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SUPRA SERVER PDM

UNIX PDM Release Notes, Version 1.3.1h

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SUPRA[®] Server UNIX PDM
UNIX PDM Release Notes, Version 1.3.1h
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Cincom Systems, Inc.
55 Merchant Street
Cincinnati, Ohio 45246-3731
U.S.A.

PHONE: (513) 612-2300
FAX: (513) 612-2000
WORLD WIDE WEB: <http://www.cincom.com>

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Release information for this manual

The *SUPRA Server PDM UNIX PDM Release Notes, Version 1.3.1h*, M25-0161-03H, is dated January 15, 2002. This document supports Release 1.3.1h of SUPRA Server in UNIX environments.

We welcome your comments

We encourage critiques concerning the technical content and organization of this manual. Please take the [survey](#) provided with the online documentation at your convenience.

Cincom Technical Support for SUPRA Server

FAX: (513) 612-2000
Attn: SUPRA Server Support

E-mail: helpna@cincom.com

Phone: 1-800-727-3525

Mail: Cincom Systems, Inc.
Attn: SUPRA Server Support
55 Merchant Street
Cincinnati, OH 45246-3732
U.S.A.



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About this book

Using this document

This document describes interim changes made to this release of SUPRA Server PDM.

Document organization

The information in this manual is organized as follows:

Chapter 1—Changes in current release

The listings in this chapter show changes made to the current release of software.

Chapter 2—Changes in prior releases

The listings in this chapter show changes made to the preceding release of software.

Index

Conventions

The following table describes the conventions used in this document. These conventions will help you identify statements, commands, and references within the text and software.

Convention	Description	Example
constant width type	Represents segments of code.	<code>create vclass dated_inventory on ldb xdb</code>
UPPERCASE	Indicates a keyword.	...the UNIQUE constraint...
Vertical bar	Separates two or more options, one of which can or must be specified.	[ATTRIBUTE COLUMN]
Brackets []	Enclose optional parameter(s) or keyword(s).	[ONLY] [ATTRIBUTE COLUMN]
Braces { }	Signify that one of the enclosed parameters or keywords must be used in the statement syntax.	CREATE {CLASS TABLE}
<u>UNDERLINING</u>	Indicates a default keyword.	[DISTINCT UNIQUE <u>ALL</u>]
Ellipsis points...	Indicate that the preceding item can be repeated.	{, <i>class_name</i> }...
<i>Italics</i>	Represent a parameter or variable for which you must supply a value.	<i>DBClass.Add element_value</i>
SMALL CAPS	Represent a required keystroke. Multiple keystrokes are hyphenated.	ALT-TAB

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Changes in current release

New features in Release 1.3.1

Release 1.3 of SUPRA Server PDM support includes the following new features:

- ◆ The number of context switches required to perform a DML function has been reduced to 2 for all DML calls except SINON, SINOF, OPCOM and ENDTO functions.
- ◆ The number of semaphores required for each task has been reduced from 2 to 1.
- ◆ It is now possible to run multiple single-task PDM applications simultaneously with multi-task PDMs on the HP-UX platform using the PDM input parameter `BATCHTHREADS=n`. See “971272” on page 14 or the *SUPRA Server PDM System Administration Guide (UNIX)*, P25-0132, for information on the `BATCHTHREADS=` parameter.
- ◆ A change was made to DATBAS and PDM (`csidatbas.o`, `csibatbas.o`, and `csipdm`) that provides read ahead buffers for RDNXT, READV, READR & READX functions that use the RLSE end parameter or when the SINON mode is SINGLE. See “971273” on page 15 or the *SUPRA Server PDM System Administration Guide (UNIX)*, P25-0132, for more information about the `CSI_READAHEAD` and `CSI_READAHEAD_STATISTICS` logical names.
- ◆ A change was made to PDM (`csipdm` and `csibatbas`) that provides a third buffer management algorithm for files which are fully buffered. See “971277” on page 16 or the “Tuning your physical database” section of the *SUPRA Server PDM System Administration Guide (UNIX)*, P25-0132, for more information on managing buffers.

- ◆ The lower case entry points netbas and datbas were added to csidatbas.o csidatbas.sl, and csibatbas.o for additional compatibility with other platforms.
- ◆ The Operator Command utility (csiopcom) was enhanced to provide the following new functions:
 - ENABLE DEBUG start logging function and status messages
 - DISABLE DEBUG end logging of function and status messages
 - QUIT exit the utility (CTRL-D)
- ◆ The DBA expand related dataset utility has been enhanced to allow the new records being added to the dataset to be added to a new file-spec (extent). See “990147” on page 23 for more information.
- ◆ A change was made to the PDM (csipdm, csibatbas) that allows the MAXTASKS PDM input parameter to be set in the range 1–32766. The previous range was 1–1000.
- ◆ The REDO command was added to csiopcom, allowing the previous command to be re-executed without retyping it. The REDO command may be abbreviated by simply typing r or R.
- ◆ The DEBUG parameter has been added to the help file for csiopcom (csiopcom.hlp) for the operator commands DISABLE and ENABLE.
- ◆ SUPRA Unix PDM is now available for SunOS.

