IBM Parallel Environment for AIX 5L

Messages

Version 4 Release 1
IBM Parallel Environment for AIX 5L

Messages

Version 4 Release 1
First Edition (October 2003)

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About this book

This book is designed to help any user of IBM® Parallel Environment for AIX® 5L (PE) who needs to know what a message means and what should be done in response to that message. This book lists all of the error messages generated by the PE software and components and describes a likely solution. References to RS/6000 SP or SP include currently supported IBM @server Cluster 1600 hardware.

For the latest information, always use the documents at:


This book assumes that AIX 5L™ Version 5.1 and the X-Windows system are already installed, if required. For information on installing AIX 5L Version 5.1 and X-Windows, consult the IBM AIX for RS/6000® Installation Guide.

Who should read this book

This book is designed for system programmers and administrators, but should be used by anyone responsible for diagnosing problems related to PE. To use this book, you should be familiar with the AIX operating system. Where necessary some background information relating to AIX is provided. More commonly, you are referred to the appropriate documentation.

How this book is organized

This book contains information about:

- Chapter 1, “Understanding the diagnostic message format,” on page 1
- Chapter 2, “Parallel debugger (pdbx) messages,” on page 3
- Chapter 3, “Parallel operating environment (POE) messages,” on page 23
- Chapter 4, “Message Passing Interface (MPI) messages,” on page 99
- Chapter 5, “PE Benchmarker messages,” on page 139
- Chapter 6, “Unified Trace Environment (UTE) messages,” on page 149

Conventions and terminology used in this book

This book uses the following typographic conventions:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>bold</strong></td>
<td><strong>Bold</strong> words or characters represent system elements that you must use literally, such as: command names, file names, flag names, path names, PE component names (<strong>poe</strong>, for example), and subroutines.</td>
</tr>
<tr>
<td><strong>constant width</strong></td>
<td>Examples and information that the system displays appear in <strong>constant-width typeface</strong>.</td>
</tr>
<tr>
<td><em>Italic</em></td>
<td><em>Italicized</em> words or characters represent variable values that you must supply. <em>Italics</em> are also used for book titles, for the first use of a glossary term, and for general emphasis in text.</td>
</tr>
<tr>
<td><strong>[item]</strong></td>
<td><strong>[item]</strong> Used to indicate optional items.</td>
</tr>
<tr>
<td><strong>&lt;Key&gt;</strong></td>
<td><strong>&lt;Key&gt;</strong> Used to indicate keys you press.</td>
</tr>
</tbody>
</table>
In addition to the highlighting conventions, this manual uses the following conventions when describing how to perform tasks.

User actions appear in uppercase boldface type. For example, if the action is to enter the tool command, this manual presents the instruction as:

ENTER tool

The system's response to entering the tool command would read:

The Tool Main Window opens.

**Abbreviated names**

The abbreviated names used in this book follow.

<table>
<thead>
<tr>
<th>Short Name</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>Advanced Interactive Executive</td>
</tr>
<tr>
<td>CSM</td>
<td>Cluster System Management</td>
</tr>
<tr>
<td>CSS</td>
<td>communication subsystem</td>
</tr>
<tr>
<td>CTSEC</td>
<td>cluster based security</td>
</tr>
<tr>
<td>DPCL</td>
<td>dynamic probe class library</td>
</tr>
<tr>
<td>dsh</td>
<td>distributed shell</td>
</tr>
<tr>
<td>GUI</td>
<td>graphical user interface</td>
</tr>
<tr>
<td>HDF</td>
<td>Hierarchical Data Format</td>
</tr>
<tr>
<td>IP</td>
<td>Internet Protocol</td>
</tr>
<tr>
<td>LAPI</td>
<td>Low-level Application Programming Interface</td>
</tr>
<tr>
<td>MPI</td>
<td>Message Passing Interface</td>
</tr>
<tr>
<td>PE</td>
<td>IBM Parallel Environment for AIX</td>
</tr>
<tr>
<td>PE MPI</td>
<td>IBM's implementation of the MPI standard for PE</td>
</tr>
<tr>
<td>PE MPI-IO</td>
<td>IBM's implementation of MPI I/O for PE</td>
</tr>
<tr>
<td>POE</td>
<td>parallel operating environment</td>
</tr>
<tr>
<td>pSeries</td>
<td>IBM @server pSeries</td>
</tr>
<tr>
<td>PSSP</td>
<td>IBM Parallel System Support Programs for AIX</td>
</tr>
<tr>
<td>RSCT</td>
<td>Reliable Scalable Cluster Technology</td>
</tr>
<tr>
<td>RISC</td>
<td>reduced instruction set computer</td>
</tr>
<tr>
<td>rsh</td>
<td>remote shell</td>
</tr>
<tr>
<td>RS/6000</td>
<td>IBM RS/6000</td>
</tr>
<tr>
<td>SP</td>
<td>IBM RS/6000 SP</td>
</tr>
<tr>
<td>STDERR</td>
<td>standard error</td>
</tr>
<tr>
<td>STDIN</td>
<td>standard input</td>
</tr>
<tr>
<td>STDOUT</td>
<td>standard output</td>
</tr>
<tr>
<td>US</td>
<td>user space</td>
</tr>
</tbody>
</table>

**Prerequisite and related information**

See [Bibliography](#) on page 167 for a list of related publications.
How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other PE documentation:

- Send your comments by e-mail to: mhvrdfs@us.ibm.com
  Be sure to include the name of the book, the part number of the book, the version of PE, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).
- Fill out one of the forms at the back of this book and return it by mail, by fax, or by giving it to an IBM representative.

National language support (NLS)

For national language support (NLS), all PE components and tools display messages located in externalized message catalogs. English versions of the message catalogs are shipped with the PE licensed program, but your site may be using its own translated message catalogs. The PE components use the AIX environment variable NLSPATH to find the appropriate message catalog. NLSPATH specifies a list of directories to search for message catalogs. The directories are searched, in the order listed, to locate the message catalog. In resolving the path to the message catalog, NLSPATH is affected by the values of the environment variables LC_MESSAGES and LANG. If you get an error saying that a message catalog is not found and you want the default message catalog:

```
ENTER
   export NLSPATH=/usr/lib/nls/msg/%L/%N
   export LANG=C
```

The PE message catalogs are in English, and are located in the following directories:
```
/usr/lib/nls/msg/C
/usr/lib/nls/msg/En_US
/usr/lib/nls/msg/en_US
```

If your site is using its own translations of the message catalogs, consult your system administrator for the appropriate value of NLSPATH or LANG. For more information on NLS and message catalogs, see IBM AIX 5L Version 5.2 General Programming Concepts: Writing and Debugging Programs.

What’s new in Parallel Environment 4.1?

This release of IBM Parallel Environment for AIX 5L contains a number of functional enhancements, including:

- MPI enhanced to use LAPI as the common transport protocol. This provides switch window sharing between MPI and LAPI, as well as improved MPI memory scalability.
- Several collective communications routines for 64–bit programs have been enhanced to use shared memory for better performance.
- PE now supports the new pSeries High Performance Switch (HPS) as well as RS/6000 SP switches.
- PE now can use a co-scheduler for large scale jobs, with fine grain parallelism.
- Parallel jobs may be check-pointed from within an attached debugger.
- Threaded library support only, with binary compatibility for signal (non-threaded) library applications.
- Electronic Licensing
- Cluster based security support
- Program Marker Array removed
- MPL no longer supported
- Xprofiler now part of AIX
- Parallel utility subroutine MP_QUERYINTRDELAY, mpc_queryintrdelay is no longer supported. When invoked, it returns a value of zero.
- Parallel utility subroutine MP_SETINTRDELAY, mpc_setintrdelay is no longer supported. When invoked, it returns a value of zero.
- New library to be used when converting MPI trace files to the slog2 file format that is used by the latest version of Jumpshot, an MPI trace viewer program available from Argonne National Laboratory.
- User-written SIGIO handlers are no longer invoked when packet arrives.
Chapter 1. Understanding the diagnostic message format

The message identifiers for the PE messages in this manual are structured as follows:

0029-nnnn
  Parallel debugger (pdbx)

0031-nnn
  Parallel operating environment (POE)

0032-nnn
  Message Passing Interface (MPI)

2554-nnn
  PE Benchmarker

2554-9nn
  Unified Trace Environment (UTE)

where:

- The first four, five, or six digits (0029, 0031, 0032, 2537, 2554, or 2554-9) identify the PE component that issued the message.
- The last two, three, or four digits identify the sequence of the message in the group.

Note: If you need help from IBM in resolving a PE problem, contact your local IBM representative.
Chapter 2. Parallel debugger (pdbx) messages

0029-0101 Your program has been loaded.

Explanation: This message appears when your program has been loaded into the tasks in the partition. This message indicates all the functions available in pdbx are available for you to use.

User Response: When this message appears, you can start debugging the tasks in the partition.

0029-0104 The remote debugger on task: number has exited with the following error: number

Explanation: The debugger on the remote node has exited prematurely and pdbx will exit.

User Response: The error message from the remote debugger appears. Use the information provided by the remote debugger message to proceed.

0029-0105 Error creating temporary file string.

Explanation: When starting pdbx in attach mode, a temporary file is created, consisting of a list of tasks that are executing under the poe job that you specified. The contents of this file are displayed in the menu from which you select the tasks that you wish to attach. This temporary file is created in /tmp by default, unless you specify a different directory with the TMPDIR environment variable. The naming convention for this file is: <tmpdir>./pdbx.<poe-pid>-menu where <tmpdir> is either /tmp or the directory specified by the TMPDIR environment variable, if it has been defined, and where <poe-pid> is the process ID of the poe job to which it attaches. The message that you received appears when the temporary attach task menu file cannot be opened, or when errors are detected while writing to the file.

User Response: Verify that there is enough space available in the /tmp filesystem, or if you have specified a directory with the TMPDIR environment variable, check the filesystem that contains this directory for sufficient space. You may also want to check to be sure that a file of the same name does not already exist.

0029-1001 Missing command file name following the -c flag. For information on the correct syntax to use when invoking pdbx, type: pdbx -h

Explanation: The -c flag requires the name of a file as an argument. This argument was missing. It is also required that the file have read permissions set for the pdbx user.

User Response: Specify the name of a pdbx command file following the -c flag. A pdbx command file is a file containing valid pdbx commands.

0029-1002 Missing or invalid argument following the -I flag. For information on the correct syntax to use when invoking pdbx, type: pdbx -h

Explanation: The -I flag requires the name of a directory that pdbx will search for source code files on the remote tasks. This argument was missing or invalid.

User Response: Specify the name of a directory following the -I flag. This directory should be available to each task in your partition because the -I flag will be passed to each remote dbx debugger.

0029-1003 Missing or invalid argument following the -d flag. For information on the correct syntax to use when invoking pdbx, type: pdbx -h

Explanation: The -d flag requires an integer argument that specifies the nesting depth limit of program blocks.

User Response: Specify an integer. Note that this overrides the default nesting depth limit of 25 program blocks.

0029-1005 Unable to read command file specified by the -c flag.

Explanation: You must specify a command file to which you have read access after the -c flag. The file that you specified after the -c flag did not have read permission so that pdbx could open it for reading.

User Response: Check the name of the file and the permissions to ensure that it is readable.
0029-1006  You must use the attach, quit, or help command.
Explanation:  When starting the debugger in attach mode, the only allowable commands at the initial prompt are attach, quit, or help.
User Response:  Enter a valid command to continue.

0029-1009  Could not create remote pdbx_startup file: string.
Explanation:  For each task to be initialized, the remote dbx requires the creation of a temporary startup file. pdbx requested that the partition manager daemon create the file and the partition manager daemon was unable to do so.
User Response:  The temporary pdbx_startup file is to be created in the directory specified by the MP_TMPDIR environment variable, the -tmpdir flag, or /tmp. Make sure that this directory is available for writing by you on each node allocated to your partition.

0029-1010  Could not read message from poe.
Explanation:  pdbx was unable to read data from the POE debug socket.
User Response:  Debugging can continue except that the information about synchronized exit may not be passed back to the debugger from the POE job. Please note that the debugger will most likely not be able to re-attach to this POE job after detaching.

