

G06.24 Release Version Update Compendium

Abstract

This compendium provides a summary for the products that have major changes in the G06.24 release version update (RVU), including the products' new features, migration issues, and fallback considerations. The compendium is written for system managers or anyone who needs to understand how migrating to G06.24 affects installation, configuration, operations, system management, maintenance, applications, networks, and databases.

Product Version

N.A.

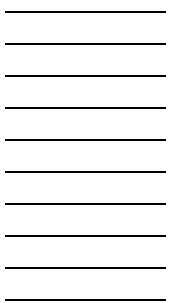
Supported Release Version Updates (RVUs)

This publication supports the G06.24 RVU only.

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528616-003	November 2004

Document History

Part Number	Product Version	Published
528616-001	N.A.	August 2004
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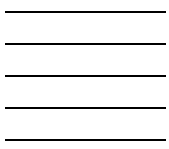
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What's New in This Manual

Manual Information

Abstract

This compendium provides a summary for the products that have major changes in the G06.24 release version update (RVU), including the products' new features, migration issues, and fallback considerations. The compendium is written for system managers or anyone who needs to understand how migrating to G06.24 affects installation, configuration, operations, system management, maintenance, applications, networks, and databases.

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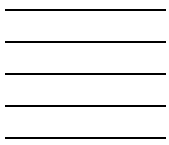
Document History

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528616-003	N.A.	November 2004

New and Changed Information

The following product information has been updated:

- [Boot Millicode](#)
- [NonStop S78000 Server](#)
- [NonStop S88000 Server](#)
- [OSS Persistent Processes](#)
- [OSM](#)
- [TSM](#)



About This Manual

This compendium provides categorized information for new features, migration issues, and fallback considerations for G06.24. It also includes references and sources for migration planning.

Who Should Use This Guide?

This compendium is written for system managers or anyone who needs to understand how migrating to G06.24 affects installation, configuration, operations, system management, maintenance, applications, networks, and databases.

Organization

Section	Description
Section 1, G06.24 Overview	An overview listing the products that have major changes
Section 2, Operating System Section 3, Application Development Products Section 4, Database and Transaction Processing Products Section 5, Installation and Configuration Products Section 6, Manageability Products Section 7, Hardware Products Section 8, Networking Products	Categorized product information that summarizes: <ul style="list-style-type: none">● New features● Migration issues (if available)● Fallback considerations (if available)
Appendix A, Sources for Migration Assistance and Information	References and sources for migration planning

Related RVU Manuals

See [NonStop Technical Library \(NTL\)](#) on page A-2 for a list of RVU and migration manuals.

1 G06.24 Overview

This section lists the supported HP NonStop™ S-series servers and the major new features for the G06.24 RVU.

NonStop Servers Supported

NonStop S7000, NonStop S7400, NonStop S7600, NonStop S7800, NonStop S70000, NonStop S72000, NonStop S74000, NonStop S76000, NonStop S78000, NonStop S86000, and NonStop S88000.

Major New Features

Table 1-1. Summary of the G06.24 RVU (page 1 of 2)

Sections and Categories	Major New Features	Migration Alerts	Fallback Alerts
Section 2, Operating System	<ul style="list-style-type: none"> ● OSS Monitor ● OSS Persistent Processes ● OSS System Utilities ● Standard POSIX Threads 	X X	X X X X
Section 3, Application Development Products	No new features		
Section 4, Database and Transaction Processing Products	<ul style="list-style-type: none"> ● NonStop DCE ● NonStop SQL/MP ● TMF 	X	X
Section 5, Installation and Configuration Products	<ul style="list-style-type: none"> ● Boot Millicode 	X	

Table 1-1. Summary of the G06.24 RVU (page 2 of 2)

Sections and Categories	Major New Features	Migration Alerts	Fallback Alerts
Section 6, Manageability Products	<ul style="list-style-type: none"> ● OSM ● Safeguard ● SNMP ● SPI ● TSM 		
Section 7, Hardware Products	<ul style="list-style-type: none"> ● CT9841FC-x Fibre Channel Tape Drive ● ESS ● IOAM ● NonStop S78000 Server ● NonStop S88000 Server 	X X X X X	X X X X
Section 8, Networking Products	<ul style="list-style-type: none"> ● G4SA ● WAN Wizard Pro 		

For descriptions of new features, see the appropriate sections.

Product Removed From the SUT

No products are removed from the site update tape (SUT) at G06.24.

For recent product removal information, see the Discontinuation Notices at http://h71033.www7.hp.com/page/discont_prods.html.

