

BLADE OS™

BBI Quick Guide

BNT 10-port 10Gb Ethernet Switch Module for IBM BladeCenter®

Version 5.0

Part Number: BMD00090, June 2009

BLADE
NETWORK TECHNOLOGIES

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Originated in the USA.

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Preface

BLADE OS 5.0 Browser-Based Interface (BBI) software is included with the BNT 10-port 10Gb Ethernet Switch Module for IBM BladeCenter. 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 Browser-Based Interface.

Who Should Use This Book

This guide is intended for network installers and system administrators engaged in configuring and maintaining a network. It assumes that you are familiar with your 10Gb Ethernet Switch Module (GbESM), 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 *BNT 10-port 10Gb Ethernet Switch Module Installation Guide*.

For details about the switch information, statistics, and configuration parameters available using the BBI, see the *BLADE OS 5.0 Command Reference* and *BLADE OS 5.0 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
<AaBbCc123>	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]
AaBbCc123	This block type depicts menus, buttons, and other controls that appear in Web browsers and other graphical interfaces.	Click the Save button.

How to Get Help

If you need help, service, or technical assistance, see the "Getting help and technical assistance" chapter in the *BNT 10-port 10Gb Ethernet Switch Module Installation Guide*.

CHAPTER 1

Getting Started

This chapter briefly describes the software features and requirements for the BLADE OS 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 BLADE OS 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 *BLADE OS 5.0 Command Reference*.

Requirements

- BNT 10-port 10Gb Ethernet Switch Module (GbESM)
- Installed switch software
- PC or workstation with network access to the switch's management interface, as configured using the management module
- 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 GbE Switch Module.

IP Interfaces

At least one IP interface must be configured on the switch. This is configured from the management module and not the command-line interface. The management module assigns the management IP address by default, starting at 192.168.70.133 for I/O module bay 7 through 192.168.70.136 for I/O module bay 10.

Each IP interface address provides a point of access for switch management. The default management interface is 128, which allows access to BLADE OS switch management via the management module network only.

For complete information about configuring IP interfaces, see your GbE Switch Module *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 GbE Switch Module command-line interface:

```
>> Main# /cfg/sys/access/http <disable|enable (or just d|e)>
```

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.

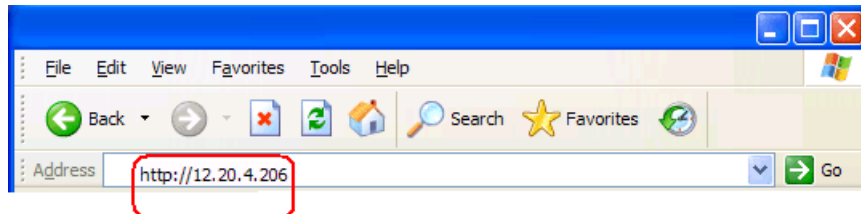
Note – JavaScript is not the same as Java. Please make sure that JavaScript is enabled in your Web browser.

Starting the BBI

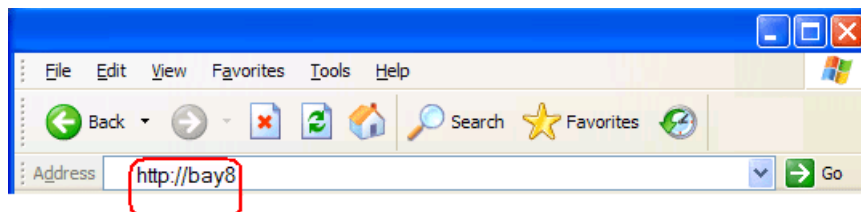
When the switch and browser set up is done, follow these steps to launch the BBI:

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 12.20.4.206
You could enter the following:

