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Passport 4400 Release Notes for R4.1.2

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Chapter 1

Introduction

This document provides information on the Passport 4400, Release 4.1.2 product available for general customer release. Release 4.1 supports only the new Passport 4460. This document includes information about the Passport 4460 unit, the system software, Command Line Interface (CLI), Passport 4400 Configurator, and Install Tool. Please note that Passport 4460 is a part of the Passport 4400 series of products. This document may reference Passport 4400 and Passport 4460 interchangeably.



Note: Release Notes are updated on an as needed basis. Please check the documentation Web Page (<http://www25.nortelnetworks.com/library/tpubs/nav/passport/passport.htm>) to find out if there is a more current revision of the documentation.

Occasionally, throughout this document, you will find at the end of a sentence or paragraph an 8-digit number in parenthesis (for example, 60058007 or 10265987). This number is an internal Service Request (SR) number used to track problems and fixes to the product software or its documentation.

Getting Started

There are two pieces of documentation you can use for getting started with your Passport 4460: the *Startup Poster* delivered with your hardware provides a good overview and road map for getting your unit up and running. The other document, *Getting Started with Passport 4400, Release 4.1*, is delivered in your software kit. It provides more comprehensive information on the startup process.

Software and Documentation CD-ROM

Passport 4400 units are shipped from the factory with the current software version and associated boot code installed. The Passport 4400 application software, boot code, and latest MIB files in the formats below are available on the following Web/FTP site. This site is accessible by your Account Manager or Certified Distributor

<http://www3.nortelnetworks.com/iso/protect/ftpserver>

Copy the appropriate files from the CD-ROM (Compact Disk-Read-only Memory) to your TFTP (Trivial File Transfer Protocol) server. The CD-ROM contains files for the following items:

- Software
 - Mass Deployment and Reporting Tool
 - Install Tool
 - Passport 4460
- Product Documentation

Mass Deployment and Reporting Tool

This version supports Release 4.0.x and 4.1.x.

mdt100026.exe (Version: Passport Mass Deployment and Reporting Tool R1.0
SCM Build 26 10/30/00)

Install Tool

This version supports Release 3.1, 4.0.x, and 4.1.x.

it412007.exe (Version: Passport 4400 R4.1.2 Installtool 4.1.2 SCM Build 7
11/01/00)

Passport 4460 Software

bt4120120.bld (R4.1 boot code loadable image)

bt4120120.bin (boot code binary format)

pr4120120.bld (application code)

pr4120120.tar (MIBs in tar format)

pr4120120.zip (MIBs in zip format)

bt4120120_boot0.bin (onboard boot0 image in binary format)

bt4120120_boot0.hex (onboard boot0 image in hex format)

rs4120120.pdf (These Release Notes in PDF format)

rs4120120.ps (These Release Notes in PostScript format)

Boot Code Version: Passport_4460_Boot_Rel_4.1.2_Rev0.12.0 11/22/00
16:17:16

Application Code Version: Passport_4460_Appl_Rel_4.1.2_Rev0.12.0 11/22/00
16:18:01

The code on the CD you purchased is an earlier software version. In the event you need to reload software to your unit, you may use the CD (Release 4.1.1) which can get you up and running immediately until the current software can be loaded.

Online Documents

The HTML (Hypertext Markup Language) Version of *Configuring and Operation Passport 4400 Release 4 Software* resides on the CD-ROM. The zipped version of the file for installation on your server is available on the CD-ROM.

Network Management

- OMS Release 4.2
- NMS Release 12.4



Note: If you are using the SNMP (Simple Network Management Protocol) Integrator for Passport 4400 Management in NMS 10.9 or lower, upgrading involves an HP OpenView-based solution. You will need HPOV 5.01 or 6.01 as part of the Passport 4400 data collection to feed into NMS (Network Management System).

- Optivity: Optivity is currently not supported. It is planned for the near future.

Chapter 2

New in This Release

New for Release 4.1.2

The following provides you with information on the R4.1.2 features.

ISDN TE Support

Allows the ISDN BRI Voice module to use the external clock provided by the PBX. These capabilities are like those in the Passport 4430/50/55.

GF Table Support

This release contains the Passport 6400 call-associated GF table which allows the Passport units to pass calls-associated facilities to a Passport 6400 node. Refer to the Interworking documentation for additional information.

ISDN BRI Traps

These are now supported on the Passport 4460, ISDN BRI Voice module.

Auto-sense DTE/DCE

This allows the software to automatically sense the type of cable, either DTE or DCE for serial WAN smart cables. You will no longer have to manually configure the DCE/DTE type. You must have a “smart cable” installed for this feature to function properly.