2 Operating System

The G06.24 RVU contains these operating system changes:

- [OSS Monitor](#)
- [OSS Persistent Processes](#)
- [OSS System Utilities](#)
- [Standard POSIX Threads](#)

OSS Monitor

New Features

Product version G11 provides a new online configuration facility for the HP NonStop Open System Services (OSS) filesets. In prior versions:

- An OSS fileset had to be stopped to add a disk, remove a disk, or change fileset attributes.
- An OSS name server (and therefore associated filesets) had to be stopped to change name server attributes.

Many changes to the configuration database did not take effect until the affected object was restarted.

These Subsystem Control Facility (SCF) module commands have been added to allow configuration changes to take effect while the affected filesets remain mounted and available:

- CONTROL FILESET
- CONTROL SERVER

The T8621 (Name Server), T8622 (OSS Monitor), and T8623 (OSS SCF module) products are affected by this change. New EMS events are generated for significant state changes and new OSS Monitor messages E00053 through E00059, W00060, and W00061 have been added.

For information about the use of this new facility, see the *Open System Services Management and Operations Guide*.

Changes in Existing Features

These existing SCF module commands have been modified to support the new fileset and OSS name server behavior:

- ADD FILESET
- ALTER FILESET
- START FILESET
- STATUS FILESET
- INFO FILESET

- ALTER SERVER
- STATUS SERVER

Several maximum values have been increased and the ability to control them has been added:

- The maximum number of inodes is now 2.2 million per fileset.
- The maximum number of cached inode entries is now 500,000 per OSS name server.
- The maximum number of cached link entries is now 500,000 per OSS name server.

Migration

Use of the new features is optional. No change in current site management procedures is required.

Fallback

If a site alters a configuration value to use the higher inode or link entry caching limit provided by this version of the product, fallback can cause the START FILESET command to fail. Those limits must first be reduced so that the configuration in use is compatible with prior released versions.

The fallback steps documented in the *Open System Services Management and Operations Guide* or the softdocs for SPRs for the products T8621G11, T8622G11, and T8623G11 should be followed. Fallback involves falling back to the prior released versions for those products.

OSS Persistent Processes

The SCF interface for the Kernel subsystem has been enhanced to provide an additional attribute for generic processes. This ASSOCPROC attribute allows programs in the OSS file system to be configured and run as named generic processes, with persistence monitored by the Kernel subsystem's persistence manager process. Each ASSOCPROC program must be launched by a generic process copy of the Guardian OSH command. For more information about the new attribute and considerations for its use, see the *SCF Reference Manual for the Kernel Subsystem*.

OSS persistent processes are supported on G06.23 and later RVUs.

Migration

Beginning with the G06.23 RVU, you can use SCF to configure an OSS process as a persistent process under the persistence manager (\$ZKRN). To configure OSS persistent processes, you must have all of these SPRs installed:

- T1084G06AAH
- T1085G06AAL
- T6586G07AAU
- T5800G06AAP
- T9082G02ACX
- T8624G10AAM
- T8397G00ABA

Note. OSS persistent processes are supported on G06.23 and later RVUs; however, the above SPRs are not on the G06.23 SUT, and T8624G10AAM and T8397G00ABA are not on the G06.24 SUT. All of the listed SPRs are included on the G06.25 and later SUTs.

OSS persistent processes can be used without SPRs T8624G10AAM and T8397G00ABA. If those SPRs are not installed, some OSS applications might fail at processor startup unless modified to include an initial delay (on the order of 10 seconds). This delay is not needed when those SPRs are installed.

Without T8624G10AAM and T8397G00ABA, when an OSS shell is launched immediately after a processor comes up, the shell needs to wait until processor components of the OSS environment such as the OSS pipe server finish initialization. The necessary delay can be achieved by adding an OSS `sleep 10` command either to the STARTUPMSG attribute or as the first entry in the script launched by the STARTUPMSG attribute.

See the `sleep(1)` reference page either online or in the *Open System Services Shell and Utilities Reference Manual* for more information about the `sleep` command.

Fallback

After fallback, the new configuration attribute would not be recognized, and the feature would not work.

OSS System Utilities

The OSS `gtac1` command has been enhanced to add two optional flags to its command line. These flags enable more control over the conversion of OSS environment variables to Guardian environment PARAMs when the `gtac1` command is used to run a program or command using TACL:

- `-s`

Suppresses all variable conversions to PARAMs; this flag takes precedence over the `-f` flag.

- `-f pathname`

Restricts conversion to those OSS environment variables described in the named OSS file. This file is not subject to the buffer size restriction on the number of variables that can be converted when the default conversion is used.

If both flags are omitted, there is no change in conversion behavior from that provided in previous versions of the `gtac1` command.

