

BLADEOS™ 6.5
BBI Quick Guide

RackSwitch™ G8000

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BLADE
NETWORK TECHNOLOGIES

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Preface

The BLADEOS Browser-Based Interface (BBI) software is included with the RackSwitch G8000 (G8000). The BBI software lets you use your Web browser to access switch information and statistics, and to perform switch configuration via the Internet.

This *BBI Quick Guide* provides an overview of how to access and use the BLADEOS Browser-Based Interface.

Who Should Use This Book

This *BBI Quick Guide* is intended for network installers and system administrators engaged in configuring and maintaining a network. It assumes that you are familiar with your G8000, your Web browser, Ethernet concepts, IP addressing, the IEEE 802.1d Spanning Tree Protocol, and SNMP configuration parameters.

Related Documentation

For documentation on installing the switch physically, see the *Installation Guide* for your G8000.

For details about the switch information, statistics, and configuration parameters available using the BLADEOS BBI, see the BLADEOS *Command Reference* and *Application Guide*.

Typographic Conventions

The following table describes the typographic styles used in this book.

Table 1 Typographic Conventions

| Typeface or Symbol | Meaning | Example |
|---------------------------|---|--|
| AaBbCc123 | This type is used for names of commands, files, and directories used within the text. It also depicts on-screen computer output and prompts. | View the <code>readme.txt</code> file. Main# |
| AaBbCc123 | This bold type appears in command examples. It shows text that must be typed in exactly as shown. | Main# sys |
| < <i>AaBbCc123</i> > > | This italicized type appears in command examples as a parameter placeholder. Replace the indicated text with the appropriate real name or value when using the command. Do not type the brackets. This also shows book titles, special terms, or words to be emphasized. | To establish a Telnet session, enter: host# telnet <IP address> Read your <i>User's Guide</i> thoroughly. |
| [] | Command items shown inside brackets are optional and can be used or excluded as the situation demands. Do not type the brackets. | host# ls [-a] |

How to Get Help

If you need help, service, or technical assistance, call BLADE Network Technologies Technical Support:

US toll free calls: 1-800-414-5268

International calls: 1-408-834-7871

You also can visit our web site at the following address:

<http://www.bladenetwork.net>

Click the **Support** tab.

The warranty card received with your product provides details for contacting a customer support representative. If you are unable to locate this information, please contact your reseller. Before you call, prepare the following information:

- Serial number of the switch unit
- Software release version number
- Brief description of the problem and the steps you have already taken
- Technical support dump information (`# show tech-support`)

CHAPTER 1

Getting Started

This chapter briefly describes the software features and requirements for the BLADEOS Browser-Based Interface (BBI), and explains how to access the BBI start page.

Features

The network administrator can access switch configuration and monitoring functions through the BBI, a Web-based switch management interface. The BBI has the following features:

- Many of the same configuration and monitoring functions as the command-line interface
- Intuitive and easy-to-use interface structure
- Password protection
- Nothing to install; the BBI is part of the BLADEOS switch software
- Automatically upgraded with each new software release

Note – You can perform most configuration and monitoring tasks through the BBI. For a comprehensive set of commands, use the command-line interface. Refer to the BLADEOS *Command Reference* for the RackSwitch G8000.

Requirements

- RackSwitch G8000 switch
- Installed BLADEOS switch software
- PC or workstation with network access to the switch

- Frame-capable Web-browser software, such as the following:
 - Netscape Navigator 4.7x or higher
 - Internet Explorer 6.0x or higher
 - Mozilla FireFox 1.0.4 or higher
- JavaScript enabled in your Web browser

Switch Set Up

Before you can access the BBI, minimal configuration is required on the G8000.

IP Interfaces

At least one IP interface must be configured on the switch. Each IP interface address provides a point of access for BLADEOS switch management. The default management interface is 1, which allows access to BLADEOS switch management.

For complete information about configuring IP interfaces, see your *G8000 Installation Guide*.

Enabling/Disabling BBI Access

By default, BBI access is enabled. If you need to disable or re-enable access, use the following command from the command-line interface:

```
RS G8000 (config)# [no] access http enable
```

For more information on the accessing and configuring the switch through the command-line interface, see your *Command Reference*.

Web Browser Set Up

Most modern Web browsers work with frames and JavaScript by default, and require no additional set up. However, you should check your Web browser's features and configuration to make sure frames and JavaScript are enabled.

Note – JavaScript is not the same as Java. Please make sure that JavaScript is enabled in your Web browser.

