
D3 Linux 7.5.1 Release Notes

August 2007

This document includes changes and other important information for D3 Linux release 7.5.1. Please read this document in its entirety before proceeding with the installation.

These Release Notes contain the following topics:

- [What's New](#)
- [Differences](#)
- [No Longer Supported](#)
- [Other Considerations](#)
- [Known Issues](#)
- [7.5.0 Enhancements and Resolutions](#)
- [7.5.1 Enhancements and Resolutions](#)

Copyright 2007
Raining Data Corporation
www.rainingdata.com
949-442-4400

What's New

This topic lists the significant new features and changes to existing features in D3 Linux.

Debugging Tools

- The BASIC Debugger allows dynamic array and substring references and changes.
- The ability to break into a phantom line while tandemed.

Flexibility

- The logon process allows custom MD and MD password prompts.
- The date format may be set locally for each PIB.

Maintenance Tools

- Allows retrieval of the date and time a program was last run and how many times a program has been run since the last recompile.
- When a logon fails due to insufficient user licenses, the system logs an entry in the errors file.
- SQL tables associated with an account can be automatically deleted with `delete-account`.
- Allows users on remote machines using OSFI to be listed.
- Automatic time adjustment when daylight savings time is properly configured on the host UNIX server.
- Shortened restore time with a new option to suppress the generation of indexes.
- Allows an ODBC connection timeout to be set.

Differences

Frame Size Change

Beginning with release 7.4, the frame size changed from 2 KB to 4 KB.

- If upgrading from a release prior to D3 7.4.0, you *must* perform a file-save before installing D3 because you need to do a full restore and cannot upgrade with data files in place. For example, if you are upgrading from a system with a

2 KB frame size, like D3 7.3.x, to D3 7.4 or higher, you would enter `restore-accounts` (f2000). For additional information, see the section *Migration Tips* in the Installation Guide. However, if upgrading from D3 7.4.1 or later, you can upgrade with data files in-place.

- Third-party products that use assembly code must be updated if you are coming from a D3 7.3 or earlier release because of the frame size change. All custom code needs to be reassembled. If you have D3 7.4 installed and already reassembled the custom code, there is no need to reassemble the custom code again.

Tape Devices

The maximum tape device name increased from 31 to 63 characters.

The maximum number of tape devices increased to 48.

Documentation

The D3 Reference Manual, Using D3 and the System Administration Guide have been updated. Using D3 is renamed D3 User's Guide.

Working With Partitions

In this release, only partitions with an ID of D3 display when viewing them from the D3 Virtual Disk menu. If you create your own partitions, you *must* create them with an ID of D3. For more information, see *D3 Virtual Disk Menu* in the D3 Menus Appendix in the Installation Guide.

No Longer Supported

Restoring Data Files Prior to Upgrading

Upgrading with data files in-place is not supported in this release when you are upgrading from a release prior to D3 7.4.1. You must perform a full save and restore prior to upgrading to D3 Linux 7.5. A full restore is necessary because the frame size increased from 2 KB to 4 KB in D3 7.4.0.

Flash Compiled Devices

Flash compiled devices are no longer supported. Although upgrading to D3 Linux 7.5.x does not remove Flash compiled device definitions (for example, dictionary

items whose names begin with the letters io), they will be removed in a future release.

term-type Command Options

`term-type` (`co` is not supported in this product).

Other Considerations

There are additional items beyond the requirements above that should be taken into consideration before installing D3 Linux 7.5.

Third-Party Products that Use Assembly Code

You *must* obtain a new copy of any third-party product that uses assembly code (for example, Accuplot, PowerComm, Jet, and so on). Third-party products that use assembly code must be updated if you are coming from a D3 7.3 or earlier release because of the frame size change. All custom code needs to be reassembled. If you have D3 7.4 installed and already reassembled the custom code, there is no need to reassemble the custom code again.

Compress Utility

In order to use compressed pseudo floppy, you must have the proper compress utility installed on Linux. Use the `rpm -ivh` command to load the compress utility on Linux, located in package `ncompress-4.2.4-33.i386.rpm`.

Changing Time

The `set-time` command changes the D3 time but not the Linux time.

International Character Set

If you have Unicode enabled to use the international character set, you must do one of the following:

- Modify your coldstart process to execute `!unicode_stop`
- Execute `unicode_stop` before you start the VME

NOTE—By default, `xcs` is set to off.

Disk Partitions

When the hard disk is greater than 8 GB, an older BIOS may not pass on accurate information to the operating system. This may limit the available space of this drive to 8 GB.

When partitioning the hard disk, be advised that D3 uses raw disk partitions to store data.

- DO NOT create a file system on these partitions.
- DO NOT make them mountable.
- DO NOT place them in the `/etc/fstab` file.

Set the hard disk up with one or more partitions with no file system created on them, available for D3.

Writing to a Floppy Disk

When writing to a floppy disk (for example, if you are performing an `account-save` or a `t-dump`), you must execute either the `t-det` (detach the tape) or `t-rew` (rewind the tape) command before removing the floppy disk from the device.

WARNING—The floppy device may not clear the last buffer if one of the two commands is not executed. Consequently, some of the data may not be written to the floppy disk.

Tape Label Sizes

In D3 version 7.1.0, the label size for 8mm tapes was changed from 512 to 80 bytes. Tapes created on earlier releases of AP or D3 can be read using this release by setting the label to 512 bytes.

To read D3 7.5.x tapes on other platforms using an earlier release of AP or D3, the label size must be adjusted to 80 bytes.

Where *n* is the device number:

- To change the label size to 512 bytes, enter:
chg-device n label=512
- To change the label size to 80 bytes, enter:
chg-device n label=80

SMP Support

SMP support is based on the Linux distribution.

Printing

Since Linux printing is BSD based, lppick must be told explicitly to send to lpr. Any references from existing applications to lp should be substituted with lpr. Any references to lpstat should be substituted with lpq. Neither command takes the same arguments. Refer to the man pages for more details.

Backups

To ensure proper operation of 4mm and 8mm tape devices as well as multireel saves, see the *Peripherals* Appendix in the D3 Linux System Administration Guide.

Backspace Key on Linux Console

By default, the Linux console maps the value of DELETE to the Backspace key, and the value of BACKSPACE to Ctrl+Backspace. D3 expects to see a Backspace in most cases. To correct this on the Linux console, load the supplied keyboard map to swap the definitions of Backspace and Ctrl+Backspace:

- Log in as root and enter:

```
loadkeys /usr/lib/pick/keymap
```

Perform this procedure after every Linux boot. To execute this command from user-coldstart, place an ! (exclamation mark) before the command.

BACKSPACE may seemingly fail in other environments such as under X Window System or other terminal emulators. Please refer to their documentation for instructions to redefine a key or send a Backspace.

Default UNIX User

The default UNIX user statement cannot be changed to null in the Display/Modify D3 configuration menu by selecting the option and pressing the Spacebar, then Enter as indicated in the Installation Guide.

To change the user to null before starting the virtual machine:

1. Complete the D3 installation options.

2. Locate the file `/usr/lib/pick/vmname`.

where *vmname* is the name of your virtual machine. Our examples in the installation guide use `pick0`.

3. Edit the file with an editor of your choice.
4. Go to the user line and remove it.

Device is Write-Protected

When Linux is installed, the permissions are set to 660 for the 3 1/2" 1.44 floppy device `/dev/fd0H1440` and 660 for the `/dev/nstN`, where *N* is the number of tape drives. Because the user *pick* is not a root user, the permissions are not sufficient for D3. As a result, when a D3 process attempts to write to the floppy or tape, a message displays indicating that the drive is write-protected or the system hangs. To write to the device from D3 execute the command:

- For floppy
`chmod 666 /dev/fd0H1440`
- For tape
`chmod 666 /dev/nstN`

Known Issues

For problem reporting, please include the installation version number. This number can be found on the upper part of the screen after booting the installation and ramdisk images.

OSFI Server

In the case where an OSFI server, due to a socket or network failure, has a return stack entry of `rps.fatal.err`, as displayed by the `where` command, servers need to be stopped and restarted from the network-setup menu.

Reclaiming Overflow

Reclaiming overflow (`reclaim-ovf`) does not function and will abort.

FlashCONNECT 3.1 and mvDesigner 2.0

FlashCONNECT 3.1 and mvDesigner 2.0 are not certified on Red Hat Enterprise Linux, so they do not work with this version of D3 Linux.

Problems with Remedies

System Hangs After First Reboot

Problems with the Master Boot Record (MBR) may cause the system to hang after the first reboot. Another indication that there is a problem is if the splash screen says LI instead of LILO. There are two conditions that produce master boot record problems:

1. If no operating system was ever installed on the primary hard drive, the MBR may be nonexistent before D3.

WARNING—Existing partitions may be inaccessible after reinitializing the MBR. If it is desirable to have other operating systems present on the same hard drive, caution must be used in any manipulation of the MBR. If not, use the method below to reinitialize the MBR.

- a. Boot the computer using an MS-DOS (version 5.0 or higher) disk
 - b. Execute the command:
a:fdisk /mbr
2. If another operating system was installed on the primary hard drive, the MBR of the primary hard drive may be corrupted.

Operating systems known to have MBR conflicts with LILO:

- OS/2
- Windows NT
- Other versions or releases of Linux (using LILO)

If the system will not boot after installing D3 Linux, and one of these operating systems was previously installed on the primary hard drive, the conflict in the MBR of the primary hard drive must be resolved.

7.5.0 Enhancements and Resolutions

Enhancements

Access

Action ID	Description
26360	Enhanced ACCESS by adding MD entries hdr.user, hdr.pib, hdr.date and hdr.time for display with the "hdr" driver.
28908	Enhanced the "output-macro" d-pointer function to recognize the "total" modifier.
30737	Enhanced Access with checks to ensure multiple wildcards are not used.

BASIC Compiler

Action ID	Description
30697	Enhanced the BASIC compiler to require at least one space after the "READ{V}{U}" and "FROM" keywords for a file read, and the "WRITE{X}{V}{U}", "ON", and "TO" keywords for a file write.