Transparent Bypass

Allows transparent bypass of traffic from the PSTN through the WAN to the PBX or from the PBX to the WAN without any manipulation. Because of the limitation of one bundle per Expansion, the applications are limited to:

- 1 One Voice CCS Channel (Only B Channel).
- 2 One Transparent Data bundle. This bundle could be comprised of any number of time slots (up to 24 per T1 Voice Expansion or 30 per E1 Voice Expansion).

New for Release 4.1.1

In this release, hardware compression is supported with the optional hardware compression module.

New for Release 4.1

The information here contains changes or additions to Release 4.0 functionality. All software features on Passport 4430, 4450, and 4455 are supported unless otherwise noted.

Mass Deployment and Reporting Tool

The Mass Deployment and Reporting Tool is a Windows-based tool that allows you to obtain text, HTML or CLI files of all of the configuration parameters in your Passport unit. The CLI files can be collected in a form that allows direct download to the Passport unit for backup purposes, or that can be modified, reproduced by combining with data for other Passport 4400 series, and downloaded to any number of similarly configured Passport 4400 units. To enhance deployment of the new Passport 4460, the Mass Deployment and Reporting Tool has the capability to replicate and download a Passport 4430/50/55 configuration into the format that the Passport 4460 uses. There are two components to the tool: The *mdtReporter* component generates the text, HTML, and *CLI script* reports. If you select the mass deployment format for the CLI report, you get a CLI template file with variables, and a comma separated values file with the variable values. You can import the comma separated file into a spreadsheet, add new spreadsheet entries for each Passport 4400 unit in your

network, and use the Replicator function in the reporter to generate a unique CLI script file for each device you want to configure. Finally, you use the mdtDownload component through either the serial port or Telnet to download each unique script file into each Passport 4400.

Passport 4460 with Release 4.1 System Software

This release supports all Passport 4400 Release 4.0 and earlier functionality plus these additional features:

- Dual 10/100BASE-T LAN (Local Area Network) ports support:
 - Built-in 10/100BASE-T Ethernet port as well as an optional PCMCIA (Personal Computer Memory Card International Association) expansion 10/100BASE-T Ethernet port.
 - With a dual Ethernet option and the use of filters, allows access to the company's Internet Web server on one Ethernet LAN while the second internal Ethernet LAN remains protected.
 - IP Routing between two ports.
- Warm Pluggable PCMCIA 16MB Flash – (if indicator is not lit, you can remove it)
 - Retains configuration and operating system for easy maintenance.
 - Dual-bank 16MB flash card is separately orderable.
 - Required for initialization of the unit and modules and to operate the unit.

Two-port Serial Data Module

- Supports two serial data ports.
- Internal clocking capabilities within a 50 parts per million (ppm) required for Video codecs that require precise clocks particularly VTEL. This module also contains a new DDS (Direct Digital Synthesis) method that gives finer granularity on the frequencies it is able to select. This results in superior video quality when using CBR (Constant Bit Rate).
- Accurate clock speeds supported are the following: 56K - 2.048M within 50 ppm.

- Up to two modules will be supported per unit.



Note: Can also be configured as WAN (Wide Area Network) ports with external DSU/CSU (Data Service Unit/Channel Service Unit) attached.

Voice Services

- All new voice modules. (E&M (Ear and Mouth) and FXO (Foreign Exchange Office) are not available in this release.)
- Dial Pulse is not supported.
- *DACS (Digital Access and Cross-connect System) Support:* The T1/E1 WAN module on the Passport 4460 has the ability to separate each 64 kb/s time slot into its own virtual PANL link while still maintaining a single T1/E1 connection to the Central Office (CO). The CO then takes the entire T1/E1 into 24/30 separate 64 kb/s time slots and sends them out to a maximum of 24 separate remote locations. This feature saves you cost in both the number of leased lines required and from not having to add an additional expansion board to support the number of links from the headquarters, not to mention the installation and cabling effort. DS0s can be bundled by Nx64.



Note: To use this feature you need to go through the Application Verification Process (AVP). Contact your Certified Distributor or Field Engineer.

- *Drop-and-insert*
 - T1 CAS (Channel Associated Signaling) bypass. This is limited to one CAS Voice Call per Expansion slot.
 - No limit on speed
 - Does not require external cable for DLC (Data Link Control) frame devices
- New Multichannel DSP (Digital Signaling Processing) voice technology, utilizing C54XX - One C5420 services six G.729 voice channels.
- Enhanced DTMF (Dial Tone Multi-Frequency) detection and variable length regeneration.
- Voice algorithms:
 - G.729A

- G.729B (G.729A or G.729 plus standardized speech activity detector—silence suppression and comfort noise generation)
- G.711
- *Transparent CCS (Common Channel Signaling)*: Some examples of CCS are SS7, SS5, DPNSS, ITR6, MCDN, E-DSS1, and QSIG. No longer requires hairpin cabling.
- *Voice Interworking with 6400*: G.711. (see table in Chapter 5)
- Improved echo canceller to meet ITU (International Telecommunications Union) G.168 standard and also supports G.165.
- *Premium Voice*: Passport 4460 Premium voice interworks with other Passport 4460 units or Marathon products.