0029-1012  Cannot switch to context string, which has RUNNING task(s), until all tasks in the partition have been loaded with a program.
Explanation:  Some of the tasks have been loaded with a program and some have not. The tasks that have been loaded are RUNNING and waiting to synchronize with all of the other tasks in the partition. This wait is normal processing that happens at the start of a parallel program to pass ip addresses around in preparation for future message passing calls.
User Response:  Continue to load programs on the remaining tasks in the partition. At this time you can only switch context to groups and tasks that have all task(s) in DEBUG_READY state.

0029-2001  Could not delete the groups events (breakpoints or tracepoints) from task: number, because this task is RUNNING.
Explanation:  Since the task was not in DEBUG_READY state, pdbx could not delete its events (breakpoints or tracepoints). It is possible to continue but there are some events (breakpoints or tracepoints) that pdbx no longer has a record of.
User Response:  Issue the group list or tasks command to view the state of the tasks. The tasks in the group that are in RUNNING state are the ones on which pdbx could not delete the events.

0029-2002  Could not add the groups events (breakpoints or tracepoints) to task: number, because this task is RUNNING.
Explanation:  Since the task was RUNNING and not available for debug commands, pdbx could not add the group events (breakpoints or tracepoints) for this task. It is possible to continue but the group breakpoints will not have been set for this task.
User Response:  Issue the group list or tasks command to check the state of the tasks. Create a new group after all of the tasks of interest have stopped RUNNING and are under debugger control.

0029-2003  Breakpoint or tracepoint: string could not be set by pdbx on task: number.
Explanation:  The remote dbx was unable to set a breakpoint or tracepoint.
User Response:  Make sure the requested breakpoint or tracepoint was valid. Use the status command to see what pdbx events have been set. Issue the pdbx where command to find out where the program is on each node.
0029-2004  *string* is ambiguous on one or more of the tasks in the current context. Also, the response from *whatis string* varies from task to task. The following grouping of tasks would give each group the ability to resolve the symbol consistently:

**Explanation:** If a symbol, typically a function, is found to be ambiguous, *pdbx* issues a menu to the user that allows him to select the instance(s) to which the command (such as *stop in*, *list*, or *func*) is applied. To simplify the user interface, the parallel debugger requires that all tasks in the partition have a consistent view of the ambiguous symbol, since *pdbx* can display only one selection menu for a context.

**User Response:** Issue the *whatis* command to make sure the symbol in question is resolved in the current context. This message is also followed by a table that suggests a set of groups, each of which would resolve the symbol in the same way. Using these or similar groups, you could issue the same command by changing the context as desired.

0029-2005  The network connection from *pdbx* to task: *number failed*.

**Explanation:** An error was encountered when *pdbx* attempted to read or write using a socket connection to the task. *pdbx* no longer has any control over this task.

**User Response:** The debugger can continue after a task loses contact with the home node. Under certain circumstances, you might choose to continue debugging using the remaining tasks for some period of time.

0029-2013  Debugger attached and ready.

**Explanation:** All of the specified tasks have been attached, and you are able to start debugging.

**User Response:** None.

0029-2014  Internal Error: non-zero status: *number returned from pm_respond()*.

**Explanation:** Internal Error: The main communication control section of the home node portion of *pdbx* has indicated a failure.

**User Response:** Restart *pdbx*, verify that your job runs correctly under *poe* and that *poe* is correctly installed and configured for your id. If the problem persists, gather information about it and follow local site procedures for reporting hardware and software problems.

0029-2015  Could not open socket for debugger to communicate with *poe*.

**Explanation:** The socket() call failed when the debugger tried to set up communications with POE.

**User Response:** Debugging can continue except that the information about synchronized exit will not be passed back to the debugger from the POE job. Please note that the debugger will most likely not be able to re-attach to this POE job after detaching.

0029-2016  Could not make socket connection to *poe*.

**Explanation:** The connect() call failed when the debugger tried to set up communications with POE. The information about a synchronized exit is not passed back to the debugger from the POE job. The debugger probably cannot re-attach to this POE job after detaching.

**User Response:** You can continue debugging with limited function. Please note that the debugger probably cannot re-attach to this POE job after detaching.

0029-2017  Missing or invalid argument to -a flag. For information on the correct syntax to use when invoking *pdbx*, type: *pdbx -h*

**Explanation:** The -a flag requires an integer argument specifying the process identifier of the POE process.

**User Response:** Specify the POE process id when using the -a flag. For example, specify *pdbx -a 34192*. 

---

Chapter 2. Parallel debugger (*pdbx*) messages 5
0029-2018  Program not loaded. Issue 'load' or other context-insensitive command.

Explanation: Your program must be loaded on the partition before the pdbx command is executed.

User Response: Load your program into the partition. For more information, see the pdbx load command in IBM Parallel Environment for AIX 5L: Operation and Use, Volume 2.

0029-2019  Cannot specify a context for a context-insensitive command.

Explanation: The command that was entered defines a context-insensitive action for a context-sensitive command. Context insensitive commands cannot be issued in conjunction with context-sensitive commands.

User Response: Re-specify your command string without the context-sensitive prefix.

0029-2020  Either the alias name which has a 15 character maximum or the alias string which has a 79 character maximum is too long.

Explanation: You have defined an alias that is longer than 15 characters or an alias string that is longer than 79 characters.

User Response: Re-specify your alias definition within the allowable maximum limits.

0029-2021  Internal error in string: number - pdbx was unable to resolve the current context into task numbers.

Explanation: The context-sensitive command that you entered has no current context defined.

User Response: Change to a different context or create a new group, and then re-enter the command. If the problem persists, gather information about it and follow local site procedures for reporting hardware and software problems.

0029-2022  Task: number has already been loaded with a program.

Explanation: The task number that you specified has already been loaded.

User Response: Specify another task that has not been loaded. Issue the group list or tasks command to check the state of the tasks. The tasks in NOT LOADED state are the ones that still need to be loaded with a program.

0029-2023  Missing or invalid argument following the -E flag.\n\nFor information on the correct syntax to use when invoking pdbx, type: pdbx -h

Explanation: The -E flag requires the specification of an environment variable for the remote tasks. This argument was missing or invalid.

User Response: There was nothing specified after the -E flag. < $ Specify an environment variable to be set for the remote task after < $ the -E flag. For example: pdbx -E LIBPATH=/u/guest/lib myprog < $ In this case the LIBPATH environment variable will be passed to < $ each remote dbx debugger.

0029-2024  You specified a breakpoint or tracepoint event number on the pdbx delete command that does not exist within the current context.

Explanation: The event that you specified does not exist within the current context.

User Response: Check the event number within your current context. Find event numbers using the status or status all command.

0029-2025  No events were deleted, because of incorrect syntax. The correct syntax is 'delete' followed by an event list where the event list can contain space or comma-separated event numbers, or range(s) of event numbers separated by colons or dashes. 'delete ' " will delete every event within the context, while 'delete all' will delete every event in every context.

Explanation: Incorrect syntax for the pdbx delete command.

User Response: Specify the delete command followed by a space or comma- separated list of event numbers.
Specify ranges of events using a dash or a colon. The command delete * will delete all events within the context, while delete all will delete all events in all contexts. Find event numbers using the status or status all command. Consult the man pages for further information regarding the pdbx delete command. Re-issue the command using the correct syntax.

0029-2026  EOF detected (and ignored) on STDIN. To exit, use 'quit'.

Explanation:  Unexpected EOF (user pressed <Ctrl-d>) from STDIN.

User Response:  pdbx does not recognize an EOF generated from the keyboard as a request to exit the debugger because it can be inadvertently typed as <Ctrl-d>. To exit the debugger, use the quit command.

0029-2027  The task or group cannot execute remote debugger commands.

Explanation:  The task or group that is the current context has no tasks in DEBUG READY state.

User Response:  Issue the group list or tasks command to determine the states of the tasks. Use the halt command to bring RUNNING tasks under debugger control.

0029-2028  Task number may not have detached properly.

Explanation:  The write to the task socket did not succeed.

User Response:  None.

0029-2029  No remote dbx is available to issue the 'dhelp' command.

Explanation:  All the tasks are RUNNING and cannot handle the dbx command. The dhelp command needs at least one task to be under debugger control.

User Response:  Issue the halt command to bring the RUNNING task(s) under debugger control or issue hook to an unhooked task and re-issue dhelp.

0029-2030  The correct syntax is: 'group add group_name member_list'. A member list can contain space or comma-separated task numbers, or ranges of task numbers separated by colons or dashes. Specify the group name as a string of alphanumeric characters that starts with an alphabetic character.

Explanation:  Incorrect syntax for the pdbx group add command.

User Response:  Consult the man pages for the pdbx group command and re-specify the command. Provide a group name that is no longer than 32 characters, which starts with an alphabetic character, and is followed by any alphanumeric combination.

0029-2031  No tasks were added to any group because you specified an incorrectly formed member list. A member list can contain space or comma-separated task numbers, or ranges of task numbers separated by colons or dashes.

Explanation:  The group member list is incorrectly specified.

User Response:  Consult the man pages for the pdbx group command and re-issue the command again.

0029-2032  No action was taken because the group name is longer than the maximum group name length of number.

Explanation:  The group name specified is too long to be processed.

User Response:  Provide a group name that is no longer than 32 characters, which starts with an alphabetic character, and is followed by any alphanumeric combination.
<table>
<thead>
<tr>
<th>Message Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0029-2033</td>
<td>No action was taken because the first character in the group name specified was not an alphabetic character.</td>
<td>The group name specified started with a character that was not alphabetic.</td>
<td>Provide a group name that is no longer than 32 characters, which starts with an alphabetic character, and is followed by any alphanumeric combination.</td>
</tr>
<tr>
<td>0029-2034</td>
<td>Cannot create any more groups because the maximum number already exists.</td>
<td>You issued the <code>group add</code> command but there are already as many groups defined as can exist.</td>
<td>You need to reduce the current number of groups in order to open up a slot for another group to be created.</td>
</tr>
<tr>
<td>0029-2035</td>
<td>No action was taken on group <code>string</code>, because it is the group reserved to contain all of the tasks.</td>
<td>You issued the <code>group add</code> command in an attempt to add tasks to the group reserved to contain all of the tasks. No action could be taken because this group already contains all of the tasks.</td>
<td>Specify a different group name on the <code>group add</code> command.</td>
</tr>
<tr>
<td>0029-2036</td>
<td>Task: <code>number</code> has experienced an error in communicating with pdbx. It cannot be added to a group.</td>
<td>The specified task is not communicating properly with the home node, so it is marked as unavailable for any command that attempts communications.</td>
<td>The debugger can continue after a task loses contact with the home node. Under certain circumstances, you might choose to continue debugging using the remaining tasks for some period of time.</td>
</tr>
<tr>
<td>0029-2037</td>
<td>Cannot add task: <code>number</code>, because it is already in group <code>string</code>.</td>
<td>The task specified on the <code>group add</code> command is already included in the group specified.</td>
<td>Retry the command specifying only task(s) that are not already included within the specified group.</td>
</tr>
<tr>
<td>0029-2038</td>
<td>No action has been taken because a task number is out of range.</td>
<td>The task specified on the <code>group</code> or <code>on</code> command is not an acceptable value.</td>
<td>Retry the range specification using only task numbers between 0 and one less than the value of <code>-procs</code> or <code>MP_PROCS</code> (since the first task is number 0).</td>
</tr>
<tr>
<td>0029-2039</td>
<td>One task was added to group <code>string</code>.</td>
<td>A task was added to the specified group.</td>
<td>None.</td>
</tr>
<tr>
<td>0029-2040</td>
<td><code>number</code> tasks were added to group <code>string</code>.</td>
<td>The list of tasks was added to the specified group.</td>
<td>None.</td>
</tr>
<tr>
<td>0029-2041</td>
<td>The correct syntax is: <code>group change old_name new_name</code>.</td>
<td>The <code>group change</code> command was improperly formed.</td>
<td>Re-issue the command specifying the existing group name and the new group name.</td>
</tr>
</tbody>
</table>
0029-2042  No action was taken because the group name string was not found.
Explanation: pdbx could not find the group name you specified to be renamed on the group change command.
User Response: Use the group list command to see the list of groups currently defined. Make sure that the group you wish to rename already exists.