BASIC Debugger

Action ID	Description
22143	Enhanced the BASIC debugger to allow dynamic array and substring references and changes (for example, "/x(1,2)<3,4,5>[2,1] a=b").
30065	Enhanced the FlashBASIC debugger to be able to print select list variables as if they were strings.
31802	Enhanced the FlashBASIC Debugger to display and modify dynamic array attributes and values, as in "**/dyn<3,2>"

BASIC Runtime

Action ID	Description
22261	Added the ability to retrieve the Date and Time a program was last run and a count of the number of times a program has been run since the last re-compile. The information is available via the object pointer item in the dict of a program file (for example, CT DICT BP PROG). Also, added three new items to the MD: R/DATE, R/TIME and R/COUNT. NOTE: a program must be re-compiled in order to activate the run-time feature. Only works in the VME.

BASIC Runtime

Action ID	Description
27104	Enhanced "system(0)" to return the lock owner when used in the "locked" clause of a "filelock" statement.
31202	Implemented BASIC function ACCESS(27), which returns the name of the account containing the D-pointer for the file from which the BASIC program was called via trigger or a call from a correlative.
31273	Implemented BASIC system(45) function to return the name of the currently executing program or subroutine.
31656	Added the ability to use a select list variable as the source on a basic SELECT statement.

Coldstart/Shutdown

Action ID	Description
26580	Enhanced the shutdown procedure to check critical files for consistency, prior to beginning the shutdown process.
30575	Enhanced the shutdown with a timed interactive prompt for the clearing of asserted spooler locks.
31073	Enhanced the coldstart routines so that in the event that the spooler cannot be started, the prompt to initialize the spooler will time out after 15 seconds and initialize, so as to not hang the coldstart procedure.
32261	Added the ability to set the system-coldstart macro to a "M" type (single step) macro while booting.

Conversions/Correlatives/Masks

Action ID	Description
15150	Enhanced by adding an MCI conversion to invert a string of characters.

Data Set

Action ID	Description
32452	Added the functionality that logs if a process is killed by someone external to D3.

File Management

Action ID	Description
27971	Enhanced "create-file" with an f-option, which places a 'c' in attribute 17 of the file-of-files item to suppress the logging of clear-file information within the file-of-files item each time a file is cleared. Oversized file-of-file items can significantly degrade performance in operations where multiple clear-files are done on the same file.
30078	Enhanced the clear-locks and list-locks commands with an a-option to clear/list only client (allocator/producer) transaction locks, and a c-option to clear/list only server (consumer) transaction locks.
31496	Added a 'z' option to delete-account to bypass the prompts for displaying files and confirmation. This option is useful when deleting accounts from a BASIC Execute.
32039	Added d-pointer type "DF", which will prevent the logging of clear-file commands to the File-of-Files.

Hot-backup

Action ID	Description
22241	Enhanced Hot-backup to support resize transactions.
31037	Modified hot-backup so that phantom job items spawned by the hot-backup daemon are deleted upon completion.
32146	Enhanced Hot-backup to issue a warning if the queue reaches 90% of its limit while the primary server is attempting to establish a connection.

Indexes

Action ID	Description
30066	Enhanced create-index to ensure the a0 index case-sensitivity matches that of the item-id case sensitivity.
30077	Enhanced list-index to show the case-sensitivity of the indexes.
30545	Enhanced create-index to emit a warning if the case-sensitive option "C" is used with the "*" all indexes specifier. If the "*" index specifier is used, index case sensitivities all remain unchanged, whether the "C" option is present or not.
30585	Enhanced the 'list-index' command to support listing of indexes in an account or system.

Logon/Logoff/Logto Routines

Action ID	Description
22337	Enhanced the logon process to allow custom MD and MD password prompts. The prompts are now read from the MDS items "mdprompt" and "mdpword".

Logon/Logoff/Logto Routines

Action ID	Description
30123	Enhanced the turnkey telnet logon procedure to wait for a connection before the logon prompt displays.
30711	Enhanced the system to log an entry in the errors file when a logon fails due to insufficient user licenses.
31524	Enhanced reset-user to include the PIB# of the line issuing the logoff in the logoffs file.
31596	Added "logon-reporting {(n f}" verb to the DM account. When set to "ON", any failed logon attempts will be logged in the errors file.
31657	Enhanced wrapup routines to clear all system level locks held by a line when returning to level 0 TCL.

Monitor

Action ID	Description
23077	Added the -icrlf option to the D3 command to ignore the linefeed character when sent after a carriage return.
29992	Modified the disk subsystem to drop to the monitor debugger in case of a disk error.
32074	Added the ability for UNIX to read/write pseudo floppies greater than 2 gigabytes, if the underlying filesystem supports it.

MQSeries

Action ID	Description
28334	Added the MQSeries built-in table to FlashBASIC, to enable the use of MQSeries calls from FlashBASIC.

OSFI

Action ID	Description
28422	Enhanced "network-setup" to not attempt to start OSFI servers if OSFI is not activated.
30146	Modified the CT verb to not use unnecessary workspace copies of the item body.

OSFI

Action ID	Description
31153	Added a new command "osfi-server-prot" to enable or disable OSFI Server Protection. In a setup where a D3 client opens a file on a remote server, which causes that server to open the file from a second remote server, OSFI Server Protection will hold the OSFI connection to that second server to ensure the integrity of internal tables, guaranteeing that the correct file will be retrieved. With OSFI Server Protection disabled, the connection will not be held in this case, which will free the network connection, but could result in the wrong file being accessed under a certain series of events.

Overflow Handler

Action ID	Description
30980	Enhanced reclaim-ovf to display how many lost frames were recovered.
32139	Enhanced init-ovf to prevent running on multiple lines.

Phantom Processor

Action ID	Description
26168	Enhanced by adding the ability to break into phantom processes while tandemed.
26376	Enhanced the phantom processor so that if the users "p" option is set, the phantom evaporates with an "error" status if the phantom hits an input prompt. Without the "p" option, the phantom generally stops at the input, where it can be accessed by another process using the tandem or poke commands.
31207	Implemented startsched "R" option, which causes the scheduler to kill and restart the native process/thread underlying a phantom line when the job completes. This is to be used if a phantom is leaking system resources, until the cause of the leak is determined.
32138	Enhanced the activation procedure to start any jobs that were queued prior to activation.

Programs & Utilities

Action ID	Description
25484	Enhanced the "chksum" program so that the file can be specified using full pathing.
25959	Enhanced the BASIC runtime error logging to include the BASIC call stack in the list-runtime-errors report.
25988	Enhanced "index-select" to improve performance when working with large lists (> 10,000 items).
26206	Enhanced the "end" and "tcl" commands to return an error if the target process is in the debugger.

Programs & Utilities

Action ID	Description
26354	Added the "job-status" command to return the status of a job item given its item-ID. Also, added several status bits to report input conditions such as 'waiting for next reel', 'parity error', and so on.
26617	Enhanced "list-file-stats" to support the w option for scrolling capability.
26669	Enhanced "delete-account" with a t-option to automatically delete any SQL tables associated with that account.
26687	Enhanced the dev-remov command by adding a dev-remove synonym.
26752	Enhanced "file-sizer" so that an entire account's contents can be removed from the List of Selected Files.
27007	Enhanced maxusers to allow specifying a ceiling for the maximum number of users allowed on the system.
27410	Enhanced dev-make so that more cases of invalid syntax are identified, preventing invalid assignments.
27744	Enhanced the "check-dx" utility to include FSI files.
27753	Added "inputwait" to dm,newac, so that the program is accessible from new accounts.
28168	Enhanced list-users to show users on remote machines using OSFI. Syntax: list-users host:
28306	Enhanced "update-md" to work properly from an account outside of DM.
28430	Enhanced the set-date-eur and set-date-std commands with an L-option, which will allow the setting of the date format locally for each pib. The default local setting will be determined at logon by the global setting.
28548	Enhanced the "paint" command with an F-option to produce a form feed between items.
29085	Enhanced the "set-compiler" command to display the current setting if a setting is not specified, and the default compiler setting has been changed.
29252	Enhanced syschk alerts to include the name of the virtual machine.
29463	Enhanced the @pib global variable query to return the pib number without opening the pibs file, greatly reducing the potential of lock contention.
29472	Enhanced set-port with an 'i' option to update devs,init as well as the pick_term file
29498	Enhanced :ent-list to display 4-digit pib numbers.
29885	Added TCL command 'LFSB' to report the number of index frames used as of the last save.

Programs & Utilities

Action ID	Description
29989	Enhanced the "kill" program to display an error when attempting to specify a pid <= 0.
30004	Enhanced the System Utilities to log the OS user-id, if it can be obtained, in the "errors" file of the user that booted the virtual machine and issued the shutdown command.
30170	Enhanced list-locks to validate options and to display usage information.
30841	Added the system setting "log-clear-file-on" and "log-clear-file-off" to control logging of the clear-file command in the FOF.
30846	Enhanced the maxusers program to set the maximum number of users allowed to the maximum allowed by the pool when the "m" option is used without the supplemental numeric option.
30908	Added the ability for D3 to automatically adjust the time when daylight savings is properly configured on the host UNIX server.
30926	Enhanced the 'flushd' utility by adding an 'a' option to allow only 1 flush process to be started and executed.
30927	Enhanced the 'flushd' utility by adding a 'l' option to log available buffers data to the errors file.
30928	Enhanced 'tlqdisplay' by adding an 'e' option to copy the first transaction into a file.
30961	Added a 'w' option to the flushd utility to monitor write required buffers instead of available buffers.
31048	Enhanced the 'odbc-setup' utility to work properly when the path variable is not set up.
31069	Enhanced verify-index to include an 'a' option to allow verification of all indexes in an account or entire system.
31117	Enhanced check.pib to support multiple blocks of nailed telnets.
31118	Enhanced check.pib to show if a PIB is running a PDP connection.
31151	Modified the 'date' and 'time' dictionaries in backgrounds.output so that they can be used with selection criteria in an Access statement.
31235	Enhanced the pibstat utility to display a summary description for common status codes.
31521	Enhanced the "which" command to display the newest release component date with the Release Version when using the d-option.
31701	Enhanced the Data Set Programs with a "coma" command to allow setting/clearing the coma status of a given line.

