

Title: 3.7.1-TEC-FP03.README

Date: August 29, 2002

Patch: 3.7.1-TEC-FP03

Component: Tivoli Enterprise Console 3.7.1

General Description:

Tivoli Enterprise Console 3.7.1 Fixpack 3, PTF U484411, contains APAR solutions from the previous fixpack and all previous patches and e-fixes, along with other APAR solutions.

Before using this information and the product it supports, read the information in the "Notices" section, at the end of this document.

First Edition (August 2002)

This edition applies to version 3, release 7, modification 1 of Tivoli Enterprise Console (product number 5698-EAS) and to all subsequent releases and modifications until otherwise indicated in new editions.

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I. Fixpack Contents:

- * The 3.7.1-TEC-FP03.tar file containing:
 - This README file
 - An image report for this fixpack
 - A CD-ROM image for this fixpack

* The file containing information about IBM NetView 7.1.2 integration features: nvintegration.pdf

II. Patches superseded by this patch:

- 3.7.1-TEC-0001
- 3.7.1-TEC-0003E
- 3.7.1-TEC-0004
- 3.7.1-TEC-0005E
- 3.7.1-TEC-0006E
- 3.7.1-TEC-0008E
- 3.7.1-TEC-0009E
- 3.7.1-TEC-0010E
- 3.7.1-TEC-0011E
- 3.7.1-TEC-0012E
- 3.7.1-TEC-0013E
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- 3.7.1-TEC-0022E
- 3.7.1-TEC-0023E
- 3.7.1-TEC-0024E
- 3.7.1-TEC-0026E

III. Prerequisites and Corequisites:

The following prerequisite must be installed prior to the installation of this fixpack.

- * 3.7.1 Tivoli Enterprise Console
- * 3.7.1-TEC-LINUX (For environments with Linux systems)

The following corequisite patches and products must be installed for the specified scenarios.

Note: All patches can be downloaded from the Tivoli Support FTP site: <ftp.tivoli.com/support>

Note: The Tier 2 ACF must be installed when using Linux with a Tier 1 Tivoli Management Framework server.

- * Installing Tier 2 Managed Nodes, excluding Linux, with Tier 1 Tivoli Management Framework servers (apply to server):
3.7-TMF-0020

- * Environments with Tier 2 Tivoli Management Framework Servers or Managed Nodes (apply to Managed Node or server):
 - 3.7-TMF-0023 (Tier 2 service patch)
 - 3.7-TMF-0024 (Tier 2 patch for Application Development Environment, ADE)
 - 3.7-TMF-0025 (Tier 2 MDIST 2 GUI patch)
- * To install Linux endpoints with Tier 1 Tivoli Management Framework servers and gateways (apply to server or gateway):
 - 3.7-TMF-0020
 - 3.7-TMF-0044 (Tier 2 endpoint bundle for Tier 1 gateway)
 - 3.7-TMF-0035 (Adds missing files from 3.7-TMF-0044)
 - 3.6.1-TMF-0034 (LCF enablement patch)
 - 3.6.1-TMF-0062 (LCF Linux endpoint patch)
 - 3.7.1-TMF-0071 (Linux endpoint update)
- * To utilize single port bulk data transfer, BDT (apply to server):
 - 3.7.1-TMF-0003
 - 3.7.1-TMF-0008
 - (See Fixpack Notes section below)
- * To install the OS/2 TME adapter (apply to server):
 - 3.7.1-TMF-0033
- * To install the fixpack with Software Installation Services (SIS):
 - 3.7.1-SIS-0005
- * To use the IBM Tivoli NetView 7.1.2 console integration:
 - IBM Tivoli NetView 7.1.2

IV. Supported Platforms:

Operating Systems:

IBM AIX 4.3, 4.3.1, 4.3.2, 4.3.3, 5.1
 Solaris Operating Environment (Sparc) 2.6, 2.7, 2.7.1, 2.7.2, 2.8
 Solaris Operating Environment (Intel) 7.0, 8.0
 HP-UX 10.20, 11.0, 11i
 Microsoft Windows NT 4.0 SP5, SP6A
 Microsoft Windows 2000 Professional, Server, Advanced Server SP1
 Red Hat Linux 6.2, 7.0
 SuSE Linux (Intel) 6.4, 7.0
 SuSE Linux (S/390) 7.0
 Turbo Linux 6.0, 6.1
 IBM OS/2 Warp 4.0
 IBM OS/400 V4R5
 Compaq/Digital Tru64 UNIX 5.0, 5.1
 Sequent DYNIX 4.4.8, 4.5.1
 Silicon Graphics, Inc. IRIX 6.5
 Reliant 5.45
 SCO UnixWare 7.0.1, 7.1.1

Novell NetWare 5.1

Databases:

Note: Database support is contingent upon support from Tivoli Management Framework and RIM. At the time of this release the following database platforms are supported:

- Oracle 8.0.6, 8.1.6
- IBM DB/2 6.1, 7.1, 7.2
- Sybase 11.9.2, 12.x
- Microsoft SQL Server 7.0 SP1
- Microsoft SQL Server 2000
- Informix 9.1, 9.2

Tivoli Application Compatibility:

The following Tivoli product versions are supported for use with the Tivoli Enterprise Console 3.7.1 and this fixpack:

- * Tivoli Management Framework 3.7b 3.7.1
(Up to and including 3.7.1 fixpack 3)
- * Tivoli NetView 7.1.2
- * Tivoli Distributed Monitoring 3.7 4.1
- * Tivoli Manager for Domino
- * Tivoli Manager for Oracle
- * Tivoli Remote Control 3.7
- * Tivoli Inventory 4.0
- * Tivoli Data Warehouse
- * Tivoli Business Systems Manager 1.5

V. Installation Order:

- 3.7.1 Tivoli Enterprise Console Server
- 3.7.1 Tivoli Enterprise Console User Interface Server
- 3.7.1 Tivoli Enterprise Console ACF
- 3.7.1 Tivoli Enterprise Console ACF Tier 2 Endpoint Support
- 3.7.1 Tivoli Enterprise Console Console
- 3.7.1 Tivoli Enterprise Console NetView 7.1.2 Enablement

Note: The Tier 2 ACF, and NetView 7.1.2 Enablement components are optional.

VI. Installation Instructions:

IMPORTANT: Before applying this fixpack, stop the event server.

WARNING: The .tec_config file is replaced during the installation of Fixpack 3. Users with a customized file must create a backup copy prior to installation, in order to use with the updated product.

WARNING: Due to changes in the wtdbc clear command, it is recommended that users make a backup copy of the wtdbc clear binary file prior to installing this fixpack, and store in a different location. Should the original functionality be required, the backup file can replace the new version.

1. Extract the fixpack:

On a UNIX system:

Extract the contents into a temporary directory, using the following commands. For the purpose of this example, assume that the variable \$PATCH points to this temporary directory.

```
cd $PATCH
tar xvf 3.7.1-TEC-FP03.tar
```

On a Windows system:

Extract the contents into a temporary directory, using the following commands. For the purpose of this example, assume that the variable %PATCH% points to this directory, and X is drive letter where %PATCH% is found.

```
%SystemRoot%\system32\drivers\etc\Tivoli\setup_env
X:
> cd %PATCH%
> tar xvf 3.7.1-TEC-FP03.tar
```

NOTE: If extracting the tar image on a Windows system, you will find an executable for the tar utility in the TME installation on Windows:
bin/w32-ix86/tools/tar.exe

2. The following instructions are included for using Software Installation Service (SIS). If SIS is not used, skip to number 3.

NOTE: SIS can install Tivoli Software products on most hardware platform supported by Tivoli Software, however there are some hardware platforms on which SIS cannot be run. Check the Tivoli Enterprise Installation Guide for the list of platforms on which SIS can be run.

NOTE: You must have the install_product and super authorization

roles to successfully install this fixpack.

****IMPORTANT:** The following SIS patch, available from the Tivoli Support FTP site, is required: 3.7-SIS-0005

- a) From the Tivoli desktop pull down menu, select Desktop --> Install --> Software Installation Service.
 - b) SIS will initialize, and display the Get Installation Password dialog. Enter the installation password.
 - c) Click the Install button on the dialog which contains the Tivoli image.
 - d) Click the Select Product button on the Install Spreadsheet dialog.
 - e) Click the Import Product button on the Select Product dialog.
 - f) Locate the media to 3.7.1-TEC-FP03 using the file browser, and select the PATCHES.LST file by double-clicking it.
 - g) Select 3.7.1-TEC-FP03 in the Import Product dialog, and click the Import Button.
 - h) When the import is complete, click the OK button on the Global Progress dialog.
 - i) Select 3.7.1-TEC-FP03 in the Select Product dialog, and click the OK button.
 - j) Click the Select Machine button on the Install Spreadsheet dialog.
 - k) Select the machine(s) you would like to install 3.7.1-TEC-FP03 to, and click the OK button.
 - l) Click the appropriate cell(s) in the Install Spreadsheet dialog. (NOTE: This should yield an X in the cell(s) for the machines to install 3.7.1-TEC-FP03 on).
 - m) Click the Install button.
 - n) Select the install algorithm you want to use in the Installation Algorithm dialog, and click the OK button.
 - o) SIS will perform the installation(s) you designated in the Install Spreadsheet dialog.
 - p) Installation is complete. Check the Additional Installation Instructions section below.
3. Use the following steps to install the fixpack using the classic Tivoli installation mechanism.

NOTE: The `install_product` and `super` authorization roles are required to successfully install this fixpack.

