

Part No. 214148-B Rev 00  
July 2003

4555 Great America Parkway  
Santa Clara, CA 95054

# Passport 4400 Release Notes for Release 5.1

**NORTEL**  
**NETWORKS™**

## Copyright © 2003 Nortel Networks

All rights reserved. July 2003.

Originated in Canada and the USA

The information in this document is subject to change without notice. The statements, configurations, technical data, and recommendations in this document are believed to be accurate and reliable, but are presented without express or implied warranty. Users must take full responsibility for their applications of any products specified in this document. The information in this document is proprietary to Nortel Networks Inc.

The software described in this document is furnished under a license agreement and may be used only in accordance with the terms of that license. The software license agreement is included in this document.

## Trademarks

Nortel Networks, the Nortel Networks logo, the Globemark, Unified Networks, Marathon, Passport, and Preside are trademarks of Nortel Networks.

Adobe and Acrobat Reader are trademarks of Adobe Systems Incorporated.

Ethernet is a trademark of Xerox Corporation.

Microsoft, MS-DOS, Windows, and Windows NT are registered trademarks of Microsoft Corporation.

Netscape and Netscape Navigator are registered trademarks of Netscape Communications Corporation

Pentium is a registered trademark of Intel Corporation.

SPARC and SPARCstation are trademarks or registered trademarks of Sparc International, Inc.

Java, Solaris, Sun, and Sun Microsystems are trademarks or registered trademarks of Sun Microsystems, Inc.

UNIX is a registered trademark of X/Open Company Limited.

All other trademarks and registered trademarks are the property of their respective owners.

## Restricted rights legend

Use, duplication, or disclosure by the United States Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

Notwithstanding any other license agreement that may pertain to, or accompany the delivery of, this computer software, the rights of the United States Government regarding its use, reproduction, and disclosure are as set forth in the Commercial Computer Software-Restricted Rights clause at FAR 52.227-19.

## Statement of conditions

In the interest of improving internal design, operational function, and/or reliability, Nortel Networks Inc. reserves the right to make changes to the products described in this document without notice.

Nortel Networks Inc. does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

Portions of the code in this software product may be Copyright © 1988, Regents of the University of California. All rights reserved. Redistribution and use in source and binary forms of such portions are permitted, provided that the above copyright notice and this paragraph are duplicated in all such forms and that any documentation, advertising materials, and other materials related to such distribution and use acknowledge that such portions of the software were developed by the University of California, Berkeley. The name of the University may not be used to endorse or promote products derived from such portions of the software without specific prior written permission.

---

SUCH PORTIONS OF THE SOFTWARE ARE PROVIDED “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In addition, the program and information contained herein are licensed only pursuant to a license agreement that contains restrictions on use and disclosure (that may incorporate by reference certain limitations and notices imposed by third parties).

## **Nortel Networks Inc. software license agreement**

This Software License Agreement (“License Agreement”) is between you, the end-user (“Customer”) and Nortel Networks Corporation and its subsidiaries and affiliates (“Nortel Networks”). PLEASE READ THE FOLLOWING CAREFULLY. YOU MUST ACCEPT THESE LICENSE TERMS IN ORDER TO DOWNLOAD AND/OR USE THE SOFTWARE. USE OF THE SOFTWARE CONSTITUTES YOUR ACCEPTANCE OF THIS LICENSE AGREEMENT. If you do not accept these terms and conditions, return the Software, unused and in the original shipping container, within 30 days of purchase to obtain a credit for the full purchase price.

“Software” is owned or licensed by Nortel Networks, its parent or one of its subsidiaries or affiliates, and is copyrighted and licensed, not sold. Software consists of machine-readable instructions, its components, data, audio-visual content (such as images, text, recordings or pictures) and related licensed materials including all whole or partial copies. Nortel Networks grants you a license to use the Software only in the country where you acquired the Software. You obtain no rights other than those granted to you under this License Agreement. You are responsible for the selection of the Software and for the installation of, use of, and results obtained from the Software.

**1. Licensed Use of Software.** Nortel Networks grants Customer a nonexclusive license to use a copy of the Software on only one machine at any one time or to the extent of the activation or authorized usage level, whichever is applicable. To the extent Software is furnished for use with designated hardware or Customer furnished equipment (“CFE”), Customer is granted a nonexclusive license to use Software only on such hardware or CFE, as applicable. Software contains trade secrets and Customer agrees to treat Software as confidential information using the same care and discretion Customer uses with its own similar information that it does not wish to disclose, publish or disseminate. Customer will ensure that anyone who uses the Software does so only in compliance with the terms of this Agreement. Customer shall not a) use, copy, modify, transfer or distribute the Software except as expressly authorized; b) reverse assemble, reverse compile, reverse engineer or otherwise translate the Software; c) create derivative works or modifications unless expressly authorized; or d) sublicense, rent or lease the Software. Licensors of intellectual property to Nortel Networks are beneficiaries of this provision. Upon termination or breach of the license by Customer or in the event designated hardware or CFE is no longer in use, Customer will promptly return the Software to Nortel Networks or certify its destruction. Nortel Networks may audit by remote polling or other reasonable means to determine Customer’s Software activation or usage levels. If suppliers of third party software included in Software require Nortel Networks to include additional or different terms, Customer agrees to abide by such terms provided by Nortel Networks with respect to such third party software.

**2. Warranty.** Except as may be otherwise expressly agreed to in writing between Nortel Networks and Customer, Software is provided “AS IS” without any warranties (conditions) of any kind. NORTEL NETWORKS DISCLAIMS ALL WARRANTIES (CONDITIONS) FOR THE SOFTWARE, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OF NON-INFRINGEMENT. Nortel Networks is not obligated to provide support of any kind for the Software. Some jurisdictions do not allow exclusion of implied warranties, and, in such event, the above exclusions may not apply.

**3. Limitation of Remedies.** IN NO EVENT SHALL NORTEL NETWORKS OR ITS AGENTS OR SUPPLIERS BE LIABLE FOR ANY OF THE FOLLOWING: a) DAMAGES BASED ON ANY THIRD PARTY CLAIM; b) LOSS OF, OR DAMAGE TO, CUSTOMER’S RECORDS, FILES OR DATA; OR c) DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), WHETHER IN CONTRACT, TORT OR OTHERWISE (INCLUDING NEGLIGENCE) ARISING OUT OF YOUR USE OF THE SOFTWARE, EVEN IF NORTEL NETWORKS, ITS AGENTS OR SUPPLIERS HAVE BEEN

ADVISED OF THEIR POSSIBILITY. The forgoing limitations of remedies also apply to any developer and/or supplier of the Software. Such developer and/or supplier is an intended beneficiary of this Section. Some jurisdictions do not allow these limitations or exclusions and, in such event, they may not apply.

#### **4. General**

- a)** If Customer is the United States Government, the following paragraph shall apply: All Nortel Networks Software available under this License Agreement is commercial computer software and commercial computer software documentation and, in the event Software is licensed for or on behalf of the United States Government, the respective rights to the software and software documentation are governed by Nortel Networks standard commercial license in accordance with U.S. Federal Regulations at 48 C.F.R. Sections 12.212 (for non-DoD entities) and 48 C.F.R. 227.7202 (for DoD entities).
- b)** Customer may terminate the license at any time. Nortel Networks may terminate the license if Customer fails to comply with the terms and conditions of this license. In either event, upon termination, Customer must either return the Software to Nortel Networks or certify its destruction.
- c)** Customer is responsible for payment of any taxes, including personal property taxes, resulting from Customer's use of the Software. Customer agrees to comply with all applicable laws including all applicable export and import laws and regulations.
- d)** Neither party may bring an action, regardless of form, more than two years after the cause of the action arose.
- e)** The terms and conditions of this License Agreement form the complete and exclusive agreement between Customer and Nortel Networks.
- f)** This License Agreement is governed by the laws of the country in which Customer acquires the Software. If the Software is acquired in the United States, then this License Agreement is governed by the laws of the state of New York.