Passport 4460 Premium Voice was tested against the following Marathon Software:

- Marathon 20KPro Release 5.3 (908-2283-0A)
- Marathon 5KPro Release 5.3 (908-2286-0B)
- Marathon 5KTPro Release 5.3 (908-2289-0A R2)



Note: Premium voice on Passport 4460 will not interwork with Passport 4430, 4450, and 4455 Premium Voice.

- G3 fax demodulation support and support for Super G3 fax via G.711 (between Passport 4460 units).
- Modem support via G.711 (between Passport 4460 units).

T1 and E1 Digital Voice Modules

- Up to 24 (T1) or 30 (E1) voice channels supported on each module.
- Supports the multichannel DSP technology.
- Up to two modules per unit (48 or 60 voice channels total).
- One 5420 DSP onboard, which supports six G.729 channels and also supports various voice channel densities (12, 18, 24, and 30) via the digital voice expansion module.
- Expansion socket to accommodate digital voice expansion modules. You can add voice channels as the network grows.

- Tri-Color LED (Light-emitting Diode) provides the status of the module and line.
- CAS variations supported are Tie Trunk (wink and immediate), DC5B, and R2 Q.421.
- AIS (Alarm Indication Service) on T1 and E1 for CAS signaling (point-to-point, permanent Hoot N Holler connection only).

ISDN BRI Voice Module

- Single- and dual-port available.
- Up to two modules per unit.

FXS Voice Module

- Dual and Quad port available.
- Ground Start support has been added.
- Up to two modules per unit.

Install Tool

- Passport 4460 support.
- Configuration of date and time on unit is supported.
- Trap Subscription parameters can now be configured.
- Improved support for Statistics and Diagnostics for System level statistics, voice, and WAN and serial links.
- Added the ability to connect to a Passport with a changed Community String, or through a different port than the standard SNMP (Simple Network Management Protocol) port.
- Provided the option to reset the Passport without saving configuration changes.

Issues Resolved in R4.1.2

Install Tool

- **Issue Resolved:** When the Passport unit was configured as a regional node, even though the ISDN Backup Port functions properly, the color stayed *blue* rather than showing red when it failed to connect. This has been fixed. (60322060)
- **Issue Resolved:** When two FR (Frame Relay) DCE links were configured on a port, and both were down, the port color showed *yellow* instead of red. This has been fixed. (60324147)
- **Issue Resolved:** A problem with the voice status color occurred if the switching profile associated with the port was changed from profile 1. At that point, Install Tool was not looking at the correct profile. This has been fixed. (60324321)

Passport 4400 Configurator

- **Issue Resolved:** The browser was unable to locate the Documentation selection. The URL (Uniform Resource Locator) was updated so that changes would be processed correctly. (10351971)
- **Issue Resolved:** Under the Configure/System/Identity/PC Dial in IP Address selection, if you inadvertently entered the same IP (Internet Protocol) address used by the Ethernet interface, it created a problem. The unit would lock up and attempts at logging on using the Web Configurator or the management port caused the system to reset. Now when entering a PC Dial in IP Address that is the same as the Ethernet interface address, a verification of the address prevents the duplicate address from being processed. (50336226)
- **Issue Resolved:** New options have been included under System Action under the T1E1 System Action page:
 - External Line Loopback
 - External Digital Loopback
 - Internal Line Loopback
 - Internal Digital Loopback
 - Stop Loopback Test
 - LED Test - Red On
 - LED Test - Green On

- LED Test - Yellow On
- Turn Off LED Test
- Terminate LED Test
- Stop LED and Loopback Test
(60323153)
- **Issue Resolved:** The “Clock Source” parameter was modified on the “T1/E1 Line 2 Profile” page. (60323900)
- **Issue Resolved:** Removed an obsolete parameter from the “Ethernet Statistics” page which had the effect of blank fields being displayed on the page. Now that this object is removed, the table displays all the values.(60324041)
- **Issue Resolved:** “Daylight Savings Time” field was added to the “Date & Time” field. (60325577)
- **Issue Resolved:** A new page, “T1/E1 Line Parameter,” was added. The page allows the user to change the profile associated with the T1/E1 card. (60328030)
- **Issue Resolved:** Two new pages, “Master Clock” and “Master Clock (Continue),” were added to support the new Master Clock feature. (60328164)
- **Issue Resolved:** A new enumeration to the “Protocol Supported” parameter supports CCS Bypass on the following pages:
 - Physical Port Configuration
 - WAN Interfaces
 - Physical Port Configuration (ISDN)
 - T1 CSU
 - E1 CSU
 - DS0 Channels
 - Modify a DS0 Channel
 - Modify WAN Interface
(60328178)
- **Issue Resolved:** A new enumeration was added to the following pages to support Auto-sensing:
 - Modify WAN Interface
 - Physical Port Configuration

