



StorHouse®

Release Notes

StorHouse Release 5.4

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Welcome to StorHouse Release 5.4

Release Notes for StorHouse 5.4 identifies the changes made to the StorHouse® software for Release 5.4. This release supports all the capabilities of the previous releases except where noted by this document. In addition, this release includes enhancements and modifications to the previous releases.

New Features for StorHouse Release 5.4

StorHouse now runs on Sun Microsystem® Ultra™ Enterprise and Sun Fire Solaris platforms, and on selected Hewlett-Packard® HP-UX platforms. On an HP-UX platform, the HP server must have a Peripheral Component Interconnect (PCI) I/O bus architecture.

There are also some changes to StorHouse commands, system parameters, operator messages, and the user log. These changes are presented in Chapters 1 and 2.

Intended Audience

This document is intended for StorHouse users who are familiar with the StorHouse software, and for new users who want a summary of system changes.

Related Documentation

The StorHouse User Document Set for Release 5.4 contains the following manuals:

- *Introduction to the StorHouse User Document Set*, publication number 900031, describes the general features of the StorHouse User Document Set and provides an overview of each document in the set.
- *Host Installation and Operations Guide*, publication number 900011 for IBM™ MVST™ hosts, 900051 for UNIX® hosts, and 900052 for DOS hosts, explains how to install the StorHouse host software. These guides are intended for system administrators and system programmers.
- *StorHouse Glossary*, publication number 900027, defines technical terminology used in all FileTek® StorHouse publications.
- *StorHouse Concepts and Facilities Manual*, publication number 900026, defines the basic concepts, structures, and functions of StorHouse. It is intended as a StorHouse reference.
- *Callable Interface Programmer's Guide*, publication number 900013 for IBM MVS hosts and the *Generic Callable Interface Programmer's Guide*, publication number 900046 for all other hosts, are references for programmers who write applications that invoke the StorHouse Callable Interface. These guides explain the functions of the Callable Interface and contain sample programs.
- *Command Language Reference Manual*, publication number 900005, is a general reference for Command Language, the standard command interface between StorHouse and all host computers. It contains descriptions of commands and related concepts.
- *System Operator's Guide*, publication number 900008, contains basic operating instructions for StorHouse hardware and software. It is intended for the system operator.
- *System Operator's Quick Reference*, publication number C00003, presents the procedures for logging in and out of the StorHouse operating system, manually starting the StorHouse software, and signing on and off StorHouse.
- *System Administrator's Guide*, publication number 900007, describes system recovery, account administration, and storage management procedures for StorHouse. It is intended for the system administrator.
- *System Administrator's Quick Reference*, publication number C00006, presents the syntax of StorHouse Command Language commands that system administrators frequently use.

- *Messages and Codes Manual*, publication number 900011, describes the messages and return codes generated by the StorHouse host software and the StorHouse software. It lists the messages by status code, gives the meaning of each message, and indicates any actions to take as a result of the messages.
- *User Log Format*, publication number 900028, describes the format of the StorHouse User Log. It is intended for programmers who write applications to generate reports from statistical information contained in the User Log.



Welcome to StorHouse Release 5.4

Related Documentation

StorHouse Command Changes

This chapter describes changes to the following commands in StorHouse Release 5.4:

- BACKUP
- MIGRATE
- RECOVER VOLUME
- RELOCATE
- RETIRE VOLUME
- SHOW FILE
- SHOW VOLUME
- UNCATALOG VOLUME
- UNCATALOG VSET
- VALIDATE VOLUME

For complete descriptions of these commands, refer to the *Command Language Reference Manual*.

BACKUP

There is a new modifier for the BACKUP command: /ALL. Normally, StorHouse does not immediately write back files that are software-disabled. Now, you can use the /ALL modifier to write back all non-deleted file extents, including those that are software-disabled. Here is a description followed by an example.

/ALL Specifies that all non-deleted file extents, including software-disabled extents, will be written back from the performance buffer to their primary file sets. (This modifier is primarily intended for use by FileTek customer support personnel.)