---

# Contents

---

## Chapter 1

### **Introduction . . . . . 9**

Upgrading to Release 5.1 . . . . . 9

    Upgrading from a release earlier than 4.1.3.4 . . . . . 10

        Troubleshooting . . . . . 10

    Special upgrade instructions for release 5.1 . . . . . 10

        Purpose of these instructions . . . . . 11

        Procedure . . . . . 11

Software Distribution Web Site . . . . . 12

Software and Documentation CD-ROM . . . . . 12

    Passport 4460 System Software . . . . . 12

        System Software Version Numbers . . . . . 13

    Mass Deployment and Reporting Tool . . . . . 13

    Install Tool . . . . . 13

Network Management Support . . . . . 13

Getting Started . . . . . 15

## Chapter 2

### **New In This Release. . . . . 17**

Expanded Q.SIG Support . . . . . 17

    Interoperability . . . . . 18

    New Q.SIG Protocol Support . . . . . 19

        Independent GF Mechanism . . . . . 19

        QSIG Transit Counter - EN 301 047/048 . . . . . 19

        Call Offer (CO) - ETS300 361/362 . . . . . 19

        Call Completion - ETS300 365/366 . . . . . 19

        QSIG Segmentation & Reassembly - ETS 300 172, Annex ZA (1995) . . . . . 20

        QSIG calling/connected name identification restriction (SS-CNIR) . . . . . 20

        QSIG Message waiting indication - EN 301 260/255 . . . . . 20

QSIG Centralized voice mail - ETS 300 257, ETS 300 239, ETS 301 255 (2nd Edition) . . . . .	20
QSIG Transport of manufacturer specific information - ETS 300 239, 2nd Edition 20	
QSIG Configurable cause codes . . . . .	21
Q.SIG Protocol Support Prior to Release 5.1 . . . . .	21
QSIG Data Calls . . . . .	21
AOT over 2-port and 6-port modules . . . . .	22
DSCP updates in accordance with RFC 2474 . . . . .	22
DSCP replaces TOS in IP forwarding/QoS filters . . . . .	22
CLI support . . . . .	23
DSCP Filter Example . . . . .	24
DSCP Filter Considerations . . . . .	25
Configurator support . . . . .	25
<b>Chapter 3</b>	
<b>Issues Resolved in this Release. . . . .</b>	<b>27</b>
Option to Disable Ping . . . . .	27
Passport 4400 System . . . . .	28
E&M Voice Modules . . . . .	31
Xircom PCMCIA Ethernet card . . . . .	31
Passport 4400 Mass Deployment and Reporting Tool . . . . .	32
Passport 6400 Interworking . . . . .	32
<b>Chapter 4</b>	
<b>Known Open Issues. . . . .</b>	<b>33</b>
Passport 4400 Configurator . . . . .	33
Passport 4400 Install Tool . . . . .	33
Passport 4400 System Software . . . . .	34
General . . . . .	34
AOT Traffic . . . . .	36
Hoot & Holler . . . . .	36
Passport 4400 - Passport 6400 Interworking . . . . .	36

---

<b>Chapter 5</b>	
<b>Operational Notes</b>	<b>39</b>
Flash Card	39
Configurator	39
Install Tool	40
System Software Notes	41
ISDN BRI Voice Module	41
Configuring BRI as Master Clock	41
ISDN BRI Clock source selection	41
WAN Port IfType Value	42
Defining the IfType	42
Showing the IfType	42
General	42
SNA Services	44
Voice/Fax	44
Passport 4400 and 6400 Interworking	45
Obtaining Technical Bulletins	46
<b>Chapter 6</b>	
<b>Interworking</b>	<b>47</b>
Voice Interworking	47
Premium Voice	47
Passport 4400 and Passport 6400 Interworking	48
Call Forwarding Limitation	48
High Speed WAN Link Limitation	48
For More Information	49
Passport 4400 and Other Routers	49
<b>Chapter 7</b>	
<b>Product Documentation</b>	<b>51</b>
Documentation Web Site	51
List of Manuals	51
Passport 4400 Configurator Documentation URL Update	52
For More Information	53
<b>Index</b>	<b>55</b>

---





---

# Chapter 1

## Introduction

---

This document provides information on the Passport 4460, Release 5.1, available for general customer release. The Passport 4460 is a part of the Passport 4400 series of products which also includes the Passport 4430, Passport 4450, and Passport 4455.

This section of the Release Notes contains these topics:

- [“Upgrading to Release 5.1” on page 9](#)
- [“Software Distribution Web Site” on page 12](#)
- [“Software and Documentation CD-ROM” on page 12](#)
- [“Network Management Support” on page 13](#)
- [“Getting Started” on page 15](#)

## Upgrading to Release 5.1

Passport 4400 units are shipped from the factory with the current software version and associated boot code pre-installed. Therefore, there is no need to install any software on a new unit.

The process of upgrading a unit running pre-5.0 software is described in the following sections:

- [“Upgrading from a release earlier than 4.1.3.4” on page 10](#)
- [“Special upgrade instructions for release 5.1” on page 10](#)

## Upgrading from a release earlier than 4.1.3.4

**Important:** The process of upgrading Passport 4400 software via TFTP changed, beginning with Release 4.2. The change is as follows:

- If you are currently running release 4.1.3.4 (or later), you can directly upgrade to release 5.1
- If you are currently running any release *earlier than* 4.1.3.4, you must upgrade in two stages: first, upgrade to release 4.1.3.4, then upgrade to 5.1.

Refer to “Appendix B, Downloading System Software” in *Getting Started with Passport 4460* for detailed information about downloading and installing Passport 4400 software.

Note that there is no change in the upgrade process if you are using FTP (via the boot menu).

### Troubleshooting

If you are not running release 4.1.3.4 (or higher), and you are downloading the new Release 5.1 code via TFTP (using the `download base image specific` CLI command), you will receive a “Flash-Error”. The following message appears on the CLI screen:

```
CLI>TFTP sysBankErase: exp6chbin Image not
supported or .bld file is corrupted
```

At this point the CLI screen will freeze until you press the Enter key.

If you receive this error message, you need to first upgrade to release 4.1.3.4, and then upgrade to 5.1.

## Special upgrade instructions for release 5.1

The following paragraphs provide instructions for performing an upgrade to release 5.1.

## Purpose of these instructions

This procedure is needed to work around a known issue (Q00581777) in release 5.0 and 5.1. This issue is that Called Party Number addresses for an ISDN WAN link (primary or backup) will be lost after upgrading from release 4.x to release 5.0 (or 5.1).

## Procedure

To upgrade to release 5.1, follow these steps:

- 1 If you are presently running a release older than 4.1.3.4, you need to first upgrade to release 4.1.3.4, then upgrade to 5.1. Refer to [“Upgrading from a release earlier than 4.1.3.4” on page 10](#).
- 2 Before starting the upgrade to release 5.1, you need to use the Mass Deployment and Reporting Tool to generate a CLI script. To do this:
  - a Start up mdtReporter and establish a connection to the Passport 4400 that you are upgrading.
  - b Choose “Complete Configuration Report” as the report type.
  - c Choose “CLI format” as the report format.
  - d Generate and save the report.
  - e Optionally, generate a text or HTML report for reference.

Refer to *Using the Passport 4400 Mass Deployment and Reporting Tool* manual for detailed instructions.

- 3 Use the Replicator within the mdtReporter to create the CLI script file from the report generated in step 2.
- 4 Exit from mdtReporter.
- 5 Reset the unit to factory defaults.
- 6 Update the software to release 5.1.

Refer to “Appendix B, Downloading System Software” in *Getting Started with Passport 4460* for detailed information about downloading and installing Passport 4400 software.

- 7 Use the mdtDownload program to execute the CLI script that you created in steps 2 and 3.
- 8 Exit from the mdtDownload program.
- 9 Perform a Save & Reset on the Passport 4460.

## Software Distribution Web Site

To obtain Passport 4400 software, access the Nortel Networks Web site ([www.nortelnetworks.com](http://www.nortelnetworks.com)), then select Downloads from the Support area.

## Software and Documentation CD-ROM

Passport 4400 units are shipped from the factory with the current software version and associated boot code pre-installed. The system software is also included on the product CD-ROM.

The following paragraphs identify the versions and formats of the current software.

### Passport 4460 System Software

The Release 5.1 system software includes:

- bt5100110.bld (R5.1 boot code loadable image)
- bt5100110.bin (boot code binary format)
- pr5100110.bld (application code)
- pr5100110.tar (MIBs in tar format)
- pr5100110.zip (MIBs in zip format)
- boot0\_5100110.bin (onboard boot0 image in binary format)
- boot0\_5100110.hex (onboard boot0 image in hex format)

## System Software Version Numbers

The Release 5.1 system software versions are as follows:

- Boot Code Version: Passport\_4460\_Boot\_Rel\_5.1.0\_Rev 0.11.0 07/31/03 16:03:15
- Application Code Version: Passport\_4460\_Appl\_Rel\_5.1.0\_Rev 0.11.0 07/31/03 16:03:54

## Mass Deployment and Reporting Tool

This version of the Mass Deployment and Reporting Tool supports Releases 4.0.x and 4.1.x, 4.2, 4.3, 5.0, and 5.1. The software version and executable name are:

- mdt1000034.exe (Version: Passport Mass Deployment and Reporting Tool R1.0 SCM Build 34 07/18/2003)

## Install Tool

This version supports Releases 3.1, 4.0.x, and 4.1.x, 4.2, 4.3, 5.0, and 5.1. The software version and executable name are:

- it500000.exe (Version: Passport 4400 R5.0 Installtool 5.0 SCM Build 0 01/30/2003)

## Network Management Support

The Preside Multiservice Data Manager (MDM) network management platform provides device-specific support (MDM 12.2 and higher) for the Passport 4400 product line. The Preside MDM-Passport 4400 application lets you monitor and provision the Passport 4400 series of devices using MDM software. You use the Preside MDM-Passport 4400 application to:

- receive alarms and state change information from Passport 4400 devices
- provision and download new software to Passport 4400 devices
- backup and restore Passport 4400 software

In addition, you can access the Passport 4400 Configurator from the Preside Multiservice Data Manager (MDM) menus.