0029-2043  No action was taken because the group name string is already used.
Explanation: The new name, for the group to be renamed, on the group change command already exists. The existing group will not be renamed to avoid confusion or ambiguity.
User Response: Use the group list command to see the list of groups currently defined. Make sure that the group name you wish to change the existing group to does not already exist.

0029-2044  No action was taken because the new group name is longer than the maximum group name length of number.
Explanation: The new group name specified on the group change command is too long to be handled.
User Response: Choose a string under 32 characters for the new group name and retry the command.

0029-2045  Group string has been renamed to string.
Explanation: You have given a new group name to a previously existing group.
User Response: Note that the old group name no longer exists.

0029-2046  The correct syntax is: 'group delete group_name [member_list]'. A member list can contain space or comma-separated task numbers, or ranges of task numbers separated by colons or dashes. Specify the group name as a string of characters.
Explanation: The group delete command requires an existing group name as an argument.
User Response: Re-issue the command with an existing group name as an argument. If you wish to delete one or more tasks from a group, specify the list of tasks to be deleted after the group name.

0029-2047  Nothing was deleted because the group name string was not found.
Explanation: The group delete command requires an existing group name as an argument. The specified group could not be matched with any of the existing groups.
User Response: Use the group list command to see the list of groups currently defined. Make sure that the group you wish to delete or modify already exists.

0029-2048  No action was taken on group string, because it is the group reserved to contain all of the tasks.
Explanation: The debugger requires at least one group which represents all the tasks in your partition. This group cannot be deleted or modified.
User Response: You can create a group with all tasks except one or two in two steps:
1. Create a group with all tasks using group add new_group 0-num_procs where num_procs is the number of tasks in your partition.
2. Use group delete new_group member_list to remove one or more tasks from the new group.

0029-2049  Incorrectly formed member list. No tasks were deleted from any group. A member list can contain space or comma-separated task numbers, or ranges of task numbers separated by colons or dashes.
Explanation: You specified a member list with the group delete command, but the member list was not recognized, so no action was taken.
User Response: Re-issue the group delete command with a valid member list.
**0029-2050**  Task: *number was successfully deleted from group string.*

*Explanation:* A task has successfully been deleted from a group.

*User Response:* None.

---

**0029-2051**  The group *string was not found.*

*Explanation:* The group you specified on the *group list* command is not known to *pdbx*.

*User Response:* Re-issue the *group list* command with a valid group name or issue *group list* to list all groups.

---

**0029-2052**  Internal error in *string : number - No action was taken because the group has no members.*

*Explanation:* You issued the *group list* on an empty group.

*User Response:* This is an internal error, retry the command. If the problem persists, gather information about it and follow local site procedures for reporting hardware and software problems.

---

**0029-2053**  Valid group actions are: add, change, delete and list.

*Explanation:* You issued a *group* command with incorrect syntax.

*User Response:* Check the syntax and re-issue the *group* command.

---

**0029-2054**  The correct syntax is: 'hook' (with no arguments).

*Explanation:* You issued the *hook* command with one or more arguments. *hook* takes effect on the current command context or the temporary command context when used in combination with the *on* command.

*User Response:* Re-issue the *hook* command with no arguments.

---

**0029-2055**  No action has been taken because the task or group is not unhooked, or has completed and is in exited state.

*Explanation:* There are no unhooked tasks in the command context that you specified. When a task that has been unhooked completes, it changes from unhooked state to exited state. Once an unhooked task completes, it can no longer be hooked.

*User Response:* Use the *group list* or *tasks* command to view the state of the tasks.

---

**0029-2056**  Task: *number has already exited.*

*Explanation:* You attempted to hook this task but the task had already completed processing and exited.

*User Response:* None.

---

**0029-2057**  No action was taken on group *string, because it is a group name reserved for use by the debugger.*

*Explanation:* The *group add* or *group change* command was issued with a group name that the debugger uses.

*User Response:* Specify a different group name on the *group add* or *group change* command.

---

**0029-2058**  The correct syntax is 'on context' or 'on context command', where command is the command you wish to execute on the specified context.

*Explanation:* An *on* command has been issued with incorrect syntax.

*User Response:* Check syntax and re-issue the *on* command.
0029-2059  Group string not found. No action performed.
Explanation: You issued the on command with a group specified, but the group is not known to pdbx.
User Response: Issue group list to display group names, then re-issue on command.

0029-2060  The correct syntax is: 'source filename'.
Explanation: The source command cannot be issued with zero or greater than one arguments.
User Response: Re-issue the source command with only one argument.

0029-2061  Cannot open the command file that was specified on the source command.
Explanation: The source command has been issued with a filename that either does not exist or has no read permission.
User Response: Make sure the file exists and has read permission.

0029-2062  The correct syntax is either 'status' or 'status all'.
Explanation: An argument other than all was specified on the status command.
User Response: Re-issue status with no arguments or with all as the single argument.

0029-2063  All events (breakpoints or tracepoints) are in use for this task or group.
Explanation: The maximum number of events for this task or group has been exceeded. Each breakpoint or tracepoint that is set causes an event to be recorded.
User Response: Use the delete command on any event(s) in this task or group to reduce the number of events, then re-issue the original command.

0029-2064  The task has experienced an error in communicating with pdbx.
Explanation: Events cannot be added to this task because there is a communication problem with this task.
User Response: The debugger can continue after a task loses contact with the home node. Under certain circumstances, you might choose to continue debugging using the remaining tasks for some period of time.

0029-2065  You specified an invalid breakpoint or tracepoint. The command failed on task number - string
Explanation: The breakpoint or tracepoint that you tried to create using the pdbx stop or trace command was not accepted by the remote dbx debugger.
User Response: Check the pdbx stop or trace command syntax.

0029-2066  The correct syntax is: 'unhook' (without any arguments).
Explanation: You issued the unhook command with one or more arguments. The unhook does not take any arguments. unhook takes effect on the current command context or the temporary command context when used in combination with the on command.
User Response: Re-issue the unhook command with no arguments.

0029-2067  The correct syntax is: 'unalias alias_name'.
Explanation: You specified zero or greater than one arguments with the unalias command.
User Response: Check the pdbx syntax for unalias and re-issue the command.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0029-2068</td>
<td><em>string</em> is not aliased.</td>
<td><strong>Explanation:</strong> You attempted to <strong>unalias</strong> an unknown alias.</td>
<td><strong>User Response:</strong> To display the existing aliases, issue the <strong>alias</strong> command with no arguments. Issue the <strong>unalias</strong> command with one of the existing aliases to remove it.</td>
</tr>
<tr>
<td>0029-2069</td>
<td>Reading command file <em>string</em>.</td>
<td><strong>Explanation:</strong> The debugger has started reading the command file specified by the <code>-c</code> command line flag, the <strong>source</strong> command or as a result of having a <code>.pdbxinit</code> file in the current working directory or your home directory.</td>
<td><strong>User Response:</strong> None.</td>
</tr>
<tr>
<td>0029-2070</td>
<td>command file line <em>number: string</em></td>
<td><strong>Explanation:</strong> The debugger displays each line of the command file as it is read showing the line number and the text.</td>
<td><strong>User Response:</strong> In the event one or more lines in the command file cause errors in the debugger, this message will show the line number and the text that needs to be corrected. Unless a severe error is encountered causing the debugger to terminate, a command file will generally be read in its entirety even if it contains multiple errors.</td>
</tr>
<tr>
<td>0029-2071</td>
<td>No tasks were attached due to a badly formed task list.</td>
<td><strong>Explanation:</strong> Incorrect syntax for the <strong>attach</strong> command.</td>
<td><strong>User Response:</strong> Specify the <strong>attach</strong> command followed by a space or comma-separated list of task numbers. Specify ranges of tasks using a dash or a colon. The command <strong>attach all</strong> may be used to attach to all the tasks of the poe application.</td>
</tr>
<tr>
<td>0029-2072</td>
<td>Cannot send commands to task: <em>number</em> because it is executing.</td>
<td><strong>Explanation:</strong> It is not possible to send a dbx command to a task that is <strong>RUNNING</strong>.</td>
<td><strong>User Response:</strong> Issue the <strong>group list</strong> or <strong>tasks</strong> command to to make sure the tasks are not <strong>RUNNING</strong>.</td>
</tr>
<tr>
<td>0029-2073</td>
<td>Error creating temporary file <em>string</em>.</td>
<td><strong>Explanation:</strong> When starting <strong>pdbx</strong> in attach mode, a temporary host.list file is created, consisting of only the tasks that you selected to attach to. This temporary host.list file is created in /tmp by default, unless you specify a different directory with the TMPDIR environment variable. The naming convention for this file is: <code>&lt;/tmpdir&gt;/pdbx.&lt;poe-pid&gt;..host.list</code> where <code>&lt;/tmpdir&gt;</code> is either /tmp, or the directory specified by the TMPDIR environment variable, if it has been defined, and where <code>&lt;poe-pid&gt;</code> is the process ID of the poe job to be attached to. The message that you received appears when the temporary host.list file cannot be opened, or when errors are detected while writing to the file.</td>
<td><strong>User Response:</strong> Verify that there is enough space available in the /tmp filesystem, or if you have specified a directory with the TMPDIR environment variable, check the filesystem that contains this directory for sufficient space. You may also want to check to be sure that a file of the same name does not already exist.</td>
</tr>
</tbody>
</table>
| 0029-2075 | *string* : *number* - Unable to allocate *number of bytes in string*.        | **Explanation:** Internal error: A memory allocation routine failed because there is not enough memory available. **pdbx** continues processing, but it is likely you will have subsequent problems. | **User Response:** Start **pdbx** again and try the following:  
  * Debug your program with a subset of the tasks, or with smaller data segments.  
  * Contact your System Administrator to increase system resources, if possible.  
 If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems. |

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0029-2076  There are no tasks in DEBUG READY state (active).
Explanation:  The response to the active command is that there are no tasks that are ready to be debugged. This is to say that there are no tasks that are active with respect to the debugger.
User Response:  None.

0029-2077  Command string is not valid when using pdbx.
Explanation:  pdbx does not allow the use of this command.
User Response:  See IBM Parallel Environment for AIX 5L: Operation and Use, Volume 2 for a description of commands that are not allowed.

0029-2080  Could not set breakpoint or tracepoint event.
Explanation:  A stop or trace event could not be added in the current context.
User Response:  See IBM Parallel Environment for AIX 5L: Operation and Use, Volume 2 for information on setting pdbx breakpoints and tracepoints.

0029-2081  Cannot set breakpoint or tracepoint event in different source files.
Explanation:  pdbx will not attempt to set a breakpoint at a line number when in a group context if the group members (tasks) have different current source files.
User Response:  Either choose to set events for individual tasks or set the same source file for the whole group.

0029-2082  Could not find a task available for debugger commands in the current context.
Explanation:  No tasks in DEBUG READY state were found in the current context. This action requires that a dbx command be issued to the remote node, and that the node is not RUNNING. If the task is RUNNING, it is not ready for debugger commands.
User Response:  Issue the group list or tasks to make sure that one or more tasks are ready to be debugged.

0029-2083  The correct syntax is: stop if <condition> stop at <line-number> [if <condition>]
stop in <procedure> [if <condition>] stop <variable> [if <condition>]
stop <variable> at <line-number>[ if <condition>] stop <variable> in <procedure>[if <condition>]
Explanation:  You issued the stop command with the incorrect syntax.
User Response:  Re-issue the command using the correct syntax.

0029-2084  Missing argument to the -dbxpromptmod flag.
For information on the correct syntax to use when invoking pdbx, type:  pdbx -h
Explanation:  The -dbxpromptmod flag requires a text string as an argument. This text string was missing.
User Response:  Specify a text string to be used to modify the dbx prompt so that it will not collide with your data or program.

0029-2085  The dbx prompt modifier is too long; the maximum length is number.
For information on the correct syntax to use when invoking pdbx, type:  pdbx -h
Explanation:  The dbx prompt modifier string that you specified using the command line -dbxpromptmod flag or the MP_DBXPROMPTMOD environment variable was too long.
User Response:  Reset the MP_DBXPROMPTMOD environment variable or retry the pdbx command with a shorter string following the -dbxpromptmod flag.
0029-2086  **Event:** *number* cannot be deleted because it does not exist in the specified or current context.

