

H06.06 Release Version Update Compendium

Abstract

This compendium provides a summary of the products that have major changes in the H06.06 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 H06.06 affects installation, configuration, operations, system management, maintenance, applications, networks, and databases.

Product Version

N.A.

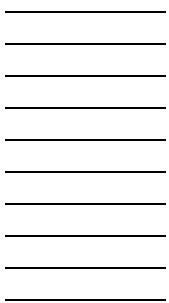
Supported Release Version Updates (RVUs)

This publication supports the H06.06 RVU only.

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H06.06 Release Version Update Compendium

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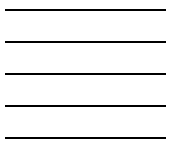
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What's New in This Manual

Manual Information

Abstract

This compendium provides a summary of the products that have major changes in the H06.06 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 H06.06 affects installation, configuration, operations, system management, maintenance, applications, networks, and databases.

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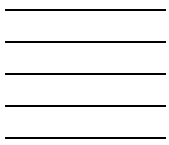
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New and Changed Information

This is a new manual.



About This Manual

This compendium provides categorized information about new features, migration issues, and fallback considerations for H06.06. 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 H06.06 affects installation, configuration, operations, system management, maintenance, applications, networks, and databases.

Organization

Section	Description
Section 1, H06.06 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 Manuals

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

1 H06.06 Overview

This section provides an overview of the H06.06 RVU.

NonStop Servers Supported

H06.06 supports these HP Integrity NonStop NS-series servers:

- Integrity NonStop NS16000 server
- Integrity NonStop NS14000 server
- Integrity NonStop NS5000T server
- Integrity NonStop NS1000 server

Major New Features

[Table 1-1](#) summarizes the main changes in H06.06. For descriptions of new features, see the appropriate sections.

Table 1-1. Summary of the H06.06 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">● NonStop Operating System● OSS Files Larger Than 2 GB● OSS Standard Posix Threads	X X X	X X
Section 3, Application Development Products	<ul style="list-style-type: none">● Native Inspect● Visual Inspect		
Section 4, Database and Transaction Processing Products	<ul style="list-style-type: none">● TMF 3.4		
Section 5, Installation and Configuration Products	No new features.		

Table 1-1. Summary of the H06.06 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"> ● Backup and Restore 2 ● Safeguard 	X	X
Section 7, Hardware Products	<ul style="list-style-type: none"> ● Integrity NonStop NS1000 Server ● Integrity NonStop NS5000T Server ● Tape Drives 		
Section 8, Networking Products	<ul style="list-style-type: none"> ● iTP WebServer 		

Products Removed From the Site Update Tape (SUT)

No products are removed from the SUT at H06.06.

For recent product removal information, see the Discontinuation Notices at <http://h20223.www2.hp.com/NonStopComputing/cache/77208-0-0-225-121.aspx>.

RVUs on DVD

Starting with H06.06, you can order an H-series RVU in the form of a DVD. For details, contact your HP representative.

Preparation, Planning, and Migration

- If you are migrating from G-series to H-series, before you begin migrating applications, contact your HP representative to analyze your applications and identify specific modules and program components that require changes for migration to an H-series TNS/E system.
- For the physical, electrical, and environmental specifications used by HP professional service providers for site preparation, see the *NonStop NS-Series Site Preparation Guide* in the HP NonStop Technical Library (NTL).
- For an H-series overview, see Section 1 of the *H06.03 Release Version Update Compendium*, which includes these topics:
 - NonStop advanced architecture
 - Operational differences between systems running H-series and G-series RVUs
 - Application differences between the H-series and G-series RVUs
 - Networking differences between the H-series and G-series RVUs
 - SUT-based products migrating to H-series RVUs