Programs & Utilities

Action ID	Description
31725	Enhanced the clear-jobs utility to delete items in reverse-group order, improving performance.
31752	Added the "flip-list" command to invert a select list. Syntax: flip-list {filename} list.id
31928	Added the "watch" command to the list of verbs propagated to new accounts using the update-md command.
32275	Enhanced the listfiles utility to display qs-pointers.
32315	Created a new activation procedure that automatically activates the D3 product via the internet.

Save/Restore

Action ID	Description
27068	Enhanced the save processor to log a "Pointer Item-id Mismatch" error if the item-id in the group does not match the item-id in the pointer item, and to log a "Group Link" error if the first frame of a pointer item has a backward link.
27472	Enhanced the file-save to prevent an incremental save if a full save has never been done.
29560	Added the 'g' option to the restore process to suppress the generation of indexes. This option produces null indexes, allowing the restore to complete sooner.
30025	Added logic to correctly compute the source system frame size when t-loading to a system with a different frame size, removing the need to use the t-load r{frame.size} option.
32135	Enhanced the restore to convert pointer items to non-pointer items when applicable while restoring a 2k frame save on a 4k frame system.
32151	Enhanced the restore process to automatically correct internal inconsistencies within pointer items.

Spooler

Action ID	Description
23131	Enhanced the Spooler by increasing the maximum number of formqueues to 2048.
30706	Enhanced the peqs virtual driver with an item-lock structure.
r1634	Enhanced startspooler to kill all printers prior to reinitializing the Spooler.

SQL/ODBC

Action ID	Description
29923	Added the ability to set a timeout for ODBC connections. Use <code>odbcdrv -t{# of minutes}</code> to specify how much inactivity before disconnecting.
30200	Corrected a problem with the <code>sql</code> scalar function <code>CURDATE()</code> internally using a <code>VARCHAR</code> type instead of <code>DATE</code> type causing clauses comparing a field with <code>CURDATE()</code> to fail.
31606	Enhanced <code>sql-create-table</code> and <code>sql-create-view</code> to support full file pathing in the "using" clause.

System

Action ID	Description
20769	Enhanced the system debugger so that "exit" can be entered at the "!".
30073	Enhanced the catalog verb with the 'F' option to place the full path (account,file, program) in the catalog pointer. In addition, options may now be placed on attribute 6 of the verb definition for the catalog verb, making those options the default behavior for the catalog command.

Tape Handler

Action ID	Description
29886	Enhanced <code>t-select</code> to prompt for the creation of a pseudo floppy device name if the device does not exist.

Resolutions**Access**

Action ID	Description
21355	Corrected a problem with the <code>ACCESS r</code> option so that if output is sent to the printer and an <code>assignfq</code> is not in effect, the bold-on and bold-off escape sequences will be suppressed.
25978	Corrected a problem with the "sum" command, which processed only the first correlative of an attribute definition.
28722	Corrected a problem with <code>Access select</code> , which failed to select items when using the "#" operator on an indexed attribute.
28731	Corrected a problem with <code>Access select</code> , which caused the process to take longer than necessary when using multiple clauses in conjunction with an index.
29927	Corrected the selection process to properly calculate the size of binary items.

Access

Action ID	Description
30118	Corrected a problem with the AQL 'e' option which would sometimes cause an abort when used with a TCL macro.
30231	Changed the behavior of a select of an OSFI file to not read the entire item when only the filename is referenced.
30349	Corrected a problem with the tabbed output feature that caused null dependent attributes to be processed incorrectly. This could lead to problems with certain interactions with the PickDP product.
30723	Corrected a problem with the Access sorting function, which caused incorrect sort order when a sorted field containing a large number is followed by another sort field in a different direction, for example "by att1 by-dsnd att2" or "by-dsnd att1 by att2", where att1 and att2 are both right justified and att1 references a number longer than 14 digits.
30933	Corrected a problem with the Access break-on b-option, which displayed an incorrect header value when used with the break-on d-option.
31220	Corrected a problem with Access, which caused values to appear to be skipped when converting a single value to multi-values during a BASIC call in an Access listing.
31280	Corrected a problem with Access, which failed to display column headers when the process was initiated from a D3 menu.
31502	Corrected a problem which caused large numbers to not add properly when using a- or f-correlatives with an Access "total" statement.
31620	Enhanced the 'SUM' verb to compute very large numbers correctly.
31841	Corrected a problem with Access, which caused a 'basic subroutine "name of program" cannot be retrieved' error when a call was made from a multivalued a-processing code against a remote or FSI file.
32243	Corrected a problem with Access(27), which prevented it from working when the trigger was called from a remote file.

BASIC Compiler

Action ID	Description
26817	Corrected a problem with the BASIC compiler, which interrupted the compilation of an entire file if a null item-id existed in the file.
28882	Corrected a FlashBasic compiling error when a reference to a dimensioned variable appeared before its definition in the program.
29000	Corrected an intermittent BASIC compiler error which would hang with the CPU at 100% when a program contained the tab character.

BASIC Compiler

Action ID	Description
30651	Corrected a problem with the FlashBASIC Compiler, which caused "Input@" statements to use the printer device codes instead of the terminal device codes when they were used with a "printer on" statement in effect.
32015	Corrected the BASIC compiler to display a proper message when attempting to compile a binary item.
32313	Corrected a problem with the FlashBASIC Compiler, which caused an error when compiling about 2,000 programs with a single compile command with the "k" option.
32383	Corrected a problem with Flash Patch F17 causing reads of pointer items to abort.

BASIC Debugger

Action ID	Description
30420	Corrected a problem with the BASIC Debugger, which could cause a Frame Out of Range error when using the "/"* debugger command.
30421	Corrected a problem with the BASIC debugger that caused single stepping to be cancelled after a RETURN statement when the single stepping had been started in the CALLED subroutine being exited.
30684	Corrected a problem with the FlashBASIC debugger not being able to single step in a program if it contains a BREAK OFF statement.
31096	Corrected a problem with the FlashBASIC Debugger not skipping break value changes if using the n# command.
31935	Corrected a problem with the BASIC debugger that caused array numeric references (e.g. "/dynarr<500>" or "/dimarray(50)") to display incorrect data and, if data is entered at the display prompt, modify the wrong location, beginning with array element 5 at precision 9, 50 at precision 8, 500 at precision 7, etc.

BASIC Runtime

Action ID	Description
22203	Corrected a problem with the BASIC call @ function, which displayed the filepath of the program during a runtime error, instead of the program name, when inside a subroutine that was called with a filepath specification.
25563	Corrected a problem that caused non-Flash compiled "matbuild" statements that resulted in dynamic arrays of lengths greater than 32 KB to possibly fail to strip the trailing attribute marks.
25994	Corrected a problem with the BASIC "input" command, which failed to recognize stack data when using a length specification of 0.

BASIC Runtime

Action ID	Description
26098	Corrected a problem that caused a subvalue not to be found when using dynamic array wildcards for the AMC and VMC, and an actual number for the SVMC if the value preceding the one containing the subvalue had fewer subvalues than the given SVMC.
26336	Corrected a problem that left numbers stored as strings with leading zeros intact instead of as indirect numbers without leading zeros when zero was added to a string number that overflowed when converted to a numeric.
28455	Modified format masks to return NULL when using a zero length format mask (for example 'L#0').
29390	Corrected a problem with "EXECUTE aCmd RTNLIST aList" that caused variable aList to be corrupted by a subsequent "CLEARSELECT" statement.
29559	Corrected a problem with Basic, which caused processes like the Editor to limit user input after breaking out of a limited input command (input x,2_) in Basic.
30009	Modified the BASIC "root" statement so that if the file is not already open by the process at that level, the "root" statement will open the file and leave it opened until a "close root.var" statement is issued.
30076	Corrected a problem with FlashBASIC attempting to free memory multiple times, resulting in various aborts.
30159	Corrected a problem with FlashBASIC which allowed it to read binary items incompletely without the use of the bin OSFI driver.
30233	Modified the "send-message" command to display messages even if the user has disabled break-key recognition.
30265	Corrected a problem with FlashBASIC failing to handle a string that exceeds 134Mb. The program will now enter the BASIC debugger with message B907: string length exceeds maximum size.
30294	Corrected a problem with FlashBASIC using multiple array references on the left side of an assignment.
30313	Corrected a problem with FlashBASIC clearselect statement not clearing a select list if an externally generated select list is created but no item ID's are read from it.
30595	Corrected a problem with the FLASHBasic PWR function not returning accurate results.
30596	Corrected a problem with FlashBASIC not producing correct results and sometimes aborting when multiplying large numbers.
30600	Corrected a problem with the FlashBASIC SUM function aborting with a system abort when attempting to sum an array with multiple levels of delimiters and a large number of the elements are null.

BASIC Runtime

Action ID	Description
30603	Corrected a problem with BASIC, which caused the system(0) value to be cleared when calling a subroutine.
30611	Corrected a problem with FlashBASIC not releasing temporary variables, therefore, causing memory leaks.
30633	Corrected a problem with large BASIC literal numbers containing a decimal point that caused a "non-numeric data" warning when the decimal character was set to a character other than a period.
30673	Corrected a problem with FlashBASIC, which would abort if dividing by an array.
30713	Corrected a problem with FlashBASIC, which could produce erroneous mathematical results if a string with a decimal point is used as a test condition then used as a numerical value.
30738	Restored the ability to retrieve the errmsg code from the statement 'EXECUTE "SET-DEVICE tapefile.name" RETURNING ERRMSG'.
30794	Corrected a problem with the F8 patch, which caused some math functions to produce erroneous results if using decimal numbers in FlashBASIC.
30795	Corrected a problem with FlashBASIC Runtime, which caused the group extract conversion to produce results that differed from non-Flash.
30917	Corrected a problem with the FlashBASIC int function leaking memory.
30936	Corrected a problem with the clearselect FlashBASIC statement introduced with the F12 patch, which would produce a workspace inconsistency if a clearselect was executed without a select list variable active.
30987	Corrected a problem with FlashBASIC that would cause it to lose overflow space if sufficient overflow space was unavailable or if there was an error communicating with the native file system.
31111	Corrected a problem with multiply, divide, and add functions not truncating large string operands to precision before doing the calculation, causing inconsistencies between string math and binary math near their boundaries.
31116	Corrected a problem with FlashBASIC string math add function occasionally putting a ' ' at the beginning of its result.
31119	Corrected a problem with FlashBASIC Runtime, which caused "write" statements to take the "on error" clause when the write was successful.
31168	Corrected a problem with FlashBASIC runtime, which caused a false file inconsistency to be reported when a "clearselect" was followed by another "execute select" and "readnext", under certain conditions.
31179	Corrected a problem with the Abort FlashBASIC statement not printing the correct line number.