MDM supports the Passport 4400 using these tools:

- Passport 4400 releases 4.0 and 4.1 are supported by Base MDM (the embedded DCD).

For detailed information about Preside MDM-Passport 4400 support, refer to *Preside Passport 4400 Device Integration Cartridge User Guide* (241-6003-112).

- For Passport 4400 releases higher than 4.1, a Device Integration (DI) Cartridge must be loaded on top of MDM. The current GA DI cartridge for Passport 4400 V1.0.0 supports device version 4.0.3, 4.1.3 and 4.2.

For detailed information about the DI cartridge, refer to *Preside Passport 4400 Device Integration Cartridge User Guide* (241-6003-112).

The Device Integration Cartridge, together with documentation (241-6003-112) and a support matrix, are available on <http://www.nortelnetworks.com>. Select Support, Software Downloads, then select Product: Preside Multiservice Data Manager Device Integration Cartridges.

The *Preside MDM Passport 4400 Integration Guide* (241-6001-109) is available from Helmsman Express.

Refer to <http://www.nortelnetworks.com/products/01/preside/> for more information about Preside product portfolio.

## Getting Started

It is recommended that you consult the following manuals when setting up a Passport 4460:

- The *Passport 4460 Quick Start Guide* summarizes the tasks involved in the setup process.
- The *Getting Started with Passport 4460* manual provides a comprehensive overview of the startup process.
- The *Using Passport 4400 Install Tool* manual provides detailed information about setting up a management workstation.
- The *Reference for Passport 4460 Hardware* manual provides detailed information about setting up the hardware.
- The *Reference for Passport 4460 Cables* manual identifies the cables needed to set up the hardware.

Refer to [Chapter 7, “Product Documentation,” on page 51](#) for a list of all Passport 4460 documentation.





---

## Chapter 2

# New In This Release

---

This section of the Release Notes provides a description of the new and enhanced features in Passport 4460 release 5.1:

- [“Expanded Q.SIG Support” on page 17](#)
- [“AOT over 2-port and 6-port modules” on page 22](#)
- [“DSCP updates in accordance with RFC 2474” on page 22](#)
- [“DSCP replaces TOS in IP forwarding/QoS filters” on page 22](#)

## Expanded Q.SIG Support

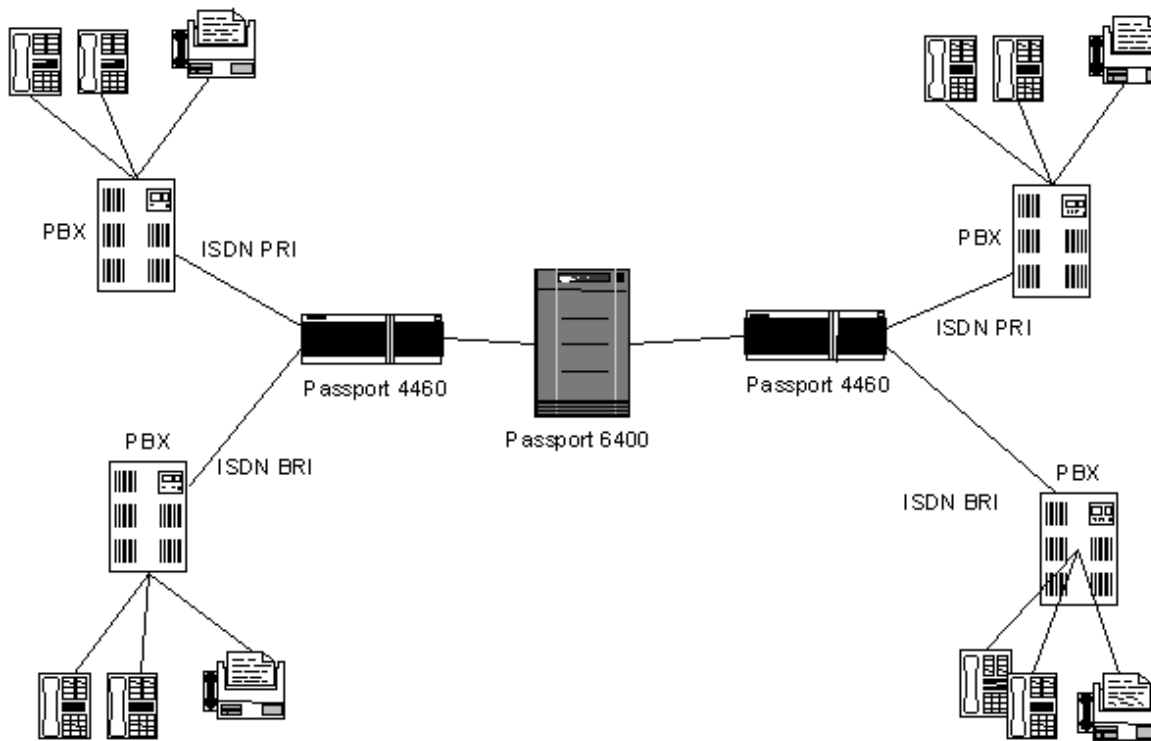
Beginning with release 5.0, the Passport 4460 supports QSIG signaling on T1/E1 PRI voice interfaces. Release 5.1 is a continuation of the implementation of this support. Release 5.1 provides enhanced support for the advanced CCS user, supports network features common in today's networked PBXs, and enhances the solution that is interoperable with the Passport 6400/7400 platforms.

The pre-5.0 implementation of ISDN voice signalling on Passport 4430, Passport 4450, and Passport 4460 platforms supports ETSI Q.SIG on the Basic Rate Interface (BRI) 2B+D channels. The use of ISDN service was therefore limited to a maximum 4 BRI interfaces with up to 8 voice channels supporting sites from 2 to approximately 50 people, depending on call traffic volume. Adding QSIG signaling on T1/E1 PRI voice interfaces on the Passport 4460 (up to two T1/E1 cards per Passport 4460) allows the solution to scale up to much larger sites.

## Interoperability

The Passport 4460 QSIG signaling on T1/E1 PRI voice interfaces in release 5.1 interoperates with QSIG signaling on T1/E1 PRI voice interfaces on Passport 6400 and Passport 7400 platforms. In addition, it interoperates with Q.SIG signaling on the Basic Rate Interface (BRI) 2B+D channels on Passport 4460 and Passport 4430/4450 platforms.

The release 5.0 and 5.1 QSIG enhancements are implemented in PRI-ISDN services over a T1 (23B+D) or an E1 (30B+D) link, as shown below.



## **New Q.SIG Protocol Support**

Passport 4460, release 5.1 adds the following new Q.SIG protocol support:

### **Independent GF Mechanism**

The QSIG generic functional (GF) protocol provides the means to exchange signaling information for the control of supplementary services (SS) over a PTN. It does not, by itself, control an supplementary services; rather, it provides generic services to specific SS-control entities.

### **QSIG Transit Counter - EN 301 047/048**

The Transit Counter ANF-TC may be invoked, in conjunction with a call request, when it is desired to limit the number of PINXs that the call can transit. The maximum number of PINXs that the call can transit is network dependent, in the range 1 to 31. The Transit Counter feature complies with ISO/IEC 15055 and 15056.

### **Call Offer (CO) - ETS300 361/362**

This service permits a calling user to request that the call be offered to the user at a busy destination and that the called user be given the choice of accepting, rejecting or ignoring the waiting call.

### **Call Completion - ETS300 365/366**

This category provides two supplementary services:

- Completion of Calls to Busy Subscribers (CCBS): A calling user encountering a Busy destination can request that the call be automatically completed when the busy destination becomes free.
- Completion of Calls on No Reply (CCNR): The calling user, encountering a destination that remains unanswered can request that the call be automatically completed when the called destination is next used and becomes free again.

These services are also referred to as Call Back When Free and Call Back When Next Used, respectively.

### **QSIG Segmentation & Reassembly - ETS 300 172, Annex ZA (1995)**

This featured provides Q.SIG message segmentation and reassembly between the Passport 4460 and an attached PBX. Message segmentation and reassembly is used when the size of a message exceeds the maximum size of the data link layer information field size.

### **QSIG calling/connected name identification restriction (SS-CNIR)**

Calling/connected name identification restriction is a supplementary service that is offered to a user to restrict presentation of that user's name to another user.