See the resolution of Genesis solution 10-020709-0227 and the T8628AAJ softdoc for details.

Fallback

After fallback, the new flags would not be recognized, and the feature would not work. OSS shell scripts written to use the new feature would not run correctly.

Standard POSIX Threads

Four wrapper functions have been added to Standard POSIX Threads (T1248) to provide context-sensitive support for Pathsend servers:

- `SPT_SERVERCLASS_DIALOG_ABORT_()`, used instead of the `SERVERCLASS_DIALOG_ABORT_` procedure to abort a specific Pathsend server dialog.
- `SPT_SERVERCLASS_DIALOG_BEGIN_()`, used instead of the `SERVERCLASS_DIALOG_BEGIN_` procedure to initiate a Pathsend server dialog.
- `SPT_SERVERCLASS_DIALOG_END_()`, used instead of the `SERVERCLASS_DIALOG_END_` procedure to end a specific Pathsend server dialog.
- `SPT_SERVERCLASS_DIALOG_SEND_()`, used instead of the `SERVERCLASS_DIALOG_SEND_` procedure to continue a specific Pathsend server dialog.

For information about these functions, see the T1248G07AAN softdoc.

Fallback

After fallback, you cannot use the new functions and must recompile applications to remove them.

3

Application Development Products

The G06.24 RVU contains no new features for application development products.

4

Database and Transaction Processing Products

The G06.24 RVU contains new features for these database and transaction processing products:

- [NonStop DCE](#)
- [NonStop SQL/MP](#)
- [TMF](#)

NonStop DCE

HP NonStop Distributed Computing Environment (DCE) has been enhanced to provide jacket routines for context-sensitive `SERVERCLASS_DIALOG_xxxx_()` guardian procedures. DCE already provided the jacket routine for the context-free Pathway routine `SERVERCLASS_SEND_`, limited to sending and receiving 32 KB of data. To send or receive more than 32 KB data to the Pathway server, you need to invoke this application program interface (API) multiple times. As this API is context-free, the request might not go to the same server instance in the Pathway server class. To enable the DCE client to pass more than 32 KB data to the same Pathway server instance, jacket routines for the context-sensitive `SERVERCLASS_DIALOG_xxxx_()` procedures are now provided. You can use these new jacket routines by calling them explicitly in your application. With the new routines, the application can send and receive more than 32 KB of data to the same Pathway Server instance.

DCE has been enhanced with these APIs:

- `DCE_SERVERCLASS_DIALOG_BEGIN_`

Initiates the dialog and also sends the first message of the dialog to the server process in the Pathway server class. This procedure performs an input/output (I/O) operation. The parameters and semantics of this function are the same as those of the Guardian `SERVERCLASS_DIALOG_BEGIN_` procedure, which is described in the *TS/MP Pathsend and Server Programming Manual*.

- `DCE_SERVERCLASS_DIALOG_SEND_`

Sends the message within the dialog to the server process in the Pathway server class. This procedure performs an I/O operation. The parameters and semantics of this function are the same as those of the Guardian `SERVERCLASS_DIALOG_SEND_` procedure, which is described in the *TS/MP Pathsend and Server Programming Manual*.

- `DCE_SERVERCLASS_DIALOG_END_`

Ends the dialog corresponding to the dialog ID. This procedure does not perform an I/O operation.

- `DCE_SERVERCLASS_DIALOG_ABORT_`

Aborts the dialog specified by the dialog ID. This procedure does not perform I/O operations.

NonStop SQL/MP

In G06.24, a new option `SQLNULLABLE` has been added to the `SQLCI COPY`, `LOAD`, and `APPEND` commands to support `SQLNULLABLE DDL` clause for loading null values from Enscribe to SQL or from SQL to Enscribe.

TMF

The HP NonStop Transaction Management Facility (TMF) includes T2076, T2781, T8302, T8606, T8607, T8608, T8609, T8652, T8694, T8695, T8696, T8697, and T8698. For G06.24, a new product version (TMF G08) is introduced that includes these features:

- Support for dramatically larger audit-trail files than previous TMF versions allowed. (The previous file size limit was less than 2047 MB; the new limit is 1048575 MB.) The large audit-trail files help TMF meet the growing demand for faster and more frequent audit-trail rollovers resulting from the greater machine speeds and audit-generation rates now prevailing at many customer sites. Specific operations allow you to:
 - Change the `FILESIZE` attribute of existing audit-trail files to range up to 2047 MB for format 1 files and up to 1048575 MB for format 2 files without application downtime.
 - Alter the format of files in an existing audit-trail configuration from format 1 to format 2 while TMF is stopped.
- Native-mode versions of audit-trail reading routines, in a library called `ARLIB2`, that support large audit-trails.