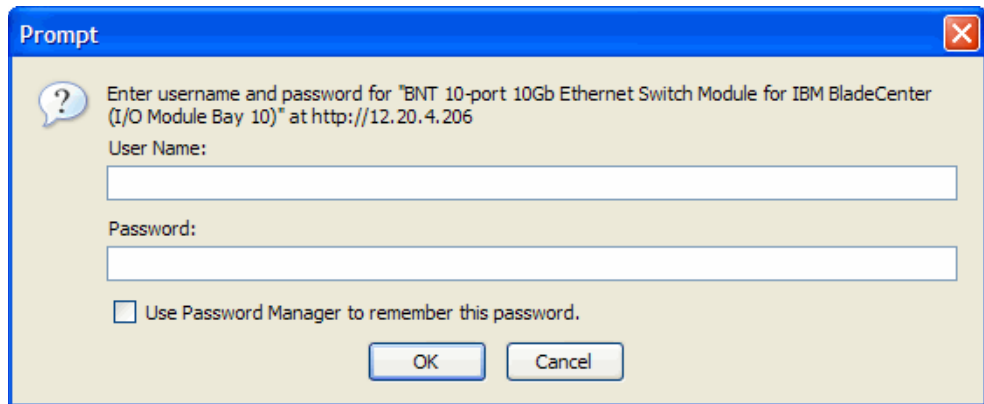


If the IP interface's address has a name on your local domain name server, you could enter the name instead. For example, with Internet Explorer, you could enter the following:



3. Log in to the switch.

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



Prompt

Enter username and password for "BNT 10-port 10Gb Ethernet Switch Module for IBM BladeCenter (I/O Module Bay 10)" at http://12.20.4.206

User Name:

Password:

Use Password Manager to remember this password.

OK Cancel

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.



The screenshot shows a web browser window displaying the BLADE OS BBI Dashboard. The browser's address bar shows the URL `http://12.20.4.206/`. The dashboard has a navigation menu with tabs for CONFIGURE, STATISTICS, and DASHBOARD. The main content area is titled "Switch Dashboard" and contains a table of system information.

Switch Name	
Switch Location	
Switch Type	BNT 10-port 10Gb Ethernet Switch Module for IBM BladeCenter
Switch Up Time	0 days, 19 hours, 14 minutes and 55 seconds.
Last Boot Time	(reset from console)
Time and date	3:14:49 , 1/31/2009
Timezone Location	americas-USA-PacificTime
Daylight Savings Time Status	disabled
MAC Address	00:22:00:7d:71:00
IP Address	12.20.4.206
PCI units:	PCI unit 0: Dev 0xb820, Rev 0x11
Flash Configuration	FLASH image2, active configuration.
PCBA Part Number	BAC-00042-00
Hardware Part Number	46C7193
FAB Number	BN-RZZ000
Serial Number	YK5020833906
Manufacturing Date	43/08
Hardware Revision	0
Board Revision	1
PLD Firmware Version	4.0
Temperature Sensor 1 (Warning)	52.0 C (Warn at 88.0 C/Recover at 78.0 C)
Temperature Sensor 2 (Shutdown)	52.5 C (Shutdown at 98.0 C/Recover at 88.0 C)
Temperature Sensor 3 (Exhaust)	46.0 C
Temperature Sensor 4 (Inlet)	40.5 C
Software Rev	5.0.0 (FLASH image2)
Enabled Software features	none
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 BladeCenter 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 BLADE OS Browser-Based Interface (BBI) appears in your Web browser's viewing window:

The screenshot shows the BLADE OS BBI 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. A message window is visible on the right side of the toolbar. The main content area is titled "Switch Dashboard" and displays a table of switch details. At the bottom, there is a navigation window with left and right arrows.

Switch Dashboard	
Switch Name	
Switch Location	
Switch Type	BNT 10-port 10Gb Ethernet Switch Module for IBM BladeCenter
Switch Up Time	0 days, 19 hours, 14 minutes and 55 seconds.
Last Boot Time	(reset from console)
Time and date	3:14:49 , 1/31/2009
Timezone Location	americas-USA-PacificTime
Daylight Savings Time Status	disabled
MAC Address	00:22:00:7d:71:00
IP Address	12.20.4.206
PCI units:	PCI unit 0: Dev 0xb820, Rev 0x11
Flash Configuration	FLASH image2, active configuration.
PCBA Part Number	BAC-00042-00
Hardware Part Number	46C7193
FAB Number	BN-RZZ000
Serial Number	YK5020833906
Manufacturing Date	43/08
Hardware Revision	0
Board Revision	1
PLD Firmware Version	4.0
Temperature Sensor 1 (Warning)	52.0 C (Warn at 88.0 C/Recover at 78.0 C)
Temperature Sensor 2 (Shutdown)	52.5 C (Shutdown at 98.0 C/Recover at 88.0 C)
Temperature Sensor 3 (Exhaust)	46.0 C
Temperature Sensor 4 (Inlet)	40.5 C
Software Rev	5.0.0 (FLASH image2)
Enabled Software features	none
Banner	