### **QSIG Message waiting indication - EN 301 260/255**

Message Waiting is a QSIG supplementary service, defined in ISO/IEC 15505 and 15506, that provides for transparent centralized voice mail and other integrated messaging applications. The service allows the activation and deactivation of a message-waiting indicator for a user located at a remote network node. The message waiting service also allows a user to verify the current state of his or her message-waiting indicator.

### **QSIG Centralized voice mail - ETS 300 257, ETS 300 239, ETS 301 255 (2nd Edition)**

This featured is provided in conjunction with the Message Waiting Indication, Call Diversion and Call Diversion Notification features

### **QSIG Transport of manufacturer specific information - ETS 300 239, 2nd Edition**

This featured is offered in conjunction with Generic Functional protocols. It permits the inclusion in messages of non-standard information that is specific to a particular design of PTNX or a particular network or a particular system.

## QSIG Configurable cause codes

To enhance interoperability with Passport 6400 MVPe E1 voice Function Processors, the Passport 4460 now support configurable cause codes, thereby allowing substitution of standard network connection “failure” cause codes with values provisioned through element management. This allows you to change the way that a PBX responds to network congestion or other events, such that the PBX can activate alternate routing choices, when appropriate. This enables the PBX to respond to Passport network conditions that are recognized and communicated back to the originating PBX.

## Q.SIG Protocol Support Prior to Release 5.1

The new protocol support identified in [“New Q.SIG Protocol Support” on page 19](#) is a continuation of the support introduced in release 5.0, which included:

- Basic Call - ETS 300 172
- QSIG Generic Functional Procedures - ETS 300 239
- QSIG Transport of Manufacturer Specific Information - ETS 300 239
- QSIG Name Identification Presentation - ETS 300 238
- QSIG Call Diversion Supplementary Service (QSIG-CF) - ETS 300 257
- QSIG Diversion Notification
- Q.SIG Path Replacement - ETS 300 259
- QSIG Re-routing

## QSIG Data Calls

Prior to release 5.0, interworking with Passport 6400/7400 supported:

- Circuit-mode 64 Kbps / 8 kHz structured bearer service category usable for speech information transfer on BRI interface
- Circuit-mode 64 Kbps / 8 kHz structured bearer service category usable for 3,1 kHz audio information transfer on BRI interface

In Release 5.0, PRI interface support was added.

Starting with Release 5.1, circuit-mode 64 Kbps unrestricted 8 kHz (0 1 0 0 0) structured bearer service category is supported on BRI and PRI interfaces. If transfer capability is indicating for a QSIG basic call “Unrestricted digital information” then the Passport 4460 network properly negotiates bandwidth requirements, and data flow received on the B channel is transparently carried to the destination.



**Note:** This feature does not support interworking with Passport 6400 or Passport 7400.

---

## AOT over 2-port and 6-port modules

Async Over TCP (AOT) is now supported on the 2-Port Serial Data Expansion module and the 6-Port Serial Data Expansion module. This provides point-to-point, polled service for asynchronous data applications.

## DSCP updates in accordance with RFC 2474

The DSCP field for VoIP packets has been updated in accordance with RFC 2474, as follows:

- Speech packets – EF (Expedited Forwarding) 0x2E
- Management packets – CS5 (Class Selector 5) 0x28

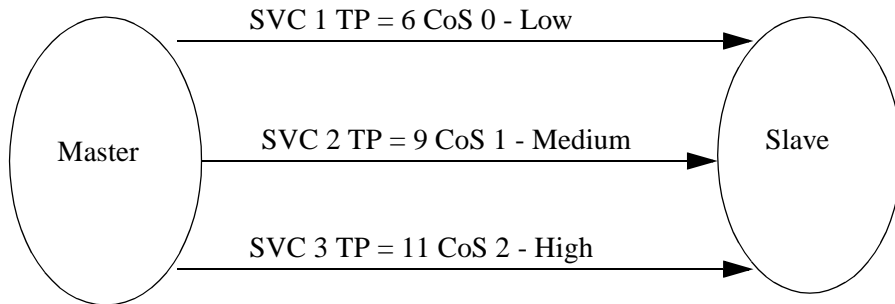
Note that these values are hard-coded and cannot be changed via the CLI.

## DSCP replaces TOS in IP forwarding/QoS filters

Beginning with Release 4.4, the Differentiated Services Codepoint (DSCP) field in the IP header replaces the TOS field in the IP forwarding/QoS filters. This feature utilizes the existing mechanism over PANL WAN links to offer three levels of service to different types of IP traffic, but the mechanism is now based on the DSCP encoding for DiffServ traffic types. Release 4.4 is replacing TOS coding for the QoS Filter with DSCP coding.

This enhancement allows the user to define a set of policies that identify these different types of IP traffic and specify the class of service (Low / Medium / High) which will be used to pass the traffic through the network.

A separate SVC is created for each class of service (CoS). A maximum of three DLCIs can be created for the same destination. For example:



Changes has also been made in order to ensure that traffic that has no DSCP set, or traffic with a value for DSCP that is unspecified in the configuration, can be passed without dropping or without requiring heavy configuration burden of specific DSCP values.

## CLI support

The `add filters`, `define filters`, `delete filters`, and `show filters` commands have been expanded to support DSCP (Differentiated Services Codepoint) filters.

The expanded port-based commands are:

```
CLI> add filters ip dscp port [incoming/outgoing]
<IfIndex> <DSCPMap> <DSCPMask> <Action>
```

```
CLI> define filters ip dscp port [incoming/outgoing]
order <IfIndex> <DSCPMap> <DSCPMask> (<Order>)
```

```
CLI> define filters ip dscp port [incoming/outgoing]
priority <IfIndex> <DSCPMap> <DSCPMask> (<Priority>)
```

```
CLI> delete filters ip dscp port [incoming/outgoing]
<IfIndex> <DSCPMap> <DSCPMask>
```

```
CLI> show filters ip dscp port [incoming/outgoing]
```

The expanded system-wide commands are:

```
CLI> add filters ip dscp system <DSCPMap> <DSCPMask>
<Action>
```

```
CLI> define filters ip dscp system order <DSCPMap>
<DSCPMask> (<Order>)
```

```
CLI> define filters ip dscp system priority <DSCPMap>
<DSCPMask> (<Priority>)
```

```
CLI> delete filters ip dscp system <DSCPMap> <DSCPMask>
```

```
CLI> show filters ip dscp system
```

Refer to the *Reference for Passport 4460 Command Line Interface (CLI)* manual for detailed descriptions of these commands.

## DSCP Filter Example

Following is a small example of how DSCP filters can be used to prioritize traffic:

```
add filter ip dscp port outgoing 2 0x19 0x3F forward
def filter ip dscp port outgoing priority 2 0x19 0x3F high

add filter ip dscp port outgoing 2 0x1A 0x3F forward
def filter ip dscp port outgoing priority 2 0x1A 0x3F medium

add filter ip dscp port outgoing 2 0x1B 0x3F forward
def filter ip dscp port outgoing priority 2 0x1B 0x3F low

add fr port svcLANData 2 "11110000" 0
add fr port svcLANData 2 "11110000" 6
add fr port svcLANData 2 "11110000" 9
```



The effect of this sequence of commands is that all outgoing traffic on WAN port 2 with the DSCP field set to 0x19 is forwarded using the high priority SVC; traffic with the DSCP field set to 0x1A is using the medium priority SVC; and traffic with the DSCP field set to 0x1B is using the low priority SVC. All other outgoing traffic on this port is discarded.

## DSCP Filter Considerations

The following notes apply to the use of DSCP filters:

- When the DSCPMask value is 0x0, the DSCPMap value has no effect. You can use this for “catch all traffic” DSCP filtering/prioritization. For example, you can use a DSCPMask of 0x0 to set a low priority filter and then set specific DSCP filters for medium and high priority traffic. In this case, the traffic is prioritized and no traffic is discarded.
- Do not mix DSCP filters with other types of filters that use the Order field. The other filters will override the priority of the DSCP filters.
- The DSCP value is not identical to the ToS value. The ToS value is obtained from all eight bits in the Service Type field of the IP header, whereas the DSCP value is obtained from the first six bits of the Service Type field. For example, to filter IP traffic that has a Service Type field of 10110110 (0xB6), use 101101 (0x2D) as the DSCPMap value. This is the ToS value shifted right by 2.

## Configurator support

You can also use the Web Configurator to configure this feature.