Note. `ARLIB` will not receive future enhancements and, if you have any customer-developed or third-party products (including those from NTI, ITI, or Golden Gate) that read the audit trail, you might need to upgrade this software before changing the format of your audit trails.

- The ability of TMF to determine which RDF environment has an audit-trail file pinned and report this in the `STATUS AUDITTRAIL` command output.

Migration

Consider the current audit-trail configuration when migrating to G06.24. TMF now provides the capability to create much larger audit-trail files with G06.24, but TMF must be stopped in a clean state to execute the `TMFCOM` command to enable this ability. If audit-trail files greater than 2 GB are part of the long-term audit-trail configuration

strategy, consider altering the audit-trail format at migration time, given that TMF is already stopped. If not done at this time, altering the audit-trail configuration to enable format 2 audit-trail files requires a STOP TMF command at a later time.

Altering the audit-trail format does not require a change in the audit-trail file size at this time. With G06.24, the audit trail file size can be altered while TMF is started or stopped. Therefore, you can alter the audit-trail configuration to format 2 at migration time, and then later, while TMF is started, alter the file size on a per audit-trail basis to the desired file size for that trail.

It is important to understand the fallback issues associated with changing the audit-trail configuration by using the new features provided in G06.24. Altering the format of the TMF audit-trail configuration at migration time might increase availability (that is, it eliminates the need to STOP TMF at some later date), but falling back to a prior RVU after altering the format is very complex and might require a DELETE TMF operation. See [Fallback](#) on page 4-3 for details.

If a change in the TMF audit-trail configuration is not an important consideration at this time, then there are no issues related to migration for TMF with G06.24.

Fallback

If no changes to the TMF audit-trail configuration are planned, there are no fallback issues related to TMF in G06.24. You can migrate to G06.24 from a prior RVU and fall back to that same RVU without issues related to TMF.

However, if changes to the audit-trail configuration are planned, such as altering the file size of a given trail or changing the audit-trail configuration to use format 2 files, you need to understand fallback issues.

A series of steps are involved and must be followed precisely if you fall back to a prior RVU after executing either the ALTER AUDITTRAIL command with the new FILESIZE option or the ALTER TMF command with the new ATFORMAT option. Executing a DELETE TMF command might also be required if you alter the audit-trail format and later find it necessary to fall back.

See the *HP NonStop TMF Supplement for Large Audit-Trail Files* for details about falling back after using G06.24 TMF command options.

5

Installation and Configuration Products

The G06.24 RVU contains new features for this installation and configuration product:

- [Boot Millicode](#)

Boot Millicode

T7892ABD is available for Boot Millicode.

Migration

Before upgrading boot millicode to T7892ABD, you must have the G06.24 or later version of either TSM server (T7945ABN) or OSM server-based SPRs (along with their pre-requisites) configured and running. Otherwise, a system outage will result. For the Online Boot Millicode Update procedure, and a complete list of OSM server SPRs, see the *G06.24 Software Installation and Upgrade Guide*.

6 Manageability Products

The G06.24 RVU contains new features for these manageability products:

- [OSM](#)
- [Safeguard](#)
- [SNMP](#)
- [SPI](#)
- [TSM](#)

OSM

The HP NonStop Open System Management (OSM) Interface has been revised for G06.24 to add support for:

- I/O adapter module enclosure and components
- Enterprise Storage System (ESS)
- HP NonStop S7800, S78000, and S88000 PMF processor types
- (Required for using) OSM Online Boot Millicode Firmware Update to upgrade processor boot code to version T7892ABD. You must have the G06.24 or later version of all OSM server-based SPRs configured and running before performing this OSM action, or a system outage will result.
- CT9841FC-x Fibre Channel tape drives
- Automatic data collection for failed PMF or IOMFs. This feature must be enabled in the OSMCONF file. See the *OSM Migration Guide* for details.
- The ability to attach system inventory files to periodic incident reports. This feature must be enabled in the OSMCONF file and configured in the OSM Notification Director. See the *OSM Migration Guide* for details.
- The OSM Low-Level Link has several enhancements, including a Configure Module action for configuring I/O adapter modules and direct access to the SP Tool. See OSM Low-Level Link online help for more information.

Safeguard

You can specify node names for network subjects in a protection record. Currently, the subject can be either local (group.user) or remote (*.group.user). As of G06.24, access control list (ACL) entries support explicit node names for network subjects (ny.group.user). Use this enhancement to manage access to an object from a remote system.