- FORMAT: /ALL
- DEFAULT: No /ALL modifier. If you omit /ALL, the command writes back only non-deleted file extents that are software-enabled.

Example

To copy to their primary file sets all non-deleted file extents in the performance buffer that have not yet been copied to primary file sets, including those extents that are software-disabled, enter:

```
? BACKUP /ALL
```

MIGRATE

There is a new modifier for the MIGRATE command: /ALL. Normally, StorHouse does not migrate file extents from performance buffer space that is reserved by a group for its exclusive use. Now, you can use the /ALL modifier to migrate all file extents, including those from reserved performance buffer space. Here is a description followed by an example.

/ALL Specifies that all file extents, including those from performance buffer space that is reserved by a group for its exclusive use, are candidates for migration. (This modifier is primarily intended for use by FileTek customer support personnel.)

- **FORMAT: /ALL**
- **DEFAULT:** If you omit /ALL, the command migrates file extents except those from performance buffer space that is reserved by a group for its exclusive use.

Example

To migrate all files from the performance buffer to their primary file sets, including those from performance buffer space that is reserved by a group for its exclusive use, enter:

```
? MIGRATE /ALL
```

RECOVER VOLUME

There is a new modifier for the RECOVER VOLUME command: /MAX_ERRORS. Here is a full description of the modifier followed by an example.

/MAX_ERRORS Controls the maximum number of errors StorHouse allows when it finds file extents that are not accessible on a volume. If the number of errors reaches this limit, StorHouse stops processing the current volume.

- FORMAT: /MAX_ERRORS=number or /NOMAX_ERRORS

/NOMAX_ERRORS (or /MAX_ERRORS=0) indicates that the number of possible errors is not limited.

- DEFAULT: /NOMAX_ERRORS

Example

To recover and export up to 10 disabled backup volumes and limit the number of possible errors to 5, enter:

```
? RECOVER VOLUME * /REPORT /DIRECTORY=BACKUP /LIMIT=10
/MAX_ERRORS=5
```

RELOCATE

There are two new modifiers for the RELOCATE command: /BEFORE and /SINCE. Here are descriptions for each, followed by an example.

/BEFORE Selects file versions for relocation that have a creation date and time value that is the same as or earlier than the value you specify.

- FORMAT:
 - /BEFORE=absolute_time
 - /BEFORE=delta_time

Absolute time specifies a calendar date and clock time. Specify absolute time as:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

If you specify /BEFORE but do not specify a day, month, or year, then the default is the current day, month, or year. If you do not specify an hour, minute, or second, then the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use.

Specify delta time as follows (the leading D is required):

```
D<days>-<hours><:<minutes><:<seconds>>>
```

The default for any field that is not specified is zero. For a full description of the absolute time and delta time data fields, see Appendix B of the *Command Language Reference Manual*.

- **DEFAULT:** If you omit /BEFORE and /SINCE, the system does not select files for relocation based on creation date and time.

/SINCE Selects file versions for relocation that have a creation date and time value that is the same as or later than the value you specify.

- **FORMAT:**
 - /SINCE=absolute_time
 - /SINCE=delta_time

Absolute time specifies a calendar date and clock time. Specify absolute time as:

<<day>-<month>-<year>><:<hour><:<minute><:<second>>>

If you specify /SINCE but do not specify a day, month, or year, then the current day, month, or year is the default. If you do not specify an hour, minute, or second, then the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use.

Specify delta time as follows (the leading D is required):

D<days>-<hours>:<minutes>:<seconds>>>

The default for any field that is not specified is zero. For a full description of the absolute time and delta time data fields, see Appendix B of the *Command Language Reference Manual*.

- **DEFAULT:** If you omit /SINCE and /BEFORE, the system does not select files for relocation based on creation date and time.

Example

To relocate the primary versions of USERFILE that were created before midnight of January 31, 2002 to file set PFSET1 in volume set PVSET1, enter:

```
? RELOCATE USERFILE /VERSION=* /TO_VSET=PVSET1
/TO_FSET=PFSET1 /BEFORE=31-JAN-2002
```

RETIRE VOLUME

There are two changes to the RETIRE VOLUME command: an operational change and a new modifier.