— WAN Interfaces
(60328179)

- **Issue Resolved:** A new enumeration was added to the “Clock Source” parameter on the “Voice Profile (Interface Specific Parameters)” page to support BRI Clocking. (60328182)
- **Issue Resolved:** A new field was added to the “Unit Hardware” page which displays whether or not the hardware supports the Master Clock. Java Script was added to the “Modify WAN Interface” and the “Physical Port Configuration” pages to display the “Clock Source” field if the unit supports the clocking source. (60329518)
- **Issue Resolved:** New help topics were added to the (new) “Master Clock” and “Master Clock Continue” pages. Also, help descriptions were added for the DTE/DCE Auto-sensing for the following pages:
 - Physical Port Configuration
 - Modify WAN Interfaces
(60329701)
- **Issue Resolved:** Parameter descriptions for the “Modify an SNA LLC2 Port” page were added to the embedded help content. (60329732)
- **Issue Resolved:** A new MIB object was created to provide an IfIndex for creation of a Virtual Port. Also, various pages were modified to change the range of the index associated with the Virtual Port from (1 - 255) to (1 - 47). (60330302)
- **Issue Resolved:** The “Master Clock” help topic was updated to tell the user how to determine whether or not the hardware supports this feature. The hyperlink from the Clock Source parameter (Modify WAN Interface) back to the Master Clock help page was corrected. A link from the Clock Source parameter (T1/E1 Profile page) back to the Master Clock help page was added. (60330487)
- **Issue Resolved:** The “Save Bank” selection box was converted to text on the “Configuration Bank” page. This field is unconfigurable. (60330824)
- **Issue Resolved:** An HTML “Expires” Meta tag was added to prevent the ingress/egress pages from being cached and erroneously displaying old data. (60330825)
- **Issue Resolved:** The embedded help for the “Configuration Bank” and “Date and Time” pages were updated to reflect the changes in the “Save Bank” and “Daylight Savings Time” parameters, respectively. (60332000)

System Software

- **Issue Resolved:** DTMF Detection and Regeneration is now working from Passport 4460 to Passport 6400 MVPe for both G.729 and G.711. (10344800)
- **Issue Resolved:** The Passport 4460 will now recognize the Passport 6400 MVP (Multipurpose Voice Processor) and MVPe as Remote Channel Hardware type PP MVP DS1. (10344807)
- **Issue Resolved:** During a modem call, the wrong current mode was displayed on the Passport 6400. The current mode now displays mofax when the modem call is active. (10345924)
- **Issue Resolved:** A low completion success rate on 28.8 kb/s modem traffic between the Passport 4460 and Passport 6400 was due to unsynchronized clocking of the whole network. A change in the clocking source resolved this issue. (10353368)
- **Issue Resolved:** After temporarily setting the ISDN (Integrated Services Digital Network) Backup link down and up, the Passport 4400 did not switch to ISDN Backup. This no longer occurs. (50335131)
- **Issue Resolved:** The ISDN Backup did not come up if the primary link connected and disconnected often. This link now operates correctly. (50335153)
- **Issue Resolved:** Previously, the ISDN Backup would intermittently fail to connect if the physical cable was disconnected and connected repeatedly. The ISDN WAN link now recovers with each reconnection of the physical cable. (50336725)
- **Issue Resolved:** In T1/E1 voice applications, the T1/E1 voice interface now outputs the provisioned idle character, as defined by the system administrator. (60316750)
- **Issue Resolved:** During boot up, you might have seen some warning messages displayed on the CLI screen. The problem occurred when the voice driver received an invalid packet from the DSPs. This did not affect the behavior or performance of the module. The message “VDRV mgmt invalid ch...” has been deleted. This no longer occurs. (60321718)
- **Issue Resolved:** Fax - The Fujitsu 740 fax machine is now supported in the polling mode. (60322921)
- **Issue Resolved:** Faxing issues via the Premium Voice interface between the Passport 4460 and the Marathon is resolved. (60323278)
- **Issue Resolved:** A date and time stamp has been included in the TFTPDownloadFail trap. (60323913)

