Release Notes for the Business Policy Switch 2000

Software Version 2.0

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Statement of Conditions

Introduction

These release notes for the Nortel Networks* Business Policy Switch 2000*
software version 2.0 provide information about software and operational issues
not included in the Business Policy Switch 2000 (BPS 2000) software version 2.0
guides.

To obtain the software version 2.0, download the following files from the
Customer Support World Wide Web site:

- bps2k200_44.img (software file)
- bps2kdiag_2008.bin (diagnostics file)

You must download the diagnostics file as well as the software file.

> **Note:** When you are downloading with a mixed (or Hybrid) stack,
> ensure that a BPS 2000 switch is Unit 1 and is the base unit. Ensure that
> you do not interrupt the download process; do not detach either the
> power cord or any of the network connections during download.

To obtain the Java* Device Manager (DM) software to manage the BPS 2000,
download the following file from the Customer Support World Wide Web site:

- DM 5.5.1.0—You must upgrade the JRE software, which is on the Web site,
  at this time also.

> **Note:** Ensure that you have upgraded to the BPS 2000 software v2.0 or
> later version when you use the BPS 2000-1GT, BPS 2000-2GT, or BPS
> 2000-2GE MDA. You must upgrade to the BPS 2000 software v2.0 or
> later version whether you are using a standalone BPS 2000, a stack of
> pure BPS 2000, or a mixed stack.

→ **Note:** When you create a policy that references shaping parameters, the 802.1p and Drop Precedence values must be changed either by using the system defaults or explicitly by the action.

These release notes provide information on version 2.0 and cover the following topics:

Upgrading software

→ **Note:** Use the Command Line Interface (CLI), console interface (CI) menus, or the Web-based management system to upgrade to software version 2.0. For detailed instructions, refer to *Using the Business Policy Switch 2000 Version 2.0*, *Reference for the Business Policy Switch 2000 Command Line Interface Software Version 2.0,* and *Using Web-based Management for the Business Policy Switch 2000 Software Version 2.0.*

You use one of the management systems to upgrade or downgrade software. You follow a different procedure depending on whether you are using a Pure BPS 2000 stack or a Hybrid stack.

The stacking software compatibility requirements are as follows:

- Pure BPS 2000 stack—All units must be running the same software version.
- Pure BayStack 450 stack—All units must be running the same software version.
- Hybrid stack:
  - — All BPS 2000 units must be running the same software version.
  - — All BayStack 410 units must be running the same software version.
  - — All BayStack 450 units must be running the same software version.
  - — All software versions must have the identical ISVN.

This section discusses the following topics:

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Upgrading software in a Pure BPS 2000 stack

To download, or upgrade, software in a Pure BPS 2000 stack:

1 Download the operational software, or agent, image.

2 Download the diagnostics image.

However, if you are currently using software version 1.0, 1.0.1, or 1.1, you must upgrade to software version 1.1.1 before upgrading to version 2.0.

> **Note:** Once you begin the upgrading process, do not interrupt the process at all. Interrupting the downloading (or upgrading) process may cause loss of connectivity.

Upgrading software in a Hybrid stack

The physical order of the units and the unit numbering in the Hybrid stack does not affect the upgrading process at all. In addition, the cabling order regarding upstream/downstream neighbors does not affect the process.

Before you attempt to download new software (or upgrade software) to a Hybrid (mixed) stack, you *must* ensure that the Interoperability Software Version Numbers (ISVN) are identical. That is, the ISVN number for the BayStack 450 switch and BayStack 410 switch must have the same ISVN as the BPS 2000. If the ISVNs are not the same, the stack does not operate. The ISVNs and the accompanying software release are:

- ISVN 1
  — BayStack 410 or Bay Stack 450—version 3.1
  — BPS 2000—versions 1.0 and 1.0.1
- ISVN 2
  — BayStack 410 or BayStack 450—versions 4.0 and 4.1
  — BPS 2000—versions 1.1, 1.1.1, 1.2, and 2.0

This section describe the steps for the following software upgrades:

- "Upgrading software when ISVN is 2," next
- "Upgrading software when ISVN is 1" on page 7

Upgrading software when ISVN is 2

To upgrade a Hybrid stack to BPS 2000 software version 2.0 when the ISVN numbers of the units are 2:

1 Download the BPS 2000 image file.

The system resets.