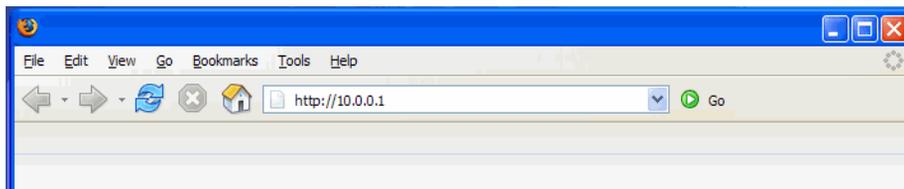
Starting the BBI

When the switch and browser set up is done, follow these steps to launch the BBI:

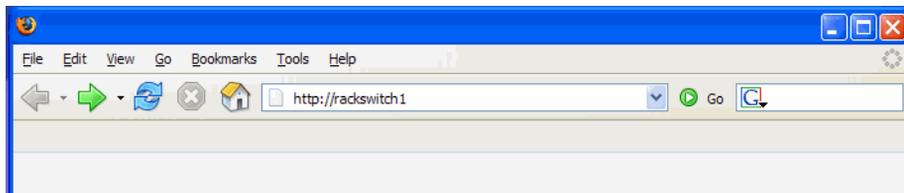
1. Start your Web browser.
2. Enter the switch IP interface address in the Web browser's URL field.

For example, consider an IP interface with a network IP address of 10.0.0.1

You could enter the following:



If the IP interface's address has a name on your local domain name server, you could enter the name instead. For example, you could enter the following:



3. Log in to the switch.

If your switch and browser are properly configured, you are asked to enter a password:



Enter the account name and password for the switch's administrator or user account. The default account name is *admin*, and the default password is *admin*. For more password information, see your *Command Reference*.

4. Allow the BBI Dashboard page to load.

When the proper account name and password combination is entered, the BBI Dashboard page is displayed in your browser's viewing area. There may be a slight delay while the Dashboard page is being initialized. You should not stop the browser while loading is in progress. When loading is complete, a folder icon appears in the left-hand navigation window.

| Switch Dashboard | |
|------------------------------|---|
| Switch Name | |
| Switch Location | |
| Switch Type | Blade Network Technologies RackSwitch G8000 |
| Switch Up Time | 27 days, 15 hours, 15 minutes and 10 seconds. |
| Last Boot Time | 2:00:07 Fri Apr 13, 2010 (power cycle) |
| Time and date | 18:45:04, 1/30/2010 |
| Timezone Location | Americas-Barbados |
| Daylight Savings Time Status | disabled |
| MAC Address | 00:25:03:1c:96:00 |
| IP Address | 10.0.0.1 |
| Hardware Revision | 14 |
| Switch Serial No | CH4926000Y |
| HW Spare Part No | BAC-00017-00 |
| Manufacturing Date | 09/26 |
| Software Rev | 6.5.0 (FLASH image1) |
| Flash Configuration | FLASH image1, factory default configuration. |
| Unit Fans Status | Fans are in Forward AirFlow, Warning at 55 C and Recover at 80 C |
| Unit Temperature | Sensor 1: 30.0 C; Sensor 2: 34.0 C; Sensor 3: ---; Sensor 4: 45.0 C; |
| Unit Fans Speed | Fan 1: 1060 RPM (47 PWM); Fan 2: 1971 RPM (47 PWM); Fan 3: 2262 RPM (47 PWM); Fan 4: 1977 RPM (47 PWM); Fan 5: 2047 RPM (47 PWM); |
| Unit Power Supplies | Power Supply 1: On , Power Supply 2: On |
| Banner | |

Note – The sample screens that appear in this document might differ slightly from the screens displayed by your system. Screen content varies based on the type of switch unit that you are using and the firmware versions and options that are installed.

CHAPTER 2

Browser-Based Interface Basics

Once you are properly logged in, the BLADEOS Browser-Based Interface (BBI) appears in your Web browser's viewing window:

The screenshot displays the BLADE OS interface. At the top, there is a toolbar with buttons for CONFIGURE, STATISTICS, and DASHBOARD. Below the toolbar are buttons for Apply, Save, Revert, Diff, and Dump. To the right, the BLADE OS logo is shown with Show Log, Help, and Logout options. The main content area is titled 'Switch Dashboard' and contains a table of switch details. A navigation window on the left shows a folder icon and a link to 'BNT RackSwitch G8000'. A forms window at the bottom right is indicated by an arrow pointing to the table.