- **Issue Resolved:** The transport method configured in the ingress table will now override the master configuration. (60324068)
- **Issue Resolved:** The terminology for non-selected DS0s has been changed from “dead” to “disable”. The term “dead” was misleading. (60324166)
- **Issue Resolved:** Deletion of bridging protocol to port 2 will now show the correct status when show fr po vi op ta is requested in the CLI. (60324213)
- **Issue Resolved:** Setting the port 3 CSU for channelized services now disables DACS channels on port 2. This technique fixes the condition which prevented port 2 from coming up with a PANL (Passport Access Network Link) when port 3 was configured to be channelized. This condition occurred when T1 CSUs or E1 CSUs were used in ports 2 and 3. (60324681)
- **Issue Resolved:** The E1 wink signalling now passes a wink signal to the originating PBX. (60324738)
- **Issue Resolved:** The Ingress/Egress levels reported in Voice Channel Statistics have been corrected. (60325254)
- **Issue Resolved:** Software compression between two units has been disabled. Compression will work only with the hardware compression device installed. (60325468)
- **Issue Resolved:** The OSPF (Open Shortest Path First) Router ID would not change from its default Ethernet address. The user can now configure the Router ID. (60325880)
- **Issue Resolved:** The Passport 4460 no longer locks up when 48 Voice Calls are active. (60325888)
- **Issue Resolved:** The term Iflim has been changed to Ifslot in the Passport 4460. (60326682)
- **Issue Resolved:** The CLI no longer locks up when the CPU (Central Processing Unit) is at full capacity. (60326863)
- **Issue Resolved:** The buffer leak detection on a slave CPU detected a leak but did not reset the system. A buffer leak recovery was added to the slave CPU. (60339434)
- **Issue Resolved:** The unit would reset when Asynchronous service was switched through a central node. This no longer occurs. (60329515)
- **Issue Resolved:** The Hoot & Holler voice channel now connects after the twenty-fourth channel when the E1 line is not connected. (60329559)
- **Issue Resolved:** Voice diagnostic messages can now be sent to a Telnet terminal. This allows remote debugging capability for Global Technical Support groups. (60329876)

- **Issue Resolved:** When utilization thresholds for CPU, RAM and bandwidth are exceeded, clear traps are now generated by the SNMP agent. (60330395)
- **Issue Resolved:** The Passport 4400 no longer locks up with an error message when AOT (Asynchronous Over TCP) is configured as 'self'. (60330503)
- **Issue Resolved:** The SNMP agent did not generate a PVC LMI (Permanent Virtual Circuit Line Management Interface) link clear trap. A trap has been added that operates when the Frame Relay LMI goes active. (60330736)
- **Issue Resolved:** The Passport 4400 was sending invalid RIF (Routing Information Field) in BAN (Base Area Network) frames to the Bay ARN router. A local ring number enhancement was added to SNA LLC2 (Link Level Control). This no longer occurs. (60330826)
- **Issue Resolved:** The MIB object rxQueueSize was removed from the WAN MIB, since it was no longer supported. (60331114)
- **Issue Resolved:** The "TFTPDownloadFail" trap now contains the time and date stamp. (60331124)
- **Issue Resolved:** SDLC (Synchronous Data Link Control) fast/slow poll timers were changed to enhance applications when multiple PUs (Processing Units) were configured on a port. (60331126)
- **Issue Resolved:** In the CLI command "def sna 11c inactTimer", the value range was 0...65535. If the user entered the value 0, did a "sav con up" and reset, the unit would come up but within a few minutes it would hang and reset. The problem was resolved by changing the value range to 1...65535 so that the user would not be able to enter 0. (60331127)
- **Issue Resolved:** The SNA default setting for "virtalsegment1fsize" was changed to 521 instead of 516. (60331128) (60330740)
- **Issue Resolved:** RFC 1490 links now recover properly after a link goes down. The PVC status is updated correctly. (60331908)
- **Issue Resolved:** In SDLC applications, the condition of multiple PUs (10) on a single port causing the Passport 4400 to reset has been resolved. (60331971)
- **Issue Resolved:** Multi netting now functions on the Ethernet interface. ARP (Address Resolution Protocol) is now sent for all addresses assigned to the interface. (60331991)
- **Issue Resolved:** Ethernet/SNA Application: SNA filters were added to the Passport 4460 to prevent hang ups from Passport 6400 token ring applications. The technique is to filter out local Ethernet traffic from being bridged via SNA LLC2. (60332197)

Chapter 3

Operational Notes



To further ensure proper operation of the Passport 4400 4.1 and 4.1.x software, please refer to the Passport 4400 Engineering Notes and Guidelines document, which can be found on the following Web site:

http://esonline2.us.nortel.com/imds?pg=/dept/cse/eng_notes/pp4000

This document provides guidelines to proper integration of the Passport 4400 into your network, and offers suggested configuration settings based upon specified network scenarios.