- a) Select Install -> Install Patch from the Tivoli desktop" pull-down menu to display the Install Patch dialog.
- b) Click the Select Media button to display the File Browser dialog.
- c) Enter the path to the directory containing the Fixpack, \$PATCH, in the Path Name field.
- d) Click the Set Media & Close button to return to the Install Patch dialog.
- e) The patch install list now contains the name of the fixpack. Select the fixpack by clicking on it.
- f) Select the clients to install this fixpack on. Fixpacks

typically need to be installed on the Tivoli server and on each Tivoli client.

g) Click the Install button to install the fixpack.

4. Restart the event server after successful installation of the fixpack.

VII. Fixpack Notes:

Please read all of the following notes prior to installing the fixpack.

Consult your operating system reference manual(s) for operating system specific commands.

It is recommended to backup appropriate files where noted, to restore original configuration after installing the fixpack.

Tivoli Support FTP site: <ftp.tivoli.com/support>

DBCS and UTF-8:

Note: This applies only to adapters receiving DBCS events.

Tivoli Enterprise Console TME and Non-TME adapters:

To prevent DBCS characters from becoming corrupted, stop the adapter and add the following option to the adapter configuration file:

```
NO_UTF8_CONVERSION=YES
```

Make sure there is a carriage return at the end of the line, or DBCS characters may become corrupted. This option prevents DBCS characters in the event stream from being converted to UTF-8 encoding twice (in the adapter and in the EIF). The command line interface (CLI), can use the same configuration file as the adapters. The NO_UTF8_CONVERSION option is internally set to NO for CLIs by default.

Tier 2:

Tier 2 enablement included in FP03 allows distribution of Tier 2 adapters from a Tier 1 ACF. Please note any prerequisite patches required for Tier 2, in the "Prerequisites and Corequisites" section.

wmigcon:

The wmicon command attempts to translate console filters as accurately as possible from 3.6.2 to 3.7.1, but an exact match cannot be made for every filter. The 3.6.2 filters are specified as Perl regular expressions, and the 3.7.1 filters are specified with the SQL LIKE operator. Regular expressions and SQL do not map to each other in a precise way, so you should inspect each filter after the wmicon command has migrated it, to verify the resulting SQL filter is accurate. Consult the Tivoli Enterprise Console 3.7.1 Release Notes and Reference Manual for information regarding the wmicon command usage.

tec_gateway.conf parameters:

If the event server fails due to a high rate of incoming TME events, or event storms, the Tivoli Enterprise Console gateway may be used to control the rate at which the event server receives events from TME sources. The following adapter configuration file options can be used in the tec_gateway.conf file:

```
EventSendThreshold = max_events_per_second
BufferFlushRate = events_per_minute
MaxGWCachSizeMegs = size_in_megabytes
```

EventSendThreshold - The maximum number of events per second in which the gateway sends events directly to the event server. When the rate of incoming events exceeds the EventSendThreshold option, then the gateway begins to cache the events in a file. From that point, the EventSendThreshold option is used in conjunction with the BufferFlushRate option, to scale back the rate at which events are sent to the event server, utilizing the cache.

BufferFlushRate - The number of events per minute in which the gateway sends events to the event server from the cache, once connection to the event server has been reestablished.

MaxGWCachSizeMegs - Specifies the size of the gateway cache. This option is not listed by default in the configuration file and the default value is set to 1 MB.

Notes:

- * The cache size cannot exceed 1 GB.
- * The amount of system memory, along with processor and network speed are all factors in determining the number of events per second and event server can handle. An event server with a larger quantity and faster resources can send and receive more events per second than an event server with fewer or slower resources.

For example, if the event server can process 25 events per second, and there are five gateways in the environment, set each gateway with the following options:

```
BufferFlushRate = 300
EventSendThreshold = 5
```


These options set each of the five gateways to send events at a rate of 300 per minutes (five events per second). Thus the event server receives no more than 25 events per second.

eipc_verify_portmapper:

Note: DO NOT set this option when forwarding events to an event server running on Windows NT, Windows 2000, or any operating system that does not run a portmapper. Doing so will result in events queuing on the forwarding server, and not sending.

The eipc_verify_portmapper option is used when forwarding events from one event server to another. When the option is enabled, the sending event server verifies that the receiving event server is running prior to sending the event. This reduces the default 75 second per event delay, which normally occurs when the receiving event server is down, to 1/20th of a second per event. The decreased delay time results in faster event processing. This option applies when an event server forwards events to an event server system that historically fails or goes offline.

To use this option, add the following line to the the tec_forward.conf file:

```
eipc_verify_portmapper=YES (Default value is NO)
```

In some user environments, an event forwarding configuration file is specified in the re_send_event_conf rule predicate. In this case, the eipc_verify_portmapper option must be specified in this file as well. It is important to configure the option the same in both locations.

Rules Parsing:

The ability to use of a variable in place of a literal LIST_OF value within the all_instances and first_instance predicates, has been restored.

Example Rule:

```
print_reset :
( event: _event of_class 'Printer_Error_Cleared'
  where [ status: equals 'OPEN' ,
          alist: _aclasslist  ],
        /* Defined the variable _aclasslist */
  reception_action :
  ( first_instance(event: _prt_ev of_class
                  within _aclasslist
                  where [ status: outside ['CLOSED'] ],
                        _event - 3600 - 3600 ),
    change_event_status(_prt_ev, 'CLOSED' ) )
).
```

Example Class Definition:

```
TEC_CLASS :
  Logfile_Base ISA EVENT
  DEFINES {
    alist: LIST_OF STRING default=['Printer_Paper_Out',
      'Printer_Toner_Low', 'Printer_Offline'];
    /* Definition of alist */
  };
END
```

Single Port BDT:

When using single port bulk data transfer (BDT), the following Tivoli Management Framework patches must be installed:

```
3.7.1-TMF-0003
3.7.1-TMF-0008
```

Note: Consult the 3.7.1 Tivoli Management Framework Release Notes for details regarding the use of single port BDT.

NewLogBasedOn:

When configuring an adapter to monitor a log source file, using LogSources=file.log, the following option can be set in the adapter configuration file to determine when the file should be considered new:

```
NewLogBasedOn=ctime
```

Note: The string ctime is the only valid setting for this option.

When this option is set to ctime, then the log file is considered new when the last-updated time is more recent than the last poll time. This will send all events in the log source file.

The following sections describe the improved functionality incorporated in 3.7.1-TEC-FP02.

Custom Button in the Event Viewer:

There is a custom button option provided in the event console. When configured and activated, this button appears on the Event Viewer, and launches a user-defined script or executable file. Specify the following environment variables to create the button, which will be located on the middle bar of the Event Viewer, next to the Acknowledge button. When an event is selected, and the button pressed, the action specified in TEC_CUSTOM_ACTION variable executes.

Environment variables:

```
TEC_CUSTOM_LABEL = The name of the button label
                   (limited to 20 characters)
TEC_CUSTOM_ACTION = The fully-qualified program to execute
```

Although the environment variables are set per operator, the custom button is not currently designed to be configured for each operator. In the IBM Tivoli Enterprise Console product, version 3.8, custom buttons will be defined on a per-console basis through the console properties.

Some limitations when setting the TEC_CUSTOM_LABEL and TEC_CUSTOM_ACTION environment variables:

1. The label is limited to, and truncated at, 20 characters.
2. To run a shell script in UNIX or Linux, you must specify the shell program before the script:

```
#!/usr/local/tec_console> export TEC_CUSTOM_ACTION = \  
"/usr/bin/sh /usr/local/custom_action.sh"
```

(Note: The "\n" indicates a new line, inserted for readability)

3. If the custom script launches a graphical application, for example a Java GUI, then you must export the DISPLAY environment variable in your script:

```
#!/bin/sh  
export DISPLAY=<hostname>:0.0  
/usr/jdk/bin/java MyCustomButton $(SLOTS)
```

When an event is selected in the Event Viewer and the custom button is pressed, the attributes of the event are passed to the custom button script as environment variables. The SLOTS environment variable contains a string array with all attributes exported by the event console. It will be similar to the following:

```
SLOTS=num_actions hostname server_path adapter_host source\  
cause_event severity status ...
```

Each one of these attributes is also an environment variable, and can be used in a custom button script.

For example, in UNIX:

```
#!/bin/sh  
/usr/jdk/bin/java UpdateSeverity $(severity) $(hostname)
```

In Windows (a .bat file):

```
@echo off  
d:  
d:\jdk\bin\java MyCustomButton "%SLOTS%" "%severity%" "%class%"  
@echo on  
REM define environment variable  
set TEC_CUSTOM_ACTION=d:\test\mycustombutton.cmd
```

Note: In order for the custom button to take effect, the console must be restarted.

wtdbclear:

WARNING: Due to changes in the wtdbclear command in 3.7.1-TEC-FP02, it is recommended that users make a backup copy of the wtdbclear binary file prior to installing this fixpack (unless 3.7.1-TEC-FP02 has already been installed). Should the original functionality be required, the backup file can replace the new version.

To improve the run time performance of the wtdbclear commands, table indexing and code changes were made, and stored procedures were added to the event database.

SQL scripts for each database vendor type are provided to:

- Rearrange the tec_t_evt_rec_log index columns to put the date_entry column first.
- Rearrange the tec_t_evt_rep index columns to put the date_reception column first.
- Add a stored procedure to the event database that can be called by the wtdbclear command (binary version).

Stored Procedures Details:

A new stored procedure has been added for each of the five databases that the Tivoli Enterprise Console product supports. Stored procedures greatly reduce the time needed to run database functions, because they run on the database server, instead of the client. This eliminates the need to transfer records back and forth across the network.