| Switch Dashboard | |
|------------------------------|---|
| Switch Name | |
| Switch Location | |
| Switch Type | Blade Network Technologies RackSwitch G8000 |
| Switch Up Time | 27 days, 15 hours, 15 minutes and 10 seconds. |
| Last Boot Time | 2:00:07 Fri Apr 13, 2010 (power cycle) |
| Time and date | 18:45:04 , 1/30/2010 |
| Timezone Location | Americas-Barbados |
| Daylight Savings Time Status | disabled |
| MAC Address | 00:25:03:1c:96:00 |
| IP Address | 10.0.0.1 |
| Hardware Revision | 14 |
| Switch Serial No | CH4926000Y |
| HW Spare Part No | BAC-00017-00 |
| Manufacturing Date | 09/26 |
| Software Rev | 6.5.0 (FLASH image1) |
| Flash Configuration | FLASH image1, factory default configuration. |
| Unit Fans Status | Fans are in Forward AirFlow, Warning at 55 C and Recover at 80 C |
| Unit Temperature | Sensor 1: 30.0 C; Sensor 2: 34.0 C; Sensor 3: --; Sensor 4: 45.0 C; |
| Unit Fans Speed | Fan 1: 1060 RPM (47 PWM); Fan 2: 1971 RPM (47 PWM); Fan 3: 2262 RPM (47 PWM); Fan 4: 1977 RPM (47 PWM); Fan 5: 2047 RPM (47 PWM); |
| Unit Power Supplies | Power Supply 1: On , Power Supply 2: On |
| Banner | |

There are four main regions on the BLADEOS BBI screen:

- The toolbar is used for selecting the context for your actions in the other windows.
- The navigation window is used for selecting particular items or features to act upon.
- The forms window is used for viewing or altering switch information.
- The message window is used for displaying the most recent switch `syslog` messages and events.

Toolbar

Context Tabs

The toolbar is used for setting the context for your actions in the application. There are three context tabs:

| | |
|-------------------|--|
| Configure | When selected, you can access the switch configuration forms. Configuration forms can be altered only if you are logged in using the administrator account. Select an item in the navigation window to display the desired configuration form in the forms window. |
| Statistics | When selected, you can view information about switch performance. Select an item in the navigation window to display the desired statistics in the forms window. |
| Dashboard | This context tab is selected by default when the BBI is first activated. When selected, basic switch information and status can be viewed in the forms window. Select an item in the navigation window to display the desired dashboard information in the forms window. |

The selected context tab is highlighted, to remind you of the current context mode.

Commands

The following general commands are available on the toolbar:

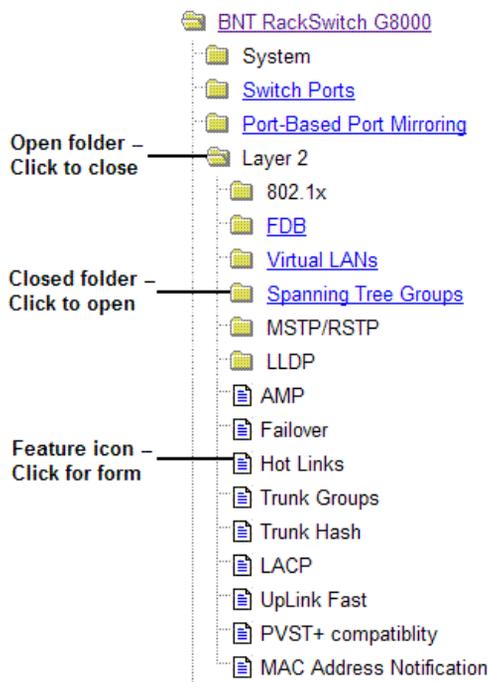
| | |
|------------------------------|---|
| Save to Active Config | Saves the current configuration to the startup configuration block. |
| Save to Backup Config | Saves the current configuration to the backup configuration block. |
| Show Config | Opens a new Web-browser window that displays the running configuration. |

| | |
|-----------------|--|
| Show Log | Opens a new Web-browser window that displays the most recent switch log messages. Close the log browser when finished. |
| Help | Opens a new Web-browser window that displays basic online help information. Close the Help browser when finished. |
| Logout | Log off the switch and exit the BBI. |

Navigation Window

The navigation window is used for selecting a particular switch feature to act upon. Status, statistics, or configuration forms for the selected item will appear in the forms window, depending on the context chosen on the toolbar.