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.
- In the SNA Switching Node help page, added a note about Data Compression and correctly identified the default value (521) of the Segment LF Size. (60323131)

Install Tool

- The Drop and Insert screens allow you to configure a DACS channel on the voice T1 or E1 module and drop it on a DACS channel on the T1 or E1 CSU, but they do not allow you to delete a Drop and Insert connection. This can be done from either the Configurator or CLI. (50323457)
- Several enhancements to SNA support will be available in 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 does not support the configuration of X.25 or SNA over channelized T1/E1 PANL or RFC-1490 links. This enhancement will be available in a future release. (60322195)
- A Passport 4460 supports only one Transparent Bypass Bundle per Expansion slot. This bundle could be comprised of any number of time slots (up to 24 per T1 Voice Expansion or up to 30 per E1 Voice Expansion). The number of time slots that can be transparently bypassed will be limited by the available time slots on one WAN port (2 or 3), which is acting as the Primary WAN Link (after whatever is used up by PANL, RFC1490, T1 CAS-Bypass, Data Drop & Insert, etc., if they are being used). (60328369)

General System Software Notes

- Idle Character: In this release, the default idle character is 126 (7E) flag. To achieve mark (FF), set the idle character to 255.
- SNA Services:
 - 60317212

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.

- 60322142

Local ring enhancement was added to SNA, allowing SDLC interworking over a RFC-1490 link with non-Passport devices.

-
- 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)
 - **Issue:** 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)
 - **Issue:** 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)
 - **Issue:** BRI currently supports only software remote loopback. Hardware and software local loopbacks are not supported. (60324204)
 - If two devices are connected by a crossover cable and are auto-sensing, they are unable to communicate on the Ethernet segment between the devices; though 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.
 2. Install a 10/100 Mb/s hub and install both devices on it. (60325766)
 - **Issue:** 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)
 - **Issue:** A clarification on the voice profile: the maximum number of forwarding digits is limited to 36. (60329974)
 - **Issue:** 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 - successful
-

Passport 6400 to Passport 6400 - successful
Passport 4400 to Passport 6400 - successful
Passport 6400 to Passport 4400 - NOT successful
(60329975)

- **Issue:** 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)
- **Issue:** The CLI limits the maximum entries on the egress string to 36 digits rather than 40. (60329977)
- **Issue:** The ability to disable local call routing has been added. A new parameter, “localRouting”, in the voice switching profile allows the administrator to turn off local 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)
- **Issue:** The Passport 4460 Wink Start on Hoot & Holler will interwork with Passport 4430/50. 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)
- **Issue:** 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)
- **Issue:** In CLI, the attribute range for egress string “Nac Cache EgreeString” is limited to a maximum of 36 digits instead of 40. (60330527)