- Independent Products (IPs) that become SUT products on H-series RVUs
- For descriptions of Integrity NonStop NS-series hardware and the ServerNet SAN and how to plan and configure the site in preparation for installation of the system, see the *NonStop NS-Series Planning Guide*.
- For changes in H-series installation, see the *H06.06 Software Installation and Upgrade Guide*.
- For the changes that are required to migrate a program from a G-series system to an H-series system, see the *H-Series Application Migration Guide*, which covers these migration paths:
 - Migrating G-series TNS programs to the TNS environment on an H-series system
 - Migrating G-series (TNS/R) native programs to the TNS/E native environment on an H-series system
- For compatibility and interoperability between the Integrity NonStop NS-series server and the NonStop S-series server, specific software product revisions (SPRs) are required. See the H-series overview page in the Interactive Upgrade Guide 2.
- For interoperability of SQL/MX releases between systems running G-series and those running H-series RVUs, see the *NonStop SQL/MX Database and Application Migration Guide*.

2 Operating System

The H06.06 RVU contains these operating system changes:

- [NonStop Operating System](#)
- [OSS Files Larger Than 2 GB](#)
- [OSS Standard Posix Threads](#)

NonStop Operating System

Beginning with 2007, daylight saving time (DST) for the United States changes. The NonStop Operating System (T9050) is enhanced to reflect the DST changes for 2007 and later.

Migration

- If the DST option is TABLE and you want to implement the new U.S. algorithm, follow one of these two steps:
 - Delete the DST transition values for 2007 and later by using the `DST_TRANSITION_DELETE_` Guardian procedure call and add the new DST transition values by using the `DST_TRANSITION_ADD_` Guardian procedure call. You can also use TACL statements to add the DST transition values.
 - Modify the existing values with the new DST transition values for 2007 and later by using the `DST_TRANSITION_MODIFY_` Guardian procedure call.
- If you are outside of the United States and currently are using the USA66 option but your countries are not adopting the new U.S. algorithm, follow these steps:
 - Change the DST option to TABLE.
 - Reset the processors and load the system.
 - Add the new DST transition values for 2007 and later by using the `DST_TRANSITION_ADD_` Guardian procedure call. You can also use TACL statements to load the DST table with the DST transition values.
- If the DST option is USA66, reset the processors and load the system to reflect the new DST transitions.

For details on the Guardian procedure calls, see the *Guardian Procedure Calls Reference Manual*.

Fallback

If the DST transition for 2007 does not display the correct time change, switch to the TABLE option and add the DST transition entries into the DST table for 2007 and later. If you use the TABLE option, you do not need to fall back to a previous SPR, because the new SPR supports DST transition for 2007 and later for the TABLE option. If you fall back, a system load is required.

OSS Files Larger Than 2 GB

As of H06.06, NonStop Open System Services (OSS) supports files larger than the previous limit of approximately 2 gigabytes (GB) in the OSS file system, DP2, C run-time library, C++ run-time library, COBOL run-time library, and the OSS utilities. The OSS file system and utilities can handle OSS files up to a limit of 1 terabyte, although the upper limit of the actual file size depends on the size of the volume containing the file.

OSS files are created with an underlying Guardian file format of Format 2 whenever creation is requested through a 64-bit API. Existing OSS files are converted to an underlying Guardian file format of Format 2 the first time they are accessed by either the new OSS 64-bit APIs or Enscribe. Any program that uses the existing 32-bit APIs can open and access any OSS files smaller than approximately 2 GB.

Large OSS File Aware and Large OSS File Safe Applications

An application that is large OSS file aware (LFA) can process OSS files larger than 2 GB with the same functionality as processing OSS files smaller than 2 GB. Such an application is capable of handling large files as input and generating large files as output.

An application that is large OSS file safe (LFS) causes no data loss or corruption when it encounters an OSS file larger than 2 GB. It might not have the capability to process OSS files larger than 2 GB, but it has the appropriate logic to handle errors or warnings detected during file manipulation operations and fail gracefully.