2 Download the BPS 2000 diags file.

The system resets.

> **Note:** Once you begin the upgrading process, do not interrupt the process at all. Interrupting the downloading (or upgrading) process may cause loss of connectivity.

Upgrading software when ISVN is 1

To upgrade a Hybrid stack to BPS 2000 software version 2.0 when the ISVN numbers of the units are 1:

1 Download the BPS 2000 image file and the BayStack 450/410 file *simultaneously.*

> **Note:** If you do not download both the BPS 2000 and BayStack 410/450 images simultaneously, the stack may not form.

The system resets.

2 Download the other BayStack 450 image file.

The system resets.

3 Download the BPS 2000 diags file.

The system resets.

4 Validate that the ISVN on both the BPS 2000 and the BayStack are 2.

> **Note:** Once you begin the upgrading process, do not interrupt the process at all. Interrupting the downloading (or upgrading) process may cause loss of connectivity.

Compatibility with BayStack 450 switches

The BPS 2000 software version 2.0 is compatible with BayStack* 450 software versions 4.0 and 4.1.

You can stack the BPS 2000 up to 8 units high. There are two types of stacks:

• Pure BPS 2000 —This stack has *only* BPS 2000 switches. It is sometimes referred to as a pure stack. The stack operational mode for this type of stack is Pure BPS 2000 Mode.

- Hybrid—This stack has a combination of BPS 2000 switches *and* BayStack 450 and/or BayStack 410 switches. It is sometimes referred to as a mixed stack. The stack operational mode for this type of stack is Hybrid Stack.

All BPS 2000 switches in the stack must be running the identical version of software, and all the BayStack switches must be running the identical version of software.

When you are working with a mixed stack, you *must* ensure that the Interoperability Software Version Numbers (ISVN) are identical. That is, the ISVN number for the BayStack 450 switch and BayStack 410 switch must have the same ISVN as the BPS 2000. If the ISVNs are not the same, the stack does not operate. The ISVNs and the accompanying software release are:

- ISVN 1
  - BayStack 410 or Bay Stack 450—version 3.1
  - BPS 2000—versions 1.0 and 1.0.1
- ISVN 2
  - BayStack 10 or BayStack 450—versions 4.0 and 4.1
  - BPS 2000—versions 1.1, 1.1.1, 1.2, and 2.0

In sum, the stacking software compatibility requirements are as follows:

- Pure BPS 2000 stack—All units must be running the same software version.
- Pure BayStack 450 stack—All units must be running the same software version.
- Hybrid stack:
  - All BPS 2000 units must be running the same software version.
  - All BayStack 410 units must be running the same software version.
  - All BayStack 450 units must be running the same software version.
  - All software versions must have the identical ISVN.

To find out which version of the BPS 2000 software is running, use the Console Interface (CI) menus or the Web-based management system:

- CI menus—From the main menu of the Console, choose Systems Characteristics menu. The software currently running is displayed in sysDescr.

- Web-based management system—Open the System Information page, which is under Administration on the main menu. The software currently running is displayed in the sysDescription field.

Refer to Appendix B of the *Using the Business Policy Switch 2000 Software Version 2.0* for complete information on interoperability and compatibility between the BPS 2000 and BayStack switches.

Although the BPS 2000 software version 2.0 is compatible with BayStack 450 software versions 4.0 and 4.1, when you operate a mixed stack of BPS 2000 and BayStack 450 switches, some of the BayStack 450 software version 4.1 enhancements may not be accessible.

New features and enhancements

The descriptions and management instructions for these new features are found in *Using the Business Policy Switch 2000 Software Version 2.0*, *Reference for the Business Policy Switch 2000 Command Line Interface Software Version 2.0*, *Using Web-Based Management for the Business Policy Switch 2000 Software Version 2.0*, and *Reference for the Business Policy Switch 2000 Management Software Version 2.0*. Refer to "Related publications" on page 16 to access these publications.