---

## Chapter 3

# Issues Resolved in this Release

---

This section of the Release Notes describes the issues resolved in Passport 4460 release 5.1, organized by these topics:

- [“Option to Disable Ping” on page 27](#)
- [“Passport 4400 System” on page 28](#)
- [“E&M Voice Modules” on page 31](#)
- [“Xircom PCMCIA Ethernet card” on page 31](#)
- [“Passport 4400 Mass Deployment and Reporting Tool” on page 32](#)
- [“Passport 6400 Interworking” on page 32](#)

## Option to Disable Ping

Prior to this release, the Passport 4400 would always ping the NMS station before sending traps. This is now configurable: You can disable this ping. This accommodates cases where a network has implemented a firewall to block all pings from the outside to prevent ping floods from hackers.

This release adds the following CLI command to allow you to configure the trap-sending mode:

```
pp4460_1>>set snmp keepTraps
```

Where <keepTraps> can be set to either **enabled** or **disabled**.

When set to “disabled” the traps are sent without pings to the NMS (without checking for NMS reachability). When set to “enabled” pings are used to check for NMS reachability prior to sending traps. The default is “disabled.” (Q00498616)

## Passport 4400 System

- AOT failed to pass traffic on a 2-Port Serial Data Expansion Module (installed into either expansion slot) through a network (Passport 6400) set for PANL.  
This problem has been resolved. (Q00092081, 60334715)
- Passport 4460 ports that were configured for the SDLC role of “secondary” failed to display any value for the IfIndex port numbers in the “sh sna sdhc st p t” command. In addition, when this occurred, the table continued to scroll until the Q (quit) character is entered.  
This problem has been resolved. SDLC statistics now display properly for all ports. (Q00092106, 60337811)
- If you configured a switch map for FRDCE on port 1 (IfIndex 152), the “show wan stat port entry” command showed statistics for IfIndexes 150, 152, 153, and 155.  
This problem has been resolved. For a FRDCE service configured on port 1 (ifIndex152), a statistics report obtained with the command “show wan statistics port entry” correctly report displays ifIndex 150 only. (Q00092122)
- The “sh sna sdhc link o t” command displays the link state as being disconnected even though the SNA traffic is moving successfully.  
This problem has been resolved. When a connection is established, the “sh sna sdhc link t” command correctly displays the link state as “connected.” (Q00416143-01)
- Unrestricted data traffic is not supported on the PRI interface. SETUP messages with bearer capability UNRESTRICTED INFO are discarded and a RELEASE message is sent back to the source.  
This issue has been resolved for ISDN PRI data calls between Passport 4460s. (Q00532268)
- The “OperStatus” of the ISDN BRI Interface remains down. The “OperStatus” of IfIndex 5 and 153 is related to the status of Port 2 in MDM. Therefore under this situation, MDM generates a SET proxy alarm when getting a SNMP response for IfIndex 5 and generates a CLR proxy alarm when getting an SNMP response for IfIndex 153 during the state polling. The state polling interval is five minutes by default. The system has to be rebooted to resolve this problem.  
This problem has been resolved. (Q00563919-01)

- If the Redundant Power Supply Unit (RPSU) fails, the Passport 4400 sends both SET 5004E101 and CLR 09990013 alarms every minute. In addition, the state of POWER 2 component is not accurately displayed.

This problem has been resolved by implementing a “clear power supply failure” trap that is sent when the (redundant) power supply is back in a normal operational state. (Q00541920-01)

- The output level attenuation on the Passport 4460 works in the opposite way as that of the Passport 4450.

This problem has been resolved. Now the output level attenuation for Passport 4460 is the same as that of Passport 4450. (Q00543002-01)

- When the Passport 4400 is configured as a regional node, issuing the “sh fr po spvc c t” CLI command (on the regional node) causes the CLI interface to freeze.

This problem has been resolved by implementing changes to avoid loopbacks for the “sh fr po spvc c t”, “sh fr sw c t”, and “sh fr voice svc c t” commands. (Q00581786-01)

- Software flow control was not working in AOT on the Passport 4460.

Flow control is now implemented for AOT. (Q00610703-01)

- ITxLinkOverflows can occur on WAN ports configured as async (AOT service). The problem was the clocking on the port. In some cases, the actual rate is lower than the defined rate (for example, 19180 instead of 19200). This results in overflows on the port.

This problem has been resolved. (Q00610707-01)

- In some cases, Passport 4460 units do not correctly initialize the 2-Port serial expansion cards. In such cases, at boot-up, even if the serial port is configured, the internal clock is not routed to that port.

This problem has been resolved by implementing corrections to the system boot code. (Q00611563-02)

- In some configurations, if a 2-Port Serial Data Expansion module is installed in exp1, PANL does not come up if the first port on the module is used. The issue appears only if the unit is using clock synchronization (master clocking). When clock synchronization is available, CLK2 becomes the master clock. The problem is that CLK2 is also used by exp1 on port1.

This problem has been resolved by implementing a change such that CLK1 is used instead of CLK2 when clock synchronization is available. (Q00626629)

- The output of the “show filter ip for sys c t” is displayed continuously for forward IP filters with an IP address of 0.0.0.0.

This problem has been resolved by disallowing the use of Null forward system filters. (Q00626824)

- Traffic moves successfully on an AOT port configured with parity set to None, but fails when parity is set to Odd or Even.for Back to back AOT configuration. When set to Odd or Even, the packets received are reported as RxBadPackets.

This problem has been resolved. Traffic now passes successfully with any parity setting. (Q00629393-01)

- VoIP over RFC1490 signaling packets are not prioritized: only the speech packets are prioritized. This can prevent call from being initiated during high traffic loads.

This problem has been resolved. Both voice setup and VoIP packets are now prioritized against other IP traffic. (Q00632078)

- The DACS feature does not work with the 6-Port Serial Data Expansion Module.

This problem has been corrected. (Q00637712-01)

- Rate enforcement does not work well for speeds above 96K on RFC1490 links. If rate enforcement is enabled, the traffic does not exceed 96K even if the CIR is 512k. Note that for CIRs lower than 96K, rate enforcement works fine.

The problem has been resolved by modifying the sampling interval for RFC1490 links. (Q00639765)

- The “show wan s p t” command displays different Usage values depending upon the async parameters (for example, 116% when async data is 5).

This problem has been resolved. (Q00654821-01)

- The Passport 4460 sometimes fails to boot the operating software.

The problem was found to be located in the initial setup of the cross-bus driver. This problem has been resolved. (Q00655672-01)

- An NMS connection was configured for a Passport 4460 network, with HP OpenView as the connection manager on the NMS PC. If SNMP v2 requests are received on the Passport 4460, the following message is displayed on the console:

```
Login: wrong version  
wrong version  
wrong version
```

The message has been changed to “Received a wrong version SNMP packet (version: <the version of received SNMP packet>”. (Q00659620)

## E&M Voice Modules

- Occasionally, the DSPs on a four-port E&M module go into, and remain in, a “Dead” state.

This problem has been resolved by implementing a recovery procedure to reset the DSP if a channel enters a “dead” state. Note that a DSP corresponds to two voice channels. Therefore, a DSP reset is actually resetting two voice channels (the dead channel and its “DSP pair”). (Q00549722-01)

- E&M card E lead problem: When a call is setup, and the end user hears the ringback tone, the Passport 4460 grounds the E lead before the remote party answers the phone.

This problem has been resolved. E&M signaling now works correctly. (Q00552502)

## Xircom PCMCIA Ethernet card

- The Xircom PCMCIA Ethernet port does not work correctly at 100Mbps. If the PCMCIA Ethernet port is connected to a 100Mbps hub or directly (with a cross-over cable) to a PC with a 100Mbps Ethernet adapter, the LAN Link Integrity LED is always red. In this case a ping from the Passport 4460 to the PC does not work, the status of the Ethernet port in CLI (ifIndex = 5) is down, and the packets are discarded by the Ethernet driver because the link is down. In the case of a 10Mbps hub, the LAN Link Integrity LED is always green and the pings work fine in both directions.

This problem has been resolved. The Xircom card is now working at 100Mbps through a 10/100Mbps hub. (Q00172160)

- When the PCMCIA card is configured on the Passport 4460, it reports back as “alive” even when the card is physically removed.

This problem has been resolved. Ping does not work if the PCMCIA card is removed. In addition, the PCMCIA card is removed from the IfTable after a few seconds. (Q00576461-01)

## Passport 4400 Mass Deployment and Reporting Tool

- mdtReporter did not extract the correct commands when reading the frame relay base DLCMI table.

This problem has been resolved. (Q00595834)

## Passport 6400 Interworking

- When connecting a Passport 4460 with a Passport 6400 MVP using a QSIG PRI ISDN line, that Passport 6400 generates a global RESTART message followed by channel RESTART messages for each configured channel. However, the Passport 4460 only responds to the global RESTART message, not to the channel RESTART messages. Therefore, the Passport 6400 marks the channels as dead (out of service).