As of H06.06, these SUT-based applications are large OSS file aware:

- Backup/Restore 2
- DSAP/DCOM
- FUP
- iTP Webserver
- FTP
- C/C++ compiler
- Cobol compiler
- OSS utilities and unsupported utilities
- NonStop SQL/MX utilities (IMPORT and EXPORT DDL)

All other OSS applications (including utilities, tools, or libraries) are large OSS file safe for H06.06 and later RVUs.

Large OSS File Aware and Large OSS File Safe APIs

To support OSS files larger than 2 GB, new 64-bit file I/O APIs are available. These APIs can handle files larger than 2 GB and files smaller than 2 GB. The large OSS file aware I/O APIs include:

- `creat64()`
- `open64()`

- `ftruncate64()`
- `lseek64()`
- `fcntl()`
- `fstat64()`
- `lstat64()`
- `stat64()`
- `fstatvfs64()`
- `statvfs64()`
- `readdir64()`
- `ftw64()`
- `nftw64()`

Existing file I/O APIs are modified to fail safely on OSS files larger than 2 GB. These APIs return an error (`E_OVERFLOW` or `EFBIG`) when an action cannot be performed on OSS files larger than 2 GB or an attribute cannot be represented for such a file. The large OSS file safe I/O APIs include:

- `creat()`
- `open()`
- `read()`
- `write()`
- `ftruncate()`
- `lseek()`
- `fcntl()`
- `fstat()`
- `lstat()`
- `stat()`
- `fstatvfs()`
- `statvfs()`
- `readdir()`
- `ftw()`
- `nftw()`
- `glob()`

These native C run-time library APIs are large OSS file aware:

- `__ns_backup_fopen64()`
- `__ns_fopen64_special()`
- `fgetpos64()`
- `fopen64()`
- `fopen64_guardian()`
- `fopen64_oss()`
- `fopen64_std_file()`
- `freopen64()`
- `freopen64_guardian()`
- `freopen64_oss()`
- `fseeko64()`
- `fsetpos64()`
- `ftello64()`

- `scandir64()`
- `tmpfile64()`
- `tmpfile64_guardian()`
- `tmpfile64_oss()`

These native C run-time library APIs are large OSS file safe:

- `fclose()`
- `fflush()`
- `fgetc()`
- `fgetpos()`
- `fgets()`
- `fgetwc()`
- `fgetws()`
- `fopen_oss()`
- `fprintf()`
- `fputc()`
- `fputs()`
- `fputwc()`
- `fputws()`
- `fread()`
- `freopen_oss()`
- `fwrite()`
- `fscanf()`
- `fseek()`
- `fsetpos()`
- `ftell()`
- `getc()`
- `getchar()`
- `gets()`
- `getw()`
- `getwc()`
- `getws()`
- `getwchar()`
- `printf()`
- `putc()`
- `putchar()`
- `puts()`
- `putw()`
- `putws()`
- `putwchar()`
- `scanf()`
- `vfprintf()`
- `vprintf()`

Native C++ run-time libraries do not have new 64-bit specific APIs in the C++ library products. However, the logic implementing `IOStream` classes is enhanced to be large OSS file safe for programs built with the regular compilation environment or large OSS

file aware for programs built with the large file compilation environment (that is, macro `_FILE_OFFSET_BITS` is defined to have value 64).

Interoperability

- Interoperability for file copy operations:

HP NonStop programs that are capable of copying files from one system to another behave appropriately when the target system runs on a pre-H06.06 RVU. The programs successfully copy files smaller than 2 GB, which appear as Guardian Format 1 files on the target system. The programs refuse, in a user-understandable way, to copy files larger than approximately 2 GB.

- Interoperability for opens of OSS files:

Applications running on a pre-H06.06 system can open any OSS file smaller than approximately 2 GB on an H06.06 or later system through either OSS or Enscribe APIs.

HP does not support OSS opens of OSS files larger than approximately 2 GB on systems running pre-H06.06 RVUs. However, because Enscribe has long understood Guardian Format 2 files, a program running on a pre-H06.06 system that uses Enscribe with 64-bit elections can open a large OSS file that resides on an H06.06 or later system. If the file is smaller than 2 GB, the file size limit for that open is 2 GB. If the file is larger than 2 GB, the file size limit for that open is the size of the volume.