BASIC Runtime

Action ID	Description
31303	Corrected a problem with the PROC/BASIC interface that caused a Forward Link Zero abort @ r.initsr:EC in certain cases.
31452	Corrected a problem with the BASIC Execute command, which failed to execute all commands when several commands were specified in a single Execute and the first command itself did an Execute.
31551	Corrected a problem with the BASIC runtime that caused a CHAIN to a complex SSELECT to sort items in incorrect order.
31573	Corrected a problem with BASIC runtime, which could cause random errors when using the input @ function, chain or soundex commands.
31583	Corrected a problem with the Basic SORT function, which caused incorrect results when logically comparing one sort function to another, as in "sort(a) = sort(b)".
31599	Corrected a problem with the BASIC "occurs" function that would fail when used multiple times in an expression.
31618	Corrected a problem with executing BASIC conversions from dictionary items that caused 'Unable to "init" more frames' errors.
31679	Corrected a problem with string math in FlashBASIC not doing numeric compares if the numbers are too large, with or without the precision.
31700	Corrected a problem where subsequent commands of a multi-commanded execute would not be executed. Also, corrected problems where subsequent commands could run out of logical order. These changes define the command delimiter as AM and the data delimiter as VM within the Basic execute command. Also, added "exec-stacking-on" and "exec-stacking-off" commands to enable or disable these changes, respectively, allowing legacy applications to ignore these changes if required. The default exec-stacking setting is "off", and the setting status can be displayed using the "exec-stacking" command. The setting takes effect for the process by default, or globally when the g-option is used. Processes inherit the global setting at logon time.
31854	Corrected a problem with the FlashBASIC Interpreter Run Time, which caused programs to abort when adding very large numbers and zero.
31855	Corrected a problem with the BASIC SORT function that caused it to place the value of zero incorrectly when right justified sort was specified.
31884	Corrected a frame leak that would occur when a list was selected but not exhausted.
31896	Corrected a problem with FlashBASIC, which caused overflow to be leaked when a select list was imported using a FlashBASIC "select" statement, but the list was not exhausted using "readnext".

BASIC Runtime

Action ID	Description
31984	Corrected a problem with FlashBASIC Runtime, which caused an overflow leak when a new list was created using the FlashBASIC "select" statement to a variable already referencing a list when the existing list was not exhausted.
32008	Corrected an issue with BASIC error B16 which would intermittently report line 0.
32024	Corrected a problem with FlashBASIC Runtime, which caused "write" statements to take the "on error" clause when the write was successful.
32091	Corrected a problem with FlashBASIC, which caused the minus sign to be positioned incorrectly when padding a number that was justified using the m processing code.
32092	Corrected a problem with FlashBASIC runtime, which caused "write" statements with an "on error" clause to abort into the FlashBASIC debugger when the file being written to was update protected.
32105	Corrected a problem with FlashBASIC, which caused a fractional value to evaluate to false when extracted from a dynamic array.
32328	Corrected a problem with System(100), which caused it to unnecessarily allocate a frame of workspace.
32370	Corrected a problem with BASIC Runtime, which caused a [B27] "RETURN executed with no GOSUB" error when a "return" from a subroutine was done after a "return to" without a local "gosub".
32387	Corrected a problem with FlashBASIC Runtime comparisons, which returned true when comparing an empty string to a decimal point.
32394	Corrected a problem with the "MR0Z" mask, which caused it to trim zeros other than the leading zeros.
32396	Corrected a problem with uninitialized variables causing different results if a SIGPIPE signal is received.
32424	Corrected a problem with FlashBASIC, which caused the "readnext" statement to return nothing when a subroutine was called from Visual Basic via RPC.
32445	Corrected a problem with BASIC Runtime, which would cause a garbage collect abort when using the right combination of execute, select, clearselect and chain statements.
r1647	Corrected a problem that would cause the "*" extract operator to reference the wrong element in a dimensioned array.

Coldstart/Shutdown

Action ID	Description
26624	Corrected a problem with the coldstart routines, which did not set the "logon-lock" feature to 'off' by default.
29622	Corrected D3 coldstart so that the 'coldstart-accounts' program only runs if the machine is a mds server.
30195	Corrected a problem with Shutdown, which caused the system to wrapup only lines 0 and the current line when the scheduler was logged off.
30626	Corrected a problem with shutdown that would lose overflow space for lines that happened to be in the system debugger and unable to log off.
30809	Corrected a problem with shutdown that caused it to lose two frames for each logged off process. That is, any line that had logged on, then logged off itself or was logged off by another process, including the shutdown process. The number of logon/logoffs per line did not matter; multiple logon/logoffs on one line would have lost two frames for that line at shutdown time.
31137	Corrected a problem with coldstart/shutdown, which caused the user-id specified in the configuration file to be logged to the errors file instead of the actual OS user-id when booting and shutting down.
31631	Corrected a problem with Shutdown, which prevented shelled D3 processes from being killed when shutting down D3.
31641	Corrected a problem with the Coldstart, which would hang if there were several pending BASIC transactions.
32252	Corrected a problem with the Coldstart Routines, which could fail to initialize the background processor if the Spooler required user intervention during initialization.

Conversions/Correlatives/Masks

Action ID	Description
21554	Corrected problems with s-correlative and bridge interactions that caused aborts.
30288	Corrected a problem with the MCT conversion, which capitalized the last letter of a possessive noun (i.e., Mark'S).
31510	Corrected a problem with "f" correlative comparison operators that caused incorrect results with very large numbers.
31512	Corrected a potential problem with 'f' and 'a' correlatives and 'or' and 'and' operators, which could cause an incorrect evaluation if an operand was a very large number that caused the internal accumulator to overflow under certain conditions.
31518	Corrected a problem with the "A" and "F" correlative "S" (summation) operator that caused it to return incorrect results when large numbers were involved.

Conversions/Correlatives/Masks

Action ID	Description
31632	Corrected a problem with Conversions, which caused lengthy a-correlative "if" statements to abort when using det-supp.
31897	Corrected a problem which corrupted f-correlative workspace, causing the 'L0' processing code to endlessly consume overflow space for a string length of 1.
31923	Corrected a problem with the MR% processing code, which padded negative values incorrectly.
32189	Corrected a problem with the BASIC "mr" formatting code, which inserted an extraneous "-" character when masking negative numbers with certain masks.

Data Set

Action ID	Description
30101	Corrected a problem with BASIC that prevented conversion errors from being logged in the runtime-errors file.

File Management

Action ID	Description
21457	Corrected a problem with the Update Processor, which ignored locked items when using the "*" specifier to update all items.
22049	Corrected a problem with the group and item commands, which caused an erroneous "File inconsistency" message when executing group or item commands on an md whose file definition had a "callx" correlative.
26616	Corrected a problem which caused an abort when executing the command "item md md" in an FSI account.
28005	Corrected a problem with the File Open routines, which caused the dictionary level to be accessed instead of the specified data level when a dictionary level q-pointer specified an account, dictionary and data level.
29985	Corrected a problem with case sensitivity ambiguities that caused incorrect sort orders. Also, implemented the "c" option for create-index to specify that the keys are case sensitive. The default is case insensitive.
30197	Corrected a problem with the Save, which ended prematurely when a file inconsistency was encountered within a binary item.
30248	Corrected a problem with clear-locks that caused it to log a null message in the errors file when used with the "m" option to clear only phantom locks.
30554	Corrected the "item" command to display a File Inconsistency error in the case where a group ends with xFFFF, the forward link has been truncated, and the "item" command is used on the file without arguments.

File Management

Action ID	Description
30758	Corrected a problem with the File Open routines, which caused the contents of the default data level referenced by a q-pointer to be used when a reflexive q-pointer was set to point to a non-default data level in another file.
30951	Corrected a problem with logoff that caused it to leave the txlog "fof" and "con" locks set if they were held by the logged off line and the line's underlying process/thread had died before the logoff.
31193	Changed the "clear-locks (i[pi])" command to report "No locks found" when appropriate.
31337	Changed the system to not allow a clear-file command on the jobs file.
31464	Corrected a problem where under heavy memory contention a buffer could be allocated to multiple frames.
31479	Enhanced the delete-account t-option so that sql, tables, items from q-pointer accounts are deleted in addition to tables in the actual account.
31597	Corrected a problem with delete-account, which deleted an FSI q-pointer after answering "N" to the deletion confirmation prompt.
32232	Corrected a problem with opening a file, which caused a FLZ when accessing a non-existent data level.
32347	Corrected a problem with the GFE Handler, which prevented logging the item-id to the primary errors item when a Pointer Item-id Mismatch occurred.

FlashConnect

Action ID	Description
29955	Corrected a problem with checking features activated that could result in them occasionally not being correct, resulting in various types of program terminations.
31916	Corrected FlashCONNECT license consumption so it will now look at a local VME limitation.

Hot-backup

Action ID	Description
27818	Corrected a problem with Hot-backup, which left the UNIX process used by the hot-backup server running when the server was stopped.
28889	Corrected a problem with Hot-backup, which could cause the server to abort when sending file open information for a file with a very large file-of-files history string.
29358	Corrected a problem with Hot-backup, which prevented a line from enqueueing transactions when it was used without logging off after it had been previously used to run a hot-backup slave server in the foreground with "Log slave update:off".