This problem has been resolved by implementing a change such that the Passport 4460 responds to channel RESTART messages (messages with Channel Id IE). (Q00665812)



---

## Chapter 4

# Known Open Issues

---

This section of the Release Notes describes the known open issues in this release, organized by these categories:

- [“Passport 4400 Configurator” on page 33](#)
- [“Passport 4400 Install Tool” on page 33](#)
- [“Passport 4400 System Software” on page 34](#)
- [“Passport 4400 - Passport 6400 Interworking” on page 36](#)

## Passport 4400 Configurator

- The Passport 4400 Configurator provides only a limited set of SNA statistics (SDLC Link Station Statistics and SDLC Port Statistics). You can use the CLI `show sna switching circuit` commands to obtain additional statistics and status for SNA links. (60331288)
- The default Documentation URL specified in the Configurator is no longer correct. As a workaround, you can change it to point to either the Passport 4400 Documentation Web site, or the location where you have installed the documentation. For more information, refer to [Chapter 7, “Product Documentation,” on page 51](#). You can also find a description of this process in the Configurator online help: access the Documentation URL page from the Administrator menu in the Configurator, then select About This Page.

## Passport 4400 Install Tool

- Invalid entries entered through the X.25-Annex G or SNA 1490 dialog panels may cause incomplete configuration for the feature. (60334618, 60334681)

## Passport 4400 System Software

### General

- For an ARP entry that has been learned over the WAN link, the CLI command “show arp table” displays the ARP entry as 00:00:00:01 or :00:00:00:02. The APR table should capture the actual Q.922 address, rather than the 00:00:00:01 address. (Q00533434)
- In both G.164 and G.165 modes, the tone disabler does not release until the end of a call. This violates G.168 section 4.8:  
“4.8 Release time:  
The disabler should not release for signal drop-outs less than the ITU-T recommended value of 100 ms. To cause a minimum of impairment upon accidental speech disabling, it should release within 250 plus or minus 150 ms after a signal in the holding band falls at least 3 dB below the maximum holding sensitivity in both directions of signal transmission.”  
(Q00417941)
- The “show vo ch t” CLI command for an E1 WAN card doesn't show the last ten channels. The command output ends with this error message: “voiceIPC: Message Queue Receive Error”. This happens only in case of high voice traffic on the unit (more than 50 voice channels used). (Q00497070)
- When upgrading from Release 4.1.2 to Release 4.2 (or above), and after downloading the boot code and viewing the image with option 1 on the boot menu, an “image corrupted” message is displayed. This is a false error message that appears because the 4.1.2 boot code does not correctly detect the 6-port serial data module alpha and beta images. Beginning with Release 4.1.3.4, a software upgrade will not display this message because a correction was made in the flash memory software. Refer to [“Upgrading from a release earlier than 4.1.3.4” on page 10](#) for a description of the revised software upgrade process. If you follow this process, the error message should not occur. (Q00092116)
- The “show fr line dlci table” reports information incorrectly on channel bundles. (60324201)
- Unit resets may occur when X.25 traffic is present due to Streams running out of buffers when attempting to establish 96 SVC connections. (60330743)

- Unit reset may occur with more than six channel bundles configured as “casBypass”, or with more than one channel bundle configured as “bypass”. Only use one channel in a bundle for CAS per T1/E1 voice expansion slot. (60332364)
- The values, NegRxThroughput and NegRxBurstSize, are not reported properly on LAN SPVCs. (60332794)
- The “set port admin 150 down” command resulted in a “Command Failed” response (it took approximately 10 seconds), and afterwards, any other command executed (such as “show wan pa po o t”) causes a client time-out in approximately 60 seconds. The node lockup portion of this problem has been fixed. However, the command itself has been disabled and has no effect. (Q00157547, 60332408, 60334795)
- Unit does not prioritize traffic properly with 1500-byte packets on the LAN SVC. (60335184)
- With a # in the manipulation string of the egress table, the Passport 4460 should forward the dialed DTMF digits, but does not. (60335277)
- CCS Bypass with one bundle of multiple time slots fails. The number of time slots supported by one bundle without running into problems is limited to three to four time slots. This is without any other services. Once the number of time slots increases, CPU utilization increases significantly resulting in calls dropping. (60335288)
- The “show system statistics” command reports bandwidth utilization only for Port 2 and Port 3 PANL links. In the particular case where PANL is active on both ports, the show command displays bandwidth utilization for port 3 only. The values displayed will be reported in LinkTxBwUtilization and LinkRxBwUtilization. For all other ports, the correct Tx and Rx bandwidth utilization statistics per port can be viewed by using the “show wan stat port table” command. (Q00106746)
- If the PCMCIA Ethernet port or the build-in Ethernet port of a Passport 4460 is cross-connected to an auto-sensing device, the two devices are unable to communicate with each other (although they can still ping each other). Until an enhancement is available, it is suggested that one or both of the following work-arounds be used:
  1. Lock the Ethernet speed on the other device to 10 Mb/s.
  2. Install a 10/100 Mb/s hub and install both devices on it.(60325766)

- The Called Party Number address for an ISDN WAN link (primary or backup) will be lost after upgrading from release 4.x to release 5.0.

Work-around: Refer to [“Special upgrade instructions for release 5.1” on page 10](#) for an explanation of the work-around. (Q00581777)

## AOT Traffic

- Unit may reset due to improper flow control of switched AOT traffic through a central node. When the Passport 4460 is configured as a “Regional Node,” flow control works normally. (60332800)

## Hoot & Holler

- The Passport 4460 Wink Start on Hoot & Holler interworks with Passport 4430/50 units. However, it works for wink-to-wink only; wink-to-non-wink protocol or Q.421 will not work. This works the same as the setup between a Passport 4430/50 and a Passport 4430/50. The Passport 4460 to Passport 4460 setup does not have this limitation. All protocols and hardware interface types can talk to each other on Hoot & Holler, as well as switch calls. (60330060)

## Passport 4400 - Passport 6400 Interworking

- This CR addresses a G 711 interworking limitation between Passport 4460 and Passport 6400. G 711 calls are not passed successfully between Passport 4460 and Passport 6400 units. See [“Voice Interworking” on page 47](#) for a more detailed description. Also see [60334509](#) in this section. (Q00159619)
- Unable to correctly negotiate G.711 calls initiated by the Passport 6000/7000 to Passport 4460. (60334509)
- Fax traffic between Passport 6400 PRI and Passport 4460 BRI TE mode yields low completion rates when the fax call originates from an MVP or MVPE card (10372023).
  - MVPE to Passport 4460 yields a 75 percent completion rate (a Canon Model B 340 is the destination machine)
  - MVP to Passport 4460 yields an 81.3 percent completion rate

- Passport 4460 to MVPE or MVP yields a 100 percent completion rate with Passport 6400 version 7.03.
- BRI fax calls from Passport 6400 (NT or TE mode) to Passport 4460 fail. The MPS and MCF signals are repeated two to three times after the transmission of each page. If the direction of the call is reversed, however (that is, the call originates at the Passport 4460 going to the Passport 6400), then there are no errors or repeated signals. (60329391)
- The Lost Control Frames statistics counter for voice channels will register for Passport 4460 to all other Passport 4400-series units. It will not register for Passport 4460 to Passport 6400 units. (60329976)
- The Call Forward feature on the Passport 4460 did not function from an external number. This has been partially corrected and the following list shows which functionality is supported and which is not:
  - Passport 4400 to Passport 4400 - supported
  - Passport 6400 to Passport 6400 - supported
  - Passport 4400 to Passport 6400 - supported
  - Passport 6400 to Passport 4400 - NOT supported(60329975)
- ISDN Generic Functions (GF) Path Replacement was not working properly between Passport 4400 and Passport 6400. Corrections to Passport 4400 Path Replacement and Call Diversion have been implemented to increase the length of Pump messages to allow long messages to pass through PANL links. However, an equivalent implementation is still required on the Passport 6400. (60332649)
- The X.21 interface on the Passport 4460 does not currently support the “DTE Signal Element Timing” signal. Refer to [“Passport 4400 and Passport 6400 Interworking” on page 48](#) for more information. (60335312).



---

## Chapter 5

# Operational Notes

---

This section of the Release Notes contains operational notes for these topics:

- [“Flash Card” on page 39](#)
- [“Configurator” on page 39](#)
- [“Install Tool” on page 40](#)
- [“System Software Notes” on page 41](#)
- [“Voice/Fax” on page 44](#)
- [“Passport 4400 and 6400 Interworking” on page 45](#)
- [“Obtaining Technical Bulletins” on page 46](#)

## Flash Card

The Passport 4460 uses a Centennial Linear Flash PC Card (16MB). Note that, unlike the Flash cards used on the BayRS and Passport 2430/5430 products, this card does not support external file manipulations (such as list, delete, compress, and write). Also note that the Passport 4460 does not support standard ATA Flash cards.

