

BLADE OS™

BBI Quick Guide

BNT Layer2/3 GbE Switch Module for IBM BladeCenter®

Version 5.1

Part Number: BMD00102, December 2009

BLADE
NETWORK TECHNOLOGIES

2350 Mission College Blvd.
Suite 600
Santa Clara, CA 95054
www.bladenetwork.net

Copyright © 2009 BLADE Network Technologies, Inc., 2350 Mission College Blvd., Suite 600, Santa Clara, California, 95054, USA. All rights reserved. Part Number: BMD00102.

This document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this document may be reproduced in any form by any means without prior written authorization of BLADE Network Technologies, Inc. Documentation is provided “as is” without warranty of any kind, either express or implied, including any kind of implied or express warranty of non-infringement or the implied warranties of merchantability or fitness for a particular purpose.

U.S. Government End Users: This document is provided with a “commercial item” as defined by FAR 2.101 (Oct. 1995) and contains “commercial technical data” and “commercial software documentation” as those terms are used in FAR 12.211-12.212 (Oct. 1995). Government End Users are authorized to use this documentation only in accordance with those rights and restrictions set forth herein, consistent with FAR 12.211- 12.212 (Oct. 1995), DFARS 227.7202 (JUN 1995) and DFARS 252.227-7015 (Nov. 1995).

BLADE Network Technologies, Inc. reserves the right to change any products described herein at any time, and without notice. BLADE Network Technologies, Inc. assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by BLADE Network Technologies, Inc. The use and purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of BLADE Network Technologies, Inc.

BLADE Network Technologies, the BLADE logo, BLADEHarmony, BNT, NMotion, RackSwitch, Rackonomics, RackSwitch Solution Partner, ServerMobility, SmartConnect and VMready are trademarks of BLADE Network Technologies. All other names or marks are property of their respective owners.

Originated in the USA.

Contents

Preface ■ 5

Who Should Use This Book ■ 5

Related Documentation ■ 5

Typographic Conventions ■ 6

How to Get Help ■ 6

Chapter 1: Getting Started ■ 7

Features ■ 7

Requirements ■ 8

Switch Set Up ■ 8

 IP Interfaces ■ 8

 Enabling/Disabling BBI Access ■ 8

Web Browser Set Up ■ 9

Starting the BBI ■ 9

Chapter 2: Browser-Based Interface Basics ■ 13

Toolbar ■ 14

 Context Tabs ■ 14

 Commands ■ 15

Navigation Window ■ 16

Forms Window ■ 17

Message Window ■ 17

Chapter 3: Configuring the Switch ■ 19

Configuration Steps ■ 20

Using the BBI to Load Switch Software ■ 23

Chapter 4: Viewing Statistics ■ 27

Steps for Displaying Statistics ■ 27

Chapter 5: The Dashboard ■ 29

Steps for Displaying Dashboards ■ 29

Preface

BLADE OS 5.1 Browser-Based Interface (BBI) software is included with the BNT Layer2/3 GbE 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 GbE 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 Layer2/3 GbE Switch Module Installation Guide*.

For details about the switch information, statistics, and configuration parameters available using the BBI, see the *BLADE OS 5.1 Command Reference* and *BLADE OS 5.1 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 Layer2/3 GbE 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 5.1 Command Reference*.

Requirements

- BNT Layer2/3 GbE 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.

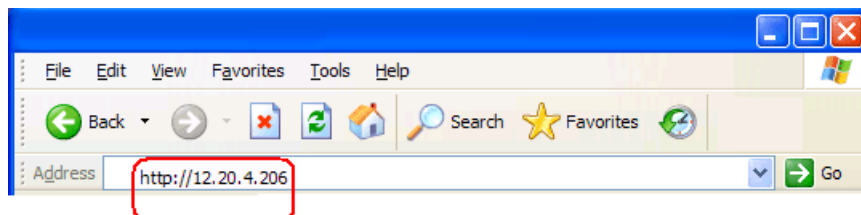
Note – JavaScript is not the same as Java. Please make sure that JavaScript is enabled in your Web browser.