Changes in Release 1.3.1

The following changes were made in release 1.3.1:

971270

A change was made to the PDM architecture which reduces the number of context switches required to perform a DML function. Prior releases required 3 context switches for each DML function, 1 from the application to the dispatcher, 1 from the dispatcher to a thread and 1 from the thread back to the application. This has now been reduced to 2 for all DML calls except SINON, SINO, OPCOM, and ENDTO functions.

Rather than routing all functions through the dispatcher process, DATBAS now routes functions either to the dispatcher for the above mentioned functions or directly to the thread processes via the thread message queue. This change along with several optimizations in DATBAS and PDM code has resulted in an overall performance improvement of approximately 20%.

971271

A change was made which reduces the number of semaphores required for each task from 2 to 1.

971272

Because of the architectural change described in RMS number 970270 and other changes it is now possible to run multiple Single-task PDM applications simultaneously with Multi-task PDMs on the HP-UX platform. The Digital UNIX, AIX, and NCR platforms are restricted to running stand-alone. The PDM input parameter `BATCHTHREADS=n` is supported which provides up to *n* batch threads in addition to the normal `MAXTHREADS`. This allows up to *n* simultaneous Single-task PDM applications to run concurrent with the multitask threads. Multi-task applications (tasks) are still restricted by the `MAXTASKS` pdm input parameter. The maximum number of concurrent SINONs is still restricted by the `MAXTASKS` parameter in the dbmod. The PDM input parameter, `BATCH_CONCURRENT=y` must be used to enable this mode of operation. See the [SUPRA Server PDM System Administration Guide \(UNIX\)](#), P25-0132, for information on the `BATCHTHREADS=` parameter.

When running in `BATCH_CONCURRENT` mode, Multi-task PDM must be running prior to executing a Single-task application. In this mode, the same PDM automatic startup rules are followed by the Single-task PDM as for Multi-task. Single task applications running in `BATCH_CONCURRENT` mode can now use system logging, which was restricted in prior releases.

When running in the default stand-alone mode, all other PDMs must be shutdown as in prior releases.

Because of this change and the architectural changes made in RMS number 970270 the `single_proc` parameter in the pdm input file is no longer supported.

971273

A change was made to DATBAS and PDM (csidatbas.o, csibatbas.o, and csipdm) that provides read ahead buffers for RDNXT, READV, READR & READX functions that use the RLSE end parameter or when the SINON mode is SINGLE. The buffers are allocated in local space in the application task. One buffer is allocated for RDNXT functions, another for READV/READR functions, and another for READX functions. The buffers are allocated the size of the PDM input parameter MAXDATA. When the first RDNXT for a given file is executed one record is returned in the buffer as in prior releases. If the application repeats the RDNXT function for the same file and the same element list the PDM will return as many records as will fit into the Message Segment without causing an I/O. If all of these records are read by the application without an intervening RDNXT call to another file or using a different element list or executing a COMIT or RESET function, the PDM will return as many records in the TMS as will fit. By having three buffers it is possible to perform any other function while retaining the buffered records. Many applications use RDNXT to read through a primary dataset and follow each chain of related records using the READV function. These applications will use buffered reads for both the RDNXT and the READV.

Good database coding practice dictates that update functions should **not** be executed following read functions that use the RLSE end parameter. It is recommended that records with the potential of being updated are read with the END. end parameter which causes these records to be held and turns off any buffering that may have been used to locate the record.

This feature may be turned off by an application by defining the logical name CSI_READAHEAD with a value of "no." The CSI_READAHEAD logical name may also be set to YES, yes, TRUE, true, 1 or no value or deleted in order to turn the read ahead feature back on. By defining the CSI_READAHEAD logical name in a process table the feature will be turned on or off for an individual process. It may be turned off for a group or system by defining the CSI_READAHEAD logical name in a group or system logical name table.

The logical name CSI_READAHEAD_STATISTICS may be set to YES, yes, TRUE, true, 1 or no value in order to direct DATBAS to print read ahead statistics at SINOF. The read ahead statistics consist of total function calls and buffered function calls for RDNXT, READV/READR, and READX.

See the *SUPRA Server PDM System Administration Guide (UNIX)*, P25-0132, for more information about the CSI_READAHEAD and CSI_READAHEAD_STATISTICS logical names.

971277

A change was made to PDM (csipdm and csibatbas) that provides a third buffer management algorithm for files which are fully buffered. Fully buffered files are detected when the dbmod is loaded. The file must be the sole user of the buffer and there must be at least as many buffers in the pool as there are blocks in the file. Once these conditions are met the buffer management algorithm is automatically changed from sequential or hashing to direct. A 1:1 relationship between buffers and blocks in the file is used. See the “Tuning your physical database” section of the [SUPRA Server PDM System Administration Guide \(UNIX\)](#), P25-0132, for more information on managing buffers.