**Explanation:** You issued the *delete* command with an event number that does not exist in the command context.

**User Response:** Use the *status* or *status all* command to display the events that are associated with the command context. Re-issue the *delete* command with a valid event.

0029-2087  **Task** *number* was not deleted, because it is not a member of group *string*.

**Explanation:** You issued a *group delete group_name member_list* command, but one of the tasks in the *member_list* was not in the group specified.

**User Response:** To display members of a group issue *group list group_name*.

0029-2090  Cannot reestablish events that were generated from a pdbx select menu.

**Explanation:** You issued a *group add* command to an existing group or a *hook* command and one or more events in the group or task resulted from a *pdbx* select menu. These events cannot be recreated automatically by *pdbx*.

**User Response:** You can manually recreate the events using the list in the message that follows this one.

0029-2091  The correct syntax is either ‘halt’ or ‘halt all’.

**Explanation:** You issued the *halt* command with an incorrect argument. *halt* takes effect on the current command context or the temporary command context when used in combination with the *on* command. The *halt* command attempts to get RUNNING or hung programs under debugger control. This is done by sending interrupts to all tasks that are RUNNING in the current context. When *halt all* is specified, interrupts are sent to all RUNNING tasks, regardless of context.

**User Response:** Re-issue the *halt* command with no arguments or with *all*.

0029-2100  Specify a decimal number from 1 through *number*, or *<Ctrl-c>* to exit menu.

**Explanation:** Syntax that was supplied in response to the select menu is not recognized.

**User Response:** A command has been issued where the symbol cannot be resolved. Reply to this menu with the correct syntax to further qualify which symbol is to be selected.

0029-2101  Specify a list of space or comma-separated numbers and ranges or an asterisk. A number is a decimal number from 1 through *number*. A range is a dash (‘-’) separated pair of numbers. An asterisk will select all choices in the menu. A *<Ctrl-c>* will exit the menu.

**Explanation:** The syntax that was supplied in response to the select menu was not recognized.

**User Response:** A command has been issued where the symbol cannot be resolved. Reply to this menu with the correct syntax to further qualify which symbol is to be selected.

0029-2102  The *sh* command with no arguments is not allowed.

**Explanation:** You issued the *sh* command with no arguments, which is not allowed.

**User Response:** Issue the *sh* command with a specific executable name supplied. For example: *sh ls*.

0029-2103  The requested command could not be executed on the specified context because at least one task in that context is currently RUNNING.

**Explanation:** You can only issue the *on context command* form of the *on* command when there are no tasks RUNNING in the specified context.

**User Response:** Use the command *group list context* or *tasks* to check the tasks’ states. To get all of the tasks in another context under debugger control, issue *on context*, then *<Ctrl-c>*; then *halt*.  

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The following command: string is unrecognized at the pdbx-subset prompt.

Explanation: You issued a command from the pdbx-subset prompt that is not understood.

User Response: Issue the help command at the pdbx-subset prompt for short descriptions or use man pdbx to find out which commands are available at the pdbx-subset prompt.

The current context contains at least one RUNNING task. When these RUNNING task(s) reach a breakpoint or complete execution, a pdbx prompt is displayed.

Explanation: You issued the back or halt command from the pdbx-subset prompt. Some of the tasks in the current context are RUNNING. A pdbx prompt will appear when the RUNNING task(s) reach a breakpoint or complete execution.

User Response: Either wait for the pdbx prompt or issue a <Ctrl-c> to get a pdbx-subset prompt. You can then issue the tasks or group list command to view the state of the tasks. The on command is available at the pdbx-subset prompt if the user wants to then switch to a different context.

Switching to context: string, where there is at least one RUNNING task. When these RUNNING task(s) reach a breakpoint or complete execution, a pdbx prompt is displayed.

Explanation: You issued the command on context. The target context has some task(s) that are RUNNING. This is an informational message to let you know that a pdbx prompt will not appear immediately.

User Response: If you want to switch to a context where all tasks are ready to be debugged, press <Ctrl-c> to obtain a pdbx-subset prompt. You can list the state of tasks using the tasks or group list command. The on command is available at the pdbx-subset prompt if you want to then switch to a different context.

Could not attach to task number.

Explanation: An error occurred while attempting to attach to the task.

User Response: Check the poe application and restart the debugger.

The following RUNNING task(s): string have been interrupted.

Explanation: The task(s) listed were in RUNNING state. The halt command attempted to interrupt them so that a pdbx prompt will be issued for the current context.

User Response: After the pdbx prompt is issued, further debugger commands can be issued.

No action taken on task(s): string, because they have either been stopped by the debugger, finished executing, or have been unhooked.

Explanation: The tasks listed were not RUNNING. These tasks may already be under the control of the debugger because of a breakpoint or step command. They could also have finished execution or be unhooked.

User Response: None.

No action has been taken because you specified a task number that was not attached to.

Explanation: A task specified on the group or on command is not an acceptable value.

User Response: Retry the command using only task numbers that you attached to. Use the tasks command to display a list of valid task numbers.

Task number has requested exit.

Explanation: The indicated task has attempted to exit. The program terminates when all tasks have requested exit.

User Response: None.
0029-2112  The syntax: "on context" is valid at the pdbx-subset prompt, but "on context command" is not.

Explanation: While at the pdbx-subset prompt, the on context command form of the on command was issued. The only valid form of the on command at the pdbx-subset prompt is on context.

User Response: Retry the on command using syntax: on context.

0029-2114  The correct syntax is: 'string'.

Explanation: You issued incorrect syntax, and the correct syntax is displayed as part of this message.

User Response: Retype the command using the syntax displayed.

0029-2115  Switching to context: string, where there is at least one RUNNING task. When these RUNNING task(s) reach a breakpoint or complete execution, a pdbx prompt is displayed.

Explanation: You issued the on context command at the pdbx-subset prompt. The target context has some tasks that are RUNNING. This is an informational message to let you know that a pdbx prompt will not be displayed immediately.

User Response: Either wait for the pdbx prompt or issue a <Ctrl-c> to get a pdbx-subset prompt. You can then use the tasks or group list command to view the state of the tasks. The on command is available at the pdbx-subset prompt if you want to then switch to a different context.

0029-2116  Group string has been deleted, because it has no members.

Explanation: The group delete command has been issued. All of the members in the group were specified to be deleted, so the group itself was also deleted.

User Response: None.

0029-2117  Group string has been deleted.

Explanation: You issued the group delete command and the group has been successfully deleted.

User Response: None.

0029-2118  No action was taken because task(s): string are currently RUNNING, and because the specified group has breakpoints or tracepoints set for it. Only tasks in the DEBUG READY state can be added to a group which has group breakpoints or tracepoints set.

Explanation: You issued the group add command. This group had some group events (breakpoints or tracepoints) set. When adding a task to this group, the group events will be added for the new task. To add an event, the task must be able to send debugger commands to the remote debugger. In this case, the tasks listed were not in the DEBUG READY state so that remote debugger commands could be issued.

User Response: Use the tasks and group list commands to view the state of the tasks. To change the state of tasks, use the halt command and <Ctrl-c> to bring up a pdbx-subset prompt.

0029-2119  No action was taken because task(s): string are currently RUNNING, and because the specified group has breakpoints or tracepoints set for it. Only tasks in the DEBUG READY state can be deleted from a group which has group breakpoints or tracepoints set.

Explanation: You issued the group delete command. This group had some group events (breakpoints or tracepoints) set. When deleting a task from this group, the group events will be deleted from the deleted task. To delete an event, the task must be able to send debugger commands to the remote debugger. In this case, the tasks listed were not in DEBUG READY state so that remote debugger commands could be issued.

User Response: Use the tasks and group list commands to view the state of the tasks. To change the state of tasks, use the halt command and <Ctrl-c> to bring up a pdbx-subset prompt.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0029-2120</td>
<td>All attached tasks have exited. Type either detach or quit to exit the debugger, and then restart pdbx if you wish to continue debugging. Reminder: quit also causes the poe job to be terminated, while detach does not.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>All the tasks of the partition have exited.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Issue the quit or detach pdbx command.</td>
</tr>
<tr>
<td>0029-2121</td>
<td>No action has been taken because the partition is already loaded.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued the load command after the partition was already loaded.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>The load command is not valid after the partition has been loaded.</td>
</tr>
<tr>
<td>0029-2122</td>
<td>This event cannot be set because task: number is unhooked.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued a trace or stop command against a task that is unhooked. This pdbx command requires that the task be in DEBUG READY state.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>You can use the hook command to regain debugger control of previously unhooked tasks. Issue the group list or tasks command to see which tasks are unhooked.</td>
</tr>
<tr>
<td>0029-2123</td>
<td>This event cannot be set because some task(s) in the group are unhooked.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued a trace or stop command against a group which contains some task(s) that are unhooked.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>The hook command can be used to regain debugger control of of previously unhooked tasks. You can create another group which does not contain any tasks that are in the unhooked state.</td>
</tr>
<tr>
<td>0029-2124</td>
<td>Could not add event to task: number, because it is in state: string.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued a trace or stop command against the task specified in the message. No action was taken on behalf of this task because the task was not in DEBUG READY state.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>If the task is unhooked, the hook command will bring the task to DEBUG READY state. If the task is RUNNING, the halt command will interrupt the task and bring it to DEBUG READY state. If the task has exited, events cannot be set.</td>
</tr>
<tr>
<td>0029-2125</td>
<td>Could not delete event: number from task: number, because it is in state: string.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued the delete command with the task identified in the message as the current context, but the task was not in DEBUG READY state. The task must be in DEBUG READY state so that the remote debugger can record the fact that the event has been deleted. No action has been taken.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>If the task is unhooked, use the hook command to bring it to DEBUG READY state.</td>
</tr>
<tr>
<td>0029-2126</td>
<td>Could not delete event: number from task: number of this group on the remote node, because it is in state: string.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued the delete command against the current context which is a group. The task listed in the message is a member of this group. No events can be deleted from the task because the task is not in debug ready state. The group event has been deleted on the home node. If the task is unhooked, this event will not be reset when the task is again hooked.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>When the task is again in DEBUG READY state, issue the on taskid dbx status command to manually check the event’s status on the remote debugger.</td>
</tr>
<tr>
<td>0029-2128</td>
<td>The correct syntax is: 'group list [ group_name ]'.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>You issued the group list with incorrect syntax.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Reissue the command specifying either group list to see the tasks and states which belong to all groups or group list followed by a group name to see the tasks and states that belong to a specific group.</td>
</tr>
</tbody>
</table>
0029-2129  No action was taken because the group name contained non-alphanumeric characters.

Explanation: The group name specified was made up of some character(s) that were neither alphabetic nor numeric.

User Response: Choose a group name of at most 32 characters that starts with an alphabetic character and is followed by alphanumeric characters.

0029-2129  No action was taken because the group name specified was null.

Explanation: You issued one of the group commands, but no group name was provided.

User Response: Choose a group name that does not exceed 32 characters that starts with an alphabetic character and is followed by alphanumeric characters.

0029-2131  All tasks have exited. Issue quit then restart the debugger if you wish to continue debugging.

Explanation: All the tasks of the partition have exited.

User Response: Issue the quit command to exit pdbx.

0029-2132  The help command failed because two or more arguments were specified. Issue help for a list of commands and topics that have help. Issue ‘help command’ or ‘help topic’ to view the help text.

Explanation: You issued the help command with more than one argument.

User Response: Re-issue the help command with one argument. Issue help alone for a list of valid arguments.

0029-2132  The help command did not recognize the command or topic specified. Issue help for a list of commands and topics that have help. Issue ‘help command’ or ‘help topic’ to view the help text.

Explanation: You issued the help command with an unrecognized argument.

User Response: Re-issue the help command with a valid argument. Issue help alone for a list of valid arguments.

0029-9000  pdbx is terminating.

Explanation: pdbx is terminating normally.

User Response: None.

0029-9000  pdbx is terminating normally.