The following new features and enhancements are offered with the BPS 2000 software version 2.0:

- Enhancement to BootP mode—Beginning with software version 2.0, the BootP or Last Address mode of BootP will always BootP for its IP configuration, regardless of whether a configured IP address is present, when the Stack BootP Mac Address Type is set to Base Unit Mac Address. If BootP is successful, the retrieved IP parameters are used by the switch or stack. The retrieved IP parameters are copied to the Last BootP IP parameters and overwrite any user-configured IP parameters. This feature applies only to a standalone BPS 2000 unit or to a stack consisting only of BPS 2000 units with the Stack Operational Mode set to Pure BPS 2000 Stack.
- Support for BPS 2000-1GT, BPS 2000-2GT, and BPS 2000-2GE MDAs
- QoS rate shaping
- No longer need to configure QoS meters if not metering traffic

- Improved QoS Wizard Web configuration pages
- QoS Quick Config Web configuration pages
- QoS filtering of multiple VLANs per Layer 2 filter
- Configurable VID for tagged STP BPDUs
- IP address for each switch in a stack
- MAC destination address (DA) filtering
- Port naming
- QoS policy enable or disable
- Enhanced Web QoS error reporting

Resolved issues

The following issues were resolved in version 2.0:

- The `show log` and `clear log` CLI commands now function correctly. (CR Q00047028)
- The Web-based management system now correctly displays all configured VLANs. (CR Q00101635)
- IGMP Proxy now works correctly on tagged ports with multiple VLANs in multiple spanning tree groups. (CR Q00084861)
- It no longer takes a long time for the ASCII config file with extensive configurations to complete. (CR Q00091334)
- The flash synchronization was every 60 seconds. This synchronization now occurs very 2 minutes and 30 seconds.
- The setting of Learn by Ports in the MAC address-based security no longer changes to disabled after you reset the switch or stack. (CR Q00147573, Q00043550)
- You can now ping the switch if the MAC address-based learning security setting for the management port is set to Enabled. (CR Q0008448)
- The BPS 2000 switch no longer caches RADIUS responses (so that connections were authorized even when server is down). (CR Q00043170)

The stack stability was greatly enhanced in version 1.1.1.

The following issues were resolved in version 1.1:

- You can download BayStack 410 and BayStack 450 software images (and diagnostics) using the Device Manager in a mixed stack environment with Business Policy Switches.

  Using DM with a mixed stack and you choose Edit > File System, you can specify either the image for the BPS 2000 or the image for the BayStack, or both to download the software image(s).

- The BootP timeout for the BPS is now set to five minutes, which matches the BootP timeout value for the BayStack 450 switch. (CR 13161-1)
- BootP values set to either Always or When Needed are retained during a switch reset. (CR 126842-1)

The following issue was resolved in version 1.0.1:

- The ports on the BPS2000-4 TX MDA now autonegotiate correctly to 100 Mb/s full-duplex when they are connected to another BPS2000 port configured to autonegotiate.

Known issues

The following paragraphs discuss the known issues with the BPS 2000.

The following issues are known to exist in version 2.0 of the BPS 2000 software:

- The QoS shaping feature does not work in a stacked configuration; it works only in a BPS 2000 standalone unit. (CR Q000153202)
- QoS shaping is supported only on IP filters.
- The CPU/Memory Utilization feature is unavailable in version 2.0. (CR Q00169353)
- When you are working with a mixed stack and download the v.2.0.x software for the BPS 2000 and the v.4.1.x software for the BayStack 450 *simultaneously*, the software may not load on all units.

  The workaround is to download the software separately to the BPS 2000 units and to the BayStack 450 units. The units reset after the software downloads in both cases.