Hot-backup

Action ID	Description
29613	Modified hot-backup to correctly create the "apply" data level of the hb.log file when running on a non-DM account.
30185	Corrected a problem with Hot-Backup, which caused the master server to stop sending test transactions and checking the server status if the next check time happened exactly at midnight.
30499	Corrected a problem with hot-backup slave that caused it to always lose the case sensitivity of indexes created with the "C" option.
30757	Corrected a problem with hot-backup, which could cause performance to degrade when a lot of files were opened and external strings were being used.
30785	Corrected a problem with Hot-backup, which could cause the servers to disconnect when a normal timeout occurred.
30790	Corrected a problem with hot-backup, which caused certain transactions like clear-file to fail to bring updates from the temporary file to the target file.
30820	Corrected a problem with Hot-backup, which caused the "mds" q-pointer in the account in which the server was running, to be deleted when a "DL" type account was created.
31691	Corrected a problem with Hot-backup, which caused accounts to be created on the slave without the DL d-code when restoring an account with a DL d-code on the master.
31696	Corrected a problem with Hot-backup, which caused the most recent log entry to be logged again in the permanent log when listing the permanent log.
31833	Corrected the removal of the 'l' option on the account 'd' pointer on the Hot-Backup slave server, which would cause the machines to become out of sync.
31911	Enhanced the 'set-dptr' utility to correctly transfer index information for case sensitive indexes to the Hot-Backup slave server.
32398	Corrected a problem with Hot-backup, which caused an account with the name "GetDefaultAccountModulo" to be created on the Slave when an account was created on the Master.

Indexes

Action ID	Description
29978	Corrected a problem with the indexes, which caused the key statement to fail when using the add or delete operators.
30486	Corrected a problem with the create-index c-option, which caused it to not create a case sensitive index when used with the o-option.

Indexes

Action ID	Description
30490	Corrected a problem with the clear-file command, which caused it to clear index case sensitivity.
30497	Corrected a problem with index case sensitivity, which caused it to be lost after a save/restore.
30498	Corrected many problems with transaction log save/restore of indexes. Index casing is now preserved.
31233	Corrected a problem with account-restore that prevented file-of-files indexes from being updated.
31650	Corrected a problem with Indexes, which caused AQL to incorrectly process statements with multiple "AND" clauses when indexes were present.
31746	Corrected a problem with Indexes, which prevented items from being selected when an index key string was shorter than the string to which it was being compared, but matched for the portion that was compared.
31762	Corrected a problem with create-index, which caused a d-pointer to overwrite a q-pointer when creating an index via a q-pointer.
31885	Corrected selection issue with list-index when case-on has been issued.
32180	Corrected a problem with verify-index that caused it to report false errors in a case-sensitive index.
32346	Modified list-index r-option to suppress the header.
32372	Modified the "I" index correlative code to allow a descriptor, identifying it as a regular, case-sensitive or numeric index.
32408	Corrected a problem with the index error handler that caused an abort under certain conditions.

Installation

Action ID	Description
32480	Changed the default PICKNAME to not have a multivalued in it. This caused a problem on some international configurations.

Licensing

Action ID	Description
30324	Corrected a problem where setting one virtual machine to single/multi user mode would affect all virtual machines.

Licensing

Action ID	Description
30500	Changed the information in the maxusers command when using the "C" (compatibility) option to display the users consumed on the local virtual machine only.
31154	Corrected a problem with the local license count becoming inaccurate when ending a second simultaneous ODBC session from the same client.
31379	Corrected a problem with the activation that did not adjust the local settings to the maximum, thus not allowing added users to logon, until the local user count was adjusted manually.
31919	Corrected a problem with FlashCONNECT not correctly consuming and releasing licenses, which may prohibit other processes from connecting to the D3 machine.

Logon/Logoff/Logto Routines

Action ID	Description
23574	Corrected a problem that would display message "[536] already logged off" instead of "[534] logoff successful" under certain timing conditions.
24635	Corrected a problem that prevented FSI CallX "executes" from being able to log on.
30141	Corrected the logon macro facility to prevent an abort (UNIX) or crash (NT) when a PROC attempts a "logto" to a non-existent account.
30257	Corrected a problem with comatizing processes that caused random malfunctions when the comatizing process modified the target process before it actually stopped. This could affect processes such as the starting and stopping of printers, particularly on systems with a large amount of activity.
30625	Corrected a problem with the Logoff Routines, which caused the spooler to be logged off more forcefully than necessary, possibly causing overflow to be lost.
30647	Corrected a problem with the Logon Routines, which prevented the remote client cache from being cleared when a line aborted.
30993	Corrected a problem with the timeout verb on AIX, which caused it to produce unexpected results for values greater than 42949. (approximately 71 minutes)
31039	Corrected a problem with the Logon Routines, which caused a message to be repeatedly displayed when trying to show the md prompt under the Russian setting.
31396	Corrected a problem with the Logon/Logoff/Logto Routines, which could randomly cause overflow to be discarded when logging off a line.
31895	Corrected a problem with logoff, which displayed usage information for "dev-remov" when doing a "logoff (x)" or "reset-user (x)".

Logon/Logoff/Logto Routines

Action ID	Description
32246	Corrected a problem with logoff, which caused a line number to be treated as a printer number when using the "logoff" command.
32284	Corrected a problem with Logon, which suppressed I/O during logon after a failed ODBC connection.

Macro/Paragraph Processor

Action ID	Description
31364	Corrected a problem with the use of the DCD-ON command in the user-coldstart causing subsequent commands to be ignored.
31408	Corrected the macro facility to properly keep track of the nonstop/modify state when multiple macro levels are activated.

Monitor

Action ID	Description
29991	Corrected a problem where the -s flag to the D3 command was being propagated to every line if the virtual machine was booted using it.
30337	Corrected a problem with the "-a x -s" options to D3 from the /etc/inittab file that would not automatically boot the machine.
30940	Corrected a problem with D3 startup, which would allow connecting to negative pib numbers resulting in various aborts or corruptions.
31244	Corrected a problem with a failed logon attempt through ODBC where the pib is not made available again so other processes can attach, and where a license is consumed, if the failure is on the account password.
31428	Corrected a problem with huponerr, that when set broke the ability to use the break key.
31949	Corrected a problem with %huponerr that prevented tandem from working.
31970	Added the ability to set-num-format, while in the middle of a FlashBASIC program.
31977	Corrected a problem with Huponerr when there is no real device, only a pipe, as in the case of PDP.
32029	Corrected a problem with the FlashBASIC group extract conversion which, if passed a null input string, would result in a string of the character 0 instead of a null string.

MQSeries

Action ID	Description
31315	Changed the MQSeries built-in table number to be consistent across all platforms.

OSFI

Action ID	Description
23877	Corrected the case that would cause a core dump to occur when the 'delete remotefile **' statement was executed on a UNIX or NT remote file.
27275	Corrected a problem with OSFI, which caused the wrong file to be accessed when the filename matched that of a child of the first remote file accessed.
29016	Modified the OSFI server "stop" procedure to not leave any unnecessary items in the jobs file.
29128	Corrected network-setup to verify the validity of the local IP address before attempting to start OSFI servers.
29861	Corrected a problem with the BASIC "open" command, which failed to take the ELSE clause when failing to open a remote file after a previous successful open.
29893	Corrected a problem with OSFI, which displayed an erroneous File Inconsistency error when reading a UNIX binary item with a size of 0.
29898	Corrected a problem which caused an extra CR to be inserted at the end of an item when using an OSFI driver with the AD options.
29919	Corrected an OSFI access failure of a DOS host file with the error '[261] One or more updates failed.' when using a q-pointer with options.
30111	Corrected a problem where the md would become inaccessible after a reference to a file via the 'vme' OSFI host with a callx in the account definition pointer.
30295	Corrected a problem with OSFI, which displayed an error when using the syntax {systemname}:fsi:{account},{filename}.
30601	Corrected a problem with OSFI, which displayed a Remote File Error when accessing a file with an indexed attribute with more than 32,000 total values.
30608	Corrected a problem with OSFI, which could cause an infinite loop when opening a remote file in certain conditions.
30665	Corrected a problem with OSFI, which caused a Frame Out of Range abort under certain conditions if a null data level name was given when opening a previously opened remote file.
30725	Corrected a problem with OSFI, which prevented updates by a server from being enqueued when an index existed on the file.

OSFI

Action ID	Description
30972	Corrected a problem with OSFI, which caused an account q-pointer to be read from the current MD instead of the MDS when a full filepath with a data level was specified without a trailing comma.
30994	Corrected a problem with OSFI, which caused the servers to go to rps.fatal.err if the client sent properly formatted data under certain conditions.
31368	Corrected a problem with the VAR file that caused 'ct var' to loop forever if there were no user-defined variables present.
31432	Modified network-setup to correctly extract IP address information on non-English Windows systems.
31565	Corrected a problem with OSFI error logging, which caused the internal message number to appear in a list-errors report in some cases.
31668	Corrected a problem with OSFI, which caused OSFI servers to abort, when called repeatedly with an invalid handle.
32364	Corrected a problem with Network-Setup, which prevented OSFI servers from starting when the language of the underlying operating system was not set to English.

Overflow Handler

Action ID	Description
30090	Reinstated the reclaim-ovf command after fixing several bugs.
30482	Corrected a problem with the Overflow Handler, which might cause a block to appear in both the b-tree and the safe table in certain conditions.
30564	Corrected a problem with the overflow handler that caused overflow errors to multiply in the event of multiple disk errors.
30677	Corrected a problem with shutdown/restart of D3 that caused overflow loss.
30952	Modified the set-ovf-reserve command without arguments to simply display the current setting.
31066	Corrected a problem with Access, which caused an inordinate amount of overflow to be temporarily consumed if one of the attribute definitions used called a Basic subroutine.
31403	Corrected a problem with the overflow handler, which caused random file inconsistencies when creating files simultaneously on the AIX Power5 chip.
31450	Corrected a problem with the Overflow Handler, which allocated frames without setting the overflow-id when the frames were above the highwater mark.
31730	Corrected a problem with the Overflow Handler, which caused overflow to be leaked when using the "logon" command.

Overflow Handler

Action ID	Description
32045	Corrected an Overflow Signature error caused by certain logon macro interactions.