There are four main regions on the 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

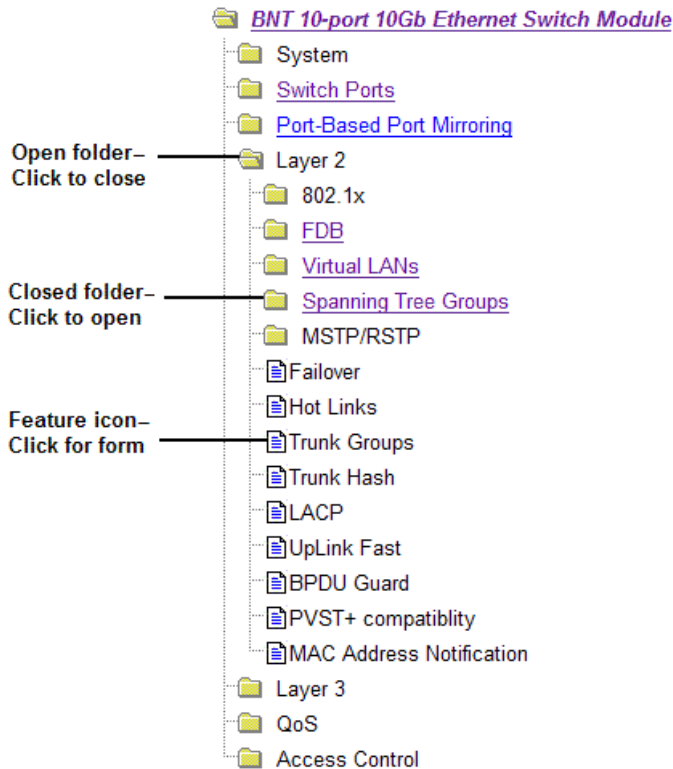
The following general commands are available on the Toolbar:

Apply	Pending configuration changes do not take effect until you click the Apply command. Once applied, all changes take effect on the switch immediately. If you do not save the changes, however, they will be lost the next time the switch is rebooted.
Save	Writes applied configuration changes to non-volatile flash memory on the switch.
Revert	Removes pending configuration changes made since the last Apply command.
Diff	Show any pending configuration changes.
Dump	Displays the running configuration of the switch in a separate browser window.
Show Log	Opens a new Web-browser window for displaying the most recent switch log messages. Close the log browser when finished.
Help	Displays basic Help information in a separate browser window. Close the Help window 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, click 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.

For a list of `syslog` messages, see your *BLADE OS 5.0 Command Reference*.

CHAPTER 3

Configuring the Switch

The 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.

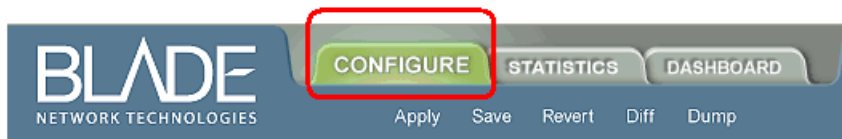
The following sections provide a basic outline for switch configuration. You should be familiar with configuration commands as covered in the *Command Reference*.

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

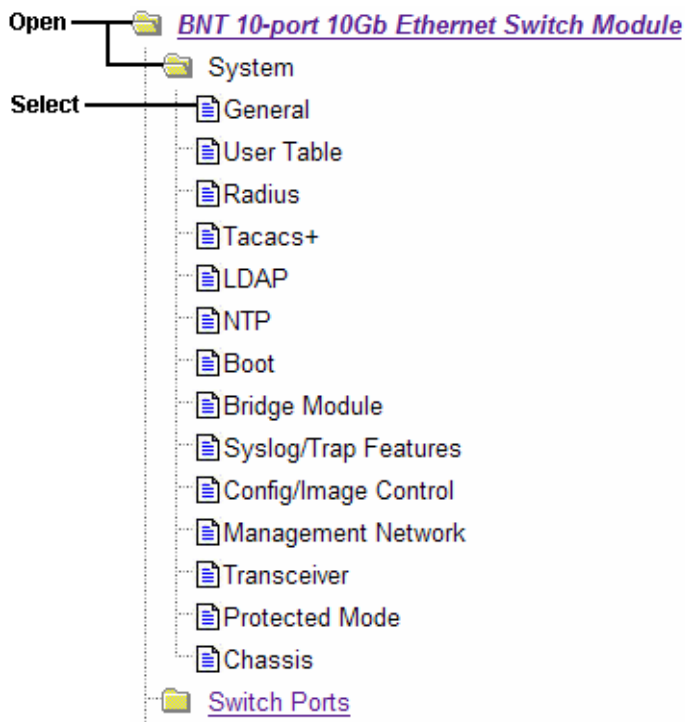
Configuration Steps

Follow these basic steps for viewing or configuring switch parameters:

1. Click the Configure context tab in the BBI 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, as shown in the example below:

The screenshot shows the BLADE OS configuration interface for a BNT 10-port 10Gb Ethernet Switch. The interface includes a navigation menu on the left and a main configuration area on the right. The configuration area is titled "Switch Management Processor Configuration" and contains several fields, some of which are highlighted in green to indicate they must be configured for proper switch operations. A red box highlights the "Enable/Disable Host Name" dropdown menu, which is currently set to "Disabled".

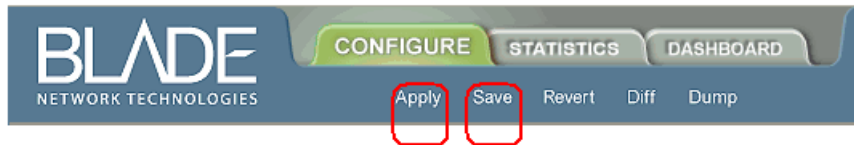
Field Name	Value
Switch IP Address	12.20.4.206
Switch IP Subnet Mask	255.255.0.0
Enable/Disable Console output of syslog messages	Enabled
Enable/Disable Host Name	Disabled
Syslog Host IP Address	Enabled
Severity of Syslog Host	log debug 7
Facility of Syslog Host	local 0
Second Syslog Host IP Address	0.0.0.0
Severity of Second Syslog Host	log debug 7
Facility of Second Syslog Host	local 0
Current Date	1/31/2009
Current Time	3:22:33

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. Submit, reset, or delete the form contents using buttons on the bottom of the form.

Submit	When selected, the form is sent to the switch. Any configuration changes are placed in the “pending” state and do not take effect until you click the toolbar Apply command.
Reset	When selected, the form fields are reset to their last submitted values.
Delete	This button is available for configuration items that can be deleted. When selected, the featured item is slated to be removed from the switch configuration database. The item is not actually deleted, however, until you click the Toolbar Apply command.

5. Apply and save your changes using the Toolbar commands.



Pending configuration changes (including deletions) do not take effect until you click the **Apply** command.

Applied changes take effect on the switch immediately, but will be lost the next time the switch is rebooted, unless the you click the **Save** command.

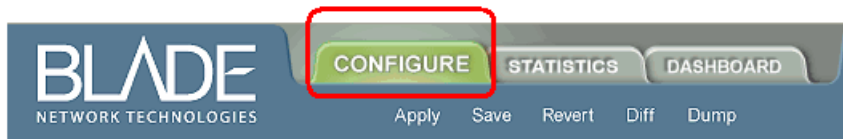
Using the BBI to Load Switch Software

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

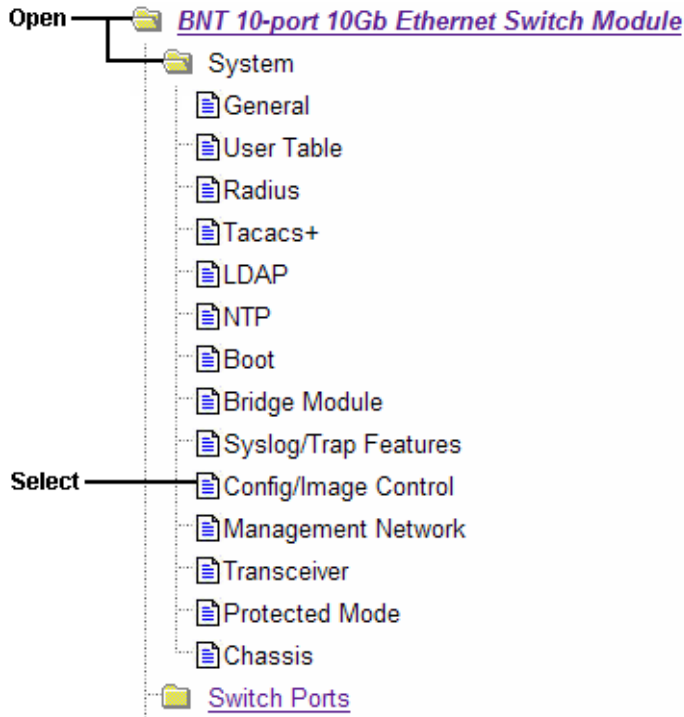
- FTP server
- TFTP server
- Local computer

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

1. Click the Configure context tab in the BBI Toolbar:



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



The Switch Image and Configuration Management form appears.