0029-9036  Problem Determination:

Syntax:

    pdbx
    
    [program [program arguments]] [-c command_file]
    [-d nesting_depth] [-I directory [-I directory]...]
    [-F] [-x] [poe options]

    pdbx
    
    -a poe_process_id [-c command_file]
    [-d nesting_depth] [-I directory [-I directory]...]
    [-F] [-x] [poe options]

    pdbx -h

Flags:

    -a  Attaches to a running POE job by specifying its process ID. The debugger must be executed from the node from which the POE job was initiated. Note that when using the debugger in attach mode
there are some debugger command line arguments that should not be used. In general, any arguments that control how the partition is set up, or specify program names and arguments, should not be used.

-\texttt{c} \quad \text{Reads startup commands from the specified} \ \texttt{command\_file}.

-\texttt{d} \quad \text{Sets the limit for the nesting of program blocks. The default nesting depth limit is 25.}

-\texttt{F} \quad \text{This flag can be used to turn off lazy reading mode. Turning lazy reading mode off forces the remote} \ \texttt{dbx} \text{ sessions to read all symbol table information at startup time. By default, lazy reading mode is on.}

Lazy reading mode is useful when debugging large executable files, or when paging space is low. With lazy reading mode on, only the required symbol table information is read upon initialization of the remote \texttt{dbx} sessions. Because all symbol table information is not read at \texttt{dbx} startup time when in lazy reading mode, local variable and related type information will not be initially available for functions defined in other files. The effect of this can be seen with the \texttt{whereis} command, where instances of the specified local variable may not be found until the other files containing these instances are somehow referenced.

-\texttt{h} \quad \text{Writes the} \ \texttt{pdbx} \text{ usage to STDERR, then exits. This includes} \ \texttt{pdbx} \text{ command line syntax and a description of} \ \texttt{pdbx} \text{ options.}

-\texttt{l} \quad \text{Specifies a directory to be searched for an executable's source files. This flag must be specified multiple times to set multiple paths. (Once} \ \texttt{pdbx} \text{ is running, this list can be overridden on a group or single node basis with the 'use' command.)}

-\texttt{x} \quad \text{Prevents the dbx command from stripping \texttt{\_\_} (trailing underscore) characters from symbols originating in FORTRAN source code. This flag enables dbx to distinguish between symbols which are identical except for an underscore character, such as \texttt{xxx} and \texttt{xxx\_}.}

-\texttt{tmpdir} \quad \text{This directory specifies the directory to which the individual startup files} \ \texttt{(.pdbxinit, process\_id, task\_id)} \text{are written for each} \ \texttt{dbx} \text{ task. This is frequently local, and may be a shared directory. If not set, and if its associated environment variable MP\_TMPDIR is not set, the default location is} \ \texttt{/tmp}.}

\textbf{Environment Variables:}

Because the \texttt{pdbx} command runs in the Parallel Operating Environment, it interacts with the same environment variables associated with the \texttt{poe} command. See the \texttt{POE} manual page for a description of these environment variables. As indicated by the syntax statements, you are also able to specify \texttt{poe} command line options when invoking \texttt{pdbx}. Using these options will override the setting of the corresponding environment variable, as is the case when invoking a parallel program with the \texttt{poe} command.

\textbf{0029-9039 Cannot read attach configuration file.}

**Explanation:** \texttt{pdbx} could not read the attach configuration file, which is created when the original \texttt{POE} job was started, and is removed when the job ends.

**User Response:**
1. Make sure the correct \texttt{POE} process id was used when invoking the debugger.
2. Check the \texttt{/tmp} directory for the existence of a configuration file containing the \texttt{POE} process id. (For example, check \texttt{/tmp/ppe.<poe pid>.attach.cfg}).

\textbf{0029-9040 Cannot open attach configuration file.}

**Explanation:** \texttt{pdbx} was unable to open the attach configuration file.

**User Response:**
1. Make sure that the correct \texttt{POE} process id was used when invoking the debugger.
2. Check the \texttt{/tmp} directory for the existence of a configuration file containing the \texttt{POE} process id. (For example, check for \texttt{/tmp/ppe.34192.attach.cfg}).
0029-9041 Cannot locate attach configuration file "string".
Explanation: pdbx was unable to locate the attach configuration file.
User Response:
1. Make sure that the correct POE process id was used when invoking the debugger.
2. Check the /tmp directory for the existence of a configuration file containing the POE process id. (For example, check for /tmp/.ppe.34192.attach.cfg).

0029-9042 No tasks listed in attach configuration file.
Explanation: The attach configuration file created when the original POE job was started contained a zero in the first field indicating that POE is between job steps.
User Response: Wait for the next job step to start which will take a few seconds. Then you can re-enter pedb in attach mode, if you wish.

0029-9043 The command "string" is not valid when debugging in attach mode.
Explanation: The command is not valid when debugging in attach mode.
User Response: Use a different command.

0029-9044 Could not write to poe debug socket.
Explanation: pdbx was unable to write to the POE debug socket.
User Response: The debugger was unable to communicate to POE that the debugger is detaching. Please note that the debugger will most likely not be able to re-attach to this POE job.

0029-9045 The "detach" command can only be used when running in attach mode.
Explanation: The detach command is only valid if the debugger has been attached to a set of tasks.
User Response: Use quit to exit the debugger if running in normal mode.

0029-9046 The correct syntax is: "string".
Explanation: You issued incorrect syntax, and the correct syntax appears as part of this message.
User Response: Retype the command using the syntax displayed.

0029-9047 An instance of pdbx has already been attached to this POE job.
Explanation: Only one instance of the debugger may be attached to a given POE job at a time. The existence of the /tmp/.pdbx.<"poe-pid">.host.list file indicates that a debugger has already attached to this POE job.
User Response: If pdbx isn't currently attached to the POE job in question, remove the corresponding /tmp/.pdbx.<"poe-pid">.host.list file in /tmp, and try again.

0029-9048 The following flag(s) are not valid when starting the debugger in attach mode - string. Please check for valid flags and retry.
Explanation: The user attempted to start pedb in attach mode with a command line flag(s) that is not valid. The error message is given and the debugger exits.
User Response: The user should check for valid command line flags and try again.

0029-9049 The following environment variables have been ignored since they are not valid when starting the debugger in attach mode - string
Explanation: Some of the environment variables the user has set are not valid when starting pdbx in attach mode. A message is given indicating what variables have been ignored. The debugger continues.
**User Response:** Note any environment variable of interest that have been ignored. This message exists to highlight the fact that some of the environment variables that normally have an effect when the POE job is initially started will not have an affect by having them set when the debugger is invoked for attach.

---

**0029-9999**  
**pdbx is exiting.**

**Explanation:** `pdbx` is terminating due to an error as opposed to a deliberate action. Generally, this message is preceded by a specific message which gives the reason why `pdbx` is quitting prematurely.

**User Response:** Refer to the message on the screen that precedes this error message.
Chapter 3. Parallel operating environment (POE) messages

0031-000 Dynamic memory allocation failed in module string line number.
Explanation: An internal request for dynamic memory allocation failed.
User Response: System resources may be exceeded temporarily. Retry the job. If this fails, contact the System Administrator to determine if there is a general setup problem. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-001 No man page available for poe
Explanation: You requested that the poe man page be displayed (by specifying the -h option), but the /usr/man/cat1/poe.1 file does not exist, or some directory in the path leading to the file is not searchable.
User Response: Check that the file exists and that all directories in the path leading to the file are searchable. The ppe.man filesset may need to be installed if the file doesn't exist.

0031-002 Error initializing communication subsystem.
Explanation: The remote node terminates.
This is probably a PE error.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-003 Invalid value (string) for pmd_version.
Explanation: The user specified a value of other than 2, 3, or 4 via the -pmd_version command-line option or the MP_PMD_VERSION environment variable.
User Response: Correct the non-valid entry.

0031-004 MPCI and LAPI Statistical information not available
Explanation: MP_STATISTICS not enabled and LAPI initialization not complete.
User Response: Export MP_STATISTICS=1 to enable MPCI statistics. Wait for MPI_Init to finish to get LAPI statistics.

0031-005 MPCI statistical information not available
Explanation: MP_STATISTICS not enabled.
User Response: Export MP_STATISTICS=1 to enable MPCI statistics.

0031-007 Error initializing communication subsystem: return code number
Explanation: The remote node was unable to initialize its communication subsystem. This message gives the return code from the function called. The remote node terminates.
User Response: Verify that the communication subsystem is running properly. If the SP™ Switch is being used, make sure that the system software is operational.

0031-009 Couldn't integrate parallel traces
Explanation: The system continues, but the parallel trace files were not integrated.
User Response: Check that sufficient space is available for the parallel trace files on each remote node.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-011</td>
<td>tcp service string unknown</td>
<td>The Partition Manager terminates.</td>
<td>The PM daemon, pmd, is not known to the system. Review the results of installation to assure that the daemon specified by ineld is startable on each remote node.</td>
</tr>
<tr>
<td>0031-012</td>
<td>pm_contact: socket</td>
<td>The Partition Manager terminates, as it could not create a socket.</td>
<td>This is probably a PE error.</td>
</tr>
<tr>
<td>0031-013</td>
<td>pm_contact: setsockopt</td>
<td>The Partition Manager continues, but some socket options may not be set correctly.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-014</td>
<td>pm_contact: getsockopt</td>
<td>The Partition Manager continues, but some socket options may not be obtained correctly.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-015</td>
<td>Couldn’t create string, job may not be checkpointable...</td>
<td>POE was unable to create the indicated file in the directory from which POE was run. If the user attempts to use the pockpt command to checkpoint the POE job, the checkpoint will fail and a message will be issued stating that POE is not in a checkpointable state.</td>
<td>If no attempt to checkpoint the POE job will be made, the message can be ignored. Otherwise, check the permissions of the indicated file.</td>
</tr>
<tr>
<td>0031-016</td>
<td>Unable to create thread for checkpoint handler</td>
<td>POE was unable to create a thread on which the advanced checkpoint handler could be run.</td>
<td>Probable internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-017</td>
<td>Unable to register checkpoint handler, rc=number.</td>
<td>POE was unable to register the checkpoint handler with the AIX kernel.</td>
<td>Probable internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-018</td>
<td>Couldn’t get info for hostname string</td>
<td>The Partition Manager terminates.</td>
<td>The name mentioned cannot be identified. Check that the host name is spelled correctly and is known by name to the node on which the Partition Manager is running. If hostname is blank, allocation has failed.</td>
</tr>
</tbody>
</table>
0031-019  pm_contact: connect failed
Explanation: The Partition Manager cannot connect to a remote node, so it terminates. This is probably a PE system error. Message 0031-020 follows.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-020  Couldn’t connect to task number (string)
Explanation: The Partition Manager terminates.
User Response: For the indicated remote task number and indicated host name, socket connection could not be established. Check for valid names.

0031-021  Couldn’t create string to inform TPD to reattach, errno=number
Explanation: POE was unable to create the indicated file for the reason
User Response: None.

0031-022  setsockopt(SO_LINGER)
Explanation: The Partition Manager continues.
User Response: An error occurred in setting the LINGER socket option. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-023  Debugger refused user-initiated checkpoint
Explanation: A user-initiated checkpoint occurred while the parallel job was under the control of a third party debugger. The third party debugger refused to allow the checkpoint operation to proceed.
User Response: None.

0031-024  string: no response; rc = number
Explanation: The Partition Manager terminates.
User Response: No acknowledgement of startup was received from the pmd daemon running on the indicated node. Check for an error message from that node. The return codes are: -1, EOF on connection; 1, I/O error; 2, allocation error.
Check to see if pmd (possibly specified by MP_PMDSUFFIX) is available and executable.

0031-025  unexpected acknowledgment of type string from remote node
Explanation: The Partition Manager received an unexpected acknowledgement during initialization. Initialization with a remote node has failed.
User Response: Check the remote node log file to determine the reason for failure. Probable PE error.

0031-026  Couldn’t create socket for PM Array
Explanation: The Partition Manager terminates. An explanatory sentence follows.
User Response: Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-027  Write to PM Array
Explanation: The Partition Manager continues. An explanatory sentence follows.
User Response: Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-028  pm_mgr_handle; can’t send a signal message to remote nodes
Explanation: The Partition Manager terminates. An explanatory sentence follows.
User Response: Probable PE error. This error has occurred in the Partition Manager signal handler. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-029  Caught signal number (string), sending to tasks...
Explanation: The indicated signal is not used specifically by Partition Manager, and is being passed on to each remote task.
User Response: Verify that the signal was intended.