IMPORTANT: Stored Procedure Notes:

1. The DB2 stored procedure has been coded with the same functionality as the other stored procedures. Due to DB2's requirement for a C compiler and DB2 SDK, this procedure has been functionally tested on AIX 4.3.3 only. It has been included here in case the user has the required SDK and C compiler installed and configured with DB2, and desires the performance benefits.
2. DB2 SQL stored procedures are only supported with DB2 v. 7.1 and later.
3. RIM requires Tivoli Management Framework e-fix 371-TMF-0042E to run the stored procedure for Sybase successfully. This is available from the Tivoli Software Support FTP site.

Files included for the wtdbclear changes:

- install_wtdbclear_stproc.sh

WARNING: The event server must not be running while executing this script due to the index changes that occur.

This file runs SQL scripts to install or remove the stored procedures and alter indexes. The script will attempt to shut down the event server if it is running, and will exit if shutdown is unsuccessful.

- <db_type>_stproc.cr.sql and <db_type>_stproc_rm.sql

Each database type, with the exception of DB2, has these two SQL scripts. The <db_type>_stproc.cr.sql scripts alter indexes and add the stored procedure definition to the event database. The <db_type>_stproc_rm.sql scripts drop the stored procedure from the event database.

- db2_stproc_cr.db2, db2_stprocindex_cr.db2, and db2_stproc_rm.db2

DB2 requires three scripts to accomplish the same functionality as the two scripts previously described for the other RDBMS. The stored procedure for DB2 is located in the script named db2_stproc_cr.db2. The db2_stprocindex_cr.db2 script contains the code to alter indexes and the db2_stproc_rm.db2 script drops the stored procedure.

Note: The DB2 Stored Procedure Builder requires stored procedure code to be the only SQL code in a particular file. The file must also end with the extension .db2. The db2_stproc_cr.db2 meets the criteria for DB2 Stored Procedure Builder syntax checking.

How to run the install_wtdbclear_stproc.sh script:

All the SQL scripts and the install_wtdbclear_stproc.sh shell script install into the \$BINDIR/TME/TEC/sql directory when the fixpack is applied to the event server. For DB2 and Informix, these scripts should be run on the database server host, which may require copying the install_wtdbclear_stproc.sh shell script, along with the appropriate SQL scripts for the database, to the database server host. The install_wtdbclear_stproc.sh shell script should be run as the Tivoli Enterprise Console RIM user for DB2 and Informix. For Sybase, MS-SQL, and Oracle, the script prompts for the RIM user password as needed.

There are three possible input parameters for the install_wtdbclear_stproc.sh script, described below. They are new, remove, and db2proc.

new - Runs the SQL scripts to alter indexes and add the stored procedure to the event database. This is the default.

db2proc - Installs the DB2 stored procedure into the event database.

(Requires the DB2 SDK and C compiler)

remove - Removes the stored procedure from the event database.

WARNING: DB2 and Informix Users must log in to your machine as the RIM user. On UNIX, use the 'su' command to switch to the RIM user ID and run the event database install scripts. On Windows, you must not be logged on as Administrator or your local domain ID. Log on as the DB2 user assigned as the Tivoli Enterprise Console RIM user.

The following are examples to run the install_wtdbclear_stproc.sh script.

1. No input parameters (the most common method):

```
install_wtdbclear_stproc.sh
```

-OR-

```
install_wtdbclear_stproc.sh new
```

The indexes will be altered and the stored procedure will be added to the event database. The <db_type>_stproc_cr.sql script is run for every database vendor type except DB2.

Note: DB2 will only alter the indexes by executing db2_stprocindex_cr.db2.

2. Input parameter remove:

```
install_wtdbclear_stproc.sh remove
```

The stored procedure is removed from the event database. The script <db_type>_stproc_rm.sql applies to every database vendor type.

3. Input parameters new and db2proc
(most common options for DB2 7.1 and higher)

```
install_wtdbclear_stproc.sh new db2proc
```

This will install the DB2 stored procedure and then alter indexes by running db2_stproc_cr.db2 and db2_stprocindex_cr.db2 scripts.

Note: Only use the db2proc option if the required DB2 SDK and C compiler is installed on the DB2 server and it is configured to compile the SQL procedure into C code. Refer to the DB2 documentation and IBM Redbooks for the compiler and configuration requirements.

wtdbclear command changes (binary version):

NOTE: Due to changes in wtdbclear, it is recommended to backup the current \$BINDIR/bin/wtdbclear binary file, prior to

installing this update.

The updated wtdbclear command automatically calls the stored procedures for each database type, unless the new option '-p FALSE' is used. This option may be used to bypass the calling of the stored procedure for any database type. When the '-p FALSE' option is used, the older wtdbclear code is executed, however, benefits from altered indexes are still provided.

IMPORTANT: Use the '-p FALSE' option for the following:

1. Running Tivoli Management Framework 3.7b and Sybase.
2. Running any supported DB2 version prior to 7.1.
3. Running DB2 version 7.1 without the DB2 SDK and C compiler.

NOTE: DB2 users who are unable to take advantage of the new DB2 stored procedure can continue to use their backup wtdbclear command, to avoid using the new '-p FALSE' option.

wtdbclear.pl command changes (Perl version):

The wtdbclear.pl command was modified in 3.7.1-TEC-FP02 to make database calls using the new database table indexes. This avoids complete table scans and uses the indexes to find the events that match the -t time input option criteria. The code then determines which retrieved events to delete if any other input criteria is specified.

How to gain other event database performance improvements:

1. Specify the -t option with an argument of 0 to quickly clear the table. With the wtdbclear.pl command, truncation is performed for MS SQL, Sybase, and Oracle, and deletion is performed for Informix and DB2. The wtdbclear command will call the stored procedure and execute a DELETE FROM statement for all database types.

These commands run quickly because truncation clears a table without the overhead of logging changes, and deletion logs the changes but moves through the rows quickly.

NOTE: When clearing a large number of events, use the '-a' option. See the wtdbclear or wtdbclear.pl command in the IBM Tivoli Enterprise Console Reference Manual.

2. When the total number of rows to delete is less than the '-a' argument value, a DELETE FROM <table> WHERE DATE is less than option -t argument is executed using the table's index. This improves the speed because the index pinpoints which rows have a lower date value and then clears them quickly.

Note: Be careful not to specify a commit threshold too large. This can cause the transaction logs to run out of space.

3. When the number of rows to delete is greater than the '-a' argument, the rows are read to determine which should be deleted, and then they are deleted one by one. The stored

procedure is the quickest way to delete rows in this manner.

4. Where possible, both the `wtdbclear` and `wtdbclear.pl` commands do uncommitted reads to improve lock contention issues that can arise due to the event server running at the same time as the `wtdbclear` command.
5. Statistics are updated internally for Informix, MS SQL, and Sybase to update their data distribution statistics for the event database. These statistics are used for the internal database manager whose function is to calculate the fastest method to access data. If the statistics are not current, the internal database manager may choose a method that is not the fastest.

IBM Tivoli NetView Integration:

Note: By default, the NetView 7.1.2 integration functionality is enabled with the non-TME console. To disable the NetView 7.1.2 Integration functionality, perform the following:

UNIX:

```
cp $BINDIR/bin/tec_console_nonits $BINDIR/bin/tec_console
```

Windows:

```
copy %BINDIR%\bin\tec_console_nonits.cmd %BINDIR%\bin\tec_console.cmd
```

NetView integration consists of a rule set and predefined event groups that take advantage of the enhanced integration of IBM Tivoli NetView 7.1.2 with the Tivoli Enterprise Console product. See the `nvintegration.pdf` file provided with this Fixpack for details about the enhanced NetView integration.

During installation of 3.7.1-TEC-FP02 or 3.7.1-TEC-FP03, the NetView rule set is added to the Default rule base. This rule set is not active by default. To activate the rule set, perform the following steps (examples follow UNIX conventions, so modify them for different platforms). See the Tivoli Enterprise Console Rule Builders Guide for more information about rules and rule set activation.

1. From the Default rule base directory:
`cd $BINDIR/TME/TEC/default_rb/TEC_RULES`
2. Make sure the file `netview.rls` is in this directory.
Edit the file `rule_sets` and append the following line:
`rule_set(netview, 'netview.rls', active).`
4. Edit the file `rule_sets_EventServer`
and append the following line:
`rule_set: netview`
5. From the Default rule base classes directory:
`cd ../TEC_CLASSES`

6. Make sure the file netview.baroc is in this directory.
7. Edit the file .load_classes and append the following line:
netview.baroc
(Be sure to add a carriage return at the end of the line)
8. If you have not done so already, source the Tivoli environment:
. /etc/Tivoli/setup_env.sh
(%WINDIR%\system32\drivers\etc\Tivoli\setup_env.cmd in Windows)
9. Recompile the Default rule base, with the following command:
wrb -comprules Default
10. Reload the Default rule base, with the following command:
wrb -loadrb -use Default
11. Stop and restart the event server:
wstopesvr
wstartesvr

The following command creates the two predefined event groups for NetView events:

```
wcrtnvgroups
```

Note: This command requires the appropriate Tivoli user ID, password, and permissions to create an event group and assign event group filter to an event console.

IBM Tivoli NetView 7.1.2 Enablement:

****IMPORTANT:** Do not install the IBM Tivoli NetView 7.1.2 enablement options, until IBM Tivoli NetView 7.1.2 is installed.

For information about the IBM Tivoli NetView enablement features, view the nvintegration.pdf file, which is provided with this fixpack.

3.7.1-TEC-FP02 or 3.7.1-TEC-FP03 must be installed to use the additional event flows from IBM Tivoli NetView 7.1.2 with Tivoli Enterprise Console 3.7.1.