971331

A problem with PDM (csipdm and csibatbas), which caused intermittent ICHN errors to occur following warm start recovery, was corrected.

971332

A problem with the PDM (csipdm), which caused occasional FATAL 49 errors to occur when running with system logging, was corrected.

971334

A problem with PDM (csipdm and csibatbas), which caused DATBAS to abort when running the CMF CONTROL program, was corrected. This problem was new in release 1.3.1 alpha 1.

971335

A problem with the PDM, which caused PDM to abort with a signal 11 error when running the CMF CONTROL application, was corrected.

980115

Several problems were solved in both the client (csidatbas.o) and server (csistr) module of the client server support. First, the messages CSTI303I and CSTI424E have been modified to include the port number for diagnostic purposes.

The server module (csistr) has been enhanced to return a COMM error to the client when the function requested cannot be executed. This used to cause the client to hang. When a client application receives a COMM error the csistr.log file should be checked for error messages on the server.

A problem with the server component (csistr), which caused the client to hang and or the server to abort if the DATBAS call failed due to an NRES, NDBM, or NMAC error, was corrected.

A problem with the OPCOM DML function, which caused no data to be returned when running in the client server mode, was corrected.

All selects were removed from the code. This was preventing disconnects when either the client or server aborted.

981762

A problem with the client server mode that prevented the qualifier information from being returned to the application was corrected. This would cause errors when the index RRN field was used by the application.

981765

A problem with the PDM that caused file open errors to be ignored in the threads was corrected. This caused other unrelated error messages to appear in the log file.

981766

A change was made to the Database Access Program (csidatbas.o, csidatbas.sl, csibatbas.o) to write message 435 to the CSIDAPLOG file when the error NDBN is produced. This can be useful in diagnosing problems related to this error.

981767

A new logical name, that prevents the creation of a backup file (*dataset-name.bak*) by the utility `csmchangedb`, was added. This option is provided for large datasets when there is not enough disk space to have the original dataset + the new data set + the sort work space on the system at the same time. Care must be taken that adequate backups have been taken prior to using this option.

The logical name `CSI_BAK` may be defined in any logical name table as follows:

```
csideflog -{p,g,s} CSI_BAK NO
```

This is described in the [SUPRA Server PDM Database Administration Guide \(UNIX & VMS\)](#), P25-2260.

981771

A new logical name was added that prevents the creation of a backup file (*dataset-name.bak*) by the `csidba expand` utility. This option is provided for large datasets when there is not enough disk space to have the original dataset + the new data set on the system at the same time. Care must be taken that adequate backups have been taken prior to using this option.

The logical name `CSI_BAK` may be defined in any logical name table as follows:

```
csideflog -{p,g,s} CSI_BAK NO
```

This is described in the [SUPRA Server PDM Database Administration Guide \(UNIX & VMS\)](#), P25-2260.

981772

A problem with the PDM that caused the `CSTI061R` message to print the group id in octal was corrected. This is now printed in decimal.

981773

A problem with the PDM that caused it to return `IOER` on a read to a dataset whose definition does not match the physical file was corrected. The problem now returns `LUAE` when the dataset is opened.

981774

A problem with the Database Access Program (csidatbas.o, csidatbas.sl) that caused the error "Insert TMS back on queue" after executing a csiopcom SHUTDOWN command was corrected.

981775

A problem with PDM introduced in release 1.2.3 that caused some dbmods to abort during dbmod loading was corrected. This problem was introduced in an attempt to provide a minimum number of ccr buffers in a dbmod. The code has now been removed from the PDM and added to the dbmod compiler. There are usually 5 ccr buffers for each related dataset in the dbmod. If this is not at least 1 per MAX-UPDATE-TASKS the compiler sets this to MAX-UPDATE-TASKS.

981776

A problem with the Database Access Program (csidatbas.o, csidatbas.sl, csibatbas.o), that caused shared memory attach errors when multiple DATBAS applications were started and the PDM had to be autostarted by one of them, was corrected.

981777

A problem with the Database Administration utility (csidba), that caused it to produce the error "051 error 35 while using file" when printing ddl for certain databases, was corrected. The path and file name were being converted to lower case characters. If the path contained any upper case characters this error was produced since the path name is case sensitive in UNIX.

981778

The lower case entry points netbas and datbas were added to csidatbas.o csidatbas.sl, and csibatbas.o for additional compatibility with other platforms.

981779

Several problems with the client server support were resolved in this release. Error conditions are now better reported and identified on both the client and the server. The server returns the error COMM the client when any communication type errors occur. The error is described in the csistr.log file on the server. The index rrn is now correctly returned to the application. The return parameters are now correctly returned to the application under error conditions.

981794

A problem with PDM (csipdm), that prevented dynamic sinof from completing when an application aborted in DATBAS, was corrected.

981796

A problem with dbstat.sh, that caused it to fail if there was an error in the password entered, was corrected. It now prints a message on the screen and exits.