0031-030  Debugger refused LoadLeveler-initiated checkpoint
Explanation: A LoadLeveler-initiated checkpoint occurred while the parallel job was under the control of a third party debugger. The third party debugger refused to allow the checkpoint operation to proceed.
User Response: None.

0031-031  task number is alive
Explanation: The message is sent from the indicated task in response to signal SIGUSR2.
User Response: Verify that the signal was intended.

0031-032  exiting...
Explanation: The message is sent from the indicated task in response to signal SIGINT, and the remote node is exiting.
User Response: Verify that the signal was intended.

0031-033  Your application has forced paging space to be exceeded...bailing out
Explanation: The remote node exits with signal SIGDANGER. The message is sent from the indicated task in response to signal SIGDANGER. AIX is running out of paging space.

0031-034  task signal number: string
Explanation: The message is sent from the indicated task in response to the indicated signal, which is not handled explicitly by the Partition Manager.
User Response: Verify that the signal was intended.

0031-035  task signal number: string
Explanation: An internal error occurred that prevented POE from sending the indicated SSM to the PMDs.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-036  sigaction(SIGHUP)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.
<table>
<thead>
<tr>
<th>Code</th>
<th>Function</th>
<th>Explanation</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-037</td>
<td><code>sigaction(SIGINT)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-038</td>
<td><code>sigaction(SIGQUIT)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-039</td>
<td><code>sigaction(SIGILL)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-040</td>
<td><code>sigaction(SIGTRAP)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-041</td>
<td><code>sigaction(SIGIOT)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-042</td>
<td><code>sigaction(SIGEMT)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-043</td>
<td><code>sigaction(SIGFPE)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-044</td>
<td><code>sigaction(SIGBUS)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-045</td>
<td><code>sigaction(SIGSEGV)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
<tr>
<td>0031-046</td>
<td><code>sigaction(SIGSYS)</code></td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td>The return from <code>sigaction</code> for the indicated signal is negative.</td>
</tr>
</tbody>
</table>
0031-047  sigaction(SIGPIPE)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-048  sigaction(SIGALRM)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-049  sigaction(SIGTERM)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-050  sigaction(SIGURG)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-051  sigaction(SIGTSTP)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-052  sigaction(SIGCONT)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-053  sigaction(SIGCHLD)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-054  sigaction(SIGTTOU)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-055  sigaction(SIGIO)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.

0031-056  sigaction(SIGXCPU)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from sigaction for the indicated signal is negative.
sigaction(SIGMSG)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGWINCH)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGPWR)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGUSR1)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGUSR2)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGPROF)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGDANGER)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGVTALRM)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGMIGRATE)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.

sigaction(SIGPRE)
Explanation: An explanatory sentence follows. The Partition Manager terminates.
Cause: The return from `sigaction` for the indicated signal is negative.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-067</td>
<td>sigaction(SIGGRANT)</td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cause: The return from <code>sigaction</code> for the indicated signal is negative.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-068</td>
<td>sigaction(SIGRETRACT)</td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cause: The return from <code>sigaction</code> for the indicated signal is negative.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-069</td>
<td>sigaction(SIGSOUND)</td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cause: The return from <code>sigaction</code> for the indicated signal is negative.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-070</td>
<td>sigaction(SIGSAK)</td>
<td>An explanatory sentence follows. The Partition Manager terminates.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cause: The return from <code>sigaction</code> for the indicated signal is negative.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-071</td>
<td>invalid number of procs entered</td>
<td>The Partition Manager terminates. Incorrect number of tasks specified.</td>
<td>Enter a number from 1 to the max numbers of tasks to be run.</td>
</tr>
<tr>
<td>0031-072</td>
<td>POE job will not be checkpointable</td>
<td>Information message indicating that the <code>CHECKPOINT</code> environment variable was not set to “yes”. The AIX kernel will not checkpoint a process that does not have this variable set when the process is executed.</td>
<td>Restart the POE job with the environment variable set if a checkpoint of the job is possible.</td>
</tr>
<tr>
<td>0031-073</td>
<td>Unable to create pipes for communication with checkpoint handler</td>
<td>The AIX <code>pipe()</code> call failed in POE.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>User Response: Probable internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-074</td>
<td>POE not in checkpointable state — all tasks have exited</td>
<td>An attempt was made to checkpoint a POE job for which exit processing had begun for all tasks.</td>
<td>None required.</td>
</tr>
<tr>
<td>0031-075</td>
<td>Checkpoint handler communication failure</td>
<td>A communication error occurred between the POE main thread and the checkpoint handler thread.</td>
<td>Probable internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-076</td>
<td>invalid infolevel</td>
<td>The <code>-infolevel</code> option was neither a 0 nor a positive number.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>Code</td>
<td>Issue Description</td>
<td>Explanation</td>
<td>User Response</td>
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<tr>
<td>-----------</td>
<td>------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>0031-077</td>
<td>invalid tracelevel</td>
<td>The <code>-tracelevel</code> option is no longer valid. Parallel tracing is no longer supported.</td>
<td>Do not specify <code>-tracelevel</code> or <code>-tlevel</code>.</td>
</tr>
<tr>
<td>0031-078</td>
<td>invalid retrytime</td>
<td>The <code>-retrytime</code> option was neither a 0 nor a positive number.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-079</td>
<td>invalid pmlights</td>
<td>The <code>-pmlights</code> option was neither a 0 nor a positive number.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-080</td>
<td>invalid usport</td>
<td>The <code>-usport</code> option was neither a 0 nor a positive number less than 32768.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-081</td>
<td>invalid samplefreq</td>
<td>The <code>-samplefreq</code> option was neither a 0 nor a positive number.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-083</td>
<td>invalid wrap trace buffer</td>
<td>The <code>-tbuffwrap</code> option was neither YES or NO.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-084</td>
<td>invalid tbuffsize value</td>
<td>The <code>-tbuffsize</code> option specifies too large a trace buffer (or an invalid number).</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-085</td>
<td>invalid tbuffsize unit</td>
<td>The <code>-tbuffsize</code> option is not of the form <code>numberK</code> or <code>numberM</code>.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-086</td>
<td>invalid ttempsize value</td>
<td>The <code>-ttempsize</code> option specifies too large a file (or an invalid number).</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-087</td>
<td>invalid ttempsize unit</td>
<td>The <code>-ttempsize</code> option is not of the form <code>numberM</code> or <code>numberG</code>.</td>
<td>Correct the flag.</td>
</tr>
</tbody>
</table>
0031-088 invalid tpermsize value
Explanation: The -tpermsize option specifies too large a file (or an invalid number).
User Response: Correct the flag.

0031-089 invalid tpermsize unit
Explanation: The -tpermsize option is not of the form numberM or numberG.
User Response: Correct the flag.

0031-090 invalid io_buffer_size value
Explanation: The -io_buffer_size option specifies too large a buffer (or an incorrect number).
User Response: Correct the flag.

0031-091 invalid io_buffer_size unit
Explanation: The -io_buffer_size option is not of the form numberM or numberG.
User Response: Correct the flag.

0031-092 MP_PROCS not set correctly
Explanation: The MP_PROCS environment variable is not a positive number.
User Response: Correct the variable.

0031-093 MP_INFOLEVEL not set correctly
Explanation: The MP_INFOLEVEL environment variable is neither 0 or a positive number less than 32768.
User Response: Correct the variable.

0031-094 MP_TRACELEVEL not set correctly
Explanation: The MP_TRACELEVEL environment variable is no longer valid. Parallel tracing is no longer supported.
User Response: Do not specify MP_TRACELEVEL, or -tracelevel/-tlevel.

0031-095 MP_RETRY not set correctly
Explanation: The MP_RETRY environment variable is neither 0 or a positive number less than 32768.
User Response: Correct the variable.

0031-096 MP_PMLIGHTS not set correctly
Explanation: The MP_PMLIGHTS environment variable is neither 0 nor a positive number.
User Response: Correct the variable.

0031-097 MP_USRPORT not set correctly
Explanation: The MP_USRPORT environment variable is neither 0 nor a positive number less than 32768.
User Response: Correct the variable.
<table>
<thead>
<tr>
<th>Message Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>0031-098</td>
<td>MP_SAMPLEFREQ not set correctly</td>
<td>The MP_SAMPLEFREQ environment variable is neither 0 nor a positive number less than 32768.</td>
<td>Correct the variable.</td>
</tr>
<tr>
<td>0031-100</td>
<td>MP_TBUFFWRAP not set correctly</td>
<td>The MP_TBUFFWRAP environment variable is neither YES nor NO.</td>
<td>Correct the variable.</td>
</tr>
<tr>
<td>0031-101</td>
<td>Invalid string</td>
<td>The indicated environment variable specifies too large a buffer size (or an incorrect number).</td>
<td>Reduce or correct the size.</td>
</tr>
<tr>
<td>0031-102</td>
<td>Incorrect number unit</td>
<td>The indicated environment variable is not of the form numberM or numberG.</td>
<td>Correct the value.</td>
</tr>
<tr>
<td>0031-103</td>
<td>Invalid MP_TTEMPSIZE</td>
<td>The MP_TTEMPSIZE environment variable specifies too large a trace file (or an invalid number).</td>
<td>Reduce or correct the size.</td>
</tr>
<tr>
<td>0031-104</td>
<td>Incorrect MP_TTEMPSIZE unit</td>
<td>The MP_TTEMPSIZE environment variable is not of the form numberM or numberG.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-105</td>
<td>Invalid MP_TPERMSIZE</td>
<td>The MP_TPERMSIZE environment variable specifies too large a trace file (or an invalid number).</td>
<td>Reduce or correct the size.</td>
</tr>
<tr>
<td>0031-106</td>
<td>Incorrect MP_TPERMSIZE unit</td>
<td>The MP_TPERMSIZE environment variable is not of the form numberM or numberG.</td>
<td>Correct the flag.</td>
</tr>
<tr>
<td>0031-107</td>
<td>Batch job may not be restarted using the poerestart command</td>
<td>The poerestart command was issued on a checkpoint file which was created from a batch POE job, which is not supported.</td>
<td>Refer to IBM LoadLeveled® for AIX 5L: Using and Administering for instructions on restarting a batch POE job.</td>
</tr>
<tr>
<td>0031-108</td>
<td>Non-batch job cannot be restarted as a batch job</td>
<td>The user submitted a command file to LoadLeveled that specified to restart from a checkpoint file that was created from a job that was not being run as a batch job, which is not supported.</td>
<td>Use the poerestart command to restart this job.</td>
</tr>
</tbody>
</table>
0031-109  MP_LLFILE may not be used to restart a non-llfile job

Explanation:  The MP_LLFILE environment variable was set when using the poerestart command to restart a job that had not specified the -llfile command line option or the MP_LLFILE environment variable.

User Response:  Unset MP_LLFILE in the environment before issuing the poerestart command.

0031-110  pm: atexit

Explanation:  The user exit handler could not be installed.

Cause:  Probable PE error.

User Response:  Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-111  MP_LLFILE must be specified to restart an llfile job

Explanation:  The user supplied a checkpoint file to poerestart that came from a POE job that had used the -llfile command line option or the MP_LLFILE environment variable, but did not set MP_LLFILE in the environment before issuing the poerestart command, which is not supported.

User Response:  Set the MP_LLFILE environment variable to the name of a LoadLeveler command file from which to restart the POE job.

0031-112  MP_RMPOOL may not be specified when restarting a non-LoadLeveler job

Explanation:  The MP_RMPOOL environment variable was set when using the poerestart command to restart a job that had not been started under LoadLeveler, which is not supported.

User Response:  Unset MP_RMPOOL in the environment before issuing the poerestart command. Use the -s flag, the MP_HOSTFILE environment, or a host.list file as specified in the poerestart man page in IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1.

0031-113  Stopping the job. Wait 5 seconds for remotes.

Explanation:  The Partition Manager has received a SIGTSTP signal from the LoadLeveler program or the <Ctrl-Z> keyboard interrupt and is preparing to stop the job on all the remote nodes. The system will then issue a stop message giving the task number for the job as it would for any <Ctrl-Z> keyboard interrupt.