- Interoperability for opens of Enscribe C files:

As of H06.06, OSS can create Enscribe files in the /G name space through `creat64()` and `open64()`. The resulting files, regardless of size, are Guardian Format 2 C files with file code 180. If a program running on any RVU attempts to open this type of file through `FILE_OPEN_` without 64-bit elections, the open succeeds if the file is smaller than approximately 4 GB and fails if it is larger than 4 GB.

If the open call includes 64-bit elections and is issued on an H06.06 or later RVU, the open succeeds regardless of file size.

If an application running on a pre-H06.06 system invokes `FILE_OPEN_` with 64-bit elections, the open succeeds. However, if the file size is smaller than 4 GB, the file size limit for that open is 4 GB. If the file size is larger than 4 GB, the file size limit for that open is the limit defined at file-creation time.

Migration

- HP does not support transferring files larger than 2 GB to a pre-H06.06 system.
- If you are currently running the H06.03 RVU, consider migrating to the H06.05 RVU before migrating to H06.06 so as to facilitate fallback if fallback becomes necessary.

- Before migrating to H06.06, HP recommends that H06.04 users install the DP2 fallback SPR T9053AQM in case a fallback becomes necessary. For additional information on the SPR, see [Fallback](#) on page 2-6. T9053AQM is on the H06.05 SUT. Installing the T9053AQM SPR requires a system load.
- If you have a tape file with a mix of OSS files smaller than and larger than 2 GB that need to be restored to a H06.05 file set that does not support files larger than 2 GB, install the Backup and Restore 2 SPR T0744H01^AAA to restore files smaller than 2 GB and skip files larger than 2 GB. T0744H01^AAA does not support pre-H06.05 RVUs. You cannot restore OSS files to H06.04 and earlier systems.

Fallback

If you are falling back to H06.04, install DP2 SPR T9053AQM and DSAP/DCOM SPR T9543H01^ABH.

If you are falling back to H06.05, install DSAP/DCOM SPR T9543H01^ABH and Backup and Restore 2 SPR T0744H01^AAA.

DP2

If you are currently running the H06.04 RVU, HP recommends that, before migrating to H06.06, you install DP2 fallback SPR T9053AQM. Installing this fallback SPR enables you to, after fallback, access OSS files smaller than 2 GB that were created by the new software. Installing the T9053AQM SPR requires a system load. T9053AQM is included on the H06.05 SUT.

If the DP2 fallback SPR is not installed, you cannot use either OSS or Enscribe to access any OSS file that has an underlying Guardian file format of Format 2, even if the files are smaller than 2 GB.

If the T9053AQM DP2 fallback SPR is installed:

- OSS files smaller than approximately 2 GB are converted to use an underlying Guardian file format of Format 1 when opened, so that the files remain accessible using 32-bit APIs. The file size cannot exceed the limit of approximately 2 GB.
- OSS files larger than 2 GB are no longer accessible through the OSS file system and utilities, and DP2 returns errors for any operation other than purging them. However, you can use Enscribe with 64-bit elections to access the files from Guardian.
- A file smaller than 2 GB that was converted to Format 2 on H06.06 appears initially to most utilities (except DSAP/DCOM T9543H01^ABH) as a zero-size Format 2 file after fallback. When the file is accessed for the first time after the fallback, it is converted to Format 1 and shows its actual size.

If you did not install the DP2 fallback SPR before migrating to H06.06, you can still install the SPR upon fallback to take advantage of its benefits.

DSAP/DCOM

The H06.06 version of DSAP/DCOM (T9543H01^ABH) is large OSS file safe, but pre-H06.06 versions are not. If you fall back from H06.06 to an earlier RVU, HP recommends that you install T9543H01^ABH after the fallback.