Tivoli Enterprise Console 3.7.1 Fixpacks 2 and 3 enables optional integration with IBM Tivoli NetView 7.1.2. This integration includes two primary provisions:

1. The ability to launch from an event in the Tivoli Enterprise Console Event Viewer to the new Tivoli NetView Web console, introduced in NetView 7.1.2.
The following views are available to launch to in the Web console:
 - Submap Explorer
 - Object Properties
 - Diagnostics

2. The ability to use predefined network-management rules with event flows unique to IBM Tivoli NetView 7.1.2.

These provisions are described in the following sections.

Event Console/NetView Web Client Integration:

Prior to Fixpack 2 and IBM Tivoli NetView 7.1.2, users of Tivoli Enterprise Console 3.7.1 and the NetView product could launch the native NetView console from the Event Viewer. With fixpack 2 or 3, administrators can opt to configure their event consoles to launch either the native NetView console or the new NetView Web console introduced in IBM Tivoli NetView 7.1.2.

The native NetView console is the default option and supports NetView 6.x to 7.1.1. By selecting the newer NetView option, for IBM Tivoli NetView versions 7.1.2 or later, different launch capabilities will be enabled.

To enable this option select the following from the patch install menu:

"3.7.1 Tivoli Enterprise Console NetView 7.1.2 Enablement"

Note: The NetView Web console must be installed on the same system as the event console.

For UNIX and Linux non-TME event console installations, the new NetView integration is enabled by running the `use_new_netview.sh` script located in the event console directory. For example, if the event console is installed in the `/usr/local/tec_console` directory, the following command will enable launching the NetView Web console:

```
./use_new_netview.sh
```

To use the updated NetView launch capability, configure the operating system to export an environment variable that specifies the NetView Web console path.

In a UNIX and Linux environment, export the environment variable `NVWC_HOME` to the fully-qualified directory where the NetView Web console is installed. If the NetView Web console is installed in the `/usr/local/nvwc` directory, the following first command would define the environment variable, and the second command would start the event console:

```
export NVWC_HOME=/usr/local/nvwc
tec_console
```

To install a non-TME event console on Windows systems, the event console installation wizard for Tivoli Enterprise Console 3.7.1 Fixpack 2 introduced a new panel called NetView Launch Support.

Note: The environment variable is set automatically by the event console installation wizard.

VIII. Known Defects and Limitations:

Memory Utilization:

IY30173.1: The tecadwins.exe process, for Windows 2000 systems, exhibits what appears to be a virtual memory leak. In fact, the memory usage is bounded, however the boundary is relatively high (greater than 30MB). A solution to this issue is forthcoming.

ACF:

Reliant UNIX Distribution:

146775: To successfully distribute and run an adapter on Reliant UNIX, the system must be running version 5.45 or later. Distributing to previous versions produces errors.

OS/2 Distribution (146783):

146783: To distribute the OS/2 adapter, perform the following steps on ACF/Gateway systems:

```
Install 3.7.1-TMF-0033
wdepset -e @DependencyMgr:acpep-ep -a os2-ix86\
  bin/os2-ix86/tools/emx.dll +p %BIN% +a
wdepset -e @DependencyMgr:acpep-ep -a os2-ix86\
  bin/os2-ix86/tools/emxlibcm.dll +p %BIN% +a
wdepset -e @DependencyMgr:acpep-ep -a os2-ix86\
  bin/os2-ix86/tools/emxlibcs.dll +p %BIN% +a
```

Event Console:

137423: The Information button on the Event Viewer attempts to launch a browser with an invalid URL on Windows NT systems only. To work around this, copy the URL specified from the resulting error message, removing the extra back slash in the file path, into the browser.

142937: A Java exception occasionally occurs when initially launching the console. This does not affect the functionality of the console.

NetView Integration:

NetView Rule Set:

The current NetView rule set does not support virtual private networks.

IBM Tivoli NetView Synchronization:

1. Events acknowledged in the event console might not propagate to the NetView console until the next polling cycle occurs. Because immediate synchronization is dependent on SNMP traps that are sent to the NetView server, this behavior can occur more frequently when the NetView server and the event server are on different subnets and are separated by a fire wall.

2. For troubleshooting purposes, leave the internal IBM Tivoli Enterprise Console TEC_Start event open. This allows you to use the Task Output dialog to confirm whether the SNMP traps were sent to the IBM Tivoli NetView product. Also, be aware that a large number of tasks can be reported in this window.

3. Closing or acknowledging a large number of NetView events can slow, and possibly stop the event server. To avoid this, do not close more than 100 events from the Event Viewer at once.

148212: NetView with IBM/Tivoli Switch Analyzer on AIX:

AIX Systems with both NetView and IBM/Tivoli Switch Analyzer (ITSA) installed do not forward events to the event server. When event forwarding is configured for NetView and ITSA, the "nvserverd" daemon does not forward events via portmapper to the event server. Instead, the daemon generates a Signal 11 error, and terminates. To work around this, specify a fully qualified server host name or IP address in the tecinit.conf file.

nvintegration.pdf:

Sections 4.2 and 4.2.2 in the nvintegration.pdf document incorrectly state that closed events are synchronized with the IBM Tivoli NetView product. This release only supports the synchronization of acknowledged events.

Rules:

The syntax checking of the rules compiler has been enhanced. Existing syntax errors in custom rules that have previously been undetected, may now be reported as errors, after upgrading from 3.6.2 to 3.7.

IY23002.1 Events in the rule cache contain blank ServerPath

attributes, after the event server is stopped and restarted. Therefore, rules using the ServerPath attribute will not execute correctly.

Limitations of print_cache predicate:

The print_cache rule must use a unique variable name for the event handle inside print_cache, as shown in the following examples:

1. rule: print_cache: (
 event: _event of_class _class,
 reception_action: (
 print_cache('/tmp/cache', event: _cached_event of_class
 'TEC_Start')
)
).
2. rule: print_cache: (
 event: _event of_class _class,
 reception_action: (
 print_cache('/tmp/cache',
 event: _cached_event of_class _cached_class where
 [status: equals 'CLOSED'])
)
).

Arguments:

event: _event of_class class where attribute_conditions
Specifies an event filter for identifying particular events to write to the file. The name used for the _event and class variables should not be the same as those used for the event filter for the rule.

Other:

134016: The cr_tec_db.sh script fails with an error message on Windows NT when RIM is not present.

148152: The wtodb space command does not function correctly on the RIM host if the RIM host and the event server are running on different systems, and the wrimsql file is not present. To work around this, copy the wrimsql file from another system of the same interp onto the affected RIM host. Configuring the event server as the RIM host will also prevent this problem.

144039: When creating a profile for a Windows (NT or 2000) adapter on SuSE Linux, a warning message may appear indicating an oserv failure. This warning is erroneous, as the profile is successfully created.

IY21011: OS/2 Non-TME adapters send events without the hostname attribute value.

131976: The installation of non-TME adapters on Linux produces extraneous output to the screen, which can be ignored.

IX. Problems Fixed and Tested:

Test Notes:

Fixpack 3 was subjected to the following regression testing:

1. The Tivoli Enterprise Console automated test suites repeatedly exercised the CLI functionality test suite on AIX and Solaris systems.
2. Comprehensive functional and system tests exercising the Tivoli Management Framework Desktop, the Tivoli Enterprise Console and NetView consoles.
3. In addition to testing each APAR as written in all Tier 1 environments (and Tier 2 environments where specified), manual regression testing was performed for each APAR.
4. Specific tests with HP-UX 10.20 with JRE 1.1.8 were performed to ensure continued functionality.

Upgrade testing covered the following scenarios:

1. 3.6.2-TEC-0006 upgraded to 3.7.1-TEC-FP03
2. 3.6.2-TEC-0024 upgraded to 3.7.1-TEC-FP03
3. 3.7.1 upgraded to 3.7.1-TEC-FP03
4. 3.7.1-TEC-0001 upgraded to 3.7.1-TEC-FP03
5. 3.7.1-TEC-0001 and 3.7.1-TEC-0004 upgraded to 3.7.1-TEC-FP03
6. 3.7.1-TEC-FP02 upgraded to 3.7.1-TEC-FP03

The fixpack was installed on all interps, both TME and non-TME, using SIS, CLI and GUI installation methods.

The regression testing verified that prior maintenance release solutions included in the fixpack still function as expected.

Fixed in 3.7.1-TEC-0001

APAR: IY17813

Symptoms: Event forwarding from 3.6.2 to 3.7 generates extraneous, invalid characters ('~', <etx>, '@') in events. Events consisting of '~' will kill the tec_rule process.

Test Note: Used the Task Send Event to TEC Server to send an event from the 3.6.2 TEC Server to the 3.7.1 TEC Server and sent events that had all of the slot values set to "~" or "@". They did not kill the tec_rule process.

APAR: IY17964

Symptoms: Incorrect interpretation of "%[length]s". Instead of "truncate string of any length to 3 characters", this is interpreted as "match ONLY strings of length 3 characters."

Test Note: Tested parsing of FORMAT Logfile_Base.

APAR: IY18278

Symptoms: The postemsg command distorts Japanese characters in the message attribute of the event.

Test Note: Verified that both postemsg and wpostemsg command with DBCS characters in ja_JP locale functions correctly.

Fixed in 3.7.1-TEC-0003E

APAR: IY24397

Symptoms: The Solaris adapter exhibits a small memory leak, after applying 3.7.1-TEC-0001, when events are sent via the FIFO file.

Test Note: A long run test was executed over the course of three days sending 1 event per second. The logfile adapter virtual memory grew to 105KB, compared to the 8MB previously.

Fixed in 3.7.1-TEC-0005E

APAR: IY23919

Symptoms: The Windows NT adapter generates a Dr. Watson error when sending security log events.

Test Note: Used the tecad_nt adapter to receive over 20,000 Windows event log events. Tested the wtdumppl command, stopped and restarted the event server, and no errors occurred.