User Response:  Wait for the stop confirmation message. To continue the job in the foreground, type in fg tasknumber after you receive the stop message. To continue the job in the background, type in bg tasknumber after you receive the stop message.

0031-115  invalid resd option.

Explanation:  The specification of the -resd option was neither YES or NO.

User Response:  Correct the specification.

0031-116  MP_RESRD not set correctly.

Explanation:  The specification of MP_RESRD was neither YES or NO.

User Response:  Correct the specification of MP_RESRD.

0031-118  string string requested for task number

Explanation:  The named host or pool was requested from LoadLeveler for the indicated task number. This informational message is issued when a host list file is read for node allocation.
0031-119  **Host string allocated for task number**

**Explanation:** The named host was allocated by LoadLeveler for the indicated task number. This informational message is issued when the implicit node allocation is used.

0031-120  **Host address string allocated for task number**

**Explanation:** The named host address was allocated by LoadLeveler for the indicated task number. This informational message is issued when the implicit node allocation is used.

0031-121  **Invalid combination of settings for MP_EUILIB, MP_HOSTFILE, and MP_RESID**

**Explanation:** The execution environment could not be established based on these settings.

**User Response:** See IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1 for valid combinations of these settings.

0031-123  **Retrying allocation .... press control-C to terminate**

**Explanation:** The requested nodes were not available from LoadLeveler. However, because the retry option was specified (by either the MP RETRY environment variable or the -retry command-line flag), the Partition Manager will continue requesting nodes at the specified delay interval.

**User Response:** To terminate the allocation request, press <Ctrl-C>.

0031-125  **Fewer nodes (number) specified in string than tasks (number).**

**Explanation:** There was a larger number of nodes specified than what is defined in the **host.list** file.

**User Response:** Check that you haven’t specified a number of nodes greater than the number of physical computing nodes in your network cluster of RS/6000 SP systems or IBM @server pSeries™ and RS/6000 systems. Otherwise, wait until later when the needed number of nodes is available. You might want to specify the retry option by either setting the MP RETRY environment variable or using the -retry command line flag.

0031-126  **Unable to read string for current directory**

**Explanation:** The Partition Manager is unable to interpret the data from the **pwd** command.

**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-127  **Executing with develop mode string**

**Explanation:** A develop mode of **value** is currently active, which could significantly impact the performance of your program.

**User Response:** If you do not want or need the develop mode turned on, use the **MP_EUIDEVELOP** environment variable or the -euidevelop flag to set a value of **no**, normal, or minimum.

0031-128  **Invalid euilib selected**

**Explanation:** An euilib other than **ip** or **us** was entered.

**User Response:** Re-specify the euilib as either **ip** or **us**.

0031-129  **Invalid eudevelop option**

**Explanation:** The eudevelop option was not valid.

**User Response:** Re-specify eudevelop with one of the following options (upper or lower case): MIN, MINIMUM, NO, NOR, NORMAL, DEB, DEBUG, DEV, DEVELOP, YES.
0031-130  Invalid newjob option, should be YES or NO
Explanation: A newjob other than YES or NO was entered.
User Response: Re-specify newjob with either YES or NO.

0031-131  Invalid pmdlog option, should be YES or NO
Explanation: A pmdlog other than YES or NO was entered.
User Response: Re-specify pmdlog with either YES or NO.

0031-132  Invalid io_errlog option, should be YES or NO
Explanation: An io_errlog other than YES or NO was entered.
User Response: Re-specify io_errlog with either YES or NO.

0031-133  Invalid stdoutmode
Explanation: A stdoutmode other than ORDERED, UNORDERED or an integer from 0 to (the number of tasks -1) was entered.
User Response: Re-specify stdoutmode with either ORDERED, UNORDERED or a number.

0031-134  Invalid mode for stdinmode
Explanation: A stdinmode other than ALL or an integer from 0 to (the number of tasks -1) was entered.
User Response: Re-specify stdinmode with either ALL or a number.

0031-135  Invalid labelio option, should be YES or NO
Explanation: A labelio other than YES or NO was entered.
User Response: Re-specify labelio with either YES or NO.

0031-136  Invalid MP_NOARGLIST option, should be YES or NO
Explanation: The Partition Manager terminates.
User Response: Enter YES or NO for MP_NOARGLIST.

0031-137  poe: Internal Error: Could not broadcast ACK for string data
Explanation: An error occurred when POE was trying to acknowledge receipt of connect or finalize data from all nodes. Either one of the remote nodes is no longer accessible or a system error has occurred.
User Response: Verify that the remote nodes in the partition can be contacted by other means. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-138  The following nodes may be causing connect failures during message passing initialization:
Explanation: The home node has gathered connect data from each of the remote nodes and has determined that one or more nodes have been reported most as not connectable to during message passing initialization. A list of those nodes proceeds this message.
User Response: For jobs using the SP, contact the System Administrator to determine if that node is up on the switch. For non-SP jobs, verify that the node can be contacted by other means. Also, refer to the node-specific error message related to mpci_connect for more information on what could be causing the problem (e.g. unauthorized user). If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-139  Could not open socket for debugger.
Explanation:  The call to socket() failed when attempting to open a socket for the parallel debugger.
User Response:  None.

0031-140  Could not bind local debug socket address.
Explanation:  The call to bind() failed when attempting to bind the local address for the debug socket.
User Response:  None.

0031-141  Could not accept debugger socket connection.
Explanation:  The call to accept() failed when attempting to make a socket connection with the debugger.
User Response:  None.

0031-142  Could not write to debug socket.
Explanation:  The call to write() failed when attempting to write to the debug socket.
User Response:  None.

0031-143  Could not read message from debug socket.
Explanation:  The call to read() failed when attempting to read a message from the debug socket.
User Response:  None.

0031-144  error creating directory for core files, reason: <string>
Explanation:  A corefile directory could not be created for the given reason.
User Response:  Fix reason and rerun job.

0031-145  error changing to string corefile directory, reason <string>
Explanation:  The core file could not be dumped to the named directory for the reason specified in the message.
User Response:  Fix the problem and re-run the job.

0031-146  MP_CMDFILE is ignored when MP_STDINMODE is set to "none"
Explanation:  If you set the MP_STDINMODE environment variable or the -stdinmode option to none, the MP_CMDFILE environment variable or the -cmdfile option is ignored.
User Response:  To eliminate this warning message, you should remove the MP_CMDFILE setting or specify MP_STDINMODE, which is not case-sensitive, to another value other than none.

0031-147  MP_HOLD_STDIN is ignored when MP_STDINMODE is set to "none"
Explanation:  If you set the MP_STDINMODE environment variable or the -stdinmode option to none, MP_HOLD_STDIN=Yes is ignored.
User Response:  To eliminate this warning message, you should set MP_HOLD_STDIN to no.

0031-148  Using redirected STDIN for program name resolution
Explanation:  You redirected stdin without specifying a program name or command file name, and you did not set the MP_STDINMODE environment variable or the -stdinmode option to none. Because program behavior is undefined in this case, a warning is issued.
User Response:  You should set the MP_STDINMODE environment variable or the -stdinmode option to none. For more details, see "Managing Standard Input" in IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-149</td>
<td>Unable to load shared objects required for LoadLeveler.</td>
<td>You submitted a POE job through LoadLeveler and a shared object or library required for LoadLeveler does not exist. This error usually indicates files created at install time have been deleted, moved, or had their permissions changed.</td>
<td>Contact your system administrator to determine if the files described above are accessible, and correct if possible. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-150</td>
<td>Invalid shm_cc option, should be YES or NO</td>
<td>A shm_cc, other than YES or NO was entered.</td>
<td>Re-specify shm_cc with either YES or NO.</td>
</tr>
<tr>
<td>0031-151</td>
<td>Pool specified in hostfile for task number not same as previous</td>
<td>Pool entries in a hostfile must be the same for all tasks.</td>
<td>Modify the hostfile as described, or use the MP_RMPool environment variable or the -rmpool command line option.</td>
</tr>
<tr>
<td>0031-152</td>
<td>Ignoring adapter and/or CPU usage specification in hostfile</td>
<td>Adapter and CPU usage specifications are ignored in the hostfile.</td>
<td>Remove the usage specifications from the hostfile to eliminate the warning messages, if desired. Usages are described in IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1. The MP_ADAPTER_USE environment variable or the MP_CPU_USE environment variable or both, or the associated command line options, can be used to override the defaults.</td>
</tr>
<tr>
<td>0031-153</td>
<td>Unexpected return code number from ll_init_job</td>
<td>An internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-154</td>
<td>Unexpected return code number from ll_parse_string</td>
<td>An internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems. One cause of this message may be correctable. If the indicated return code is -1 from ll_parse_string, there may be LoadLeveler messages preceding this message that indicate the inability to manipulate files in /tmp. If so, verify that the /tmp directory is not full.</td>
</tr>
<tr>
<td>0031-155</td>
<td>Unexpected return code number from ll_set_data (number)</td>
<td>An internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
</tbody>
</table>
0031-156 Unexpected return code number from ll_get_data (number)
Explanation: An internal error has occurred.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-157 Couldn’t flush parallel traces
Explanation: The program continues.
User Response: At termination, the Partition Manager was unable to successfully terminate parallel trace processing. Check for any additional messages issued.

0031-158 select
Explanation: An explanatory sentence follows. The Partition Manager terminates.
User Response: The select call to the sockets connecting the Partition Manager with the remote nodes failed. Presumably connection has been lost. The explanatory sentence may give an indication of the source of failure.

0031-159 LoadLeveler account number string is not valid
Explanation: The account validation program determined that the user is not permitted to use the account number specified by the LOADL_ACCOUNT_NO environment variable. If this is not the case, the environment variable was not set, and is required if LoadLeveler account validation is turned on.
User Response: If the default account validation program is being used, either use an account number assigned to the user or have the LoadLeveler administrator add the account number to the user stanza in the administration file. If an installation-specific account validation program is being used, contact the LoadLeveler administrator.

0031-160 I/O error on socket connection with node string
Explanation: An explanatory sentence follows. The Partition Manager continues. A read on the socket used to connect the Home Node with the indicated remote task failed. Probably the remote node has closed the connection. The task is marked as exited and processing continues.
User Response: Examine the communication subsystem for failure.

0031-161 EOF on socket connection with node string
Explanation: Processing continues. The socket used to connect the Home Node with the indicated remote task has closed. Probably the remote node has closed the connection.
User Response: Examine the communication subsystem for failure.

0031-162 Invalid corefile_sigterm option, should be YES or NO
Explanation: A corefile_sigterm other than YES or NO was entered.
User Response: Re-specify corefile_sigterm with either YES or NO.

0031-163 poe: Internal Error: Could not send string data to node string
Explanation: An error occurred when poe was trying to send MPI or LAPI global task data to a node. Either that remote node is no longer accessible or a system error has occurred.
User Response: Verify that the remote nodes in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-164  process_io: read(io command)
Explanation:  Processing continues. The command sent to the Partition Manager is ignored.
User Response:  Probable system error. An incomplete or invalid I/O command was received by the Partition Manager.

0031-165  Job has been cancelled, killed, or schedd is unavailable.
Explanation:  POE did not receive job status from LoadLeveler because the job has been cancelled, killed, or the LoadLeveler schedd is unavailable.
User Response:  Resubmit the job if desired, after ensuring proper LoadLeveler resources are available.

0031-166  Cluster query failed in LoadLeveler
Explanation:  An internal error has occurred.
User Response:  Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-167  Unable to request cluster from LoadLeveler, rc=number
Explanation:  An internal error has occurred.
User Response:  Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-168  Unable to get objects from LoadLeveler cluster
Explanation:  An internal error has occurred.
User Response:  Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-169  pm_remote_shutdown
Explanation:  Processing continues. An explanatory sentence is appended.
User Response:  A quit message being sent to all remote nodes could not be written to one of the sockets.

0031-171  unknown io command
Explanation:  Processing continues. The data is ignored.
User Response:  An unsupported or invalid I/O command code was received by the Partition Manager from a remote node.