Starting the BBI

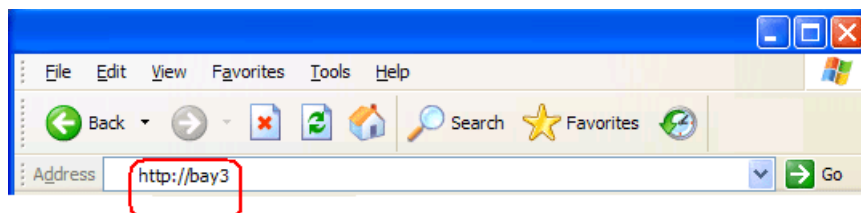
When the switch and browser set up is done, follow these steps to launch the BBI:

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:

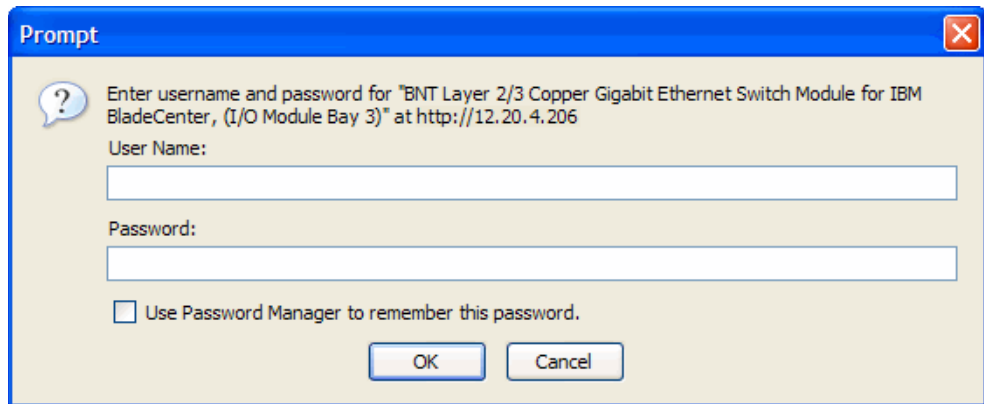


If the IP interface's address has a name on your local domain name server, you could enter the name instead. For example, with Internet Explorer, you could enter the following:



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 Layer 2/3 Copper Gigabit Ethernet Switch Module for IBM BladeCenter, (I/O Module Bay 3)" at http://12.20.4.206

User Name:

Password:

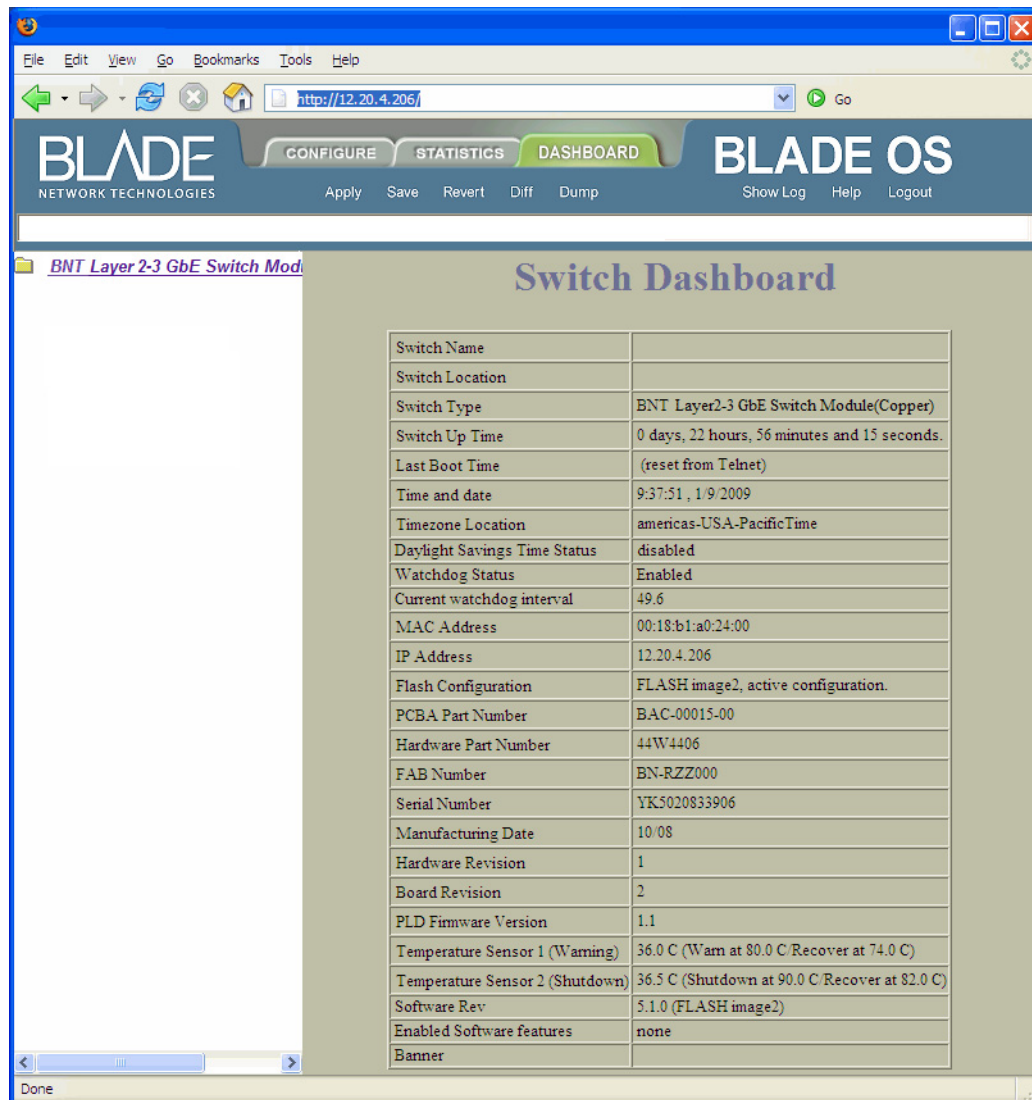
☐ Use Password Manager to remember this password.

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.



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 Browser-Based Interface (BBI) in a web browser. The interface has a blue header bar with the BLADE NETWORK TECHNOLOGIES logo on the left and the BLADE OS logo on the right. Between the logos is a toolbar with three tabs: CONFIGURE, STATISTICS, and DASHBOARD. Below the tabs are links: Apply, Save, Revert, Diff, and Dump. On the far right of the header bar are links: Show Log, Help, and Logout. A message window is located at the top right of the interface. The main content area is titled "Switch Dashboard" and contains a table of switch information. A navigation window is at the bottom left, and a forms window is at the bottom right.

Switch Name	
Switch Location	
Switch Type	BNT Layer2-3 GbE Switch Module(Copper)
Switch Up Time	0 days, 6 hours, 4 minutes and 54 seconds.
Last Boot Time	(reset from Telnnet)
Time and date	9:37:51 , 1/9/2009
Timezone Location	
Daylight Savings Time Status	disabled
MAC Address	00:18:b1:1a:6c:00
IP Address	12.20.4.206
Flash Configuration	FLASH image2, active configuration.
PCBA Part Number	
FAB Number	
Serial Number	
Manufacturing Date	
Hardware Revision	0
Board Revision	0
PLD Firmware Version	1.1
Temperature Sensor 1 (Warning)	44.0 C (Warn at 85.0 C/Recover at 79.0 C)
Temperature Sensor 2 (Shutdown)	44.5 C (Warn at 93.0 C/Recover at 86.0 C)
Software Rev	5.1.0 (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