Backup and Restore 2

If you are falling back to H06.05, install the Backup and Restore 2 SPR T0744H01^AAA to restore files smaller than 2 GB. Files larger than 2 GB are skipped. T0744H01^AAA does not support pre-H06.05 RVUs.

OSS Standard Posix Threads

The OSS Standard Posix Threads product (T1248) is enhanced to:

- Catch externally generated OSS signals in addition to the synchronous signals that result from events occurring inside the process.
- Deliver caught signals to the correct thread.

As a part of this enhancement, new APIs are available:

- `spt_alarm()`
- `spt_signal()`

Migration

To enable the signal-handling enhancement, you must set the environment variable `SPT_THREAD_AWARE_SIGNAL` to value 1 within the shell (`export SPT_THREAD_AWARE_SIGNAL=1`).

3

Application Development Products

The H06.06 RVU contains new features for these application development products:

- [Native Inspect](#)
- [Visual Inspect](#)

Native Inspect

Native Inspect now supports debugging of COBOL programs.

Visual Inspect

Visual Inspect supports multibyte characters in breakpoint condition text. This support enables you to specify characters from languages such as Chinese and Japanese.

Upgrading to Visual Inspect client version 3.x is optional. However, to get the full benefit of the features and performance of the H-series Visual Inspect servers and client, you must upgrade to client version 3.x. If you plan to upgrade your Visual Inspect client, HP recommends version 3.3.

4

Database and Transaction Processing Products

The H06.06 RVU contains new features for this database and transaction processing product:

- [TMF 3.4](#)

TMF 3.4

The HP NonStop Transaction Management Facility (TMF) includes T2076, T2781, T8302, T8606, T8607, T8608, T8609, T8652, T8694, T8695, T8696, and T8698. For H06.06, these new TMF 3.4 features are added:

- Some limits and default parameters are revised to keep up with the increasing size and speed of disks and CPUs. These include tape blocksize, audit trail file size and extended segment sizes.
- To increase fault tolerance, TMF now includes the ability of the transaction management process (TMP) to migrate to a different CPU when a CPU fails.
- Three new options for the ALTER TMF command allow you to change values in TMFCOM rather than SNOOP. These options are NETDISCONNECTTIMER, NETSESSIONIDLETIMER, and DISASTERRECOVERY. The INFO TMF command displays the settings of these options.
- The STATUS TMF command now displays the heap usage of the TMP and library and the transaction sequence number limits for each CPU.

5

Installation and Configuration Products

The H06.06 RVU contains no new features for installation and configuration products.

6

Manageability Products

The H06.06 RVU contains new features for these manageability products:

- [Backup and Restore 2](#)
- [Safeguard](#)

Backup and Restore 2

Backup and Restore 2 supports these features:

- Support for OSS files larger than 2 GB
- BACKCOPY command to copy backup image data from one tape set to another
- Support for SQL/MX tables, catalogs, and schemas containing delimiters

For details, see the *Backup and Restore 2 Manual*.

Fallback

If you fall back to a previous version of Backup and Restore 2, you cannot restore OSS files larger than 2 GB that you backed up previously.

Safeguard

The H03 version of Safeguard and Standard Security improves the cryptology of user passwords in the Integrity NonStop NS-series server environments. The default values of some attributes are changed to increase the "Out of Box" password security.

If you do not want to adopt the new defaults, you can follow the regular migration steps for Safeguard. However, if you use Standard Security alone, you will be impacted by this change.

Attributes specific to Safeguard configuration are:

Attribute	Previous Default Value	New Default Value
PASSWORD-ENCRYPT	OFF	ON
PASSWORD-MINIMUM-LENGTH	0	6

Attributes specific to the PASSWORD utility of Standard Security are:

Attribute	Previous Default Value	New Default Value
ENCRYPTPASSWORD	OFF	ON
MINPASSWORDLEN	0	6
PROMPTPASSWORD	OFF	BLIND

All attributes are applied as each user changes his or her password only.