981797

A problem with the Database Access Program (csidatbas.o, csidatbas.sl, csibatbas.o), that prevented it from handling SIGHUP signals when the signal_trap PDM input parameter was set to N, was corrected.

981798

The signal handler in the Database Access Program (csidatbas.o, csidatbas.sl, csibatbas.o) was changed to generate the signal received and return instead of exiting.

981799

A problem with the PDM (csipdm), that caused the thread processes to become defunct after unloading a dbmod that had done a system log dump, was corrected.

981800

A problem with the PDM (csipdm and csibatbas.o), that caused index failures to occur on some platforms due to interrupted read and write operating system calls, was corrected. Logic was added to retry these interrupted system calls.

981811

A problem with the High Speed Index Loader (cstuidx, csipdm, csibatbas), that caused it to build corrupt indices when many NULL keys were present in the dataset, was corrected.

982013

Release 6.2.2 of Cosort has been integrated with the PDM and all utilities. The Cosort modules are hard linked with the PDM binaries, which allows users to install any version of Cosort without conflict.

982014

A problem with the csitidy daemon, that caused it to fail to restart after the initial resource table had been filled, was corrected. This was partly due to the way the stdout file was being closed and re-opened. This was corrected in RMS fix 982015.

982015

A problem with the daemons, csistr, csitidy, csichkpriv, and csioper, that caused them not to print output to the log file on certain operating systems, was corrected. A new file descriptor is now used instead of the stdout file handle.

982017

A problem with the csitidy daemon, that caused it to remove the resource file even if the resource was not removed due to an error, was corrected. This caused resources to be orphaned, which could cause errors the next time resources are allocated. This caused various symptoms while creating logical names, initializing PDM, and loading dbmods.

982018

There is a problem with the csiremall script that causes it to remove the resource file even if the ipcrm of the resource fails. This causes various errors the next time a resource is allocated. This can occur during logical name definition, PDM startup, or dbmod loading.

NOTE: This is a known problem with no known solution at this time.

982019

A problem with the Database Access Program (csidatbas.o, csidatbas.sl, csibatbas.o), that caused it not to return EFUL to an application when MAXTASKS had been exceeded, was corrected. This can happen when system logging is in use and the system log dump program signs on when there are MAXTASKS tasks already signed on. The system log dump program is allowed to sign on but this caused the current sinon count to exceed the MAXTASKS parameter. This caused DATBAS to let new applications to SINON, which could cause fatal PDM errors.

982021

A problem with the PDM, that caused FATAL 69 errors when the MAXTASKS dbmod parameter was exceeded, was corrected. This can happen when system logging is in use and the system log dump program signs on when there are already MAXTASKS signed on. The PDM allows the system log dump program to sign on but additional SINONs would then also be allowed. This caused FATAL 69 errors. The additional SINONs now get DFUL errors.

982249

A problem with the PDM (csipdm and csibatbas), that caused PDM to abort under certain conditions when loading a dbmod, was corrected. This would occur when there was a problem allocating semaphores. PDM now correctly returns IDBM to the application.

982252

A problem with the Index utility (cstuidx, csipdm), that caused indices with keys less than 4 characters to be built incorrectly, was corrected. This caused the indices to fail the check function and return CIDX errors when accessing the index with READX with the READ-VERIFY option. This problem would occur after populating an index with the POPULATE opcom command or after warm-start. This problem was introduced in release 1.2.3b with the BINARY-ZERO-KEY support.

982253

A problem with the Fast utility (csmchangedb), that caused it to return an erroneous syntax error when the command line contained a LOAD= or UNLOAD= parameter and the file or path specified contained an underscore character, was corrected. All characters are now allowed.

982580

The Operator Command utility (csiopcom) was enhanced to provide the following new functions:

ENABLE DEBUG start logging function and status messages

DISABLE DEBUG end logging of function and status messages

QUIT exit the utility (CTRL-D)

990041

A problem with DATBAS (csidatbas.o, csidatbas.sl, and csibatbas.o), that caused it to return an NOTO error to the application when signing on to systemwide databases, was corrected.

990147

The DBA expand related dataset utility has been enhanced to allow the new records being added to the dataset to be added to a new file-spec (extent). This is done via the following dialog following the entry of the new total logical records:

Data set = CLNK

File spec = CLNK2.QAR

Total logical records = 20298

Records in above file spec = 10149

Control interval size = 1194

Enter new number of total logical records: 30000

NUMBER OF RECORDS ADDED = 10746

Do you wish to add a new extent to the dataset (Y,N) : Y

Enter file spec-3 for data set: CLNK

: CLNK03.QAR

Do you wish to EXPAND the data set (Y,N) :

990153

A problem with the expand related dataset utility (csidba), that caused it to incorrectly format the new records of a dataset with a block size greater than 4096, was corrected. This caused premature FULL statuses after expanding the dataset. A dataset re-org using either the unload/reload utility or csmchangedb is necessary to correct this problem after the faulty expand utility has corrupted the dataset.