The operational change pertains to volumes that contain unreadable file extents.

- If a volume to be retired contains an unreadable primary file extent, then RETIRE VOLUME looks for a readable copy in the directory specified by the DUPLEX_DIRECTORY system parameter (either ARCHIVE or BACKUP).
- If the volume to be retired contains unreadable backup or archive file extents, the command uses the primary file extent.
- As in previous releases, if there is no accessible extent copy, then the command returns an error condition for that extent and proceeds to process the next extent.

Second, there is a new modifier for the RETIRE VOLUME command: /MAX_ERRORS. Here is a full description of the modifier followed by an example.

/MAX_ERRORS

Controls the maximum number of errors StorHouse allows when it finds file extents that are not accessible on a volume. If the number of errors reaches this limit, StorHouse stops processing the current volume.

- FORMAT: /MAX_ERRORS=number or /NOMAX_ERRORS

/NOMAX_ERRORS (or /MAX_ERRORS=0) indicates that the number of possible errors is not limited.

- DEFAULT: /NOMAX_ERRORS

Example

To retire volume OEB01234567 and erase it, regardless of its mount count and to limit the number of errors to 5, enter:

```
? RETIRE VOLUME /ERASE OEB01234567 /NOMOUNTS /MAX_ERRORS=5
```

SHOW FILE

There are three new modifiers for the SHOW FILE command: /ARCHIVE_EXISTS, /BACKUP_EXISTS, and /PRIMARY_EXISTS. Here are descriptions for each new modifier, followed by an example.

/ARCHIVE_EXISTS

Selects files based on whether or not they have an archive copy. /NOARCHIVE_EXISTS selects files that do not have an archive copy.

- **FORMAT:**
 - /ARCHIVE_EXISTS
 - /NOARCHIVE_EXISTS
- **DEFAULT:** If you omit /ARCHIVE_EXISTS, the system does not select files based on whether or not an archive copy exists.
- **RESTRICTION:** Do not use /ARCHIVE_EXISTS when displaying information for an archive file.

/BACKUP_EXISTS

Selects files based on whether or not they have a backup copy. /NOBACKUP_EXISTS selects files that do not have a backup copy.

- **FORMAT:**
 - /BACKUP_EXISTS
 - /NOBACKUP_EXISTS
- **DEFAULT:** If you omit /BACKUP_EXISTS, the system does not select files based on whether or not a backup copy exists.
- **RESTRICTION:** Do not use /BACKUP_EXISTS when displaying information for a backup file.

/PRIMARY_EXISTS

Selects files based on whether or not they have a primary copy. /NOPRIMARY_EXISTS selects files that do not have a primary copy.

- **FORMAT:**
 - /PRIMARY_EXISTS
 - /NOPRIMARY_EXISTS
- **DEFAULT:** If you omit /PRIMARY_EXISTS, the system does not select files based on whether or not a primary copy exists.
- **RESTRICTION:** Do not use /PRIMARY_EXISTS when displaying information for a primary file.

Example

To display the files in your default file access group that have archive copies, enter:

```
? SHOW FILE * /ARCHIVE_EXISTS
```

SHOW VOLUME

The /RETIRE modifier on the SHOW VOLUME command displays volume sides that should be retired, either because they are in the RETIRE state or now because the volume mount count is exceeded. Here is a full description of the modifier followed by an example.

- /RETIRE Displays the volume sides that should be retired, either because they are in the RETIRE state (media is degraded) or the volume mount count is exceeded.
- FORMAT: /RETIRE
 - DEFAULT: If you omit /RETIRE, the system does not select volume sides based on the RETIRE state.

Example

To display all volumes in the MYVSET volume set that need to be retired, enter:

```
? SHOW VOLUME * /VSET=MYVSET /RETIRE
```

UNCATALOG VOLUME

There is a new modifier for the UNCATALOG VOLUME command: /NOARCHIVED. Here is a description followed by an example.