For more information about the Passport 4460 Flash card, consult the *Configuring and Operating the Passport 4400* manual (part number 206916-C, provided in PDF and HTML format on the product CD and on the web). Or, launch the Passport 4400 Configurator, select Code Bank from the Administration menu, then click on “About This Page”.

## Configurator

- Before opening/starting your Passport 4400 Configurator, ensure that “cookies” is enabled in your web browser (refer to your browser documentation).

- Changing the IP address of the unit without changing the PC dial-in IP address for the PPP (Point-to-Point Protocol) over management port functionality may prevent access to the Configurator or Install Tool. Refer to Appendix D of the *Using Passport 4400 Install Tool* manual for a description of IP address usage in bridging and routing environments.

## Install Tool

- All CSU and ISDN WAN ports only allow switching. A serial WAN port, if not configured as either primary or backup, will allow additional protocol selections. Otherwise only switching is allowed. (50338043)
- Several enhancements to SNA support are planned for a future release. These include the following:
  - The ability to configure Switched Node Virtual Segment size. (60318864)
  - The ability to remove the defaulted MAC (Media Access Control) and SAP (Service Access Protocol) addresses. (60318203)
  - The ability to configure SNA over Multi-Point. (60318863)
- Install Tool now supports the configuration of X.25 or SNA over channelized T1/E1 PANL or RFC-1490 links. From a non-primary and non-backup WAN serial port, launch the configuration dialog panel. Select X.25 or SNA from the protocol selection panel, apply, and verify X.25-Annex G panel or SNA 1490 panel works properly. (60322195)

Note that invalid entries entered through the X.25-Annex G or SNA 1490 dialog panels may cause incomplete configuration for the feature. (60334618, 60334681)



# System Software Notes

## ISDN BRI Voice Module

### Configuring BRI as Master Clock

To configure the System Master clock to be the BRI card in EXP1 or EXP2, IfIndex 159 or 183 should be used. However, when listing System IfIndexes these two IfIndexes do not show on the list. With the 2-port serial data expansion module and the E1 Voice module, these IfIndexes do show up.

You can use ifIndexes 159 and 183 for clock sync purposes (master clock setting) even though these are not displayed for BRI voice cards. When specifying the Master Clock source, if you want EXP1 to provide clock, you issue the “set sys mas 159” command. It doesn’t matter what card is installed in the expansion slot (Voice, T1/E1/ISDN BRI, Serial). The same is true for EXP2, except that you use IfIndex 183. (Q00092053)

### ISDN BRI Clock source selection

Since both ports of a 2 port BRI Voice Module (BVM) on the Passport 4460 share one TDM interface internally, a single clock source must be used as primary clock for internal operations.

When one of the ports is configured for TE mode, that port is selected as the primary clock source. When both ports are configured for TE mode, the first port is selected as primary clock source, but the second port still receives clock from trunk to terminate the external interface.

The following table lists the effective primary clock source depending on mode of operation of each port of a 2-port BVM:

<b>Operation mode: Port1 - Port2</b>	<b>Primary clock source for internal operation</b>	<b>Resulting clock source for Port1</b>	<b>Resulting clock source for Port2</b>
NT - NT	Internal/backplane	Internal/backplane	Internal/backplane
NT - TE	From Port2	From Port2	External trunk on port2

<b>Operation mode: Port1 - Port2</b>	<b>Primary clock source for internal operation</b>	<b>Resulting clock source for Port1</b>	<b>Resulting clock source for Port2</b>
TE - NT	From Port1	External trunk on port1	From Port1
TE - TE	From Port1	External trunk on port1	External trunk on port2

## WAN Port IfType Value

Following is a clarification of the effects of setting, and the meanings of the displays of, the WAN port IfType values.

### Defining the IfType

- You can use the “def wan port ifType” command to set the IfType value whether or not you have a cable connected to the port. To effect the value that you set, you need to issue a “save” command before resetting the unit.
- If the Passport 4460 is booted with a cable plugged in, the specific port operates according to the cable type. (The unit is able to detect the type of cable plugged in and configure the port according to this information at boot time. In this case, the FLASH stored value has no effect.)
- The “def wan port ifType none” command has no effect.

### Showing the IfType

- The “show wan parameter port configured” command displays the interface type of the cable that is connected.
- The “show wan parameter port operational” command shows how the port is currently operating.
- The “show wan parameter port configured” command displays “none” if no cable is connected.

## General

- When entering date and time, do not enter leading zeros. If you enter a leading zero, the Passport 4400 will display an “invalid parameter” message.
- Idle Character: In this release, the default idle character is 126 (7E) flag. To achieve mark (FF), set the idle character to 255.

- The channelized E1 CSU can only run at speeds up to 1.92 Mb/s. This allows the user the use of the 16th time slot which provides for speeds up to 2.048 Mb/s on the E1 CSU. Timeslot 16 may be configured for both channelized and unchannelized E1 ports. On the CLI, Timeslot 16 is referenced by 31. Using “1-31” will select all E1 time slots, including Timeslot 16 (this excludes Timeslot 0 which is typically used for framing). (60323052)
- Call progress tones give a fast busy tone, not a slow busy tone when the channel is busy. The system provides the fast busy tone under the following conditions:
  - When all trunks are busy
  - When no trunk cable is connected
  - When the MPANL (Master Passport Access Network Link) is congested and the call is from the MVP (Multipurpose Voice Processor) side. (60324167)
- CAS/CCS Bypass will only support one bundle per expansion slot (maximum of two per unit: exp1 and exp2). These bundles may contain any number of available timeslots (1-24 for T1 / 1-30 for E1). (60328369)
- The Lost Control Frames statistics counter for voice channels will only register for Passport 4460 to Passport 4400 units. It will not register for Passport 4400 to Passport 6400 units. (60329976)
- The “localRouting” parameter in the voice switching profile allows the administrator to turn off local call routing (switching) if no local routing is needed. It was put in to simplify the ingress/egress table configurations.

For example, if the entire network has four-digit calling numbers and all channels in a node are in the same hunt group, the ingress and the egress phone numbers in all the nodes can be set to a wild card of “\*\*\*\*\*”. All DN/DNA (Directory Number/Data Network Address) resolutions will be done in VNCS (Voice Networking Call Server). (60330055)
- Ingress profiles give priority to the # sign over the \* sign. In the case of the Passport 6400 to Passport 4400 interworking, it should be noted that the Passport 4400 does not support or recognize the octothorpe (#) or asterisk (\*) character in the incoming dialed digit string. For this reason, it is recommended that digit manipulation operations involving Passport 6400 to Passport 4400 interworking be restricted to the characters 0 to 9. (60333263)

## SNA Services

- In certain network configurations the host may poll the controllers before the Passport unit establishes SNA communications. Some SDLC PUs may not become active immediately. The PUs may require a second poll from the host in order to become active after the Passport unit is restarted.

One or more PUs may require an additional poll from the host before they will become active.

In order to reduce the amount of time the additional polls are sent from the host to the Passport unit, the poll timer can be set to a shorter interval. On the AS/400, within the controller description, the NDMPOLLTMR parameter can be set to a value of 1 which will cause the AS/400 to poll the controller after 0.1 seconds, if there has been no response by the controller. (60317212)

- Local ring enhancement was added to SNA, allowing SDLC interworking over a RFC-1490 link with non-Passport devices. (60322142)
- When the unit is configured as SNA DCE (Data Communications Equipment) with mark fill and frames are fragmented, set the window to 1 (one). This will eliminate possible retransmits. (60322707)

## Voice/Fax

- G.711: Passport 4460 supports ten (10) G.711 voice channels with SAD (Speech Activity Detection) turned *off* and twenty (20) G.711 voice channels with SAD turned *on*.
- Fax support for BRI (Basic Rate Interface) Voice Module: Due to the BRI Voice Module (BVM) clocking requirements for fax support, fax is only supported on the BVM when it is used in conjunction with an E1 CSU WAN (Channel Service Unit Wide Area Network) module.

```
CLI> set voice profile bri
<Profile>          : INTEGER (1..3)
<BRIClockSource>  : internal | backplane
```

- For transparent CCS (Common Channel Signaling) connections, T1/E1 cables must be connected to the expansion modules prior to configuration and reset. Otherwise calls may fail to connect.

- Per call Transport Method: For Voice Transport Method, the SNMP index is a value with a numeric starting at “1”, and the internal Ingress table index first number is “0”. Use the following table when configuring Voice Transport Method on a per call basis (`set voice ingressTable transportMethod`). Note: Do not use this table when configuring `ingressNumber` and `manipulationString`. (60324068)

You should configure Ingress Index number:	For the parameter to take effect on Ingress Index number:
2	1
3	2
4	3
5	4
.	.
.	.
.	.
60	59

- “Dead” DSPs (Data Signal Processors):  
When entering the CLI command `show voice channelStatus`, the *DSPOperStatus* may be displayed as “*Dead*”. This can be misleading. It can mean either “Down” or “Not currently in use” (Timeslot not assigned). To determine which, look at the *TimeSlotAssigned* parameter.
  - If *TimeSlotAssigned* is “-1”, then it indicates “Not currently in use” or “No timeslot assigned”.
  - If *TimeSlotAssigned* is any value *other than* “-1”, then it indicates a “Down” DSP. (60324166)
- When entering the CLI command `show voice channelStatus`, the *DSPOperStatus* may be displayed as “*ChannelDisabled*”. This means a Timeslot is not assigned. If DS0 is bad, it will be displayed as “*Dead*”.