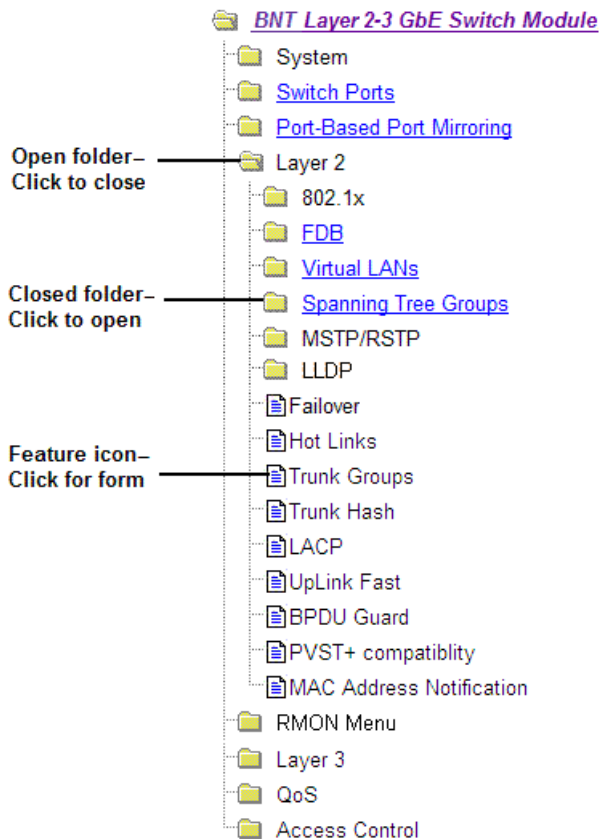
The following general commands are available on the Toolbar:

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 5.1 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.

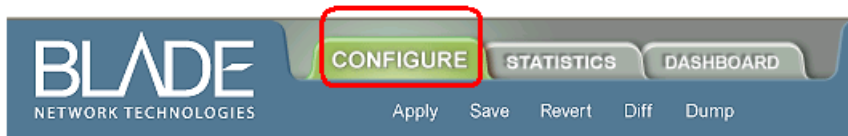
The following sections provide a basic outline for switch configuration. You should be familiar with configuration commands as covered in the *Command Reference*.

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

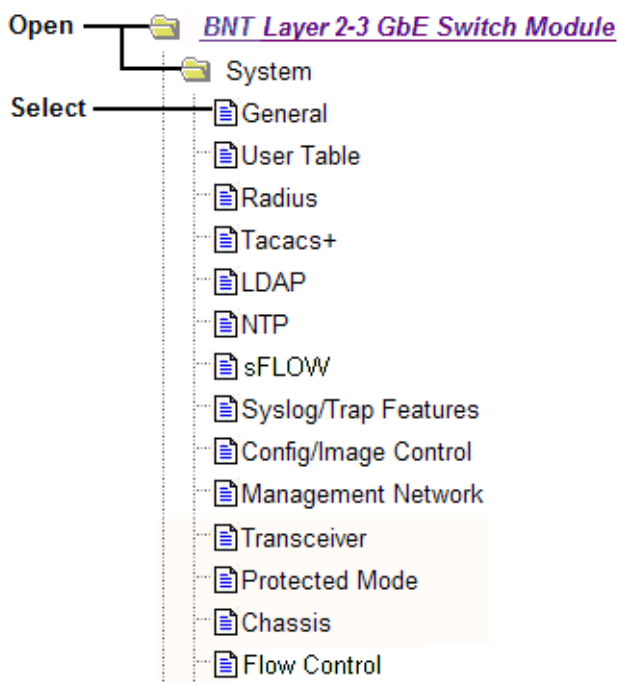
Configuration Steps

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:

BLADE NETWORK TECHNOLOGIES **BLADE OS**

CONFIGURE STATISTICS DASHBOARD

Apply Save Revert Diff Dump Show Log Help Logout

BNT Layer 2-3 GbE Switch Mo

Switch Management Processor Configuration

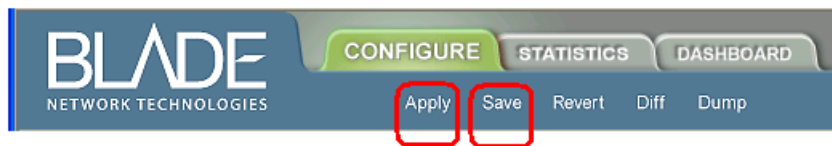
Switch IP Address	12.20.4.206
Switch IP Subnet Mask	255.255.0.0
Enable/Disable Console output of syslog messages	Enabled
Enable/Disable Host Name	Disabled
Syslog Host IP Address	Enabled
Severity of Syslog Host	log debug 7
Facility of Syslog Host	local 0
Second Syslog Host IP Address	0.0.0.0
Severity of Second Syslog Host	log debug 7
Facility of Second Syslog Host	local 0
Current Date	11/12/2008

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.

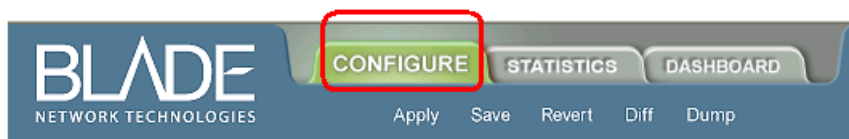
Using the BBI to Load Switch Software

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:

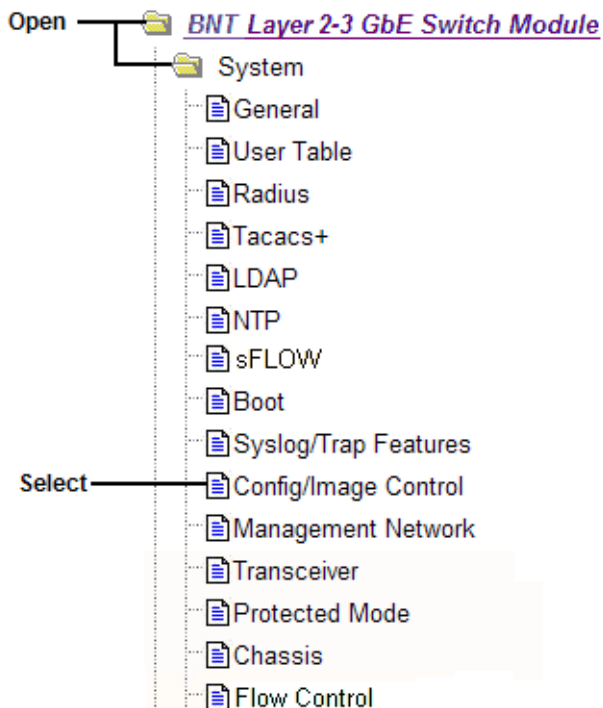
- FTP server
- TFTP server
- Local computer

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 5.0.2, downloaded 16:02:13 Sat Dec 31, 2009
Image 2 Version	version 5.1.0, downloaded 12:51:57 Sat Jan 7, 2009
Boot Version	version 5.1.0
Active Image Version	5.1.0
Next Boot Image Selection	image 2 ▼
Active Configuration Block	factory config
Next Boot Configuration Block Selection	factory config ▼
Next CLI Boot Mode Selection	BLADEOS CLI ▼
Prompt for selectable boot mode	DISABLE ▼
<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)	5.1.1_os.img
Image Filename (on HTTP Client)	
	Get Image Put Image
	Browse... Download via Browser