SNMP

Simple Network Management Protocol (SNMP) has been enhanced for G06.24. Several existing dot3StatsTable objects now support fields that report statistics about the Gigabit Ethernet 4-Port ServerNet adapter (G4SA). For detailed information about these fields and the structures that contain them, see the *SNMP Configuration and Management Manual*.

SPI

For the G06.24 RVU, the Subsystem Programmatic Interface (SPI) has been enhanced to add support for the dynamic-link library (DLL) subsystem and the HP Web ViewPoint Pathway (WPY) subsystem.

See the *SPI Programming Manual* and the *SPI Reference Summary* for details.

TSM

TSM server (T7945ABN) has been revised for G06.24. You must have T7945ABN or later configured and running before performing the TSM Online Processor Boot Code Update action to upgrade processor boot code to version T7892ABD, or a system outage will result.

7 Hardware Products

The G06.24 RVU contains new features for these hardware products:

- [CT9841FC-x Fibre Channel Tape Drive](#)
- [ESS](#)
- [IOAM](#)
- [NonStop S78000 Server](#)
- [NonStop S88000 Server](#)

CT9841FC-x Fibre Channel Tape Drive

The CT9841FC-x tape drive is an industrial strength, high-performance tape storage product that is a replacement for the CT9840FC-x tape products. The CT9841FC-x is backward-read compatible with the CT9840FC-x and CT9840-x tape drives. Tape media written on these drives can be read on a CT9841FC-x tape drive. There are two versions of the CT9841FC-x tape drive:

- CT9841FC-1: 9840C tape drive for the CTL700 and CTL700M tape libraries. For more information, see the *L700 (CTL700) Installation and User's Guide*.
- CT9841FC-4: 9840C tape drive for the 9310 tape library. For more information, see the *Third-Party Documentation Directory*.

Note. One Fibre Channel converter (CT9800FC) is required to connect a CT9841-x Fibre Channel tape drive to a NonStop S-series server. Use the CT9800FC Fibre Channel converter to attach CT9841FC-x tape drives at distances of up to 500 meters from the host NonStop S-series server.

Migration

The CT9841FC-x tape drives are supported on S-series servers that are running G06.16 or later RVUs. OSM is a requirement. OSM SPRs are required on RVUs prior to G06.24.

ESS

Introduced at G06.24, an Enterprise Storage System (ESS) is a disk array or collection of magnetic disks, their controllers, and the disk cache in a stand-alone cabinet or cabinets. These disks are configured by an attached console, and, when attached to the NonStop S-series server, these disks are presented as logical volumes. These logical volumes can be a fraction of a physical volume, or can span several physical volumes.

Migration

Certain limitations exist for configurations that include ESS or IOAM enclosures. For a comprehensive list of these limitations, contact your HP representative.

Restrictions for the ESS include:

- If you migrate data from a NonStop S-series system to an ESS and the data is located on disks within I/O enclosures, these I/O enclosures must be populated with I/O multifunction 2 (IOMF 2) CRUs.
- Contractually, only ESS-trained technicians can handle or configure ESS equipment. So, for any activities that involve installing, configuring, or operating the ESS, the technician trained for working with the ESS must be on site and available.

To use ESS, you must:

- Configure the storage array logical unit numbers (LUNs) and SCF configuration to access them.
- Use the new online data migration facility to move data to those LUNs.
- Back up data from 514-byte sectored disks prior to data migration to ESS.
- Retain a copy of the old CONFIG file, in case you need to perform a release level fallback.

The migration of existing data from internal SCSI-attached, 514-byte sectored disks to industry standard, 512-byte sectored disk subsystems includes an improved method for checksum protection. The new checksum protection method employed for unstructured files requires that the data stored on disk be contiguous and aligned in units of 28 KB. For partitioned unstructured files requirements for ESS, see the *G06.24 Software Installation and Upgrade Guide* and the Interactive Upgrade Guide.

Fallback

No online fallback from 512-byte to 514-byte sectored disks is provided. Fallback requires reverse migration of data in an offline manner.

IOAM

Introduced at G06.24, an I/O adapter module (IOAM) enclosure is a subsystem that allows I/O operations to take place between the NonStop S-series and some fibre-channel storage devices. The IOAM enclosure can be installed in a modular cabinet or in a standard 19-inch rack. The IOAM enclosure fits into the NonStop S-series tetrahedron as though the IOAM enclosure were an I/O enclosure.

IOAM is supported on the Tetra 8 and the Tetra 16 topologies. See the *NonStop S-Series Planning and Configuration Guide* for details.

Migration

Certain limitations exist for configurations that include ESS or IOAM enclosures. For a comprehensive list of these limitations, contact your HP representative.