Encryption

If PASSWORD-ALGORITHM is set to DES or PASSWORD-ENCRYPT is set to OFF, the password (DES-encrypted or in clear text, respectively) is written to both the existing L/USERID and the new L/USERAX files. This approach allows for direct fallback to earlier versions of Safeguard and Standard Security.

If you enable the new HMAC256 encryption option, each subsequently changed password is encrypted using HMAC with the SHA256 algorithm and stored in L/USERAX. Because earlier versions of the security products do not understand HMAC, fallback requires extra steps. For additional information, see [Fallback in a Safeguard Environment](#) on page 6-3 and [Fallback With Standard Security \(Safeguard Not Installed\)](#) on page 6-3.

To assist fallback after PASSWORD-ALGORITHM is set to HMAC256, the DES or clear-text version of each preexisting password is retained in L/USERID. When you change your password, the old password in L/USERID is marked as expired as of that date. For a new user added to the system after the algorithm is changed to HMAC256, the password in L/USERID file is no longer retained.

Migration in a Safeguard Environment

Follow these migration steps:

1. Use VPROC to determine the current versions of:
 - OSMF
 - OSMON
 - SAFEART
 - SAFECOM
2. Back up current Safeguard files (\$*.SAFE.* and \$SYSTEM.SYSTEM.USERID).
3. Use SAFECOM to build an OBEY file to save the current policy. To create an OBEY file, perform these steps in SAFECOM:

```
TACL> safecom/out $system.safe.safevalu/  
=display as commands on  
=info safeguard, detail
```

The output from these commands is retained in a file name SAFEVALU located at \$SYSTEM.SAFE.

4. When the new version of Safeguard is installed and you want to retain your original Safeguard values, obey the SAFEVALU file created in Step 3 in SAFECOM.

If you do not follow these migration steps or if you do not want to accept the new default values, use SAFECOM to modify the appropriate attributes after the new version is installed.

For more details, see Chapter 10 of the *Safeguard Administrator's Manual*.

Fallback in a Safeguard Environment

Because of the new password encryption algorithm, fallback requires advance planning.

In all cases, fall back to the previous version of security software.

If PASSWORD-ENCRYPT is set to OFF or PASSWORD-ALGORITHM is set to DES, no extra fallback steps are required.

If PASSWORD-ENCRYPT is HMAC256, extra fallback steps are required. When users first change their password after HMAC256 is enabled, they must remember their immediate previous password. This step is especially important for the system administrator. After installing the previous version of Safeguard and Standard Security:

1. Before starting Safeguard, the system administrator must log in with the old password. The old password is the one used before the algorithm was changed to HMAC256.
2. Start Safeguard.
3. The system administrator must set an appropriate grace period for users to change their expired passwords.
4. Users are prompted to change their password when logging into the system if one of these statements is true:
 - Their user account existed before the installation of the H03 version of Safeguard.
 - They are new users and their password was encrypted in DES or not encrypted at all before PASSWORD-ALGORITHM was changed to HMAC256.

When prompted, users should enter and re-enter a new password and log into the system as usual.

5. If new users were added to the system after PASSWORD-ALGORITHM was changed to HMAC256, the system administrator must reset their passwords to enable them to log into the system. Otherwise, the users cannot access the system after fallback.

Migration With Standard Security (Safeguard Not Installed)

When the new version is installed, use the new PWCONFIG utility to modify the appropriate attributes if you do not want to accept the new default values.

Fallback With Standard Security (Safeguard Not Installed)

In all cases, install the previous version of Standard Security.

If ENCRYPTPASSWORD is OFF or ALGORITHM is set to DES, no extra fallback steps are required.

If ALGORITHM is set to HMAC256:

- When users first change their password after HMAC256 is enabled, they must remember their immediate previous password.
- After fallback, users must use their old password to log into the system if one of these statements is true:
 - Their user account existed before the installation of the H03 version of Standard Security.
 - They are new users whose password was encrypted in DES or not encrypted at all before ALGORITHM was changed to HMAC256.
- If new users were added to the system after ALGORITHM was changed to HMAC256, they must use a blank password to log into the system.