Switch Image and Configuration Management									
Image 1 Version	version 5.0.0, downloaded 7:01:02 Mon Jan 30, 2009 NormalConnect								
Image 2 Version	version 5.0.2, downloaded 3:41:20 Mon Jan 30, 2009 NormalConnect								
Boot Version	version 5.0.0								
Active Image Version	5.0.2								
Next Boot Image Selection	image 2 ▾								
<table border="1"> <tr> <td>Active Configuration Block</td> <td>active config</td> </tr> <tr> <td>Next Boot Configuration Block Selection</td> <td>active config ▾</td> </tr> <tr> <td>Next CLI Boot Mode Selection</td> <td>BLADEOS CLI ▾</td> </tr> <tr> <td>Prompt for selectable boot mode</td> <td>ENABLE ▾</td> </tr> </table>		Active Configuration Block	active config	Next Boot Configuration Block Selection	active config ▾	Next CLI Boot Mode Selection	BLADEOS CLI ▾	Prompt for selectable boot mode	ENABLE ▾
Active Configuration Block	active config								
Next Boot Configuration Block Selection	active config ▾								
Next CLI Boot Mode Selection	BLADEOS CLI ▾								
Prompt for selectable boot mode	ENABLE ▾								
<u>FTP/TFTP Settings</u>									
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									
<u>Image Settings</u>									
Image for Transfer	image 1 ▾								
Image Filename (on server)	5.0.2_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"/>								

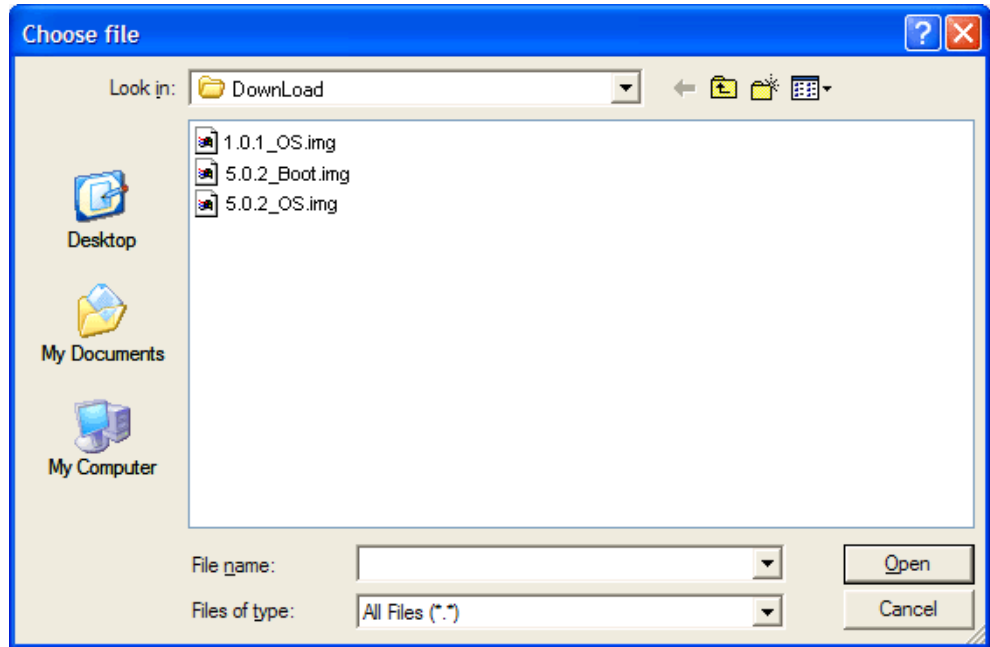
- If you are loading software from your computer (HTTP client), go to Step 4. If you are loading software from a FTP/TFTP server, enter the server's information in the FTP/TFTP Settings section.