Phantom Processor

Action ID	Description
25354	Corrected a problem that prevented phantoms with an error status from displaying that status in the jobs file.
28509	Corrected an erroneous report of "[3] The verb's not defined." when issuing a phantom z command under certain conditions.
30171	Corrected a problem with the Phantom Processor, which caused corruption in the phantom control block when a "startlog (I" was followed by certain commands that could capture some output, such as "where".
30678	Corrected a problem with stopsched/startsched that caused it to lose overflow space.
30913	Corrected a problem with the scheduler, which would cause the scheduler to abort with a Forward Link Zero when a jobs item occupied more than one frame.
30975	Corrected a problem with the scheduler that caused it to abort if more phantom jobs were queued than could be immediately scheduled.
31041	Corrected a problem with the phantom scheduling system, which failed to spawn phantoms originated by users having a user-id with an asterisk "*".
31821	Corrected a problem with phantoms, which could prevent phantom lines running OSFI servers from being used as regular phantom lines after a :files restore was done.

PROC

Action ID	Description
31763	Corrected an overflow runaway caused by a macro calling a proc with a failed file reference.

Programs & Utilities

Action ID	Description
26449	Corrected a problem with "set-rus", which failed to toggle the Russian mode setting.
27747	Corrected the check-ws command to verify the input is in the range from 0 - (pibs+phantoms).
27750	Changed the behavior when canceling a delete-account to exit to TCL rather than to return to the Update Processor.

Programs & Utilities

Action ID	Description
27752	Corrected "inputwait" to accept extra space after the delay value.
28161	Corrected a problem with blist that caused the page number to appear on every line when the item-id was longer than 23 characters.
28967	Modified delete-account to not allow deletion of the account the user is currently logged onto.
28968	Corrected the filename displayed when attempting to delete a file via the Update Processor.
29065	Corrected a problem that caused hold entries to be created when an OSFI server failed to respond to the stop command.
29124	Modified the "deoptimize" command to prevent a process from hanging when referencing the DICT of the file.
29363	Modified odbc-setup to logoff D3 pibs when stopping the ODBC server.
29513	Corrected the 't-select' command to allow subsequent stacked commands to be processed.
29677	Corrected a problem with the file-save utility, which caused the first compressed floppy in a cascading file-save to be overwritten when the user did not have sufficient privileges to create a file in the cascading sequence.
29801	Corrected a problem with the restore not closing remote files, therefore, consuming a lot of memory.
29909	Corrected the 'runtime-errors' report which was missing information when run on certain terminal types.
29918	Corrected a problem with the "wheres" command, which caused it to go into an endless loop when running it as a phantom with the holdfile option.
29982	Added a 'shutdown' option to odbc-setup, to shutdown all ODBC processes connected to the same virtual machine.
29987	Corrected a problem with tlqdisplay, which warns that the system is dequeuing when it is not.
30040	Corrected a problem where a corruption of frame 1 could cause the software clock to be incorrect in D3.
30081	Corrected a problem with list-device that caused it to not display the volsz value for compressed pseudo devices.
30154	Corrected a problem with the list-runtime-errors command, which displayed an error if executed from an account other than DM.
30176	Corrected a 't-verify (a' command error '[1530] Character count too large for item.' triggered by an account-save with the 'a-option'.

Programs & Utilities

Action ID	Description
30190	Corrected 'list-files' to behave correctly when dealing with q-pointers that reference a specific data level.
30260	Corrected a problem with logging on, which could corrupt the available \$options strings when preparing the md prompt.
30264	Corrected a problem with the dev-remov System Utility, which caused the locks to be cleared for the line matching the number specified in the dev-remov command even when the command specified a device that was not associated with a PIB.
30430	Corrected a problem with "verify-patches", which displayed erroneous mismatches under certain term settings.
30455	Corrected a problem with the "maxusers" command, which prevented it from setting the license ceiling when instructed to do so with the "m" option.
30483	Corrected the results displayed by the compare-list verb for addition and subtraction operators.
30515	Corrected a "subscript out-of-range" error, which occurred with the FL command.
30594	Corrected a problem where the "dev-remov" command on a telnet port clears all item locks of all ports on the system.
30606	Corrected a problem with the System Utilities, which caused an attribute mark to be appended to the account name when it was obtained using @account.
30607	Corrected a problem with the Basic @ function, which caused an attribute mark to be appended to the value returned by @pib on line 0.
30632	Modified the Upgrade program to allow user the option NOT to re-run SYSTEM-COLDSTART at the end of the upgrade procedure.
30676	Corrected a problem with the file-save, which displayed 'Load volume #2' when saving to a new pseudo floppy.
30689	Corrected a problem with the core TCL processor, which produced an Overflow Runaway prompt when accessing items with size > half of the runaway limit. This affected most TCL commands that require a file and item-id.
30716	Modified the "pib" attribute definition in DICT errors to display only the pib number.
30727	Corrected the 'background' utility to allow multiple TCL commands to be specified, separated by the pipe " " character.
30821	Corrected a problem which could cause the coldstart-accounts program to fail to run during system coldstart.
30914	Corrected a problem with the list-open-jobs command, which displayed all jobs when the TCL case was set to sensitive.

Programs & Utilities

Action ID	Description
30915	Corrected a problem with syschk, which showed the process as not running when running with the TCL case on.
30922	Removed the SET-DATE command from accounts other than DM. Also, deleted this command from the newac file to prevent the "update-md" command from adding it to new accounts.
30963	Added support for the -t option in odbc-setup utility.
30977	Corrected the backgrounds.output AGE attribute to return the number of days since the background output was generated.
31011	Corrected a problem with set-dptr, which aborted when processing the file-of-files.
31019	Corrected 'odbc-setup' to suppress warning messages generated while stopping the ODBC server.
31031	Corrected display of CPU usage from 2 digits to 3 digits in syschk.
31126	Corrected verify-index so that it will place the correct abs-fid in the errors item.
31127	Corrected the transaction utility to correctly populate the errors file with a valid abs-fid.
31128	Corrected a problem with the tape-socket utility, which could incorrectly identify that a process had a tape device attached when it did not.
31139	Corrected check.pib to correctly handle pibs running at level 10 or greater.
31142	Corrected a problem with the 'fuser' utility, which could incorrectly detect that a tape device was attached to a pib when it was not attached.
31143	Corrected the wheres utility to properly detect phantom processes, processes in the debugger and processes with tape devices attached.
31169	Corrected dev-remov to display the 'p' type in the usage information.
31238	Corrected the 'tape-socket' utility to display the listserver option in the usage information.
31294	Corrected the help text for the mds,, "type" attribute.
31296	Corrected set-compiler to display the default compiler option if no option has been specified.
31340	Corrected a problem with the System Utilities, which prevented FlashCONNECT servers from showing as having consumed a user license, even though they actually had, when generating a "where a" report.
31360	Corrected the syschk utility to report minimum swap space on systems with greater than 128MB of memory.

Programs & Utilities

Action ID	Description
31366	Corrected the search-system utility to better detect file pointers.
31424	Corrected a problem with the System Utilities, which caused a user to detach all devices currently owned, instead of only the specified device, when doing a "dev-remov".
31501	Corrected the '&' operator in the compare-list utility to use string compare.
31660	Corrected the 'background' utility to display whether a job is disabled or enabled and, if disabled, to allow the job to be enabled.
31669	Modified 'chg-device' to correctly validate the tape device number.
31728	Corrected a problem with the ovf-monitor utility, which displayed negative values for certain processes.
31749	Corrected set-compiler to display the default compiler options as EXT.
31753	Corrected a problem with the set-date-eur/std commands, which did not change the local setting when changing the global setting.
31764	Corrected the network-setup server status option to not generate a runtime error when processing keyboard input.
31784	Corrected a problem which caused maxusers to display "permanent" when using the "c" option on a system with a temporary activation. Also, enhanced the "c" option to display the number of weeks on a system with a temporary activation.
31804	Corrected the call of the touch command within the set-dptr utility to support full pathing of filenames.
31827	Corrected the locking scheme within the set-dptr utility not to maintain item locks on attribute defining items.
31886	Corrected list-index to report an FSI index as case insensitive.
31948	Corrected a problem with the set-num-format verb that caused system table corruption when used with both D and numeric options, e.g. "SET-NUM-FORMAT (D20)".
31972	Corrected the detection of phantom processes by the check.pib utility.
32017	Corrected file-sizer to allow adding a file to the List of Selected Files when obsolete entries exist in the FSI FileOfFiles.
32018	Corrected the check.pib utility to properly report the status of BASIC locks.
32057	Corrected a problem with @pib that caused the BASIC statement 'execute "display @pib"' to abort.
32071	Corrected a problem introduced by M12 that caused the buffers command to display no available buffers.

Programs & Utilities

Action ID	Description
32099	Corrected the check.pib utility to support the new maximum VME size.
32107	Modified the "odbc-setup" utility to prevent an overflow runaway condition, if large files existed in the /usr/lib/pick directory.
32108	Corrected a problem with the maxusers utility, which displayed the wrong ceiling when using the "c" option.
32142	Corrected the list-runtime-errors report, which did not display in columnar format.
32165	Corrected a problem with list-files, which caused it to word wrap when the term type supported only 79 columns.
32203	Corrected a problem with list-runtime-errors, which could result in a BLZ when a runtime-errors item was encountered with an empty item body.
32248	Corrected the failure of the 'dev-make' command when used in a PROC with a hushed process command (ph). The failure could cause subsequent processes to abort (e.g. shutdown).
32250	Corrected a problem with file-save, which caused it to skip qs-pointers, if the qs casing was mixed; e.g. qS or Qs.
32277	Corrected a problem with the D3 UNIX activate program that caused queued phantom jobs not to run, as soon as the system was activated, when the activate program was exited via 'q' from the activation key entry field.
32291	Corrected the check.pib utility to not generate non-numeric runtime-errors.
32302	Corrected the "fl" command, which produced a B42 runtime error when processing a null list.
32308	Modified the shpstat program to display maximum allowed values properly.
32444	Corrected a problem with file-save that caused it to ignore a select list and save all accounts instead of only the ones in the select list and DM.
32458	Corrected the auto activate feature to process any queued phantoms after activation.

Save/Restore

Action ID	Description
23775	Corrected a problem that caused the save processor to not save the MD modulo and the restore processor to not restore the modulo even if it was saved.
29752	Corrected a problem with the T-VERIFY command which could cause a random abort if the primary control block became corrupted.