The navigation window contains a tree of folders, sub-folders, and feature icons:



You can click on any closed folder to open it and reveal its contents. Click on any open folder to close it. Click on any feature icon to load the appropriate status, statistics, or configuration form in the forms window.

Some folders also have forms. If the name of the folders is underlined, click on the name to display the appropriate form.

Forms Window

When a feature icon is selected on the navigation window, a status, statistics, or configuration form is displayed in the forms window. The exact nature of the form depends on the current context selected on the toolbar, as well as the type of information available. Not all feature icons have forms for all contexts.

Some forms display switch information such as settings, status, or statistics. Others allow you to make configuration changes to switch parameters.

Message Window

Switch log messages are generated by events such as login/logout activity, password changes, configuration changes, and switch reboot. The BBI records the most recent messages and displays each one briefly in the message window. When the last message has been displayed, the cycle is repeated.

To view all messages at the same time, select the Show Log command on the toolbar. A new Web-browser window will be opened to display the log information. Close the window when finished.

CHAPTER 3

Configuring the Switch

The BLADEOS Browser-Based Interface (BBI) can be used to view and change switch configuration parameters. The same configuration parameters that are available through the switch's command-line interface are present on the BBI configuration forms.

The following provides a basic outline for switch configuration. You should first be familiar with configuration as covered in the BLADEOS *Command Reference* manual.

Note – You must be logged in using the administrator account in order to change switch configuration settings.

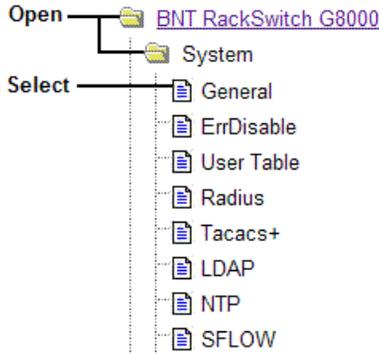
Configuration Steps

Follow these basic steps for viewing or configuring switch parameters:

1. Click the Configure context tab in the BLADEOS toolbar:



2. Select a feature icon in the navigation window. For example:



3. View or make changes to the settings shown in the forms window. For example:

The screenshot shows the BLADE OS web interface. The top navigation bar includes 'CONFIGURE', 'STATISTICS', and 'DASHBOARD'. Below the navigation bar are buttons for 'Apply', 'Save', 'Revert', 'Diff', 'Dump', 'Show Log', 'Help', and 'Logout'. The main content area is titled 'Switch Management Processor Configuration' and contains a form with various settings. The 'Enable/Disable Host Name' dropdown menu is highlighted with a red box, showing the options 'Disabled', 'Enabled', and 'Disabled'. The left sidebar shows a tree view of the configuration structure, including 'System', 'Switch Ports', 'Port-Based Port Mirroring', 'Layer 2', 'RMON Menu', 'Layer 3', 'QoS', and 'Access Control'.

Note – Fields which must be configured for proper switch operations are highlighted on the forms in **GREEN** type. Items which load other forms when selected are underlined.

4. Click the Submit button on the bottom of the form to submit the form contents to the switch.

Using the BBI to Load Switch Software

You can use the Browser-Based Interface to load software onto the G8000. The software image to load can reside in one of the following locations:

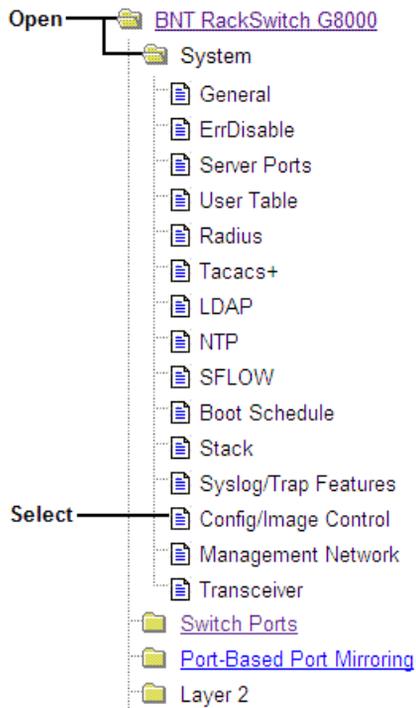
- FTP server
- TFTP server
- Local computer

After you log onto the BBI, perform the following steps to load a software image:

1. Click the Configure context tab in the BLADEOS toolbar:



2. In the Navigation Window, select System > Config/Image Control.



The Switch Image and Configuration Management page appears.