Restrictions for the IOAM include:

- For any site where an IOAM enclosure is installed, the NonStop S-series system must be populated entirely by processors of type S76000 or higher.
- The site must be equipped with an operational LAN and must have access to a DHCP server, or to software that mimics one.
- The version of OSM on your system must contain the SPRs for G06.24. For the complete SPR list, see the *OSM Migration Guide*.

NonStop S78000 Server

The HP NonStop S78000 server is introduced at G06.24 and supports G06.16 and later RVUs. It provides improved processor performance compared with the NonStop S76000 server.

Model 1973 (S78000) PMF CRUs feature dual-inline memory modules (DIMMS) and faster processors than earlier servers and can be ordered in these memory configurations:

Memory	S78000 Part Number
2 GB	526490-001
4 GB	526491-001
8 GB	526492-001

See the *NonStop S-Series Planning and Configuration Guide* for more information.

Migration

The NonStop S78000 server is introduced at G06.24 and supported on G06.16 and later RVUs if the G06.24 SPRs for TSM or OSM are installed. See the *G06.24 Software Installation and Upgrade Guide* for more information.

Note. G06.24 OSM and TSM have been enhanced for the S78000 to extract and handle S78000 hardware error freeze (HEF) scan strings and reset the CPU.

The processor type for the NonStop S78000 server is NSR-H. For information on upgrading to a model 1973 (NonStop S78000 S-series) PMF CRU (PMF 2 CRU), see the CSSI Web site.

Any system in which S78000 processors are installed must have modular ServerNet expansion boards (MSEBs) in slots 51 and 52 in enclosures 1 through 8. You can still use ServerNet expansion boards (SEBs) to attach I/O enclosures. If you upgrade to an S78000 processor from a system not using MSEBs in slots 51 and 52, you must replace SEBs with MSEBs as part of the upgrade. All cabling previously used to connect SEBs must be replaced with serial copper or fiber-optic ServerNet cables specific to the MSEB. ECL ServerNet cables are specifically disallowed when installing MSEBs for upgrading to model 1973 PMF CRUs.

For compatibility of PMF CRUs and coexistence of enclosures in a system, see the *NonStop S-Series Planning and Configuration Guide*.

Before you upgrade to G06.24 or later RVUs, if your system includes processors with processor model 1951 (NonStop S70000 or NonStop S70000SE), you must change the processor type from NSR-G to NSR-C in the CONFTEXT file, ALLPROCESSORS statement. All other references to NSR-G are still valid. Displays or queries done on the system return NSR-G if the PMF is a model 1951 PMF CRU (NonStop S70000) or 1951 PMF FRU (NonStop S70000SE).

Before upgrading the NonStop S7000 system (NSR-W) to NonStop S78000 (NSR-H), you must change the processor type entry in the CONFTEXT file. You can specify only one processor type.

After changing the CONFTEXT file, you must perform all required DSM/SCM requests to create a new *SYSnn*, including the new processor type. System load of the new *SYSnn* is required after the new hardware is installed.

The S78000 does not require the branch prediction logic patch.

Fallback

For fallback, you do not need to downgrade the SP firmware to its previous version. If you are falling back to an RVU prior to G06.16, you must return processor boot code (T7892) back to the previous version and update the firmware before performing a system load of the previous RVU.

See the *G06.24 Software Installation and Upgrade Guide* for information.

NonStop S88000 Server

The HP NonStop S88000 server is introduced at G06.24 and supports G06.24 and later RVUs. It provides improved processor performance compared with the NonStop S86000 server.

Model 1974 (S88000) PMF CRUs feature dual-inline memory modules (DIMMS) and faster processors than earlier servers and can be ordered in these memory configurations:

Memory	S88000 Part Number
2 GB	526493-001
4 GB	526494-001
8 GB	526495-001
16 GB	526496-001

See the *NonStop S-Series Planning and Configuration Guide* for more information.

Migration

The NonStop S88000 server is introduced at G06.24 and supported on G06.24 and later RVUs. Before installing S88000 processors in the system, you must first install the G06.24 RVU. See the *G06.24 Software Installation and Upgrade Guide* for more information regarding software requirements for migrating.

The processor type for the NonStop S88000 server is NSR-Z. For information on upgrading to a model 1974 (NonStop S88000 S-series) PMF CRU (PMF 2 CRU), see the CSSI Web site.

Any system in which S88000 processors are installed must have modular ServerNet expansion boards (MSEBs) in slots 51 and 52 in enclosures 1 through 8. You can still use ServerNet expansion boards (SEBs) to attach I/O enclosures. If you upgrade to an S88000 processor from a system not using MSEBs in slots 51 and 52, you must replace SEBs with MSEBs as part of the upgrade. All cabling previously used to connect SEBs must be replaced with serial copper or fiber-optic ServerNet cables specific to the MSEB. ECL ServerNet cables are specifically disallowed when installing MSEBs for upgrading to model 1974 PMF CRUs.