990192

A problem with PDM (csipdm and csibatbas), that caused FATAL 50 errors and other errors when a database is unloaded, was corrected. This could be when a SINGLE mode program does a SINOF then immediately does a SINON. It could also be during the execution of a batch script that executes programs that SINON and SINOF and the script uses csiopcom to unload the dbmod between the program steps.

990209

A problem with the csistats utility, that caused it to fail when the binary zero key option was set to yes, was corrected. This caused the dbstat.sh utility to give erroneous results for the number of active records in the file.

990211

A problem with PDM (csipdm and csibatbas), that caused it to fail with a FATAL 49 when a SINON function was executed with a large REALM and the dbmod was defined with a small TASK-LOG-BLOCK-SIZE, was corrected. This condition now returns LSIZ to the application and does not cause the PDM to fail.

990212

A problem with the PDM (csipdm and csibatbas), that caused erroneous results to be returned for the count when the READX function was executed with the KEYCOUNT or KC option, was corrected.

990534

A problem with PDM (csipdm, csibatbas), that caused it to abort during startup if it was unable to initialize the semaphores required for operations, was corrected. This could be due to a lack of semaphores in the system or a corrupted CSIRESOURCES directory.

990535

A problem with the Database Administrator utility (csidba), that caused it to print incorrect displacements for elements in coded records when printing database reports, was corrected.

990536

A problem with the Fast utility (csmchangedb) was corrected. The word database was misspelled in the message CSTU708W.

990537

A change was made to the PDM (csipdm, csibatbas) that allows the MAXTASKS PDM input parameter to be set in the range 1–32766. The previous range was 1–1000.

990539

A problem with the dbverify utility (csiuxdbver), that caused it to abort when displaying the key value when some dataset errors were being reported, was corrected.

Release 1.3.1a

The following changes were made in release 1.3.1a:

991182

A problem with the PDM (csipdm & csibatbas), that caused records to be truncated when serially reading records from a coded related file with no record code specified in the element list, was corrected. If the first record read was smaller than a subsequent record the subsequent record would be truncated to the size of the first record read. This affected applications running with the serial read ahead feature on.

This problem can be circumvented by turning serial read ahead off with the following command:

```
csideflog -g CSI_READAHEAD NO
```

The -s option could also be used.

Release 1.3.1b

The following changes were made in release 1.3.1b:

991184

A problem with the PDM (csipdm & csibatbas), that caused PDM to report FATAL 50 errors during online processing, was corrected.

991185

A problem with the Database Administrator's utility (csidba), that caused the csiuxdbver utility to incorrectly report the error CSIU833I load limit incorrect, was corrected. This was due to a difference in the code that calculates the load limit during the dbmod compile and the code that calculates the load limit during the definition of the file. This problem occurred only when the load limit was set to a very small number.

Release 1.3.1c

The following changes were made in release 1.3.1c:

991186

A problem with the PDM (csipdm & csibatbas), that caused SINON functions to be executed every INTERVAL, was corrected. This resulted in very slow response time when interval was set > 1. This correction causes SINONs to be executed sequentially regardless of the value of INTERVAL. This problem could be alleviated by setting INTERVAL to 1.

991187

A problem with the PDM (csipdm & csibatbas), that caused the CSTI002I message to contain the wrong PDM release number on the NCR3000 platform, was corrected.

991188

A problem with the PDM (csipdm), that caused it to crash with a segmentation violation when cstufmt was executed for an active database, was corrected. The PDM crashed while printing the CSTI145I message.

991190

A problem with the PDM (csipdm), that could cause PDM to fail with a FATAL 50 error during a system log dump, was corrected.

991191

A problem with Cosort that caused PDM to crash after completing a warm start that included an index populate was discovered. This could also have occurred following an index populate using the csiopcom POPULATE command. The problem was circumvented in PDM (csipdm).

991192

A problem with the PDM (csipdm), that caused it to abort with a signal 11 error after the csiopcom command READONLY/FORCE had been executed twice on a database that was not loaded, was corrected. This problem only occurred on the NCR3000 platform.

991193

The Database Access Program (csidatbas.o csidatbas.sl) was enhanced to display message CSTI0435 in the csidaplog whenever an NDBN status is returned to the application.

991194

A problem with the Database Access Program (csidatbas.o, csidatbas.sl), that caused it to return **** following a SINON when in fact the SINON had failed due to a number of possible problems including a failure to find a logical name or attach to shared memory, was corrected. When a logical name cannot be located, csidatbas now returns NDBN. When an error occurs when attaching to shared memory, csidatbas now returns FAIL. Under all circumstances, a message is printed to the csidaplog.

991195

The following updates have been made to the System Administrator's Guide:

In the section titled "Modifying system parameters for semaphores" the following text was added:

- ◆ **SEMMNU.** Maximum number of semaphore UNDO structures in the system.

SUPRA Server uses semaphore UNDO structures for most semaphore operations. The SEMMNU system parameter should be set to accommodate at least the total number of semaphores in all SUPRA Server systems. Use the table on the following page to determine the number of semaphores used by a SUPRA Server system. Remember, a SUPRA Server system can have many databases loaded.