Fixed in 3.7.1-TEC-0006E

APAR: IY20879

Symptoms: The GUI rule builder runs out of memory, and terminates when the rule base is overloaded. For example, create at least 5 rule bases, with 30 rules each.

Test Note: Created 10 rules sets of 30 rules each, and the rule builder did not exhibit the memory error.

Fixed in 3.7.1-TEC-0008E

APAR: IY25101

Symptoms: With Informix 9.2/Framework 3.7.x and 3.7.1-TEC, the "wt" commands do not function.

Test Note: Test the wt commands in a similar TME 3.7.1 environment with Informix 9.2, and all commands functioned as expected.

Fixed in 3.7.1-TEC-0009E

APAR: IY25074

Symptoms: The console takes too much time to display when more than 10 task libraries are loaded.

Test Note: Loaded 20 task libraries and launched the console. The console displayed as expected within 30-40 seconds.

Fixed in 3.7.1-TEC-0010E

APAR: IY22140

Symptoms: The eif_ep_engine process core dumps when clearing cached events after a network or Tivoli Management Framework server failure.

Test Note: Used rule set from customer that caused problem. Verified events were cached, dumped and cleared successfully.

APAR: IY24606

Symptoms: When the sorting criteria in the event viewer is modified and saved after applying 3.7.1-TEC-0001, the tec_ui_server process terminates.

Test Note: From the Viewer menu select Edit-> Preferences and then select the Working Queue. Change one of the columns to sort in ascending order and click OK. No errors with the tec_ui_server process occurred.

APAR: IY24976

Symptoms: Events containing a hash character do not load into the event cache after restarting the event server. Thus, duplicate rules do not function.

Test Note: Used rule set from customer that exhibited problem. Verified that events were cached and dumped successfully.

Fixed in 3.7.1-TEC-0011E

APAR: IY24718

Symptoms: The tec_config process exhibits a memory leak, and does not terminate properly when the tec_console command connects to a local or remote event server.

Test Note: The tec_config process was successfully terminated after the console was stopped and the console did not exhibit the memory leak.

APAR: IY18758

Symptoms: The tec_ui_server process terminates after changing the number of events in the event viewer preferences.
Test Note: From the Viewer menu Edit/Preferences change the Maximum Number of Events from 1000 to 999, click OK. The Java exception no longer occurs.

Fixed in 3.7.1-TEC-0012E

APAR: IY23939

Symptoms: Changing decimal settings from '.' to ',' on Windows NT, prohibits the creation of new event groups.

Test Note: Changed decimal symbol '.' to ',' and created an event group with new symbol. Restarted console and event group with decimal displayed correctly.

APAR: IY25766

Symptoms: The console, both TME and non-TME, performs actions slowly in the event viewer, on the initial launch.

Test Note: Used default rule base and generated 5000 events. It took significantly less time for the console to start with 5000 open events in data base.

Fixed in 3.7.1-TEC-0013E

APAR: IY26534

Symptoms: The wtdb space command generates an error message if the ONCONFIG variable is not set, after applying 3.7.1-TEC-0008E.

Test Note: Tested wtdb space script with Informix 9.2, and the command executed correctly.

Fixed in 3.7.1-TEC-0016E

APAR: IY26332

Symptoms: During an event storm, the tec_* processes appear to stop functioning, and the number of PROCESSED and QUEUED events stop, even though the "tec_" processes are still running.

Test Note: Created several events storms to verify tec_gateway did not stop processing or go into a loop.

Fixed in 3.7.1-TEC-0017E

APAR: IY29083

Symptoms: Problems with the run time environment (MSVCRT.DLL) on, Microsoft Windows (NT and 2000), cause "small block" errors.

Test Note: The tecad_nt and tecad_win adapters sent events to the event server, without causing the "small block" errors.

New Fixes in 3.7.1-TEC-FP02

APAR: IY08645

Symptoms: wtdbclean.pl takes too long to complete when using it to clear out more than 10,000 events.

Test Note: Executed wtdbclean.pl, and cleared more than 10,000 events in under a minute.

APAR: IY15475

Symptoms: When the event server is down, Software Distribution events that are sent are not cached.

Test Note: Halted the event server, generated Software Distribution events and restarted the event server and console. Cached events from Software Distribution were displayed in the Event Viewer, indicating that the events are in fact caching.

APAR: IY15799

Symptoms: "init.tecad_logfile stop" adapter command kills other logfile adapters when run from an ACP distribution.

Test Note: Distributed two adapters, a log file adapter and then a second application log file adapter. Then created a third adapter and distributed with the stop command. The 2nd and 3rd adapters are in their own directories and have the INSTALL_TECADHOME environment variable commented out on from the init.tecad_logfile. All three adapters worked correctly.

APAR: IY16090

Symptoms: Unable to assign a filter on the "ACL" attribute.

Test Note: Verified that the ACL attribute can be successfully used in a filter. Also used SQL queries to check if a value is in an ACL list.

APAR: IY18504

Symptoms: The scroll bar does not display when adding a filter using the "ADD SQL" button.

Test Note: Tested the "ADD SQL" function and verified that the scroll bar displays correctly.

APAR: IY22170

Symptoms: Rule bases do not always copy correctly when the copy is initiated through the Rule Builder GUI.

Test Note: Copied a rule set using the GUI and found it to be identical to the source.

APAR: IY22996

Symptoms: The tec_dispatch and tec_rule processes do not handle LIST_OF STRING properly when events containing commas and spaces load from cache.

Test Note: Executed a scenario that demonstrates problem of LIST_OF STRING incorrectly processing quoted strings containing embedded comma and space characters. With the fixpack installed, the scenario completed without errors.

APAR: IY23065

Symptoms: The tec_dispatch process sporadically ends abnormally with an exit code of 211.

Test Note: Generated tens of thousands of events, and the tec_dispatch process never generated an error code of 211.

APAR: IY23295

Symptoms: The "Event Information" button does not launch Netscape on Solaris.

Test Note: The Wake_Up_Netscape task successfully launched Netscape.

APAR: IY23941

Symptoms: The console does not retain column width/location changes after applying 3.7.1-TEC-0015E.

Test Note: Verified that width/location of columns in the console can be changed and saved correctly.

APAR: IY24129

Symptoms: Filtering on the AS400 adapter does not work properly.

Test Note: Verified that "FilterMode=IN" and "FilterMode=OUT" function as designed and documented in the 3.7.1 Adapters Guide.

APAR: IY24391

Symptoms: The \$VENDOR variable in upg_tec_db_370_to_371.sh is not set correctly.

Test Note: The upg_tec_db_370_to_371.sh script runs successfully on MSSQL Server.

APAR: IY24673

Symptoms: The console severity colors are not retained after restarting the console.

Test Note: All severity colors verified after restarting the event server.

APAR: IY24812

Symptoms: DBCS characters in events from NT and Windows 2000 appear distorted on the event server.

Test Note: Verified that both postmsg and wpostmsg with DBCS on Windows in ja_JP locale functions correctly.

APAR: IY25043

Symptoms: A customer generated test event sent to the Windows NT system log caused the Windows NT adapter to generate a Dr. Watson error.

Test Note: This problem was caused by an error in the pre-filter logic. The Windows NT adapter was tested using pre-filters extensively.

APAR: IY25233

Symptoms: The sending event server queues events when attempting to forward events to another (receiving) event server, when the receiving event server is down.

Test Note: Setup an event server to forward events to another event server. The receiving event server was shut down, and the forwarding event server continued to process events and

cache events to be forwarded.

APAR: IY25243

Symptoms: "tec_console -e event_group_name" does not function as documented.

Test Note: Verified the "tec_console -e event_group_name" command works correctly.

APAR: IY25381

Symptoms: The "NO_UTF8_CONVERSION=NO" flag garbled characters in events sent with the "wpostmsg" command.

Test Note: Verified the "wpostmsg" command works correctly when using the "NO_UTF8_CONVERSION=NO" flag.

APAR: IY25922

Symptoms: The ACPEP-EP dependency set included some endpoint .dll files which should be distributed by Tivoli Management Framework.

Test Note: Tested the ACP profile distribution to all supported endpoints.

APAR: IY26027

Symptoms: The AS/400 adapter does not filter regular expressions as documented in the 3.7 Adapters Guide.

Test Note: Successfully tested AS400 Filtering with the "*" wild card character.

APAR: IY26103

Symptoms: The variable scope in Prolog passes beyond the rule in which the variable instantiates.

Test Note: A sample rule that illustrates the problem was tested and verified that a variable's scope is working correctly.

APAR: IY26281

Symptoms: The Information button does not always load the correct URL path.

Test Note: The Event Viewer Information button was verified to be working correctly, with the exception of running the console on Windows NT.
(See Known Defects and Limitations section)

APAR: IY27045

Symptoms: The SNMP adapter documentation does not contain information regarding the NetWare SNMP traps.

Test Note: Additional information for SNMP adapter is now available. This information will be included in TEC 3.8 Adapters Guide.

NOTE: Consult the tecad_snmp.baroc file for information regarding generic traps as well as NetWare, Cisco, and Cabletron traps.

APAR: IY27198

Symptoms: The GLOBAL_EXISTS predicate does not locate global variables as it should.

Test Note: Created a rule that contains the set_global_var predicate. Used global_exists predicate in same rule to close an event if it exits.

APAR: IY27199

Symptoms: The SAVE_GLOBALS predicate does not successfully write all variables to a file.

Test Note: Used save_globals to write variables to a file.
Checked the file to verify the variables were correctly written.

APAR: IY27500

Symptoms: Enabling single port BDT causes intermittent errors when using the wrb command.

Test Note: This fix requires Tivoli Management Framework 3.7.1 patches 003 and 008 installed. After patches installed, restart oserv and wrb commands work correctly with single_port_bdt set to TRUE.