For compatibility of PMF CRUs and coexistence of enclosures in a system, see the *NonStop S-Series Planning and Configuration Guide*.

Before you upgrade to G06.24 or later RVUs, if your system includes processors with processor model 1951 (NonStop S70000 or NonStop S70000SE), you must change the processor type from NSR-G to NSR-C in the CONFTEXT file, ALLPROCESSORS statement. All other references to NSR-G are still valid. Displays or queries done on the system return NSR-G if the PMF is a model 1951 PMF CRU (NonStop S70000) or 1951 PMF FRU (NonStop S70000SE).

Before upgrading the NonStop S7000 system (NSR-W) to NonStop S88000 (NSR-Z), you must change the processor type entry in the CONFTEXT file. You can specify only one processor type.

After changing the CONFTEXT file, you must perform all required DSM/SCM requests to create a new *SYSnn*, including the new processor type. System load of the new *SYSnn* is required after the new hardware is installed.

The S88000 does not require the branch prediction logic patch.

Fallback

For fallback, you do not need to downgrade the SP firmware to its previous version. If you are falling back to an RVU prior to G06.16, you must return processor boot code (T7892) back to the previous version and update the firmware before performing a system load of the previous RVU.

See the *G06.24 Software Installation and Upgrade Guide* for information.

8 Networking Products

The G06.24 RVU contains new features for these networking products:

- [G4SA](#)
- [WAN Wizard Pro](#)

G4SA

Introduced at G06.24, the Gigabit Ethernet 4-Port ServerNet adapter (G4SA) is a multiport ServerNet adapter that provides 1000 megabits/second (Mbps) data transfer rates between HP NonStop S-series systems and Ethernet LANs. The G4SA is the only LAN adapter supported for the I/O adapter module (IOAM) enclosure, and it is installed in slots 1 through 5 of an IOAM. Although the G4SA supersedes the Ethernet 4 ServerNet adapter (E4SA), Fast Ethernet ServerNet adapter (FESA), and the Gigabit Ethernet ServerNet adapter (GESA), it cannot be installed in a NonStop S-series enclosure.

The G4SA's software and ServerNet LAN Systems Access (SLSA) host drivers serve the higher layer clients with the standard SLSA API, ensuring compatibility between all existing ServerNet adapters and clients.

The G4SA supports multiple communications protocols, including TCP/IP, Expand/IP, IPX/SPX, QIO, Port Access Method (PAM), and Simple Network Management Protocol (SNMP).

The G4SA has copper interfaces that can negotiate speeds between 10/100/1000 Mbps and are compatible with other products, such as AWAN and SWAN.

This product is supported by OSM client software to facilitate diagnostics and maintenance.

WAN Wizard Pro

WAN Wizard Pro has been enhanced to enable you to plan, install, and configure a G4SA.

Also, WAN Wizard Pro client 4.00 is available on the HP NonStop System Console Installer S7X-SWV1 Update 3 CD. This client version is compatible with the G06.21 and later WAN Wizard Pro server versions only. For detailed information on WAN Wizard Pro client/server compatibility, see Support Note S04064.

A

Sources for Migration Assistance and Information

This appendix describes the assistance HP provides when problems arise during the migration and testing process. Services are also available from HP that can help you develop a migration plan and implement migration tasks. Most migration and release documentation is available through the HP NonStop Technical Library (NTL).

This appendix includes information about these sources for migration assistance and information:

- [ExpressNotice](#)
- [Information on the Site Update Tape \(SUT\)](#)
- [Scout for NonStop Servers](#)
- [Global Customer Support Center \(GCSC\)](#)
- [NonStop Technical Library \(NTL\)](#)

ExpressNotice

ExpressNotice is an automated information delivery system that proactively sends information pertinent to your installed products and software release whenever there are any issues or changes. (Note that ExpressNotice generates notices only for supported RVUs.) Use ExpressNotice to customize your information notification needs interactively online. You can access ExpressNotice through the HP NonStop eServices Portal at <https://onepoint.nonstop.compaq.com/buildpage.asp>.

ExpressNotice message types include:

- Software Revision Notifications summarize the content and impact of newly released, generally available time-critical fix software product revisions (SPRs).
- Hotstuff messages alert you to product problems that might have particularly serious consequences. The three types of Hotstuff messages are general, Outage Prevention Notifications (OPNs), and Software Recall/Withdrawal.
- Support Notes (SUPNOTES) provide information of a more routine nature than that provided in Hotstuff messages.