In the section titled "Modifying system parameters for message queues" the following text was added:

- ◆ **MSGTQL.** Number of message headers in the system.

MSGTQL must be set high enough to accommodate at least 1 message per task (MAXTASKS) for all SUPRA Server systems.

991196

The PDM (csipdm) requires adjustments to two tunable system parameters that can cause PDM to hang when a heavy SINON load is placed on the system. This version of PDM uses semaphore UNDO structures for most semaphore operations. See 991195 for details on setting the SEMMNU parameter. Another parameter that can cause PDM to hang during SINON is MSGTQL. See 991195 for details on setting this parameter. An attempt was made to allow PDM to continue running after exhausting the message header allocation (MSGTQL). None of the changes made have corrected this problem. The MSGTQL parameter must be set high enough to prevent this problem.

991197

A problem with the pdmstats.sh script that caused it to report various awk errors when running on the NCR3000 platform was corrected.

991212

A problem with the PDM (csipdm) that caused it to hang occasionally for unknown reasons was corrected.

991213

A problem with the PDM (csipdm & csibatbas) that caused the PDM to disappear from the system without a trace was corrected. This problem would have occurred only after a warm start that populated an index or after a csiopcom POPULATE command.

991214

A problem with the PDM (csipdm) that caused it to abort with FATAL 50 errors under heavy load situations was corrected.

991215

The REDO command was added to csiopcom that allows the previous command to be re-executed without retyping it. The REDO command may be abbreviated by simply typing r or R.

Release 1.3.1d

The following changes were made in release 1.3.1d:

991278

A problem with the PDM (csipdm and csibatbas.o) that caused the READAHEAD feature to perform poorly under certain conditions was corrected. The READAHEAD feature was originally implemented such that the first record requested from a dataset returned only one record. If the application requested another record, PDM would return as many records as possible without causing a physical I/O. If the application continued to request records, PDM would return as many records as would fit in the data area. For many read only applications this showed dramatic performance improvements. For some, however, it did not. One example of a program that would perform poorly with READAHEAD is one that reads several related records using READV then deletes a record using DELVD. DELVD returns the RRN of the prior in chain. This causes the READAHEAD feature to abandon any records in the READV READAHEAD buffer and begins requesting records from PDM again. This causes many records to be read twice or more and performance is negatively affected.

The solution to this problem was to increase the two thresholds at which PDM will begin pre-reading records for the READAHEAD buffers. The new thresholds are 10 and 100. This means that PDM will not begin to pre-read records until the application has made 10 requests for records from the same file with the same parameters. Then, only after the applications had requested data from the same file 100 times will PDM begin to do physical I/O to fill the buffers.

This scheme may be somewhat conservative and may cause the performance of some programs that use READAHEAD to be diminished. It may also be desirable to increase the first threshold to prevent READAHEAD buffers from being abandoned by applications that read many of records before doing a DELVD. This problem has been remedied by implementing two new PDM input parameters that control the READAHEAD thresholds. The new parameters are:

READAHEAD_THRESHOLD1=n

READAHEAD_THRESHOLD2=m

Where n is an integer between 1 and 32766 and m is an integer between READAHEAD_THRESHOLD1 and 32766.

This will allow the customer and Cincom support to make adjustments to these thresholds for specific applications and general performance tuning.

991279

Several problems with PDM (csipdm and csibatbas) that caused indices to be improperly maintained when the BINARY-ZERO-KEY option is set to YES were corrected. This resulted in several problems when index records were not fully backed out following a DUPI error. This could also cause CIDX errors.

991345

A problem with PDM (csipdm and csibatbas) that caused the WRITE function to succeed when it should have returned DUPI was corrected. This could happen when the SECONDARY-KEY-UNIQUE is set to YES and the record contained a duplicate key.

991346

A problem with the PDM (csipdm and csibatbas) that caused indices to be maintained improperly after DUPI errors on ADD functions was corrected. After a valid status of DUPI was returned to the application, another attempt to add the record succeeded because the index key was deleted during the DUPI.

991347

A problem with the format utility (cstufmt) that caused it to improperly format indices with the SECONDARY-KEY-UNIQUE field set to YES when a previous SECONDARY-KEY-UNIQUE was set to NO was corrected. This caused add and write functions to succeed when duplicate keys were added. A DUPI is now returned.

991348

A problem with the index utility (cstuidx) that caused it to build invalid indices when the "ALL." option was used and the key length of the first index is smaller than subsequent indices was corrected. This caused cstuidx to fail on a "C"heck function; and CIDX errors to be returned on READX functions when the INDEX-READ-VERIFY option is set to YES.

991365

A problem with the PDM (csipdm and csibatbas) that caused the dispatcher thread of PDM to crash when the dumpslf option of csiopcom was specified to dump the system log file was corrected. This error was introduced in Release 1.3.1c.