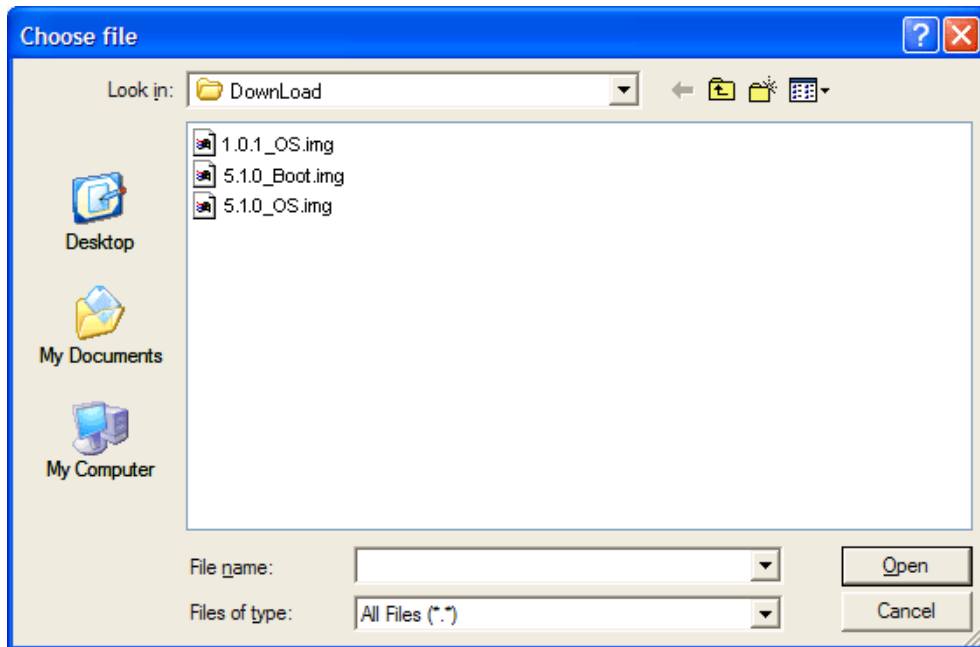
- If you are loading software from your computer (HTTP client), go to Step 4. If you are loading software from a FTP/TFTP server, enter the server's information in the FTP/TFTP Settings section.

FTP/TFTP Settings	
Hostname or IP Address of FTP/TFTP server	100.10.20.1
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)	5.1.0_OS.img Get Image Put Image
Image Filename (on HTTP Client)	Browse... 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

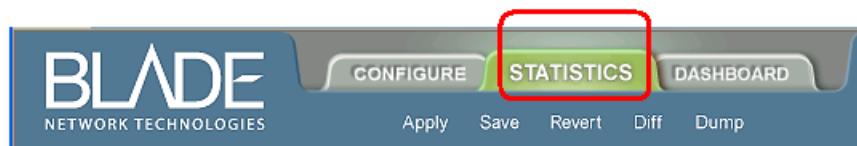
The Browser-Based Interface (BBI) can be used to view a variety of switch performance statistics. The same statistics that are available through the switch's command-line interface are present on the BBI statistics forms.

The following provides a basic outline for viewing statistics. You should be familiar with available statistics as covered in the *BLADE OS 5.1 Command Reference*.

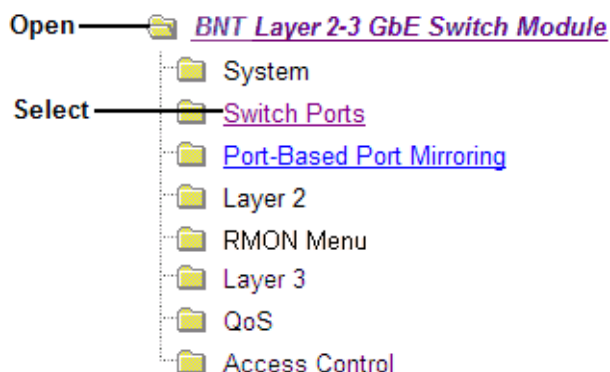
Steps for Displaying Statistics

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:

BLADE OS
NETWORK TECHNOLOGIES

CONFIGURE STATISTICS DASHBOARD

Apply Save Revert Diff Dump Show Log Help Logout

BNT Layer 2-3 GbE Switch M

- System
- Switch Ports
- Port-Based Port Mirroring
- Layer 2
- RMON Menu
- Layer 3
- QoS
- Access Control