| Switch Image and Configuration Management | |
|--|--|
| Image 1 Version | version 6.5.0, downloaded 6:45:03 Mon Aug 23, 2010 |
| Image 2 Version | version 6.3.1, downloaded 12:43:36 Fri Jul 16, 2010 |
| Boot Version | version 6.5.0 |
| Active Image Version | 6.5.0 |
| Next Boot Image Selection | image 1 ▾ |
| Active Configuration Block | factory config |
| Next Boot Configuration Block Selection | factory config ▾ |
| Next CLI Boot Mode Selection | BLADEOS CLI ▾ |
| Prompt for selectable boot mode | ENABLE ▾ |
| NetBoot | |
| NetConfig for next boot | DISABLE ▾ |
| TFTP IP Address | 0.0.0.0 |
| Config file | |
| FTP/TFTP Settings | |
| Hostname or IP Address of FTP/TFTP server | 100.10.20.1 |
| Username for FTP Server or Blank for TFTP Server | |
| Password for FTP Server | |
| Image Settings | |
| Image for Transfer | image 1 ▾ |
| Image Filename (on server) | 6.5.0_os.img <input type="button" value="Get Image"/> <input type="button" value="Put Image"/> |
| Image Filename (on HTTP Client) | <input type="button" value="Browse..."/> <input type="button" value="Download via Browser"/> |

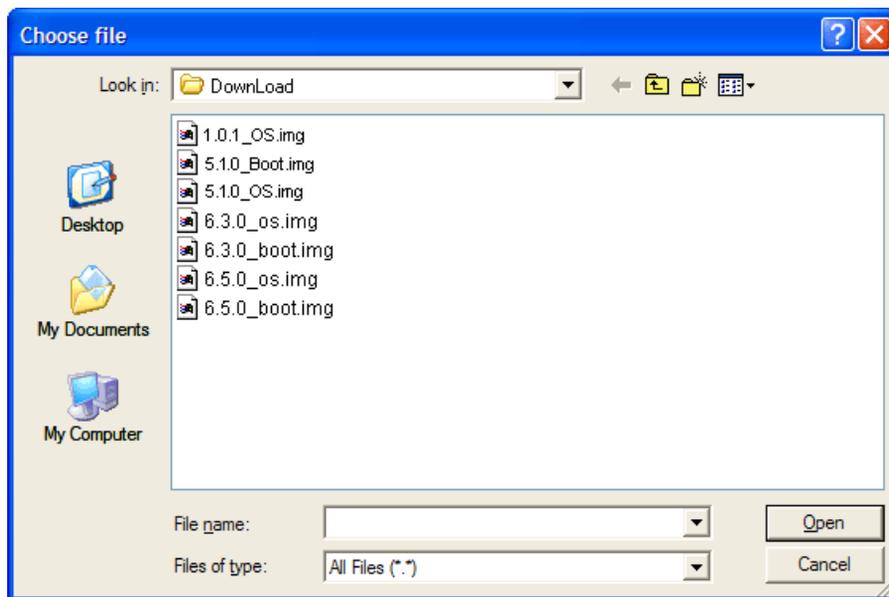
- If you are loading software from your computer (HTTP client), go to Step 4. If you are loading software from a FTP/TFTP server, enter the server's information in the FTP/TFTP Settings section.

| | |
|--|-------------|
| FTP/TFTP Settings | |
| Hostname or IP Address of FTP/TFTP server | 100.20.10.1 |
| Username for FTP Server or Blank for TFTP Server | |
| Password for FTP Server | |

4. In the Image Settings section, select the image version you want to replace (Image for Transfer).

| | |
|---------------------------------|--|
| Image Settings | |
| Image for Transfer | image 1 ▾ |
| Image Filename (on server) | 6.5.0_os.img <input type="button" value="Get Image"/> <input type="button" value="Put Image"/> |
| Image Filename (on HTTP Client) | <input type="button" value="Browse..."/> <input type="button" value="Download via Browser"/> |

- If you are loading software from a FTP/TFTP server, enter the file name and click **Get Image**.
- If you are loading software from your computer, click **Browse**. In the File Download Dialog, select the file and click **OK**. Click **Download via Browser**.



Once the image has loaded, the page refreshes to show the new software.

CHAPTER 4

Viewing Statistics

The BLADEOS Browser-Based Interface (BBI) can be used to view a variety of switch performance statistics. The same statistics that are available through the switch's command-line interface are present on the BBI statistics forms.

The following provides a basic outline for viewing statistics. You should first be familiar with available statistics as covered in the BLADEOS *Command Reference* manual.