Release 1.3.1e

The following changes were made in release 1.3.1e:

20000319

DATBAS (csidatbas.o, csidatbas.sl) returned an error to the application after sending a message to PDM because the message type field was corrupted. This occurred on the Digital Unix platform only.

20000320

A FATAL 50 occurred in PDM (csipdm) when a window was closed while DATBAS was waiting for a return from PDM, thus causing a SIGHUP signal to be returned and a SINOF issued by the application while the original function was still being processed by PDM.

20000321

A problem with the Database Administrator's utility (csidba) that caused it to display a maximum of 19 index names (one screen) was corrected.

20000322

The syntax of an error message in the script dbstat.sh was modified from "dbmod is not defined" to "dbmod is not loaded".

20000323

The script dbstat.sh was modified so that it will report errors as they occur rather than report an "awk" error.

20000324

The dump analysis utility, csidmpanl, is now functional.

20000325

The utility csistats (dbstat.sh) was modified to produce the correct value for total records for a data set with multiple extents; and to produce a valid file status field for a primary data set with multiple extents.

20000355

The DEBUG parameter has been added to the help file for csiopcom (csiopcom.hlp) for the operator commands DISABLE and ENABLE.

20000566

A problem with the PDM (csipdm and csibatbas) that occurred as a result of a change in Release 1.3.1d in Fix Number 991279 was corrected. The delete of an index record with duplicate keys could result in the deletion of the wrong index record. This caused an application to receive IXNA on a READX function; and caused the index utility (cstuidx) check option to return the error CSTU467W (index record does not match data set record). .

The original problem was also corrected. This occurred when duplicate keys are not permitted. When a duplicate key was attempted to be added, a DUPI was correctly returned to the application, but while going through the function backout logic, PDM deleted the original index record.

Release 1.3.1g

The following changes were made in release 1.3.1g:

20000791

A problem with the Database Access Program (csidatbas.o, csidatbas.sl, csibatbas.o), that caused it to return a status of IVUA (Invalid User Area) for primary DML functions if the use of the *FILL=nn element caused the total data size to exceed the largest record in the database, was corrected. This problem had been addressed by Fix 971184, but re-appeared in 1.3.1 Releases due to architecture changes to the Database Access Program. The erroneous IVUA status was returned to applications using the V1Adapter due to the heavy use of the *FILL=nn element.

20000792

A problem with the PDM (csipdm, csibatbas), that occurred as a result of changes in Fix [20000566](#), was corrected. The add of an index record could result in a DUPI when duplicate keys are not permitted, and the application attempts to add a key that was just deleted.

20000793

SUPRA Unix PDM is now available for SunOS.

Release 1.3.1h

The following changes were made in release 1.3.1h:

20010080

SUPRA Unix PDM is now available for the Tru64 platform.

20010084

The transfer rate of data in a client/server environment (csibatbas, csistr) has been improved by using a single TCP/IP write.

20010086

Single-task PDM (csibatbas) returned an erroneous status of IVRP on READV, READR, and RDNXT functions on reverse-byte order machines (Digital Unix, NCR3000).

20010093

(NCR3000 3.2 platform only) All COBOL executables are now compiled with MicroFocus COBOL 4.1.20-e. These modules are now dynamically linked.

In previous releases, all COBOL executables were statically linked. This enabled the user to have a runtime version of any release of MicroFocus COBOL. However, with COBOL 4.1.20-e, a statically linked COBOL executable demands that the COBOL shared library be the same release (4.1.20-e). Since some users do not have release 4.1.20-e, all COBOL modules are now dynamically linked. In this way, the user can have any version of COBOL, as long as it is compatible with 4.1.20-e. At this time, all COBOL 4.1 releases are compatible with 4.1.20-e. If there are any problems, please contact Cincom support.

2

Changes in prior releases

Release 1.2.3

The following problems were resolved in release 1.2.3:

970325

A problem with the PDM (csipdm and csibatbas) was corrected which caused certain errors to be ignored during dbmod loading. This caused various errors including PDM crashes during dbmod loading.

970375

A problem with single task PDM (csibatbas) was corrected which caused the wrong release number to be displayed in the CSTI001 startup message and the CSTI002 shutdown message.

970376

A problem with the DDL Load utility (csiddlload) was corrected which caused the access_mode of a file to be ignored. This field was not printed in a ddl listing and was not validated.

970644

A problem with the Fast utilities (csmchangedb) was corrected which caused the utility to ignore the NOPOPULATE option.

970645

The server module of the client/server feature of PDM (csistr) was modified to not trap signals. This will cause csistr to create a core file on any abort condition. A problem was also corrected which caused an abort condition.

970646

The Database Verify Utility was modified to detect errors allocating memory. Prior to this release, memory allocation errors would go undetected and cause further complications.

970647

The Fast Utilities (csmchangedb) was modified to detect errors allocating memory. Prior to this release, memory allocation errors would go undetected and cause further complications.

970659

A problem with the PDM (csipdm, csibatbas) was corrected which caused the READX function to return IRNF when the end of the index was reached using the MATCH-EXACT option to access duplicate keys in an index. The function now returns END. in the qualifier as documented.