APAR: IY27591

Symptoms: The wmicon command incorrectly migrates event group filter pattern matching from 3.6.

Test Note: See the wmicon note in the Fixpack Notes section.

APAR: IY27780

Symptoms: The wsetemsg command does not set NULL when "" or '' is placed after the equal sign, a blank must appear between the quote marks.

Test Note: Executed wsetemsg with several different values for the msg slot (i.e. "abc", " ", ""). Ensured that the attribute value was set appropriately.

APAR: IY28071

Symptoms: Upon startup, the console will not show any events in the "priority view" or "summary view", when the event server unexpectedly shuts down, or the oserv process reexecs, while running an automated task.

Test Note: Forced a database server shutdown, and forced the oserv process to shutdown and reexec while running automated tasks. Verified that the console displayed events in both the Priority and Summary views.

APAR: IY18135

Symptoms: The troubleticket.sh script does not run without the TME Admin authorization role, and the error message does not relay correct error information.

Test Note: Setup a user without TME Admin authorization, and executed the troubleticket.sh script. Ensured that the system correctly informs the user that Admin authority is required.

APAR: IY21084

Symptoms: Distributing the 3.7 OS/2 adapter adds extra carriage returns to text files.

Test Note: Verified the OS/2 adapter distributed without adding extra carriage returns.

APAR: IY20202

Symptoms: The cr_tec_db.sh script fails if the RIM object's "Server ID" field is not set.

Test Note: Tried to manually create an Oracle RIM object without the "Server ID" set. Ensured that the system correctly halts the script and informs the user that the "Server ID" is required.

APAR: IY22704

Symptoms: When the Severity column is removed from the Java console, the visible events are not colored according to severity.

Test Note: Verified that the user cannot remove the Severity column from the Event Viewer display.

APAR: IY24964

Symptoms: Java console runs out of memory when performing Administrative actions over a long period of time.

Test Note: Executed a script to continually send events to the Event Server and set up several automated tasks. Allowed system to operate over an extended period of time and ensured that the tec_console process did not continue to leak memory.

APAR: IY25651

Symptoms: The Windows adapter sometimes generates a Dr. Watson error when an event message attribute is very large.

Test Note: Sent very large messages (1K, 2K, and 4K) by modifying the tecad_win.fmt file. Verified that the Windows adapter functions correctly.

APAR: IY26465

Symptoms: Using the ATTR_SEQUENCE function in a create event sequence rule, then using first related event, the expected relation is not correctly returned.

Test Note: Created a rule containing an attribute sequence. Sent events fitting the attribute sequence rule and ensured that they were correctly correlated according to the rule.

APAR: IY28434

Symptoms: Create operator fails on the console, after applying 3.7.1-TEC-0001, when a task name contains "!" or " ".

Test Note: Created a task with "_!_" in the name and one with a space (" ") in the name. Verified that after restarting the console you are still able to create operators.

APAR: IY28443

Symptoms: Create operator fails on the console, after applying 3.7.1-TEC-0001, when a task name contains a hyphen. or space

Test Note: Created a task with a hyphen ("-") in the name and one with a space (" ") in the name. Verified that after restarting the console you are still able to create operators.

APAR: IY28972

Symptoms: The UI server dies when modifying a large (more than 40) number of events.

Test Note: Modified more than 40 events in the console, and the UI server continued to function as expected.

APAR: IY29351

Symptoms: The Windows adapter generates a Dr. Watson error during an event storm of 400 or more events.

Test Note: Created an event storm and verified that the Windows adapter continues to function normally.

Fixed in 3.7.1-TEC-0018E

APAR: IY30752

Symptoms: Missing .jar files from 3.7.1-TEC-FP02 console installation, prohibits the console from complying with BDT (bulk data transfer).

Test Note: Set the BDT option equal to True and started several consoles from a different system. Then performed netstat -a | grep hostname from the TMR server, and observed multiple connections from the system with the consoles running, and they were not connected to the BDT port 9401. After applying the fixpack and repeating the netstat command, there were multiple connections to port 9401.

Fixed in 3.7.1-TEC-0019E

APAR: IY30587

Symptoms: Every line of a "Logsources" file is sent with the addition of a new line, after applying 3.7.1-TEC-0017E.

Test Note: Logfile adapters were installed and the .fmt files were modified to accept every entry in the log source files. When 100 events were sent, the Event Viewer displayed 100 events. When the 101st event was sent, the event count in the Event Viewer was 101 as expected.

Fixed in 3.7.1-TEC-0020E

APAR: IY30668

Symptoms: Events selected (highlighted) in the console become deselected after the console automatically refreshes.

Test Note: The refresh interval was set to 5 seconds and one event was selected and it was not de-selected by subsequent refresh intervals.

APAR: IY31248

Symptoms: Columns in the console event viewer do not sort correctly with customer rule base loaded.

Test Note: Compiled and loaded the customer rule base, which exhibits the problem. Restarted the event server and sent several NT_Base class events, each time changing the origin. Started a console, added the origin column to the view and sorted in ascending order. The events were reloaded, and sent new NT_Base class events from different

origins. The origin field displayed correctly in all events, and the column remain sorted correctly.

APAR: IY28074

Symptoms: When event status changes (to closed or acknowledged) in the console, the status is not updated in other open consoles.

Test Note: Closed and acknowledged events in one console and the status was updated automatically on both consoles without an event reload. Verified that the event being closed is the most recent in the Event Viewer, and it is closed prior to the first refresh.

APAR: IY30318

Symptoms: The event viewer takes approx. 20-30 seconds to close. The Preferences menu (Edit -> Preferences) does not function after restarting the event viewer.

Test Note: Closed the Event Viewer then reopened the console and the <edit> <preferences> menu was operating correctly. Verified both by closing the Event Viewer as well as the console.

APAR: IY31123

Symptoms: Removing a host from the Current Hosts pane of the Task Execution window in the console generates a Java exception, and the host is not removed.

Test Note: Target host was assigned in the Task Execution panel and then unassigned multiple times but no exception was observed.

Fixed in 3.7.1-TEC-0021E

APAR: IY30618

Symptoms: The wrb command will not compile a time rule, if the all_instances or first_instance predicates where clause contains a custom attribute and a within[] statement.

Test Note: Used a sample rule that has an all_instance/first_instance predicate using a custom attribute. Additionally verified the use of a broad definition for a class where one of the classes within it may not have the custom attribute defined, works correctly. In this case, the following warning from the compiler is normal:
"EC03136W Attribute filter 'cut_slot': attribute is not always defined for instance of EVENT"

APAR: IY30672

Symptoms: A timer_rule, with an exec_task action, fails to execute.

Test Note: Created a new log_default.rls that tests changes in how action clauses in timerRule and changeRule are parsed. This rule verifies that the action label will not be expanded into an action and that the timer rule will not fail on the action label.

Fixed in 3.7.1-TEC-0022E

APAR: IY31269

Symptoms: Rules using exec_program do not pass variables to shell scripts, after applying 3.7.1-TEC-FP02.

Test Note: Executed a rule action with
exec_program(_event, '/tmp/run', '"%s" "%s" "%s"',
_msg, 'testing', _host, 'NO')
that demonstrates the problem. When this fix was applied
a rules trace shows the arguments pass correctly.

Fixed in 3.7.1-TEC-0023E

APAR: IY28404

Symptoms: Using the following line in a baroc file, and issuing the wrb -imprbclass command generates an error:

"descendant: LIST_OF STRING, default = [];"

Test Note: Successfully compiled and executed rules and baroc files using LIST_OF STRING, default=[a,b,c] syntax.
Verified that the default values were known within a rule.

APAR: IY28415

Symptoms: Using a variable list, rather than an implicit list, for a LIST_OF statement with the all_instances or first_instance predicate, prevents the rule from compiling.

Test Note: Verified that a variable name can be used in place of a literal LIST_OF value with their rules when using all_instances or firsts_instance predicates.
Verified this functions as it did in Tivoli Enterprise Console version 3.6.2.

Fixed in 3.7.1-TEC-0024E

APAR: IY31869

Symptoms: DBCS characters embedded in events sent from a TME source become garbled at the event server.

Test Note: NO_UTF8_CONVERSION=YES was added to the adapter's configuration file. This flag ensures that double byte conversion does not take place in the EIF as events are already converted to UTF8 to properly compare with the format file. This is for TME and non-TME adapters.
To verify the solution, events from both TME and non-TME adapters were sent to the TEC server. All events were received correctly. The output of the gateway cache was also checked to verify that it was in UTF8 instead of native encoding.

Fixed in 3.7.1-TEC-0026E

APAR: IY30659

Symptoms: LIST_OF STRING attributes are not loaded from the database correctly, after applying 3.7.1-TEC-FP02, causing event correlation problems.

Test Note: Created an event class containing LIST_OF STRING with default = ["This is a ", "Test to see if it works"]. Then sent an event with nothing in the slot so that the default value would be used. The wtdump1 showed the event with the empty slot, but wtdumper -d displayed the correct strings with no extra commas in them.

APAR: IY31257

Symptoms: Rules defined with upper case attribute (slot) names do not execute.

Test Note: Created a rule set that contains upper case slot name. It was compiled and loaded. Verified that the upper case slot name instantiated correctly and that the rule actions executed successfully.

APAR: IY31325

Symptoms: Rules with upper case attribute (slot) names do not compile after applying 3.7.1-TEC-FP02.

Test Note: Used baroc and rls that demonstrates problem. The compile was as expected for the warning message which can be ignored:
"EC03136W Attribute filter 'cut_slot':attribute is not always defined for instance of EVENT".