- The flooded packets and filtered packets counters return incorrect results for the BPS 2000-1GT, BPS 2000-2GT, and BPS 2000-2GE MDA (they always display 0). (CR Q00137290)
- Nortel Networks recommends that you do not use MAC Address Security (BaySecure) on any MultiLink Trunk ports.
- When you renumber a stack of pure BPS 2000, check the port mirroring configuration. You may have to manually reconfigure the ports you want for port mirroring. (CR Q00156278)
- When configuring Port Mirroring on a specified MAC address, resetting the switch may cause instabilities in the system. (CR Q00155176)

  Workaround is to disable Port Mirroring on MAC addresses before resetting the switch.

- ASCII configuration file name maximum string length is 29, rather than 30, characters. (CRQ00107944)
- When you attempt to save the configuration to the TFTP server, it may not work the first time. (CR Q00153972)

  Workaround is to save it a second time, when it definitely saves.

- When you are using the CLI and attempt to set a 10/100 Mbps port to 1000 Mbps, the port mode resets to autonegotiation. (CR Q00153171)
- When you set the Authentication Trap and Autotopology to disabled and save the configuration file to the TFTP server, these two settings are not saved. (CR Q00153286)
- Before upgrading to BPS 2000 software version 1.2, save the software version 1.1 configuration as a binary configuration file in case you need to downgrade to software version 1.1.

→ **Note:** If you need to downgrade from BPS 2000 software version 1.2, save the configuration as a binary configuration file. The configuration files will be set to factory defaults as part of the downgrade process.

- If you are working with a mixed, or Hybrid, stack and are downgrading the software, the BPS 2000 units will reset to factory default but the BayStack 450 units will not default.

  The workaround is to default the entire stack.

- When you are working with QoS configurations and you delete a filter, that filter will continue to operate until you reset the BPS 2000. (CR Q00071760)
- When working in a mixed stack with BayStack 450 v.4.0/4.1 and BPS 2000, only the BPS 2000 displays the IP address of the stack. (CR Q00079143)
- When using the CLI and entering the IP address and mask in the form of A.B.C.D/<0-32>, you can also enter the values in the form of A.B.C.D/E.F.G.H.
- Occasionally when you have disabled MAC address-based security, the ports will still register as an intrusion. (CR Q00092007, Q00091998)

  The workaround is to reset the stack.

- The port speed and duplex you set using the ASCII configuration file may show incorrectly in the console display that shows port speed and duplex. The actual speed and duplex will be what you set with the configuration file, but the console display for these parameters may be incorrect. (CR Q00083014)

  The workaround is to use the CLI.

- When you are using DM to display the spanning tree group memberships, the port members may not display correctly. (CR Q00093350) Use the console interface (CI) menus, the CLI, or the Web-based management system to double-check the spanning tree group memberships.
- EAP configuration changes made at one console or using DM may not automatically display on other consoles. (CR Q00044484, CR Q00045315)

  The workaround is refresh the console and the correct data displays.

- If you rapidly add and delete VLANs (more than 1 per second) using DM, some of the VLANs may not be configured.

  The workaround is allow a few seconds to elapse between adding and deleting ports and VLANs if you are using DM.

- The ASCII configuration file does not support multiple spanning tree operations. (CR Q00088185)

  Use the CI menus, CLI, the Web-based management system, or DM to configure multiple spanning tree groups.

The following issues are known to exist in version 1.1 of the BPS 2000 software:

• The Multicast Group Membership table may display duplicate entries when the switch is in Distributed MultiLink Trunking (D-MLT) mode. However, the trunks function properly; this is a display problem only. (CR 138095-1)

• In a BPS 2000-only stack, the entire stack is reset to default values when you return the base unit to default values. (CR 145501-1)

• To disable a port that is part of a MultiLink Truck (MLT) group, use either Device Manager (DM) or the Console Interface (CI) management system menus (you can use the Telnet connection). With the Web-based management system, you may be unable to disable ports that are part of MLTs. (CR 146607-1)

• When the High Speed Flow Control Autonegotiation feature is set to enabled (the default), the port only advertises support for 1000 Mb/s operation, in full-duplex mode. If you experience problems between the Business Policy Switch and other network devices, set Autonegotiation to *disabled* on both sides of the link.