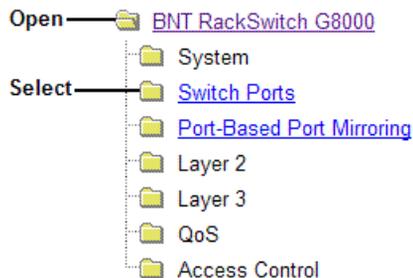
Steps for Displaying Statistics

Follow these basic steps for viewing switch statistics:

1. Select the Statistics context tab in the BLADEOS toolbar:



2. Select a feature icon or underlined folder in the navigation window. For example:



3. View the statistics in the forms window. For example:

The screenshot shows the BLADE OS web interface. The top navigation bar includes 'CONFIGURE', 'STATISTICS' (selected), and 'DASHBOARD'. Below the navigation bar, there are buttons for 'Apply', 'Save', 'Revert', 'Diff', and 'Dump', along with 'Show Log', 'Help', and 'Logout'. A status bar at the top displays the date and time '7. Mar 2 4:00:19' and a log message: '192.168.1.211 NOTICE mgmt admin(admin) login on Console'.

The main content area is titled 'Switch Ports Statistics Summary' and contains a table with the following data:

| Switch Port | InOctets | OutOctets | Total Errors |
|--------------------|----------|-----------|--------------|
| 1 | 0 | 0 | 0 |
| 2 | 49748542 | 3331325 | 0 |
| 3 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 |

The left sidebar shows a tree view of the configuration hierarchy for 'BNT RackSwitch G8000', including folders for System, Switch Ports, Port-Based Port Mirroring, Layer 2, Layer 3, QoS, Access Control, and Virtualization.

Note – Items which load other forms when selected are [underlined](#).

CHAPTER 5

The Dashboard

The BLADEOS Browser-Based Interface (BBI) can be used to view the present settings and operating status of a variety of switch features. The same information available through the switch's command-line interface is present on the dashboard forms.

The following provides a basic outline for viewing the dashboard forms. You should first be familiar with configuration as covered in the BLADEOS *Command Reference* manual.

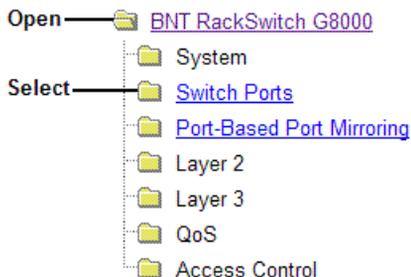
Steps for Displaying Dashboards

Follow these basic steps for viewing switch dashboard forms:

1. Select the Dashboard context tab in the BBI toolbar:



2. Select a feature icon in the navigation window. For example:



3. View information shown in the forms window. For example:

The screenshot shows the BLADE OS interface with the 'DASHBOARD' tab selected. The main content area is titled 'Switch Ports Dashboard' and displays a table of port information for a BNT RackSwitch G8000. The table has six columns: Status, Switch Port Info, Operational Status, Speed Duplex FlowCtl, Input Frames Output Frames, and LinkState Changes Total Errors. Three ports are listed, each with a status icon (a green square with a white 'X' or a green square with a white 'O') and detailed configuration information. The first and third ports are in a 'disabled' state, while the second port is in a 'FORWARDING' state. The second port shows significant traffic with 464763 input frames and 44521 output frames, and 1 link state change.

| Status | Switch Port Info | Operational Status | Speed Duplex FlowCtl | Input Frames Output Frames | LinkState Changes Total Errors |
|--------|---|--------------------|----------------------|----------------------------|--------------------------------|
| | <u>1</u> : name: stp: DISABLED ErrDisable Recovery: disabled Flood Blocking: disabled FDB Learning: enabled Tagging: disabled PVID: 1 VLANs: 1 | operational | ANY/Both/Both | 0 0 | 0 0 |
| | <u>2</u> : name: stp: FORWARDING ErrDisable Recovery: disabled Flood Blocking: disabled FDB Learning: enabled Tagging: disabled PVID: 1 VLANs: 1 | operational | 1000/Full/Both | 464763 44521 | 1 0 |
| | <u>3</u> : name: stp: DISABLED ErrDisable Recovery: disabled Flood Blocking: disabled FDB Learning: enabled Tagging: disabled PVID: 1 VLANs: 1 | operational | ANY/Both/Both | 0 0 | 0 0 |

Note – Items which load other forms when selected are [underlined](#).