Fixed in 3.7.1-TEC-FP03

APAR: IY23442

Symptoms: The Time Received column in the console only allows ascending sorting.

Test Note: Sent events and brought up a console. From the preferences menu, selected to sort the events in the ALL Event section in ascending order on Time received slot. Verified that the events in the all events were sorted correctly. Changed the sort on the time received slot to descending from the preferences menu and then verified that the events were sorted correctly. Performed the same test on the working events.

APAR: IY24367

Symptoms: Generating a .cds file from a .fmt file containing an invalid PRINTF statement causes the adapter to core dump.

Test Note: Located a line the tecad*.fmt file that looked similar to "msg=PRINTF("error %s", \$V1) and removed the \$V1. Then, tried to generate a new .cds file with the win_gencds command (for Windows), or logfile_gencds (for AIX), and verified that an appropriate error message was displayed.

APAR: IY25072

Symptoms: Events fail to parse correctly in the tec_reception process after the UTF8 conversion.

Test Note: This APAR is a place holder for an investigation into the

UTF8 conversion functionality. To maintain consistency between this document and the Tivoli patch tracking tool, the APAR has been listed.

APAR: IY27537

Symptoms: The .fmt file incorrectly matches events containing an SQLSTATE statement.

Test Note: A logfile.fmt file was generated with the following:

```
FORMAT %s %s %s %s %s %s %s %s SQL Error: %s*\
SQL State: %s*
```

The adapter was then started with LogSources pointing to a file with the following entry:

```
"ICMPLSPG ICMDEFINEPRIVGROUP 0388 01/21 14:19:34.438 \
ICMADMIN #1 #21141831267 SQL Error: SQL0954C Not enough \
storage in the application heap to process the statement.
SQLSTATE=57011 SQL State: SQLSTAT 57011: Virtual storage \
or database resource is not available."
```

The first %s* matched correctly with:

```
"SQL0954C Not enough storage is available in the \
application heap to process the statement. \
SQLSTATE=57011."
```

APAR: IY27890

Symptoms: When forwarding events from one event server to another, the sending event server will queue events if the receiving event server loses network connectivity.

Test Note: Setup rules to forward events to another TEC server and

set .tec_config option eipc_verify_portmapper=YES if destination server is not NT/Win2K (since they don't support portmapper). Then recompiled rule base on sending server, re-started sending/receiving TEC servers, cleared the database on both servers and started a script to generate events. Then watched the events on the sending server (wtdump1 |grep PROCESSED|wc). After sending 100 events, stopped the script and verified that the events were received by the receiving server. Then stopped the receiving server and started sending events again from the sending server. With this fix all events continued to be PROCESSED without interruption. Without the fix the PROCESSED events stop completely after a minute or so on the sending server and the QUEUED events will start to stack up. This will go on for about 8 minutes, then the sending server will start processing events again.

APAR: IY28310

Symptoms: The wrb command does not catch data type syntax errors in the .baroc file.

Test Note: Used wrb to compile a rule set which used a data type of "string" instead of "STRING".

The compiler successfully flagged the error.

APAR: IY29086

Symptoms: Rules criteria matching fails when comparing a whole number in an attribute defined as a string.

Test Note: Added a rule which contained a matching criteria of "sub_source>equals '0' " and verified that it compiled and executed correctly.

APAR: IY29937

Symptoms: When a console filter contains a long SQL filter statement, all event groups are removed, and new event groups cannot be created.

Test Note: Verified that when the selected SQL script is longer than required it displays an error message. It also prohibits such long scripts to be saved, avoiding future errors.

APAR: IY30173

Symptoms: The tecadwins.exe program exhibits a memory leak after applying 3.7.1-TEC-0017E and 3.7.1-TEC-FP02.

Test Note: A Windows Performance alert was configured to send one alert per sec to Windows application log. This caused the tecadwins adapter to send a 1KB event to the event server every second. The test was run overnight to allow the adapter's virtual memory size to grow to the designed maximum of 16K events, in this case 16K*1KB = 16M, plus 2MB for the adapter initial vsz. Therefore, the unbounded memory leak reported by this APAR was fixed.

Note that the max event size is 4KB, thus the potential max vsz is 64M beyond the initial 2M vsz.

APAR: IY30830

Symptoms: Installing the 3.7.1 UI Server and the 3.7.1-TEC-FP02 UI Server component via SIS 3.7 in the same step fails.

Test Note: Used SIS to install TEC 3.7.1 and FP3 at the same instance in one step. Install was successful and the console started successfully.

APAR: IY31139

Symptoms: Extra events are sent by the Windows NT adapter, when polling a log file specified by the LogSources option.

Test Note: Verified that the NT log adapter does not generate an extra event when an entry is written to the log source file.

APAR: IY31411

Symptoms: The pattern, %S*, in tecad_logfile.fmt file does not pattern match against a blank message field.

Test Note: Created a logfile.fmt file with the following entry, and generated the .cds file:

```
FORMAT EVENT %s;star;%s*;%s*;%s*;%s*;%s+msg $1"
```

The adapter was started with logsources pointing to a file with entries containing empty strings in all %s* (star modifier) positions. Each entry matched correctly.

APAR: IY31418

Symptoms: The wtdbclear -e -p FALSE -t 0 command fails to execute, and returns an error.

Test Note: Verified the wtdbclear -e -p FALSE -t 0 command executed correctly.

APAR: IY31517

Symptoms: After applying 3.7.1-TEC-FP02, the .fmt files are incorrectly distributed to the adapters.

Test Note: Verified all ACF fmt files get distributed to the correct

language directory.

APAR: IY31847

Symptoms: A logfile adapter sends all events in a log source file when the files last update time is modified, but the file size remains the same.

Test Note: Verified that changing a log source file's last update time will only cause events to be resent if the following configuration keyword has been introduced:
NewLogBasedOn=ctime
(See the Fixpack Notes section for more detail)

APAR: IY31911

Symptoms: After applying 3.7.1-TEC-FP02, Tier 2 adapters have limited functionality.

Test Note: Distributed appropriate adapters to all Tier 2 endpoints. For a Linux gateway, the following patches were installed on the gateway:
3.6.1-TMF-0034
3.6.1-TMF-0062
3.7-TMF-0044 (supersedes 0021)

APAR: IY31979

Symptoms: The ServerLocation option in the tec_gateway.conf file is not honored if the ServerLocation option in the log file configuration file is blank.

Test Note: Set the ServerLocation in the tecad_logfile.conf file to blank. Then set the ServerLocation in tec_gateway.conf file to an event server. Verified the events were received at the designated event server.

APAR: IY32337

Symptoms: The event server appears to stay in an unresponsive state when receiving a large quantity of events (an event storm).

Test Notes: Compiled and loaded a customer rule base that was exposing event sever deadlock condition. Then set up a script to send events via postemsg to the tec server that would trigger one of the rules in the rule base. Then shut down the event server and cleared the database then let the scripts (which had running on four different machines) run and let each one buffer 5000+ events for a total of 20K events. Then started the event server and sent one more message from each machine to clear out all of the buffered events. Verified that cached events got processed and all subsequent events continue to get processed. This test was repeated on all supported interps.

APAR: IY32434

Symptoms: The wpostemsg command does not function in an LCF environment after applying 3.7.1-TEC-FP02.

Test Note: Sourced LCF environment then executed wpostemsg. Verified event messages are displayed on event viewer.

APAR: IY32547

Symptoms: Adapters do not match events in log files on systems with

the Japanese locale.

Test Note: Used "wsetlang -o -l ja_JP" command to set the oserv language variable. Used "odadmin environ get" to verify oserv LANG and LC_ALL variables were set. Set the following options in tecad_logfile.conf file:

```
NO_UTF8_CONVERSION=YES
LogSources=/tmp/test.log
```

and verified that Logfile_Base class was not filtered (verified that it was commented out). Then added the following to /etc/Tivoli/tecad/etc/ja/tecad_logfile.fmt file:

```
FORMAT Logfile_Test FOLLOWS Logfile_Base
%t %s %s UPS <Kanji characters>
sub_source <Kanji characters>
-temp $4
msg PRINTF("UPS <Kanji chars> %s",temp)
END
```

Re-gen'd this format file and executed a two line script that did the following:

```
logger UPS <Kanji chars> UPS <Kanji chars>
echo Oct 15 19:00:01 c3po root: <Kanji chars>\
  UPS <Kanji chars> >> /tmp/test.log
```

Compared the contents of /tmp/test.log with the output from wtdump1 to ensure Kanji characters appeared in both places.

APAR: IY33086

Symptoms: The install_wtdbclear_stproc.sh script does not execute under environments other than locale "C", thus the stored procedures for wtdbclear will not install for all locales.

Test Note: Executed the install_wtdbclear_stproc.sh script, with the locale set to "ja". The command executed without error, and the stored procedure operation was successful.

APAR: IY33394

Symptoms: The wrctnvgroups command creates event groups without filters.

Test Note: The "wrctnvgroups" command was executed, and the specified number of event groups were created. From the console configuration window, the new event groups were displayed, and contained the correct filter information.

APAR: IY33567

Symptoms: The tec_rule process terminates after the process size reaches the maximum allowable process size, as defined per the system in which the process is running.

Test Note: Executed a long run test over 3 days, sending 1 event per second. The virtual memory size for the tec_rule process only grew to 28KB, compared to the original 256MB.

APAR: IY33660

Symptoms: Adapters no longer enclose event attributes within single quotation marks.

Test Note: Using the LogSources file on Windows 2000, events were sent with single quotes and []. No parsing errors were generated. A similar scenario was performed on UNIX, however instead of writing to the LogSources file, events

were written into the tmp/.tivoli/<FIFO> file

APAR: IY33710

Symptoms: After applying 3.7.1-TEC-0026E, the exec_program task with the following options causes the event server to terminate:

- * WATCH_STATUS=NO
- * Long message in the MESSAGE attribute

Test Note: Using the supplied customer rule base, test script, and the script called by exec_program, the problem was no longer present.