<u>FTP/TFTP Settings</u>	
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	

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

<u>Image Settings</u>	
Image for Transfer	image 1 ▾
Image Filename (on server)	5.0.2_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

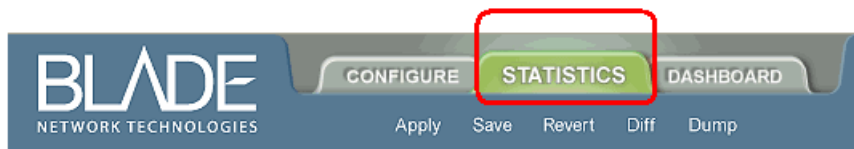
The Browser-Based Interface (BBI) can be used to view a variety of switch performance statistics. The same statistics that are available through the switch's command-line interface are present on the BBI statistics forms.

The following provides a basic outline for viewing statistics. You should be familiar with available statistics as covered in the *BLADE OS 5.0 Command Reference*.

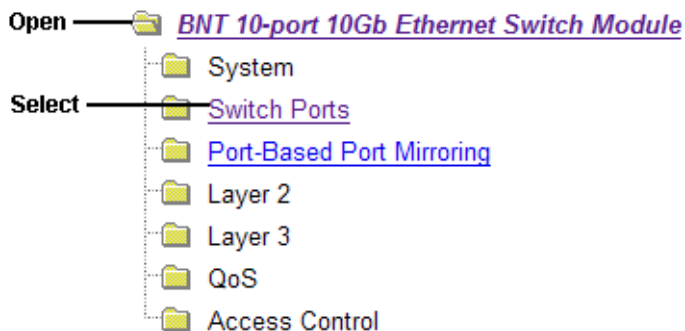
Steps for Displaying Statistics

Follow these basic steps for viewing switch statistics:

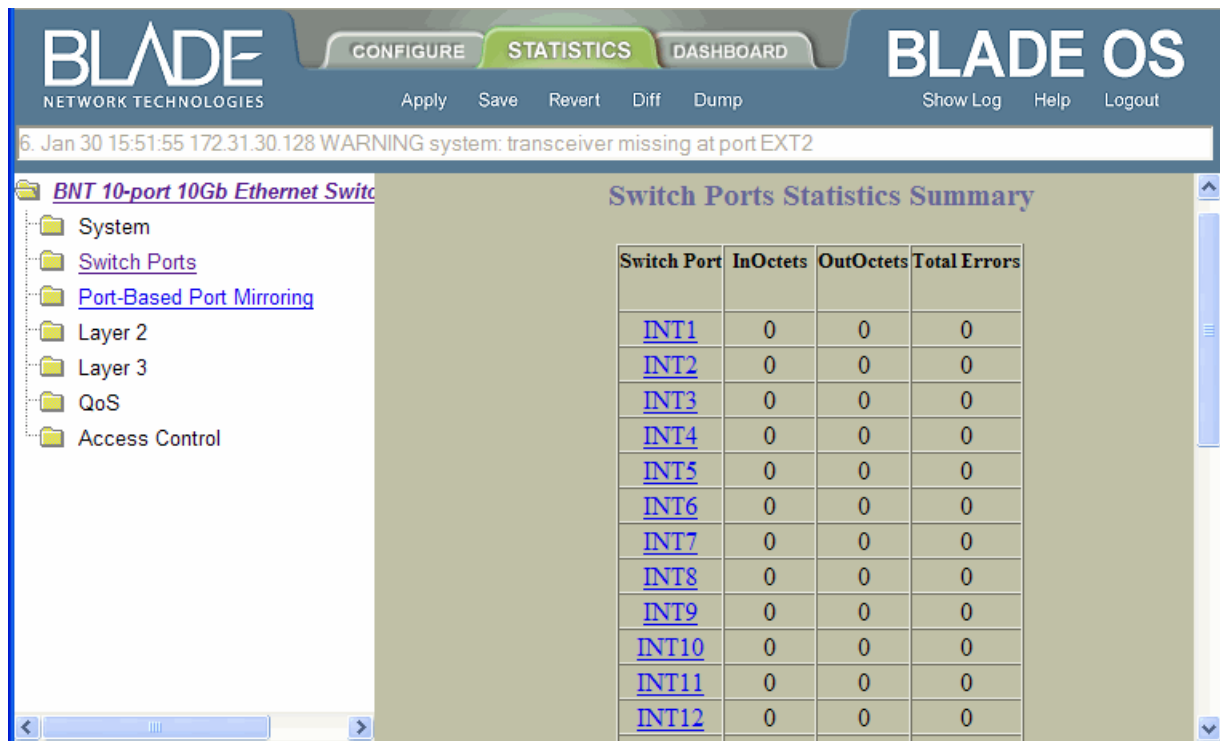
1. Click the **Statistics** context tab in the BBI Toolbar:



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



3. View the statistics in the Forms window, as shown in the example below:



The screenshot shows the BLADE OS web interface. The top navigation bar includes 'CONFIGURE', 'STATISTICS' (selected), and 'DASHBOARD' tabs. Below the tabs are buttons for 'Apply', 'Save', 'Revert', 'Diff', and 'Dump'. The right side of the top bar has 'Show Log', 'Help', and 'Logout' links. A status bar at the top displays the message: '6. Jan 30 15:51:55 172.31.30.128 WARNING system: transceiver missing at port EXT2'. The left sidebar shows a tree view with folders for 'System', 'Switch Ports', 'Port-Based Port Mirroring', 'Layer 2', 'Layer 3', 'QoS', and 'Access Control'. The main content area is titled 'Switch Ports Statistics Summary' and contains a table with the following data:

Switch Port	InOctets	OutOctets	Total Errors
INT1	0	0	0
INT2	0	0	0
INT3	0	0	0
INT4	0	0	0
INT5	0	0	0
INT6	0	0	0
INT7	0	0	0
INT8	0	0	0
INT9	0	0	0
INT10	0	0	0
INT11	0	0	0
INT12	0	0	0

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

CHAPTER 5

The Dashboard

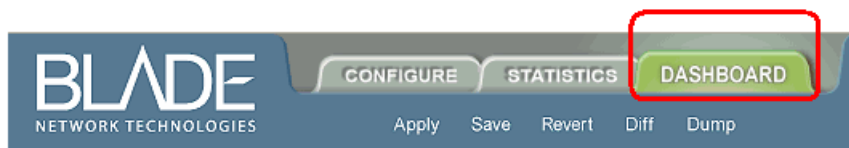
The Browser-Based Interface (BBI) can be used to view the present settings and operating status of a variety of switch features. The same information available through the switch's command-line interface is present on the Dashboard forms.

The following provides a basic outline for viewing the Dashboard forms. You should be familiar with configuration as covered in the *BLADE OS 5.0 Command Reference*.

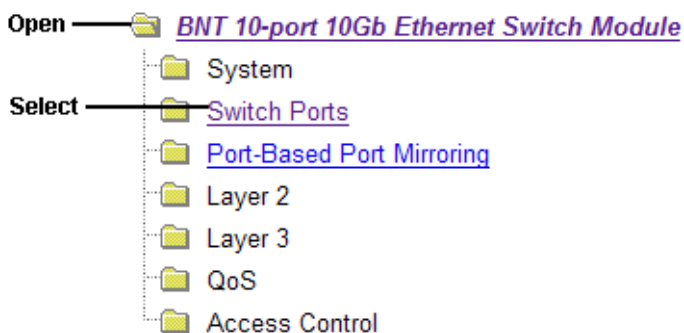
Steps for Displaying Dashboards

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:



- View information shown in the Forms window, as shown in the example below:

The screenshot displays the BLADE OS interface with the 'DASHBOARD' tab selected. A navigation menu on the left shows a tree structure under 'BNT 10-port 10Gb Ethernet Switch', with 'Switch Ports' highlighted. The main content area is titled 'Switch Ports Dashboard' and contains a table with the following data:

Status	Switch Port Info	Operational Status	Speed Duplex FlowCtl	Input Frames Output Frames	LinkState Changes Total Errors
	INT1 : name: INT1 stp: DISABLED portfast: disabled Flood Blocking: disabled FDB Learning: enabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	ANY/Full/Both	0 0	0 0
	INT2 : name: INT2 stp: DISABLED portfast: disabled Flood Blocking: disabled FDB Learning: enabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	ANY/Full/Both	0 0	0 0
	INT3 : name: INT3 stp: DISABLED portfast: disabled Flood Blocking: disabled FDB Learning: enabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	ANY/Full/Both	0 0	0 0
	INT4 : name: INT4 stp: DISABLED portfast: disabled Flood Blocking: disabled FDB Learning: enabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	ANY/Full/Both	0 0	0 0

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