• Gigabit MDA

— When viewing Active Phy information from the console interface, the console must be connected to the unit containing the Gigabit MDA (the BayStack 450-1SR MDA and the BayStack 450-1LLR MDA) to display the appropriate Phy information. Incorrect information may be displayed if you connect to a unit not containing a Gigabit MDA.

— When you remove a Gigabit MDA from a switch, the Active Phy of the effected unit displays the new status. However, occasionally, the Active Phys of the other units in the stack or remote units will not display the new status.

Known limitations

The following limitations are known to exist:

• The current usable filters with software version 1.1 for the BPS are:
— 200 policies
— 100 interface groups
— 200 IP filters and filter groups

— 24 IP filters with same Source Address (18 nested subnets)
— 14 Layer 2 filters and filter groups
— 200 meters
— 128 actions
— 62 shapers

> ➡ **Note:** Each in-profile action, out-of-profile action, and statistics tracking session uses 1 filter each.

• Mixed stacks (hybrid stacks)—In order to upgrade BayStack 410 and BayStack 450 software in a hybrid stack, the stack must be fully redundant. All cables in the stack must be installed and operating properly. If the cables are not installed properly, the BayStack units will fail to upgrade. A message is displayed on consoles connected to BayStack 410 and BayStack 450 switches: `Primload Error - 2009 Switch will reset in 5 seconds...`

• You can configure protocol-based VLANs, with a sum total of "N" PID values not to exceed 14 (Table 1). If you are not running the spanning tree protocol, you have 15 PIDs available.

Table 1   Protocol and PID values

Protocol Name	Number of PID values (N)
Ip Ether2	2
Ipx 802.3	1
Ipx 802.2	1
Ipx Snap	2
Ipx Ether2Snap	2
AplTk Ether2Snap	2
Declat Ether2	1
DecOther Ether 2	10
Sna 802.2	2
Sna Ether2	1
NetBios 802.2	2
Xns Ether2	2
Vines Ether2	1

Table 1 Protocol and PID values (continued)

Protocol Name	Number of PID values (N)
Ipv6 Ether2	1
Usrdef	1
Rarp Ether2	1

For more information on Predefined Protocol Identifiers (PIDs), hexadecimal values, and associated protocols, refer to *Using the Business Policy Switch 2000 Software Version 2.0*.

Related publications

For more information about the BPS 2000 switch, refer to:

- *Using the Business Policy Switch 2000 Software Version 2.0* (part number 208700-C)
- *Using Web-Based Management for the Business Policy Switch 2000 Software Version 2.0* (part number 209570-C)
- *Reference for the Business Policy Switch 2000 Management Software Version 2.0* (part number 209322-C)
- *Reference for the Business Policy Switch 2000 Command Line Interface Software Version 2.0* (part number 212160-B)
- *Getting Started with the Business Policy Switch 2000 Management Software* (part number 209321-A)
- *Business Policy Switch 2000 Installation Instructions* (part number 209319-A)
- *Installing Media Dependent Adapters (MDAs)* (part number 302403-H)
- *Installing Gigabit Interface Converters and Small Form Factor Pluggable Interface Converters* (part number 312865-B)
- *Installing Optivity Policy Services* (part number 306972-E Rev 00)
- *Managing Policy Information in Optivity Policy Services* (part number 306969-F Rev 00)
- *Release Notes for Optivity Policy Services Version 2.0* (part number 306975-E Rev 00)

- *Task Map - Installing Optivity Policy Services Product Family* (part number 306976-D Rev 00)

- *Known Anomalies for Optivity Policy Services Version 2.0* (part number 306974-E Rev 00)

- *Using the Optivity Quick2Config 2.2 Client Software* (part number 207810-B)

- *Installing and Administering Optivity Quick2Config 2.2* (part number 207890-B)

- *Configuring Business Policy Switches with Optivity Quick2Config 2.2* (part number 311208-A)

- *Release Notes for Optivity Quick2Config for Business Policy Switch 2000, v.2.2.1* (part number 310621-A)

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If you purchased a Nortel Networks service program, contact one of the following Nortel Networks Technical Solutions Centers:

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Asia Pacific	(61) (2) 9927-8800
China	(800) 810-5000

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