970660

A problem with the Database Administration Utility (csidba) was corrected which caused the directory and the dbmod to be incorrectly updated after a related file having multiple file specs was expanded.

970663

A problem with the Database Administration Utility (csidba) was corrected which caused help screens to not appear when requesting help for text and numeric fields during create and modify functions.

Release 1.2.3a

The following problems were resolved in release 1.2.3a:

971169

A problem with PDM (csipdm and csibatbas) was corrected which caused FATAL 57 errors intermittently during SINOF functions in RONLY mode.

971170

A problem with dbstat.sh was corrected which caused no statistics to be displayed for prefixed databases when the dbmod name was specified on the command line.

971171

The optional name of the temporary work directory used by pdmstat.sh was changed from the logical name TMPDIR to the environment variable TMPDIR. The default directory is still /tmp.

971173

The optional name of the temporary work directory used by dbstat.sh was changed from the logical name TMPDIR to the environment variable TMPDIR. The default directory is still /tmp.

971175

A problem with the index utility (cstuidx) was corrected which caused CSTU456F errors to occur after populating an index on a dataset which has multiple extents.

971176

A problem with the shared library datbas (csidatbas.sl) for the AIX platform was corrected which caused the binary linked with it to fail with the error cannot load library csidatbas.sl.

971179

A problem with the s1_system_setup install script was corrected which caused it to fail to display the current list of systems on the NCR3000 platform.

971180

A problem with the s1_user_setup install script was corrected which caused it to fail to display the current list of systems on the NCR3000 platform.

971181

A problem with the s1_user_setup install script was corrected which caused it to fail to insert the user into the privilege file after the first user was setup.

971182

A problem with the PDM (csipdm and csibatbas) was corrected which caused IVDL to be returned to the application when the element list contained *FILL=nn as the first element.

971183

A change was made to csidatbas which improves signal handling in several ways. First, the 3 signals SIGBUS, SIGSEGV, and SIGHUP are now recognized. When one of these signals is caught the 'do not allow dynamic sinof flag' is turned off. This allows dynamic sinofs to occur immediately instead of being delayed until the database is unloaded. Signal trapping is only enabled if the signal_trap PDM input parameter is set to yes. Second, the signal handler enables the full dump option on AIX platforms. Prior to this change, only the default partial dump was available.

971184

A problem with csidatbas was corrected which caused IVUA statuses to be returned to the application if the use of the *FILL=nn element caused the total data size to exceed the largest record in the database.

971186

The Logical Data Item facility of csidba was added from the VAX. This allows logical data items to be defined as well as domains, providing compatibility for the UNISQL Hub Driver.

971187

A problem with the Database Administrator's Utility (csidba) was corrected which caused the database details of a new database to be set to the defaults after being copied from an existing database using the copy database description option.

971197

A problem with the format utility (cstufmt) was corrected which caused indices to be deactivated after formatting a dataset on the NCR3000 platform.

Release 1.2.3b

The following problems were resolved in release 1.2.3b:

980216

A problem with the Database Verify Utility (csiuxdbver) was corrected that caused it to produce the error CSTU844E when processing a primary dataset with multiple linkpaths. The utility was not processing all of the links when the first link had no data records on it but the second one did.

980217

A problem with the PDM (csipdm and csibatbas) was corrected that caused it to produce occasional FATAL 49 errors while running with system logging under heavy load situations.

980218

A problem with the user install script (s1_user_setup) was corrected which caused it to fail with a syntax error in line 1.

980219

A problem with PDM (csipdm and csibatbas) was corrected which caused intermittent ICHN errors to occur following warm start recovery.

980220

A problem with the DBA Utilities (csidba) was corrected which caused the utilities run in background to fail with a text file busy error on the AIX platform. After making all selections for the unload/reload utility, this error occurred when the 'y' option was selected to run the utility.

980221

A problem with the client server database access program (csidatbas.o) was corrected which caused the Operator Command Utility to fail when attempting to communicate with a remote PDM.

980222

Changes were made to the pdmstats.sh script which provide the process id and task id for task statistics and provide task statistics totals.

980223

The BINARY-ZERO-KEY option is now fully implemented. The utilities affected by this change are csmchangedb, csiuxdbver, cstuidx, and csidba.

980225

A problem with the client server support (csistr and csidatbas.o) was corrected which caused the server (csistr) to hang if the client exited or aborted without doing a SINOF. This could also happen to the client if the server was killed or aborted.

980226

A problem with the Expand Related Dataset utility in the Database Administration utility (csidba) was corrected which caused it to produce the error 087 when trying to expand a related dataset when the database is active.

980227

Several changes were made to the server module (csistr) of the client server support to prevent various kinds of errors and hang situations. If the SINON was unsuccessful on the server the server component would abort. If any of the operations failed which were required to perform the function (logical name definitions, environment variable definitions, etc.) the server would exit, leaving the client hanging.

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