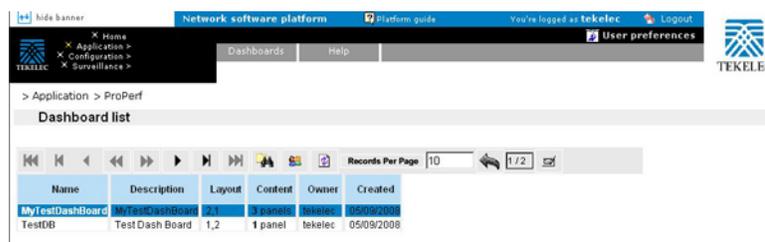


Figure 8: ProPerf Main Page

The ProPerf Screen

ProPerf has the same look and similar functionality as all applications in DIH.

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

Page Layout

The page is divided into the following:

Links to applications, configuration applications and surveillance - located in the top left-hand corner.

Menu bar - contains two menus:

- Your Dashboard - that shows dashboards that you have been given access to.
- Help - has two options
 - Help - that provides an online help system for ProPerf
 - About - that provides basic information about the current ProPerf release.

Toolbar - that provides navigation and function buttons.

Dashboard list - a table that lists the configured xDR sessions (in panels).

Dashboard Layout

Dashboards are presented in table format. The table has seven columns.

Dashboard and Panel Links

The Name and Panel columns are links. Clicking on these links opens the Dashboard configuration and Panel List pages respectively.

Dashboard Display

Note: You can only view dashboards that you are authorized to view. For more information see the chapters on Privacy in the NSP Security online help.

To display a dashboard click the **Name**. The *Dashboard* opens in a separate page. An example of a dashboard with a 2,1 configuration is shown in this figure.

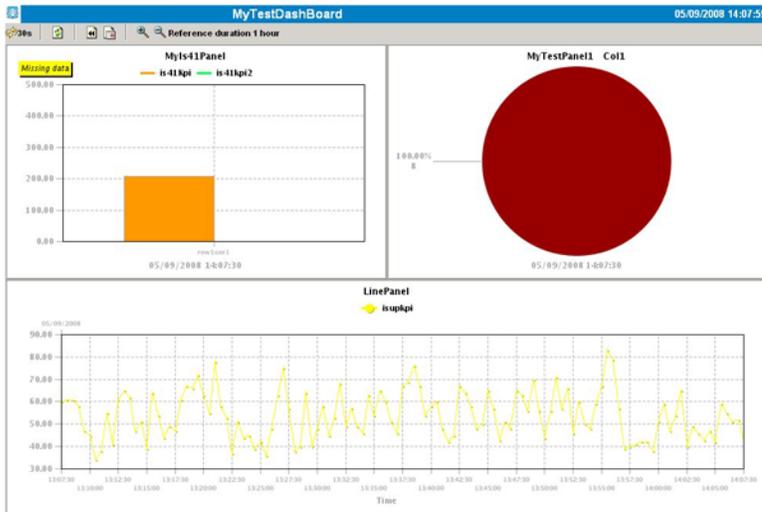


Figure 9: Dashboard Screen With 2,1 Configuration

Note: Real-time dashboards are automatically refreshed according to default settings.

Note: Resulting graph displays an exact value as tool tips when cursor is on a point of a curve.