- /NOARCHIVED Clears the archive flag in the primary directory for every file on an archive volume that you uncatalog. By clearing the archive flag, a file appears as though it is not archived.
- FORMAT: /NOARCHIVED
 - DEFAULT: If you omit the modifier, the archive flag in the primary directory remains set for every file on the archived volume that you uncatalog.
 - RESTRICTION: For archive volumes only.

Example

To remove directory information for all file extents on archive volume OEBC0000242, reduce associated space allocations, and clear the archive flag in the primary directory for every file on the volume, enter:

```
? UNCATALOG VOLUME OEBC0000242 /NOARCHIVED
```

UNCATALOG VSET

There is a new modifier for the UNCATALOG VSET command: /NOARCHIVED. Here is a description followed by an example.

/NOARCHIVED Clears the archive flag in the primary directory for every file on an archive volume(s) in the volume set that you uncatalog. By clearing the archive flag, a file appears as though it is not archived.

- **FORMAT:** /NOARCHIVED
- **DEFAULT:** If you omit the modifier, the archive flag in the primary directory remains set for every file on the archived volume(s) in the volume set that you uncatalog.
- **RESTRICTION:** For archive volumes only.

Example

To remove directory information for files and file sets in the volume set USRAVSET, and clear the archive flag in the primary directory for every file on every archive volume in the volume set, enter:

```
? UNCATALOG VSET USRAVSET /NOARCHIVED
```

VALIDATE VOLUME

There is a new modifier for the VALIDATE VOLUME command: /MAX_ERRORS. Here is a full description of the modifier followed by an example.

/MAX_ERRORS Controls the maximum number of errors StorHouse allows when it finds file extents that cannot be read on a volume. If the number of errors reaches this limit, StorHouse stops processing the current volume.

- **FORMAT:** /MAX_ERRORS=number or /NOMAX_ERRORS

/NOMAX_ERRORS (or /MAX_ERRORS=0) indicates that the number of possible errors is not limited.

- **DEFAULT:** /NOMAX_ERRORS

Example

To validate side A of volume OED34A38DAE and limit the number of possible errors to 5, enter:

? VALIDATE VOLUME OED34A38DAE:A /MAX_ERRORS=5

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StorHouse Command Changes

VALIDATE VOLUME

StorHouse System Parameter, Operator Message, and User Log Changes

This chapter describes changes to selected StorHouse system parameters, operator messages, and user log records for StorHouse Release 5.4.

System Parameter Changes

The default settings for two system parameters have changed. These changes were also made in StorHouse Releases 5.2 and 5.3.

- SQL_LDR_ENGINES – 25
- SQL_LDR_MAXLOAD – 25

Also, the DEL_FILE_PERM system parameter now indicates whether StorHouse is to write deleted file labels on a removable optical volume (erasable or non-erasable) when files are removed from the deleted file directory. This system parameter no longer applies to tape volumes.

Operator Message Changes

- The following operator message is new and was added in Releases 5.1 and above:

XROINFO, LxxEyy, EXCESSIVE DEVICE ERRORS

After many tries, there is an unrecoverable error with exchange station LxxEyy. The system stops using the exchange station and generates the message XROINFO, LxxEyy, DEVICE IS DOWN. Ask your system administrator to contact your FileTek customer support representative.

- The text for one operator message has changed. The new text is:

XQCHFAILED, CALL HOME FAILED. PLEASE CONTACT YOUR CUSTOMER SUPPORT REPRESENTATIVE.
- The following operator message has been deleted. This deletion was also made in Releases 5.2 and 5.3.

XROINFO, INSUFFICIENT SPACE ON VOLUME--VOLUME HAS BEEN PERMANENTLY WRITELOCKED, VOLUME=vid

User Log Changes

There are two new fields for record 11, close_file: first_record and open_time.

Field	Type	Max. Len.	Value
first_record	num	10	Specifies the time (in milliseconds) from the end of the file open to the end of the first I/O (in other words, when the record is read or written).
open_time	num	10	Specifies the time (in milliseconds) from the open request to the end of the file open.