APAR: IY33777

Symptoms: Incorrect output from the exec_program task prevents the Tivoli Business Systems Management (TBSM) 1.5 product from receiving events from the Distributed Monitoring product, after applying 3.7.1-TEC-0022E.

Test Note: Created the file test.sh, containing the following:

```
"echo $0 $* $# ?? /tmp/test.log"
```

Then a rule was created to call exec_program_local and exec_program. The initial calls appear as follows:

```
exec_program_local('localprog',_event,'/tmp/test.sh','', ,\ 'NO')
```

```
exec_program(_event,'/tmp/test.sh','', , 'NO')
```

Prior to the fix, the output appeared as:

```
/tmp/test.sh 1 (Meaning a null arg was passed)
```

After the fix, the output appeared as:

```
/tmp/test/sh 0
```

Arguments were then passed, and the number \$# was replaced by the actual items printed after the script name.F

```
*****  
*****
```

X. Files Added or Replaced by This Fixpack
(for all supported values of \$INTERP):

- bin/wrb
- bin/wtdbclear
- bin/wtdumper
- bin/wtdumprl
- bin/wtdumptr
- bin/wtdbospace
- bin/wsetemsg
- TME/TEC/nvsync.sh
- TME/TEC/tec_config
- TME/TEC/tec_dispatch
- TME/TEC/tec_reception
- TME/TEC/tec_server
- TME/TEC/tec_rule
- TME/TEC/tec_rule_data
- TME/TEC/tec_task
- TME/TEC/tec_tasks.tll
- TME/TEC/tec_compile_rules_gui.sh
- TME/TEC/tec_rule_non_tme.tar
- TME/TEC/.tec_config
- TME/TEC/default_rb/.rbtargets/EventServer/TEC_TEMPLATES/\$INTERP\

```
/event_specifiers.wic
TME/TEC/default_rb/TEC_TEMPLATES/$INTERP/event_specifiers.wic
TME/TEC/default_rb/TEC_RULES/netview.rls
TME/RULE_BUILDER/builder
TME/RULE_BUILDER/builder_data
bin/postemsg
bin/wpostemsg
bin/wtdbclear.pl
TME/TEC/tec_rb.jar
TME/TEC/nways.jar
TME/TEC/nvsync.jar
TME/TEC/tec_ui_svr.jar
TME/TEC/tec_console.jar
TME/TEC/tec_svr.jar
TME/TEC/launch118.jar
TME/TEC/tec_ui_server
TME/TEC/tec_gateway.exe
bin/aix4-r1/TME/TEC/adapters/bin/tecad_logfile
bin/aix4-r1/TME/TEC/adapters/bin/logfile_gencds
bin/hpux10/TME/TEC/adapters/bin/tecad_logfile
bin/hpux10/TME/TEC/adapters/bin/logfile_gencds
bin/solaris2/TME/TEC/adapters/bin/tecad_logfile
bin/solaris2/TME/TEC/adapters/bin/logfile_gencds
bin/linux-ix86/TME/TEC/adapters/bin/tecad_logfile
bin/linux-ix86/TME/TEC/adapters/bin/logfile_gencds
bin/linux-s390/TME/TEC/adapters/bin/tecad_logfile
bin/linux-s390/TME/TEC/adapters/bin/logfile_gencds
bin/aix4-r1/bin/wpostemsg
bin/hpux10/bin/wpostemsg
bin/solaris2/bin/wpostemsg
bin/w32-ix86/bin/wpostemsg.exe
bin/os2-ix86/bin/wpostemsg.exe
bin/linux-ix86/bin/wpostemsg
bin/linux-s390/bin/wpostemsg
bin/w32-ix86/TME/TEC/adapters/bin/tecad_nt.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecadnts.exe
bin/w32-ix86/TME/TEC/adapters/bin/sctlnt.exe
bin/w32-ix86/TME/TEC/adapters/bin/nt_gencds.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecad_win.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecadwins.exe
bin/w32-ix86/TME/TEC/adapters/bin/sctlwin.exe
bin/w32-ix86/TME/TEC/adapters/bin/win_gencds.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecad_nt.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecadnts.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecad_win.exe
bin/w32-ix86/TME/TEC/adapters/bin/tecadwins.exe
bin/aix4-r1/TME/TEC/adapters/bin/tecad_logfile
bin/hpux10/TME/TEC/adapters/bin/tecad_logfile
bin/solaris2/TME/TEC/adapters/bin/tecad_logfile
bin/os2-ix86/TME/TEC/adapters/bin/tecados2.exe
bin/aix4-r1/TME/TEC/adapters/bin/tecad_snmp
bin/hpux10/TME/TEC/adapters/bin/tecad_snmp
bin/solaris2/TME/TEC/adapters/bin/tecad_snmp
bin/w32-ix86/TME/TEC/adapters/bin/tecad_snmp
```

Tier 2 enablement:

```
bin/linux-ix86/TME/ACP/acpep
```


bin/linux-ix86/TME/ACP/acpep_install
bin/linux-ix86/TME/ACP/wacpadin
bin/linux-ix86/TME/TEC/adapters/bin/wlocpath
lib/linux-ix86/libstdc++-libc6.1-2.so.3
bin/linux-s390/TME/ACP/acpep
bin/linux-s390/TME/ACP/acpep_install
bin/linux-s390/TME/ACP/wacpadin
bin/linux-s390/TME/TEC/adapters/bin/wlocpath
lib/linux-s390/libstdc++-libc6.1-2.so.3
bin/mips-irix5/TME/ACP/acpep
bin/mips-irix5/TME/ACP/acpep_install
bin/mips-irix5/TME/ACP/wacpadin
bin/mips-irix5/TME/TEC/adapters/bin/wlocpath
lib/mips-irix5/libstdc++.so.2.10.0
bin/osf-axp/TME/ACP/acpep
bin/osf-axp/TME/ACP/acpep_install
bin/osf-axp/TME/ACP/wacpadin
bin/osf-axp/TME/TEC/adapters/bin/wlocpath
lib/osf-axp/libStr272.so
lib/osf-axp/libg++.so.2.7.2
lib/osf-axp/libstdc++.so.2.7.2
bin/reliant-unix/TME/ACP/acpep
bin/reliant-unix/TME/ACP/acpep_install
bin/reliant-unix/TME/ACP/wacpadin
bin/reliant-unix/TME/TEC/adapters/bin/wlocpath
lib/reliant-unix/libstdc++.so.2.10.0
bin/sequent/TME/ACP/acpep
bin/sequent/TME/ACP/acpep_install
bin/sequent/TME/ACP/wacpadin
bin/sequent/TME/TEC/adapters/bin/wlocpath
lib/sequent/libstdc++.so.2.10.0
bin/solaris2-ix86/TME/ACP/acpep
bin/solaris2-ix86/TME/ACP/acpep_install
bin/solaris2-ix86/TME/ACP/wacpadin
bin/solaris2-ix86/TME/TEC/adapters/bin/wlocpath
lib/solaris2-ix86/libstdc++.so.2.10.0
bin/uw2-ix86/TME/ACP/acpep
bin/uw2-ix86/TME/ACP/acpep_install
bin/uw2-ix86/TME/ACP/wacpadin
bin/uw2-ix86/TME/TEC/adapters/bin/wlocpath
lib/uw2-ix86/libStr.so.2.7.2
lib/uw2-ix86/libg++.so.2.7.2
lib/uw2-ix86/libstdc++.so.2.7.2
bin/linux-ix86/TME/TEC/adapters/bin/tecad_logfile
bin/linux-ix86/TME/TEC/adapters/bin/logfile_gencds
bin/linux-s390/TME/TEC/adapters/bin/tecad_logfile
bin/linux-s390/TME/TEC/adapters/bin/logfile_gencds
bin/mips-irix5/TME/TEC/adapters/bin/tecad_logfile
bin/mips-irix5/TME/TEC/adapters/bin/logfile_gencds
bin/osf-axp/TME/TEC/adapters/bin/tecad_logfile
bin/osf-axp/TME/TEC/adapters/bin/logfile_gencds
bin/reliant-unix/TME/TEC/adapters/bin/tecad_logfile
bin/reliant-unix/TME/TEC/adapters/bin/logfile_gencds
bin/sequent/TME/TEC/adapters/bin/tecad_logfile
bin/sequent/TME/TEC/adapters/bin/logfile_gencds
bin/solaris2-ix86/TME/TEC/adapters/bin/tecad_logfile
bin/solaris2-ix86/TME/TEC/adapters/bin/logfile_gencds

bin/uw2-ix86/TME/TEC/adapters/bin/tecad_logfile
bin/uw2-ix86/TME/TEC/adapters/bin/logfile_gencds
bin/linux-ix86/bin/wpostemsg
bin/linux-s390/bin/wpostemsg
bin/mips-irix5/bin/wpostemsg
bin/osf-axp/bin/wpostemsg
bin/reliant-unix/bin/wpostemsg
bin/sequent/bin/wpostemsg
bin/solaris2-ix86/bin/wpostemsg
bin/uw2-ix86/bin/wpostemsg
bin/linux-ix86/bin/wstoptecgw
bin/linux-s390/bin/wstoptecgw
bin/mips-irix5/bin/wstoptecgw
bin/osf-axp/bin/wstoptecgw
bin/reliant-unix/bin/wstoptecgw
bin/sequent/bin/wstoptecgw
bin/solaris2-ix86/bin/wstoptecgw
bin/uw2-ix86/bin/wstoptecgw

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