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. [If included with Clock Sync feature]

```
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). 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

- 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 - successful
 - Passport 6400 to Passport 6400 - successful
 - Passport 4400 to Passport 6400 - successful
 - Passport 6400 to Passport 4400 - NOT successful (60329975)

Chapter 4

Additions to the Documentation

- Any reference to a URL for documentation in any of the documents should now read: <http://www25.nortelnetworks.com/library/tpubs/nav/passport/passport.htm>.

Configuring and Operating Release 4 Passport 4400 (Online Documentation)

- **T1/E1 Download for 4460**

In Release 4.1 there is not a separate downloading procedure for the T1/E1 expansion modules. Unlike previous releases, the T1/E1 code is contained in the base image.



Note: Reference in the documentation to the separate procedure is valid for Release 4.0 (Passport 4430, 4450, and 4455). It does not apply to Release 4.1, Passport 4460.

- Configuring a modem connected to a Passport 4460 management port. For this procedure, reference “Using Passport 4400 Install Tool Version 4.1.2,” 206906-C Rev 00. (60321990)
- **Issue:** Encountered situation where Ingress profiles gave priority to the pound sign (#) over the asterisk sign (*). Documentation states: “The lower the Ingress Entry, the higher the priority.” Add the statement, “With the exception of the # sign.” (60333263)

- FXS Voice Module (Dual and Quad Channel): Add the following warning notice:



Warning: Installation: This unit carries a ringing signal and therefore only a modular cable (Nortel recommends cable part number NTMR38AA) or an equivalent cable *with no exposed leads* should be used to connect the FXS ports to the plant or telesets.

Install Tool

- Because both the source address and the management port address for a Passport 4400 are on the same network, management through the PPP from one node to another will fail. The manner of correcting this situation is to ensure that the management IP network address of the first node is unique. (60335355)

Reference for Passport 4460 Hardware

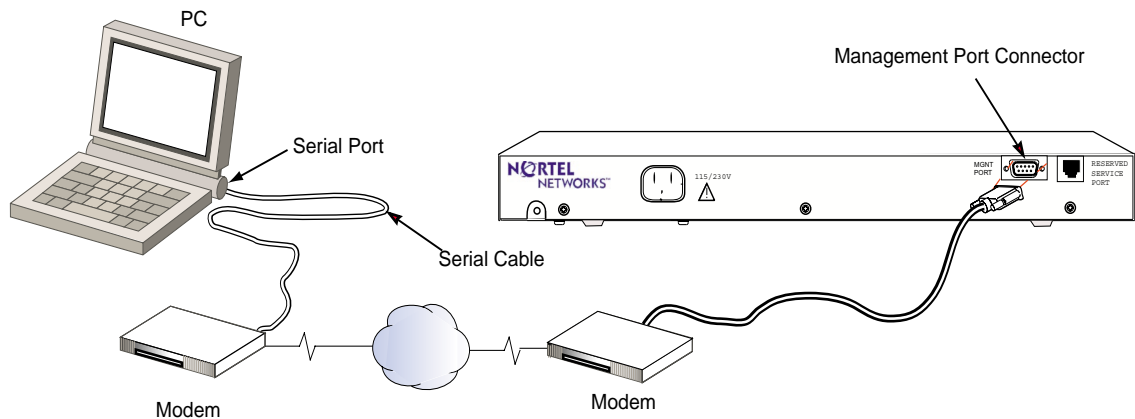
For modems connected to the management port, use the following information. (60321990)

Passport 4460 Modem Connections

With Passport 4460s, the modem connects directly to the management port.

Example

This illustration shows a modem connection on a Passport 4460.



Configuring the Modems

If you are using a modem connection between your workstation and a Passport 4400, the modems at each end of the connection must be configured correctly to support communications with a Passport 4400.

Configuring the Modem Attached to the PC

When you configure the modem that is attached to your PC, be sure to choose the correct driver for the device. Once the modem is installed, configure the modem properties with the phone number of the modem that is attached to the Passport 4460.

Configuring the Modem Attached to the Passport 4460

The modem that is attached to the Passport 4460 must be configured for **Quiet** operations (no result code, no command echo/local echo).

You use a terminal emulation program or a dumb terminal to configure the modem. In either case, you must set the modem baud rate to match that of the Passport 4460 management port (the default is 9600 baud).

Use your modem documentation and the procedure that follows as a guide to configuring the modem.

Procedure

To configure a Hayes-compatible modem for Quiet operations, follow these steps:

- 1 Connect the PC (or terminal) to the modem.
Refer to your modem documentation to determine the cabling requirement.
- 2 Start the terminal emulation program.
- 3 Set the serial port baud rate to match that of the Passport 4460 management port (the default is 9600 baud).
- 4 Issue the following sequence of AT commands:

AT Command	Description
AT&F	Set the modem to start with factory defaults. Refer to your modem documentation to determine the required format for this command.
ATS0=1	Set the modem to answer on the first ring.
ATE0	Disable command echo/local echo.
ATQ1	Do not return result codes.
AT&B1	Lock the serial port rate to the current baud rate (this is the rate you set in step 3 above).
AT&D	Ignore DTR (always on).
AT&W	Write the current settings to NVRAM (nonvolatile RAM). This retains the configuration through power cycles.

- 5 Once the modem is configured, connect it to the Passport 4460 management port.

The Passport should now be ready to receive calls.



Note: If your modem doesn't support the Hayes AT commands, consult your modem documentation for the procedure for your particular modem.

Testing the Modem Configuration

You can test the modem configuration by using a terminal emulation program (such as HyperTerminal or ProComm) to call the modem connected to the Passport 4460. You will see the CLI prompt when you successfully connect.

Procedure Using a USRobotics Sportster Series Modem

The following is an example of modem configuration using a USRobotics Sportster Series Modem (other modems will be different, consult your modem manual).

Configuring the modem requires hardware configuration (DIP switches) and software configuration (AT commands).

Switch Number	Setting Description	Required Setting
1	Modem ignores DTR (override)	ON
2	Verbal (word) results	OFF
3	Disables result codes	OFF
4	Suppresses echo	ON
5	Modem answers on first ring, or higher if specified in NVRAM	OFF
6	Modem send CD signal when it connects with another modem; drops CD on disconnection	OFF
7	Loads Y or Y1 configuration from user- defined nonvolatile memory (NVRAM)	OFF