## Passport 4400 and 6400 Interworking

For further information, refer to [Chapter 6, “Interworking,”](#) on page 47.

## Obtaining Technical Bulletins

To obtain Passport 4400 technical bulletins online, access the Nortel Networks Web site ([www.nortelnetworks.com](http://www.nortelnetworks.com)), select Technical Documents from the Customer Support menu, then choose Passport 4400. (The Passport 4400 documentation is included with the Access Products product family.) Scroll down the page to the Technical Bulletins heading. These bulletins are available in PDF and/or HTML format.

# Chapter 6

## Interworking

### Voice Interworking

The following voice interworking functionality has been tested and is supported:

Passport 4460	to Passport 6400 MVP		to Passport 6400 MVPe		to Passport 4430/50/55	to Passport 4460
	<i>Rel 5.1<sup>1</sup></i>	<i>Rel 7.0</i>	<i>Rel 5.1<sup>1</sup></i>	<i>Rel 7.0</i>	<i>Rel 4.0 and Earlier</i>	<i>Rel 4.1 and Higher</i>
G.729	Yes	Yes	Yes	Yes	Yes	Yes
G.711	No	No	No	No <sup>2</sup>	No	Yes

<sup>1</sup>Tested with 5.1.20 (SSUP #20—BEO1SKB)

<sup>2</sup>Working if initiated by a Passport 4460 to a Passport 6400 (see SR 60334509)



**Note:** Not all Passport 4400 features are supported on all releases of Passport 6400. Check with your Certified Distributor or Account Manager to understand the feature set compatibility.

### Premium Voice

Premium Voice on the Passport 4460 interworks with Marathon products, but does not interwork with Passport 4400 products Release 4.0 and earlier.

## Passport 4400 and Passport 6400 Interworking

Release 4.1 and higher of the Passport 4460 provides interworking support for the following Passport 6400 release levels:

- Release 4.2
- Release 5.0
- Release 5.1
- Release 7.0



**Note:** Support for Passport 6400 Release 4.2 and 5.0 is not available after June 30, 2000. For more information, contact your Certified Distributor or Account Manager.

---

### Call Forwarding Limitation

The Call Forward feature on the Passport 4460 did not function from an external number. This has been partially corrected and the following list shows which functionality is supported and which is not (60329975):

- Passport 4400 to Passport 4400 - supported
- Passport 6400 to Passport 6400 - supported
- Passport 4400 to Passport 6400 - supported
- Passport 6400 to Passport 4400 - NOT supported

### High Speed WAN Link Limitation

On the Passport 4460, if Transmit Signal Element Timing (DTE Source) is not used on the Passport 6400 side, the WAN link will not establish a connection through the serial port if the baud rate is above 1.344 Mbps. If the baud rate is set lower, the SVC and link will establish a connection. When using a V.35 or V.36 interface, it is recommended that the “Transmit Signal Element Timing (DTE Source)” signal be used on Passport 6400, especially at high data rates.



However, the X.21 interface on the Passport 4460 does not currently support the “DTE Signal Element Timing” signal (60335312). Use the following table to determine the appropriate maximum cable length for the desired data rate:

Cable Length (in feet)	Data Rates	
	X.21 Terminated	X.21 Unterminated
15	2,048,000.0000	1,024,000
25	2,048,000.0000	400,000
50	2,048,000.0000	200,000
100	1,523,229.2460	100,000
150	1,173,364.6230	70,000
200	954,198.4733	50,000
250	804,020.1005	45,000
300	694,685.6547	38,000
400	546,149.6450	28,000
500	449,943.7570	24,000

## For More Information

Refer to [“Passport 4400 - Passport 6400 Interworking”](#) on page 36 for more information about known issues involving Passport 4400 and Passport 6400 interworking.

## Passport 4400 and Other Routers

The Passport 4400 interworks with third-party routers. The Passport 4400 supports frame relay PVC connection with third-party routers using RFC 1490 standard encapsulation method. In addition, the Passport 4400 interworks with Passport 6400 and Passport 7400 Virtual Routers and Bay RS Routers.



---

# Chapter 7

## Product Documentation

---

### Documentation Web Site

To obtain Passport 4400 documentation online, access the Nortel Networks Web site ([www.nortelnetworks.com](http://www.nortelnetworks.com)), then select Technical Documents from the Products, Services and Solutions area. The Passport 4400 documentation is included with the Access Products product family.



**Note:** Any reference to a URL for documentation in any of the manuals should now refer to [www.nortelnetworks.com](http://www.nortelnetworks.com).

---

### List of Manuals

The Passport 4460 includes the following product documentation, available from Nortel Networks Web site ([www.nortelnetworks.com](http://www.nortelnetworks.com)), and delivered on the product CD-ROM:

- *Passport 4400 Release Notes for Release 5.1*, 214148-B (this document)
- *Passport 4460 Quick Start Guide*, 213450-B
- *Getting Started with Passport 4460*, 209664-D
- *Using Passport 4400 Install Tool*, 206906-F
- *Using the Passport 4400 Mass Deployment and Reporting Tool*, 209665-D
- *Implementing QSIG on Passport 4460*, 214280-B
- *Reference for Passport 4400 Command Line Interface (CLI)*, 214371-B
- *Configuring and Operating the Passport 4400*, 214372-B

- *Reference for Passport 4460 Hardware*, 205677-F
- *Reference for Passport 4460 Cables*, 205678-E
- *Installing the EMC Control Clamp*, 209823-A
- *Getting Started with Passport 4400 and 6400 Interworking*, 209371-D
- *Reference for Passport 4400 / 6400 Interworking*, 209372-E

## Passport 4400 Configurator Documentation URL Update

If you install the HTML-version of the Passport 4460 online documentation (*Configuring and Operating the Passport 4400*) on a web site, you must set the Documentation URL for the Passport 4400 Configurator before you can access the documentation from within the Configurator. You change this URL through the Passport 4400 Configurator web pages.

To change the Documentation URL:

- 1 Click on *Administration*.
- 2 Click on *Document URL*.

The Documentation URL window opens:



The URL displayed in this window indicates where the online documentation is located (either at the Nortel Networks site (the default), or at a location that you designate).

- 3 If you have downloaded the documentation elsewhere, enter the URL in the Documentation Server URL field, and click *Save*.

A “*Command Successful*” message appears.

## For More Information

Refer to the *Getting Started with Passport 4460* manual for information about accessing the HTML-based documentation (delivered on the product CD-ROM).



---

# Index

---

## Numbers

10372023 36  
50338043 40  
60317212 44  
60318203 40  
60318863 40  
60318864 40  
60322142 44  
60322195 40  
60322707 44  
60323052 43  
60324166 45  
60324167 43  
60324201 34  
60325766 35  
60328369 43  
60329391 37  
60329975 37, 48  
60329976 37, 43  
60330055 43  
60330060 36  
60330743 34  
60331288 33  
60332364 35  
60332408 35  
60332649 37  
60332794 35  
60332800 36  
60333263 43

60334509 47  
60334618 33, 40  
60334681 33, 40  
60334715 28  
60334795 35  
60335184 35  
60335277 35  
60335288 35  
60335312 37, 49  
60337811 28

## Q

Q00092053 41  
Q00092081 28  
Q00092106 28  
Q00092116 34  
Q00092122 28  
Q00106746 35  
Q00157547 35  
Q00172160 32  
Q00416143 28  
Q00417941 34  
Q00497070 34  
Q00498616 27  
Q00532268 28  
Q00533434 34  
Q00541920 29  
Q00543002 29  
Q00549722 31

Q00552502	31
Q00563919	28
Q00576461	32
Q00581777	11, 36
Q00581786	29
Q00595834	32
Q00610703	29
Q00610707	29
Q00611563	29
Q00626629	29
Q00626824	30
Q00629393	30
Q00632078	30
Q00637712	30
Q00639765	30
Q00654821	30
Q00655672	30
Q00659620	31
Q00665812	32





## **Passport 4400 Release Notes for Release 5.1**

Address comments to:

Manager, Technical Publications

Nortel Networks

4555 Great American Parkway

Santa Clara, CA 95054

U.S.A.

© 2003 Nortel Networks

All rights reserved

Information subject to change without notice

Publication: 214148-B Rev 00

Date: July 2003