Additional Technical Information

- The password configuration attributes PROMPTPASSWORD, BLINDPASSWORD, ENCRYPTPASSWORD and PASSWORD MINIMUM LENGTH are duplicated in the \$SYSTEM.SAFE.CONFIGP file so that Safeguard and Standard Security can access them. Any change in these attributes is updated in the \$SYSTEM.SAFE.CONFIGP file only. As a result, Safeguard is enhanced to obtain the values of the these attributes from the \$SYSTEM.SAFE.CONFIGP file instead of the \$SYSTEM.SAFE.CONFIG file.
- The password history record is maintained and updated in the \$SYSTEM.SYSTEM.USERID and \$SYSTEM.SYSTEM.USERAX files as long as encryption is either DES-based or OFF. However, if HMAC256 is enabled, the password history is kept up to date only in USERAX. Therefore, after fallback, you might not see the same password history as before fallback.
- When you move a copy of the USERID file from one system to another, you must also move its associated USERAX file. In addition, consider also moving \$SYSTEM.SAFE.* when performing this type of operation.

7 Hardware Products

The H06.06 RVU contains new features for these hardware products:

- [Integrity NonStop NS1000 Server](#)
- [Integrity NonStop NS5000T Server](#)
- [Tape Drives](#)

Integrity NonStop NS1000 Server

The HP Integrity NonStop NS1000 server combines up to eight HP Integrity rx2620 servers with the NonStop operating system to create the NonStop Value Architecture (NSVA). Each HP Integrity rx2620 server contains a single Intel Itanium processor. The Integrity NonStop NS1000 server supports configurations of two, four, six, or eight processors. It uses a subset of the modular system hardware used by other Integrity NonStop NS-series servers including a 4-port ServerNet extender (4PSE) card. The 4PSE extends ServerNet connectivity from the I/O adapter module (IOAM) enclosure midplane to the rear panel. For more information, see the *NonStop NS1000 Planning Guide*.

The characteristics of an Integrity NonStop NS1000 server include:

Minimum RVU	H06.05.02
Processor type	Intel Itanium 1.3 GHz, 3 MB cache
Processor model	NSE-P
Main memory	4 GB or 8 GB
Maximum processors	8
Supported processor configurations	2, 4, 6, or 8
Maximum Fibre Channel disk modules	16
Maximum IOAM enclosures	1
Maximum I/O adapters	6 — Minimum of 2 FCSAs and 2 G4SAs
ESS support	Yes
Connection to ServerNet cluster switch	Not supported
Connection to S-series I/O	Not supported

Enclosures that house specific hardware components in an Integrity NonStop NS1000 system include:

- Blade element (HP Integrity rx2620 server)
- I/O adapter module (IOAM)
- Fibre Channel disk module (FCDM)
- Maintenance switch (Ethernet)

- Uninterruptible power supply (UPS)
- Extended runtime module (ERM)

All Integrity NonStop NS1000 server components are field-replaceable units (FRUs), and only HP-trained service providers can service them.

Integrity NonStop NS5000T Server

The HP Integrity NonStop NS5000T is a -48V midrange telco server that combines 2 to 16 HP Integrity cx2620 servers with the NonStop operating system. Each HP Integrity cx2620 server contains a single Intel Itanium processor, and one ServerNet PCI adapter card to provide ServerNet connectivity into the NonStop Value Architecture (NSVA). The Integrity NonStop NS5000T server supports configuration pairs of 2 through 16 processors. It uses a subset of the modular system hardware used by other Integrity NonStop NS-series Carrier Grade servers.