Save/Restore

Action ID	Description
29983	Corrected a problem with the save, which caused file inconsistencies to be automatically truncated during a file-save.
30008	Corrected a problem that caused file statistics to be logged to the wrong file-of-files item during an incremental save.
30089	Corrected a problem with the save, which caused an abort when saving a QS-pointer when an item was of a certain size.
30147	Corrected tape format errors that occurred when restoring a save tape made with the r-option.
30241	Corrected a problem where the callx of fof.filetime is removed from the file-of-files data level after a full file-restore.
30552	Corrected an error that prevented the creation of indexes while processing a Transaction Log tape via a "tlog-restore".
30672	Corrected the early termination of a restore when an index was defined with a key using a file translate without full pathing. Also, changed the restore to continue restoring after an indexing error.
30683	Modified the code to prevent a GFE being created during an account-restore in the dictionary of a file with a 'y' processing code.
30751	Corrected a problem with the save, which set incorrect bits in the FCB in some cases, which could lead to remote file errors when attempting to access the file through OSFI.
31201	Corrected a problem with sel-restore that created a binary item pointing to the tcl-stack when an explicit id was specified and a binary item preceded that id in the same file on the tape.
31355	Corrected a problem with incremental restores, which caused the process to hang under certain conditions.
31383	Corrected an error with the account-restore of a pre 7.4 account, which would cause a subsequent "t-verify (a" to report "[1556] Items mismatch" on object code.
31690	Corrected an abort that would occur during an account-restore index re-generation caused by a B-processing code referencing a missing program.
31692	Corrected a problem with the Restore Processor, which prevented items from being placed into the Transaction Logger queue when restoring an account with a DL d-code.
31779	Corrected a problem with the license block not being initialized when doing a restore, so activated features were showing as not activated.
31882	Corrected a problem with file-save that caused incremental save to clear the stats for any file not updated since the last file-save or incremental save, causing file-sizer to resize files incorrectly.

Save/Restore

Action ID	Description
32269	Corrected a problem with restores, which caused the "dict dm,devices, ccb" item to be prefixed with its item-id, which could cause the cursor control block to be cleared if another device definition was recompiled.
32391	Corrected a problem with allocating large blocks of disk space when not enough memory is available, which would cause a monitor halt.

Spooler

Action ID	Description
25992	Corrected a problem with "startptr", which could release the spooler master queue lock without owning it.
26056	Corrected a problem that could cause the starting position of the assignment control block to be set incorrectly if multiple processes attempted to simultaneously create it.
26066	Corrected a problem that prevented a shared printer from starting correctly if the PIB was already in use by another printer.
26133	Corrected a problem that would allowed PEQ element 0 to be allocated.
29758	Corrected a problem with peqs dictionary definitions, which could cause access commands to sort peqs items improperly when sorting by date or time.
30019	Corrected a problem where it was not possible to kill a shared printer when logged in as a different user than the D3 pick0 user.
30030	Corrected a problem with shared printers, which could kill a process issuing a shp-kill when the system was heavily loaded.
30096	Corrected a problem with the Spooler Processor, which caused file inconsistencies or deadlocks when a printer timed out during initialization or while being killed, respectively.
30169	Modified the shared printer routines to use a different directory than /tmp to store shared printer information.
30348	Corrected a problem with the Spooler Processor, which caused stopptr with the "w" option to seemingly hang when the printer being stopped aborted. Note: Although a specific cause of a printer abort has been fixed, the stopptr "w" option, by definition, waits indefinitely for the printer to respond.
30805	Corrected 'startshp' to delete its temporary directory correctly during printer startup.
30954	Corrected a problem with starting serial printers that could cause random frames to be overwritten with 40 bytes of char(0) starting at byte x2C2.

Spooler

Action ID	Description
30979	Corrected a problem with startspooler that could cause startup problems if other spooler operations were running on other lines at the same time.
30981	Corrected a problem with processes aborting if the spooler had not been initialized.
30985	Corrected a problem with print job generation that caused an abort if the spooler had not been started.
31062	Corrected a problem with serial printers not being able to log errors.
31416	Corrected a problem with startspooler that caused the formqueue table to be improperly initialized, causing "sp-assign f1500" to abort.
31624	Modified the print-job creation process to include the 'charge-to' user information, if any.
31999	Corrected a problem with the Spooler Processor, which caused aborts when wrapping up.
32469	Corrected a problem with printing, which could intermittently cause aborts.

SQL/ODBC

Action ID	Description
24032	Corrected a problem with ODBC where joining two tables on their IDs and having multiple OR statements in the where clause would not return correct results.
28260	Corrected a problem with the D3 SQL server that was leaking memory and causing aborts to happen on the client.
30263	Corrected a problem with joining subvalued tables.
30602	Corrected a problem with the SUBSTRING scalar function not returning the correct results and aborting after the first use.
30929	Corrected a problem with SQL where creating a nested table with no primary key could result in the process hanging.
31009	Corrected a problem with numeric values in SQL using correlatives not being processed correctly.
31166	Corrected a problem with the LEFT & RIGHT scalar functions not working because of the S8 patch.
31172	Corrected a problem with sql-create-table, which failed to acknowledge alternate table names when creating nested table names.
31248	Corrected a problem with ODBC which caused the underlying D3 process to remain at the master dictionary password prompt when an invalid password was provided.
31699	Corrected a problem with ODBC access that caused a Fid Range error in px.convx.

SQL/ODBC

Action ID	Description
32286	Corrected a problem with the logon procedure, whereby if a failure occurred, the process would abort causing a communication link failure.

System

Action ID	Description
21226	Corrected a problem that caused the recipient of a send-message to truncate the message if the last word of the message started with a "(".
25048	Corrected a problem that could cause a FID Range abort when returning a level if another line issued an "end" on it at the right moment.
26147	Corrected a problem that on rare occasions prevented an error from being logged if an ABS Inconsistency occurred due to a stack format error.
29795	Corrected a problem with D3 programming the VKILL tty setting to a "@" character when executing a shell command in Unix.
29993	Corrected a problem with unlink-pibdev, which would result is a monitor halt abort.
30201	Corrected the errors dictionary 'time' to right-justification, allowing this attribute to be sorted properly.
30553	Corrected a problem with the "where" a-option, which caused a "+" to be shown next to lines that were not truly consuming user licenses when the line in question was an RPC connection created by a callx trigger.
31397	Corrected a problem with the mload utility, which caused the process to loop endlessly under certain conditions.
31508	Corrected a problem which caused file corruption in cases of intense simultaneous frame updates, such as when restoring accounts on multiple pibs on a fast SMP system.
31610	Corrected the devices item for wy60, so that Graphics ON/OFF is now @(-21) and @(-22). Moved Insert/Delete Line codes from @(-21)/@(-22) to @(-33)/@(-34).
32192	Corrected a problem with the System Debugger, which caused a Backward Link Zero abort when using "end" to leave the Virtual Debugger after entering due to a breakpoint.

Tape Handler

Action ID	Description
21370	Corrected a problem with the tape handler that caused an incorrect block size to be assigned when attaching to the default tape device.

Tape Handler

Action ID	Description
30271	Corrected a problem with the t-select command, which displayed an error when selecting the floppy device.
30273	Modified the file-save program to halt execution when attempting to save to a tape device with no media inserted. Note: 1674 errors will display prior to the halt of execution on D3 NT.
30354	Corrected a problem with set-device, which displayed an error when referencing /dev pseudo devices.
30571	Corrected an abort when performing a 't-chk' on a floppy tape.
30918	Corrected a problem with t-verify, which caused a '[1531] Premature end of file' error when issuing a "t-rew" running a program that pushed a level, followed by the t-verify command.
30944	Corrected a problem with the t-load r-option, which failed to acknowledge the frame size specification if it was not entered at the command line.
31490	Corrected a problem with t-verify, which erroneously displayed error 1552 when processing object code of a certain size.
31644	Modified t-verify to detect overflow runaway conditions.
32350	Corrected a problem that caused the use of a floppy to abort with a parity error.

TCL Stacker

Action ID	Description
15478	Corrected a problem with the Update Processor, which failed to move to the beginning of a line (or a tcl-stack entry) if it consisted only of spaces.

Transaction Logger

Action ID	Description
28574	Corrected a problem with the Transaction Logger, which caused the enqueue status to revert to the default of enqueueing when the system was rebooted. Note: The status will still revert to the default if a full restore is done.
29527	Corrected a problem with the Transaction Logger, which caused the Log All/DL status to revert to the default of Log DL when the system was rebooted. Note: The status will still revert to the default if a full restore is done.
29964	Corrected a problem with the Transaction Logger, which caused updates to non-DL d-pointer items to be logged when a non-DL d-pointer item in a DL file was updated.

Transaction Logger

Action ID	Description
30121	Corrected a problem with the clear-file command, which failed to update the transaction log if attribute 18 of the corresponding file-of-files item had a C or D option.
30484	Corrected a problem with set-dptr, which could fail to update the transaction log queue properly under certain conditions.
30630	Corrected a txlog failure of index transactions that would occur when the txlog tape was applied at the end of a restore.
30816	Corrected a problem with the set-dptr command, which could create incomplete hot-backup/transaction logger records when issuing the command outside of the DM account.
31063	Corrected a problem with the Transaction Logger, which caused rename-file commands to be logged even if enqueueing was off.
31358	Corrected a problem with the Transaction Logger, which caused the performance of the producer and consumer to degrade significantly when they were simultaneously active.

Unix Interface

Action ID	Description
30827	Corrected a problem with the _CP_logoff function not cleaning up after itself, preventing subsequent _CP_logon calls from succeeding.
30916	Corrected a problem with the FlashBASIC clearselect statement leaking memory.
31190	Corrected a problem with _CP_select selecting an empty file, not initializing an internal variable correctly so it would sometimes return erroneous results.
32494	Corrected a problem with %function calls not accepting more than 8 arguments on AIX.

Update Processor

Action ID	Description
30605	Corrected an abort that occurred when a ctrl-v was followed by ctrl-e on a controlling/dependent line where the controlling attribute held an output conversion or correlative.
30620	Corrected a problem where a null attribute would be inserted at the beginning of the item when the access(3) statement was used in a program called by a hotkey.
31881	Corrected a problem with the update processor/basic interface that caused access(3) to use the results of the most recent OCONV/ICONV as the current attribute instead of the attribute passed in by the update processor.