ExpressNotice messages are also available through the Support Content collection of the NonStop Technical Library (NTL) (see p. [A-2](#)) and through Scout for NonStop Servers (see p. [A-2](#)).

You can ask the Global Customer Support Center (GCSC) for the *ExpressNotice User's Guide*. You can also contact the ExpressNotice Help Desk by e-mail at express.notice@hp.com.

Information on the Site Update Tape (SUT)

These documents are available on the Y9230G_{nn} release subvolume located on the SUT for each G-series RVU:

- Content file
Contains a list of the product versions and software product revisions (SPRs) that are included on the site update tape (SUT).
- README
This file contains information that was not yet available when the manuals or softdocs were published.

All other RVU information can be accessed by using NTL.

Scout for NonStop Servers

Scout for NonStop Servers is a Web-based SPR analysis and delivery tool available through Electronic Support Services. You can access Scout through the HP NonStop eServices Portal at <https://onepoint.nonstop.compaq.com/buildpage.asp>. Online help for using Scout is available at the Scout Web site.

By providing access to a data warehouse with SPR information for many different RVUs, Scout makes SPR analysis fast, easy, and accurate. Through the Scout Main menu, you can display detailed information about:

- Release version updates (RVUs)
- Product versions (PVs) and software product revisions (SPRs)
- Outage Prevention Notifications, Hotstuff messages, and Support Notes
- Prerequisites for an SPR
- Available SUTs and Independent Products

After researching available SPRs, you can download those you consider appropriate for your systems directly to your workstation, or you can request tape delivery.

Global Customer Support Center (GCSC)

If you have questions or problems while implementing your migration plan or testing a new system, contact the Global Customer Support Center (GCSC) at 1-800-255-5010.

You can also access information on products and services at <http://support.nonstop.compaq.com/>.

NonStop Technical Library (NTL)

In addition to this compendium, RVU and migration information is available in several other documents and manuals that can be accessed through the NonStop Technical Library (NTL). Information is provided about planning your site for a new NonStop

S-series server; product installation and configuration; product availability in a particular RVU; and performance information for a specific RVU.

- *G06.24 Software Installation and Upgrade Guide*

Provides procedures for upgrading to the G06.24 RVU. Instructions include installing the G06.24 SUT and other related installation tasks.
- *NonStop S-Series Hardware Installation and FastPath Guide*

Written for anyone qualified to install a NonStop S-series server. Describes how to install and start a NonStop S-series server for the first time. It includes information about installing server hardware, cabling system enclosures, installing and starting system consoles, installing external system devices, starting the server, and configuring the server after startup. This guide also includes a case study of installing a sample system and a quick reference to installing and configuring a two-processor or four-processor NonStop S-series server in the Tetra 8 topology.
- *NonStop S-Series Planning and Configuration Guide*

Describes the ServerNet system area network (ServerNet SAN), the available hardware and software configurations for NonStop S-series servers, site planning and preparation, creating the operational environment, and making hardware and software configuration changes to an existing server. This guide describes how to plan and configure a NonStop S-series server and provides a case study documenting a sample system. This guide is written for those who are responsible for planning the installation, configuration, and maintenance of the server and the software environment at a particular site.
- Hotstuff and SPRNOTEs

If you do not enroll to receive ExpressNotice messages, you can still view ExpressNotice messages, such as Hotstuff or SPRNOTEs, by using the NonStop Technical Library (NTL) Support Content collections. See [ExpressNotice](#) on page A-1 for more information.
- The Interactive Upgrade Guide

A Web-based delivery tool that is accessed through NTL, this guide generates customized migration planning information and lists of new features for D4x and G-series RVUs based on a desired platform.
- *Managing Software Changes*

Serves as an introduction and reference to the TRM2000, the system migration and installation process, SPR analysis, and HP resources for evaluating new RVUs and SPRs.
- *NonStop S-Series Operations Guide*

Written for system operators, this guide describes how to perform routine system hardware operations for NonStop S-series servers. These tasks include starting and stopping the system, monitoring the system, operating disk and tape

subsystems, performing routine hardware maintenance, and performing recovery operations.

- *NonStop S-Series Service Provider Supplement*

Written for system support planners responsible for the correct operation of system hardware, this guide describes how to replace system hardware components defined as field-replaceable units (FRUs) on a NonStop S-series server. You can find this document in NTL's Hardware Service and Maintenance publications collection.

- *The NonStop System Console Installer Guide*

Provides information about upgrading a TSM workstation to the latest versions of the TSM workstation applications delivered on the NonStop Server System Console Installer CD.