The characteristics of an Integrity NonStop NS5000T server include:

Minimum RVU	H06.06
Processor type	Intel Itanium 1.6 GHz, 3 MB cache
Processor model	NSE-I
Main memory	4 GB or 8 GB
Maximum processors	16
Supported processor configurations	2, 4, 6, 8, 10, 12, 14, or 16
Maximum Fibre Channel disk modules	Not supported
Maximum IOAM enclosures	Not supported
Maximum I/O adapters	Supports 4 per S-series CO I/O enclosure
ESS support	Not supported
Connection to ServerNet cluster switch	Not supported
Connection to S-series I/O	Supported

Enclosures that house specific hardware components in an Integrity NonStop NS5000T system include:

- Blade element (HP Integrity cx2620 server)
- Processor switch (p-switch)
- DAT tape drive
- NonStop S-series Central Office (CO) I/O enclosure
- Maintenance switch
- AC power inverter
- Fuse panel

All Integrity NonStop NS5000T server components are field-replaceable units (FRUs), and only HP-trained service providers can service them.

Tape Drives

New automatic cartridge loader (ACL) versions of the HP Ultrium Linear Tape open (LTO) Gen 2 tape drives, the N1526A and N1527A, replace the N1524A and N1525A tape drives, respectively. For more information, see the *N1526A and N1527A ACL Installation and User's Guide*.

DAT72 5243 drives, the 5243 and 5243-2SE (a telco product), replace the DAT72 5242 and 5242-2SE drives, respectively. For more information, see the *5243 Tape Drive Installation and User's Guide* and the *5243-2SE Tape Drive Installation and User's Guide*.

8 Networking Products

The H06.06 RVU contains new features for this networking product:

- [iTP WebServer](#)

iTP WebServer

iTP WebServer supports these new features:

- Obtaining online statistics for internal parameters
As a result, you can collect the statistics of the Hypertext Transfer Protocol daemon (httpd) processes of the desired WebServer, which are grouped under the User and Development parameters.
- Scaling the input, send, and receive buffers when uploading a large payload fails
This feature enables you to scale the size of the request input buffer, the socket send buffer, and the socket receive buffer.
- Relative path mapping inside a CGI script
This feature enables you to map the current working directory to the CGI script directory.

In addition, these configuration directives are added to the iTP WebServer:

- `NewEMSMessageFormat`, which allows you to choose between the current format and the new format of the EMS message display.
- `ServerTokens`, which allows you to request a portion of the Server field to be displayed in the response header information returned by the WebServer.

A

Sources for Migration Assistance and Information

This appendix describes the assistance HP provides when problems arise during the migration and testing process. HP also provides services 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. (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 Scout for NonStop Servers (see page [A-2](#)) and through NTL.

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)

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

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 on 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 you can access through NTL. Information is provided about planning your site for a new NonStop server, product installation and configuration, product availability in a particular RVU, and performance information for a specific RVU.

- *H06.06 Software Installation and Upgrade Guide*

Provides procedures for upgrading to the H06.06 RVU. Instructions include installing the H06.06 SUT and other related installation tasks.

- **The Interactive Upgrade Guide 2**

A browser-based tool that is accessed through NTL, this guide provides customized migration planning information and highlights new features.

- *NonStop NS-Series Planning Guide*

Describes the Integrity NonStop NS-series system hardware and provides examples of system configurations to assist in planning for installation of a new system. It also provides a guide to other Integrity NonStop NS-series manuals.

- *NonStop NS-Series Operations Guide*

Describes how to perform routine system hardware operations for Integrity NonStop NS-series servers. These tasks include monitoring the system, performing common operations tasks, and performing routine hardware maintenance. This guide is written for system operators.

- *The NonStop System Console Installer Guide*

Provides information about upgrading a system console to the latest versions of the applications delivered on the NonStop System Console Installer CD.

- *Managing Software Changes*

Serves as an introduction and reference to TRM2000, the system migration and installation process, SPR analysis, and HP resources for evaluating new RVUs and SPRs.

- **Hotstuff Messages and SPR Notes**

If you do not enroll to receive ExpressNotice messages, you can view Hotstuff messages, SPR Notes, and other ExpressNotice messages in the NTL Support and Service library. For more information, see [ExpressNotice](#) on page A-1.