8	Disables command recognition (Dumb Mode)	OFF
	ON = DOWN	
	OFF = UP	

Use the settings described in the above table, but set the modem to Smart Mode (hardware switch 8 ON [down]).

To configure a USRobotics Sportster Series Modem, follow these steps:

- 1 Connect the PC (or terminal) to the modem. Refer to your modem documentation to determine the cabling requirements.
- 2 Start the terminal emulation program.
- 3 Issue the following sequence of AT commands to the modem to adjust the default settings that may be incorrect (refer to modem documentation).

AT Command	Description
AT&F1	Set the modem to factory default (refer to modem manual)
AT&M0	<i>Optional - Disable error control (use if dialing modem does not support error control)</i>
ATF1	Transmit echo disabled
AT&W0	Save configuration to NVRAM 0
ATY0	Use configuration NVRAM 0 as default

Power the modem off and return the modem to Dumb Mode by setting hardware switch 8 to OFF (up).



Warning: Incorrect modem settings and/or cabling may cause interruption of service on the Passport 4460 when attempting to dial in.

Chapter 5

Interworking

Passport 4400 and 6400 Interworking

For proper interworking between the Passport 4400, Release 4.1 and the Passport 6400, the following 6400 release levels are required:

- 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.

At Release 4.1, 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 5.1¹</i>	<i>Rel 7.0</i>	<i>Rel 5.1¹</i>	<i>Rel 7.0</i>	<i>Rel 4.0 & earlier</i>	<i>Rel 4.1</i>
G.729	X	X	X	X	X	X
G.711	-	-	-	- ²	-	X

¹Tested with 5.1.20 (SSUP #20—BEO1SKB)

²Planned for 4400 Release 4.1.2 and 6400 Release 7.0.x, 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.

- When configuring FRDCE service with frame relay switch map between a Passport 4400 and the Passport 6400, the Passport 4400 must be set to **Master**, and the Passport 6400 to **Slave**. Traffic Management with rate enforcement “enabled” allows for correct operation of the configured CIR bandwidth. (60107059)
- Voice and Fax:
 - You must provision the VNCS RSA/RSI (Remote Signal Activation/Remote Status Indicator) services prior to establishing a call across the network.

- Fax: If you are using Release 5.1 for an optimum completion rate, use the following configuration: PBX " MVP 6400 MPANL " 4460 " PBX. (10333278)
- IP Prioritization: When setting up multiple SPVCs (Switched Permanent Virtual Circuits) to a Passport 6400, select a priority of 9 or less. Setting the priority to 10 or more will force the Passport 4400 to transmit frames of only 128 bytes in length. (60323302)
- **Issue:** 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 4600 going to the Passport 6400), then there are no errors or repeated signals. (60329391)
- **Issue:** 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)
- **Issue:** 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 4600 going to the Passport 6400), then there are no errors or repeated signals. (60329391)
- **Issue:** Call Associated Signaling features associated with the BRI voice Generic Functions (GF) table have two issues: ISDN GF Path replacement not working between Passport 4400 and Passport 6400. (60332649)
- **Issue:** Unable to correctly negotiate G.711 calls initiated by the Passport 6000/7000 to Passport 4460. (60334509)

Passport 4400 and Other Routers

Passport 4400 interworks with Passport 6400 Virtual Routers and Bay RS Routers.

Premium Voice

This release:

- Interworks with Marathon products.
- Does not interwork with Passport 4400 products Release 4.0 and earlier.

Chapter 6

Open Known Issues

System Software

- **Issue:** The “show fr line dlci table” reports information incorrectly on channel bundles. (60324201)
- **Issue:** The quality of BRI fax call pages transmitted *from* the Passport 6400 MVP/MVPe cards *to* the Passport 4460 is somewhat degraded due to transmission errors. However, when faxing from Passport 4600 to the Passport 6400, no problems are observed. (60329391)
- **Issue:** Unit resets when X.25 traffic is present due to Streams running out of buffers when attempting to establish 96 SVC connections. (60330743)
- **Issue:** Issuing the “show sna switch circuit statistics entry” command with four indices configured may cause the unit to reset. (60330913)
- **Issue:** 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)
- **Issue:** The “set po admin 150 down” command results in a “Command Failed” response. After this command, any other command executed causes a client timeout. Resolution: A temporary patch has been installed to prevent cli/snmp from locking up. (60332408)
- **Issue:** You cannot switch to configuration bank 4. Unit always boots from configuration bank 3, regardless of bank commitment and activation state. (60332644)
- **Issue:** The values, NegRxThroughput and NegRxBurstSize, are not reported properly on LAN SPVCs. (60332794)
- **Issue:** 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)

- **Issue:** Interrupt voltage (600 ms duration) disconnection supervision is not being generated on a Passport 4460 FXS interface. (60333629)
- **Issue:** Traffic Management rate enforcement with mixed traffic streams does not function properly. It is recommended that the system default be left in effect, which has Traffic Management disabled. (60334225)
- **Issue:** Unit does not prioritize traffic properly with 1500-byte packets on the LAN SVC. (60335184)
- **Issue:** With a # in the manipulation string of the egress table, the Passport 4460 should forward the dialed DTMF digits, but does not. (60335277)
- **Issue:** 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)

Passport 4400 Release Notes for R4.1.2

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