Switch Ports Statistics Summary

Switch Port	InOctets	OutOctets	Total Errors
<u>INT1</u>	0	0	0
<u>INT2</u>	0	0	0
<u>INT3</u>	0	0	0
<u>INT4</u>	0	0	0
<u>INT5</u>	0	0	0
<u>INT6</u>	0	0	0
<u>INT7</u>	0	0	0
<u>INT8</u>	0	0	0
<u>INT9</u>	0	0	0
<u>INT10</u>	0	0	0
<u>INT11</u>	0	0	0
<u>INT12</u>	0	0	0
<u>INT13</u>	0	0	0
<u>INT14</u>	0	0	0
<u>MGT</u>	0	0	0
<u>EXT1</u>	0	0	0
<u>EXT2</u>	0	0	0

Note – Items which load other forms when selected are underlined.

CHAPTER 5

The Dashboard

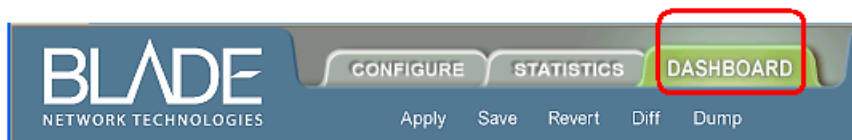
The Browser-Based Interface (BBI) can be used to view the present settings and operating status of a variety of switch features. The same information available through the switch's command-line interface is present on the Dashboard forms.

The following provides a basic outline for viewing the Dashboard forms. You should be familiar with configuration as covered in the *BLADE OS 5.1 Command Reference*.

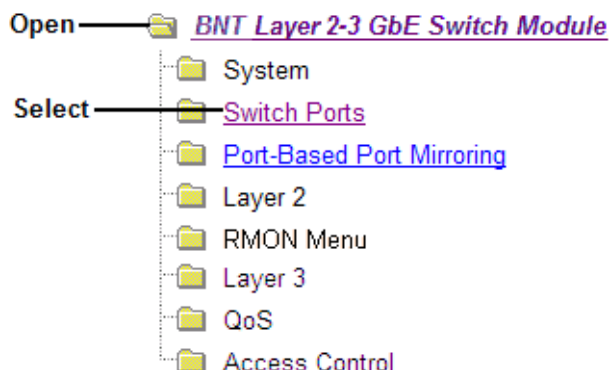
Steps for Displaying Dashboards

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:



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

BLADE OS NETWORK TECHNOLOGIES

CONFIGURE STATISTICS **DASHBOARD**

Apply Save Revert Diff Dump Show Log Help Logout

14. Jul 15 10:54:57 192.168.19.10 NOTICE system: rebooted (reset from console)

BNT Layer 2-3 GbE Switch Mod

- System
- Switch Ports
- Port-Based Port Mirroring
- Layer 2
- RMON Menu
- Layer 3
- QoS
- Access Control

Switch Ports Dashboard

Status	Switch Port Info	Operational Status	Speed Duplex FlowCtl	Input Frames Output Frames	LinkState Changes Total Errors
	INT1 : name: INT1 stp: DISABLED rmon: disabled portfast: disabled Flood Blocking: disabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	1000/Full/Both	0 0	0 0
	INT2 : name: INT2 stp: DISABLED rmon: disabled portfast: disabled Flood Blocking: disabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	1000/Full/Both	0 0	0 0
	INT3 : name: INT3 stp: DISABLED rmon: disabled portfast: disabled Flood Blocking: disabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	1000/Full/Both	0 0	0 0
	INT4 : name: INT4 stp: DISABLED rmon: disabled portfast: disabled Flood Blocking: disabled tagging: enabled PVID: 1 VLANs: 1 4095	operational	1000/Full/Both	0 0	0 0

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