Update Processor

Action ID	Description
32154	Corrected a problem with the update processor, which failed to default to the newly-created item-id after a zoom operation.

Upgrade Procedure

Action ID	Description
29384	Modified the upgrade procedure to preserve the catalog_map item in dict sql,tables,.
32239	Corrected a problem with the upgrade, which attempted to execute an "update-md" on every item in the MDS if every real account was DX'ed or DY'ed.
32331	Modified the upgrade procedure to remove patch reference files, so that a subsequent verify-patches command will display a proper message.
32435	Corrected the upgrade, which caused indexes to be removed from upgraded d-pointers.

7.5.1 Enhancements and Resolutions

Enhancements

File Management

Action ID	Description
30674	Enhanced the f-resize command with an x-option to remove the resize parameter (attribute 13 of the d-pointer).

Licensing

Action ID	Description
32363	Enhanced the shutdown procedure to remove all memory segments when all virtual machines are shutdown cleanly.

SQL/ODBC

Action ID	Description
32587	Enhanced D3 NT ODBC by adding a section to specify the numeric separator in the data source creation window. These settings will not apply to programs run from visual basic due to action item 32437, where the client regional settings will be used.

Resolutions

Access

Action ID	Description
32506	Corrected a problem with "sort <cased file> by-dsnd a0" that caused the item-ids to sort case-sensitively when the tcl "case" setting is insensitive.
32534	Corrected a problem with AQL that caused it to loop endlessly when using both det-supp and grand-total-supp modifiers.

BASIC Compiler

Action ID	Description
32606	Corrected a problem with the BASIC Compiler, which caused it to report "[235] attempt to write into update protected file!" when compiling a program with the "x" option.

BASIC Debugger

Action ID	Description
32456	Corrected a problem with the FlashBASIC Debugger, which caused it to only display the first value when displaying a specific attribute from a dynamic array.
32465	Corrected a problem with BASIC that caused aborts in the conversion processor when running with a BASIC debugger break-point set.

BASIC Runtime

Action ID	Description
32343	Corrected a problem with the "mc/an" processing code, which resulted in a "[705] illegal conversion code" error when run in Flash.
32400	Corrected a problem with FlashBASIC, which caused system(45) to always return the name of the main routine even when called from a subroutine
32470	Corrected a problem with FlashBASIC Runtime, which prevented the program name from being logged to the runtime-errors file when a "[B10] Variable has not been assigned a value; zero used." warning occurred in Flash compiled subroutine called from an attribute definition.
32474	Corrected a problem with FlashBASIC, which caused "[B200] Illegal use of ACCESS function." errors when using Flash compiled Access(24) and Access(25) function calls.
32531	Corrected a problem with FlashBASIC, which caused corruption of process workspace when specifying item-ids or filenames exceeding 100 characters.
32540	Corrected a problem with FlashBASIC Runtime, which caused random overflow loss, aborts, and file inconsistencies when using select lists.
32561	Corrected a problem with FlashBASIC Runtime, which caused an abort when using a "crt @()" call in an input-conversion in conjunction with an item of length around that of the frame size.
32564	Corrected a problem with Flashed triggers that use "common" variables, which could corrupt the "common" variable space when a subroutine did not declare the "common" after a parent routine had.
32673	Corrected a problem with "M" type masks when used with "z", "\$", or ",", which caused the output to be incorrectly formatted.

BASIC Runtime

Action ID	Description
32742	Corrected a problem with FlashBASIC, which aborted with a Workspace Inconsistency when executing a callx trigger under certain conditions.
32789	Modified basic runtime to help prevent garbage collect aborts.

Coldstart/Shutdown

Action ID	Description
32752	Corrected a problem with shared printers, which caused a SIGSEGV abort during a shutdown of D3.

File Management

Action ID	Description
32518	Corrected a display problem with group locks, which could cause an incorrect filename or no filename to be displayed when doing a "list-locks (g)" during a save.

Hot-backup

Action ID	Description
32496	Corrected a problem with Hot-backup, which caused the slave server to wrapup incorrectly, causing it to still appear as "Status: Started" in the menu.
32502	Corrected a problem with Hot-backup, which caused notifications of missing test transactions when a lot of data was in the queue.
32668	Corrected a problem with hot-backup, which caused the slave process to abort with 'File definition cannot be deleted' if there is a file in the account the server is running on, with the same name as the account being logged.

Indexes

Action ID	Description
32477	Corrected a problem with subindexes that caused the index to become corrupt when a value in the subindexed translate file was updated to match an existing key in the index, the re-indexed item-ids interleaved with the existing item-ids for that key, and at least one re-indexed item-id inserted into a different index node than the first re-indexed item-id.
32653	Corrected a problem with create-index that caused it to generate an error when more than one comma appeared in the file reference.

Logon/Logoff/Logto Routines

Action ID	Description
32488	Corrected a problem with logging on, which caused it to log junk to attribute 4 of the errors item when attempting to establish an ODBC connection to a server with no available licenses.
32635	Corrected a problem with the logoff verb losing the license of the target process when the target process does not respond and logoff escalates.

Macro/Paragraph Processor

Action ID	Description
32738	Corrected a problem with macros that could cause random system corruption when the macro terminates abnormally, such as a <break>-END.
32759	Corrected a problem with macro space handling that caused a Fid Range error at sp.close when a phantom process does an "exit".

Monitor

Action ID	Description
29517	Corrected a problem with with terminal output corrupting the output data and keyboard input control structures when a write() to the terminal fails, as often happens because of interrupts received by a tandeming line from the tandemed line which is doing heavy screen output.
32575	Corrected a problem which was freeing shared memory before running the onhalt script, since the onhalt script name was in shared memory, it was not being run.

OSFI

Action ID	Description
32699	Corrected a problem which reported an erroneous Overflow Runaway condition when updating an item through OSFI.
32711	Corrected an erroneous Overflow Runaway condition when copying a large item through OSFI.

Overflow Handler

Action ID	Description
32610	Corrected a problem with proc and macros, which corrupted overflow when a proc called a macro that logged off.
32656	Corrected a problem with the wrapup routines, which caused PROC workspace to be released improperly, leading to frame corruption.

Overflow Handler

Action ID	Description
32724	Corrected the case where frames were not returned to the overflow pool when the Select of a large file was interrupted. an "overflow runaway" condition was quit which occurred during a select of a large file. Also, enhanced the Select process code to reduce the occurrence of erroneous "overflow runaway" conditions.

PROC

Action ID	Description
32661	Corrected a problem with proc which could lead to data corruption in certain rare cases.

Programs & Utilities

Action ID	Description
32432	Corrected a regression that would change the "line" for a print-job after a simple sp-edit.
32438	Corrected a problem with "get-list (u)" that caused spurious item-ids to be generated when the original list was generated using the "by-exp" connective and there were duplicate item-ids in the original list.
32461	Corrected the parsing of column datatypes when processing nested tables in sql-create-table.
32628	Corrected the "delete" command to obey TCL options when using selection criteria.
32670	Corrected the list-runtime-errors report to display in columnar format.
32766	Corrected the background processor to execute all commands of a multi-command background job.
32792	Corrected a problem with "move-file", which failed to return the "returning" variable when called from a Basic program.

Save/Restore

Action ID	Description
32563	Corrected a problem with the restore processor that caused various restore errors when working with items > 64Kb.
32585	Corrected a problem with the Restore Processor, which caused false File Inconsistencies when generating the indexes and one of the indexes referenced a subroutine that did not exist.

Save/Restore

Action ID	Description
32586	Corrected a problem with restore that caused GFEs when restoring large items from a 7.1 save onto a 7.5 system without using the "(f2000" option to indicate the tape is from a 2k frame size machine. Note: While the GFE issue has been corrected, some items will not restore correctly without the F-option.
32735	Implemented the "G" option for the "save" verb, ACCOUNT-SAVE, and FILE-SAVE that suppresses the output to tape of case-sensitive or other new index types so that the save tape may be restored on previous releases that do not support those index types.
32751	Corrected a problem with restore-accounts, which displayed an inaccurate restored account total when restoring from a source with multiple account saves.
32753	Corrected a problem with account-restore, which failed to assign a returning variable if the account-restore was executed with the Returning clause.

Spooler

Action ID	Description
26039	Corrected a problem that could prevent a process from responding to certain interrupts if that process sent output to the spooler after issuing an "sp-assign s".
32703	Corrected the sp-edit verb which was not accessing print-jobs generated with a "charge-to" in effect.

SQL/ODBC

Action ID	Description
30810	Corrected a problem with using indexes and joins together while doing an SQL query.
31837	Corrected a problem with using the an AND or OR inside of a NOT clause, that would either return erroneous results or possible abort with a workspace inconsistency.
32771	Corrected a problem with D3 SQL which when using indices and joining two tables with some null keys would cause the process to abort or end early not returning all data.

System

Action ID	Description
32478	Modified PEQ item locking to reduce excessive load during wrapup.
32515	Corrected a problem with mload, which failed to compile.
32582	Prevented an endless sys.abort loop in the event of an invalid SCB pointer.

System

Action ID	Description
32774	Modified "exec-stacking" so that changes at a higher level take effect at lower levels, allowing an execute "exec-stacking" to take effect at the executing level.

Tape Handler

Action ID	Description
32754	Corrected a problem that would hang a port if the tape was attached and the process shelled out with a capturing and then a t-det was executed.

Transaction Logger

Action ID	Description
32770	Corrected a problem with transaction log restore of updates to a case sensitive file that caused the file to be updated as though it were case insensitive, e.g. item 'a' would overwrite item 'A'.

Unix Interface

Action ID	Description
32779	Added the curl library to the Makefile.

Update Processor

Action ID	Description
32631	Corrected a problem with the BASIC ACCESS(3) function that caused spurious characters to be included in the item when the BASIC program was invoked by the update processor and line wraps were involved.
32692	Corrected a problem with the update processor that caused it to halt when toggling to insert mode in a complex structure involving controlling/dependent relationships, multivalued, and input conversions followed by the "CU" processing code.
32709	Corrected a problem with the update processor that caused it to loop forever when toggling into insert mode at the first value of a controlling attribute of a control/dependent set and it is the first value on the screen.