0031-172  I/O buffer overflow
Explanation:  The stdout or stderr string overflows the output buffer (8K). The excess is discarded.
User Response:  Probable internal error. Normally, the output is automatically flushed if it exceeds the buffer length. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-173  Pools not allowed in hostfile when restarting non-LoadLeveler job
Explanation:  The hostfile used by the poerestart command (obtained either by the setting of the MP_HOSTFILE environment variable or by the presence of a file named host.list in the directory from which poerestart was run) contained pool entries, but the checkpoint file specified was created from a POE job that had not been started under LoadLeveler.
User Response:  Use a hostfile that contains hostnames, rather than pool entries.
0031-174  Number of tasks \( \text{(number)} \) may not be changed when restarting

**Explanation:** The user attempted to restart a POE job with a different number of tasks than the job had when it was originally started. This could occur for batch POE jobs, or for interactive POE jobs that do not use a hostfile and do use the \(-\text{llfile}\) command line option or the \text{MP\_LLFILE} environment variable.

**User Response:** Modify the LoadLeveler keywords in the command file so that the number of tasks for the restarted job is the same as it was when the job was originally run.

0031-175  Number of protocol instances may not be changed when restarting

**Explanation:** The user attempted to restart a POE job with a different number of protocol instances than the job had when it was originally started. This could occur in one of the following ways:

1. A batch POE job, or an interactive POE job that used the \(-\text{llfile}\) command line option or the \text{MP\_LLFILE} environment variable, used a LoadLeveler command file that contained a network statement at restart time for which the number of instances was different than the original job, or the command file specified a value of “\text{max}” for the number of instances, and either the administrator changed the maximum number of instances for the class specified in the command file, or a different class was specified which had a different number of maximum instances configured.

2. The maximum number of instances for the default interactive class was changed for an interactive POE job that did not use the \(-\text{llfile}\) command line option or the \text{MP\_LLFILE} environment variable, and which specified “\text{max}” for instances when the job was originally run, or the default interactive class was changed to a class that had a different number of maximum instances configured.

**User Response:** Modify the LoadLeveler command file or contact the administrator so that the number of instances for the restarted job is the same as it was when the job was originally run. For cases where “\text{max}” was used, the classes and the maximum number of instances for those classes are shown in the error message for diagnostic purposes.

0031-176  Message passing API may not be changed when restarting

**Explanation:** The user attempted to restart a POE job with a different message passing API than the job had when it was originally started. This could occur for batch POE jobs, or for interactive POE jobs that use the \(-\text{llfile}\) command line option or the \text{MP\_LLFILE} environment variable.

**User Response:** Modify the LoadLeveler keywords in the command file so that the message passing API for the restarted job is the same as it was when the job was originally run.

0031-177  Message passing subsystem may not be changed when restarting

**Explanation:** The user attempted to restart a POE job with a different message passing subsystem than the job had when it was originally started. This could occur for batch POE jobs, or for interactive POE jobs that use the \(-\text{llfile}\) command line option or the \text{MP\_LLFILE} environment variable.

**User Response:** Modify the LoadLeveler keywords in the command file so that the message passing subsystem for the restarted job is the same as it was when the job was originally run.

0031-178  Unable to create thread for checkpointing, \( \text{rc} = \text{number} \)

**Explanation:** POE was unable to create a thread on which the checkpoint of the POE process could be performed.

**User Response:** Probable internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-179  Unable to acknowledge profiling request for task \( \text{number} \)

**Explanation:** An error occurred writing a message to the indicated task, allowing it to begin to write the profiling data to disk.

**User Response:** Probable internal error. Verify that the indicated node is still connected in the partition. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-180  read(PROF)
Explanation: Processing continues. An explanatory sentence is appended.
User Response: The Partition Manager cannot read the remote node’s response to a SIGUSR1 profiling signal.

0031-181  Unable to send checkpoint complete message
Explanation: An internal error occurred when POE tried to inform the parallel tasks of the checkpoint results.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-182  Unable to send data saved during checkpoint
Explanation: An internal error occurred when POE tried to send data to the parallel tasks that had been saved during a checkpoint operation.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-183  Connection to task number blocked. Task abandoned.
Explanation: While trying to stop the indicated task on a remote node, the Partition Manager discovered that the socket connection was blocked (unavailable). The remote task is marked as inactive and the Partition Manager continues.
User Response: Manual intervention may be required to kill the job on the remote node.

0031-184  Restart failed for task number on node string, errno=number, Sy_errno=number, errdata=string
Explanation: The restart of the indicated task on the indicated node failed. The cause of the failure is shown in the errno, Sy_errno, and errdata fields. The Sy_errno codes (up to the ‘?’) are documented in /usr/include/sys/chkerror.h.
User Response: Attempt to correct the problem as reported in the error fields indicated above. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-185  Unable to deliver checkpoint to handler, rc=number
Explanation: An internal error occurred preventing POE from invoking its checkpoint handler once the remote checkpoints had completed.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-186  Task geometry must be same when restarting
Explanation: During the restart of a POE job, the user has specified a hostfile, a pool, or LoadLeveler command file keywords that caused the task geometry of the restarted job to be different from when the job was originally run (and checkpointed).
User Response: Correct the hostfile, pool, or LoadLeveler command file keywords so that the task geometry is the same for the restart.

0031-187  Conflicting specification for checkpointability — job will not be checkpointable
Explanation: A discrepancy exists between the setting of the CHECKPOINT environment variable and the setting of the %#checkpoint keyword in the LoadLeveler command file.
User Response: If the job was intended to be checkpointable, ensure that these settings do not conflict with one another.
0031-188  Unable to broadcast SSM_CHKPT_COMMIT to PMDs

Explanation: An internal error occurred that prevented POE from sending the indicated SSM to the PMDs.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-189  Processes using piped stdin cannot be checkpointed

Explanation: A POE process that has stdin piped into it has been attempted to be checkpointed, which is not supported.

User Response: Rerun the POE process without piped stdin, if possible.

0031-190  Processes using piped stdout cannot be checkpointed

Explanation: A POE process that has stdout piped out of it has been attempted to be checkpointed, which is not supported.

User Response: Rerun the POE process without piped stdout, if possible.

0031-191  LoadLeveler-initiated checkpoint request received

Explanation: Informational message to inform the user that LoadLeveler has issued a request to checkpoint the parallel job.

User Response: None required, other than to be aware that task output may cease until the checkpoint operation has completed.

0031-192  Partial user-initiated checkpoint request received from task number

Explanation: Informational message to inform the user that a remote task has requested a partial user-initiated checkpoint.

User Response: None required, other than to be aware that task output may cease until the checkpoint operation has completed.

0031-193  Complete user-initiated checkpoint request received from all tasks

Explanation: Informational message to inform the user that all remote tasks have issued a complete user-initiated checkpoint request.

User Response: None required, other than to be aware that task output may cease until the checkpoint operation has completed.

0031-194  Checkpoint operations in progress on remote nodes

Explanation: Informational message indicating that POE is informing the PMDs to begin checkpoint operations on each of its tasks.

User Response: None.

0031-195  Unable to broadcast checkpoint interrupt message

Explanation: An internal error has occurred that prevented POE from informing the PMDs to cancel their current checkpoint operations.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-196</td>
<td>Checkpoint operation was cancelled</td>
<td>A checkpoint operation that was in progress did not complete because it was cancelled by the user, for example, by issuing a Ctrl-c in poeckpt.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-197</td>
<td>Unable to broadcast SSM_CHKPT_DO to PMDs</td>
<td>An internal error occurred that prevented POE from sending the indicated SSM to the PMDs.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-198</td>
<td>Checkpoint failed for the following tasks:</td>
<td>The checkpoint of the indicated tasks on the indicated nodes failed. The cause of the failure is shown in the errno, Sy_errno, and errdata fields. The Sy_errno codes (up to the I) are documented in /usr/include/sys/chkerror.h. An errno value of 3 may indicate that the CHECKPOINT environment variable was not set to yes when POE was invoked.</td>
<td>Try to correct the problem as reported in the error fields indicated above. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-199</td>
<td>Checkpoint failed: errno=number, Sy_errno=prefix/suffix, errdata=string</td>
<td>A user-initiated checkpoint failed in POE before the remote checkpoint operations were begun. The cause of the failure is shown in the errno, Sy_errno, and errdata fields. The Sy_errno codes (up to the I) are documented in /usr/include/sys/chkerror.h. An errno value of 3 may indicate that the CHECKPOINT environment variable was not set to yes when POE was invoked.</td>
<td>Try to correct the problem as reported in the error fields indicated above. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-200</td>
<td>pmd: getpeername &lt;string&gt;</td>
<td>The daemon is unable to identify the partition manager.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-201</td>
<td>pmd: setsockopt(SO_KEEPALIVE): &lt;string&gt;</td>
<td>The daemon is unable to set the indicated socket option. An explanatory sentence is provided.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-202</td>
<td>pmd: setsockopt(SO_LINGER): &lt;string&gt;</td>
<td>The daemon is unable to set the indicated socket option. An explanatory sentence is provided.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-203</td>
<td>malformed from address: &lt;string&gt;</td>
<td>The socket address family is incorrect.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
</tbody>
</table>
0031-204  pmd: setsockopt:
Explanation:  The daemon is unable to set a socket option. An explanatory sentence is provided.
User Response:  This is probably a system or communication subsystem failure. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-205  pmd: getsockopt:
Explanation:  The daemon is unable to get a socket option. An explanatory sentence is provided.
User Response:  This is probably a system or communication subsystem failure. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-207  pmd: sigaction <string>
Explanation:  Error when setting up to handle a signal.
User Response:  This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-208  pmd: fork <string>
Explanation:  The pm daemon is unable to fork to execute the user application.
User Response:  This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-212  pmd: node string: user string denied from access from host string
Explanation:  The user is not permitted to run on the indicated node. The Partition Manager exits.
User Response:  Make sure that the Partition Manager home node machine and user ID are identified, for example, in $HOME/.rhosts or in /etc/hosts.equiv for this user on this machine. The access requirements are the same as for remote shell (rsh) access to the node.

0031-213  pmd: setuid <number>
Explanation:  The setuid function failed for a given userid.
User Response:  Make sure that the user is known by the same number on all systems.

0031-214  pmd: chdir <string>
Explanation:  An attempt to change to the indicated directory failed.
User Response:  Make sure that the directory exists. Check to see that the indicated directory can be properly mounted by the Automount daemon, if the directory is part of a mounted file system. To change the name of the directory to be mounted, set the environment variable MP_REMOTEDIR=some_script, where some_script is the name of a script or quoted command that echoes a directory name. For example, MP_REMOTEDIR=’echo /tmp’ will request that /tmp be the current directory on the remote nodes.
For non-Korn shell users, the script mpamddir in /usr/lpp/poe/bin may provide a usable name. It tries to match the entries in the Automount list with the user’s directory as reported by the pwd command.
If the directory is from a DFS™ file system, the DCE credentials may not have been properly established.

0031-215  can’t run parallel tasks as root
Explanation:  The user ID of the user running the application cannot be 0.
User Response:  Rerun the application under a user ID other than root.
0031-216  POE (number) - pmd (number) - user program (number) versions incompatible
Explanation:  The versions of the POE home node, the pmd and the user's program are incompatible.
User Response:  You should first check that the POE home node, the pmd, and libmpi.a are at compatible PE version levels. If necessary, install compatible versions. You should also check that the user program has been compiled with a version of PE that is compatible with the version of PE on the home node and the pmd. If necessary, recompile the user program using compatible POE home node and pmd versions.

0031-217  POE (number), pmd (number), and dbe (number) versions are incompatible.
Explanation:  The versions of POE, pmd, and the debug engine (dbe) are incompatible.
User Response:  You should check that POE, pmd, and dbe are at compatible PE version levels. If necessary, install compatible versions.

0031-218  Partition manager daemon not started by LoadLeveler on node string.
Explanation:  The daemon on the indicated node was not started by LoadLeveler, and an entry in the /etc/poe.limits file on that node specified that LoadLeveler must be used to start the daemon.
User Response:  Set up the execution environment (see IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1) so that LoadLeveler will be used, or contact the system administrator to determine if use of the MP_USE_LL keyword in the /etc/poe.limits file was intended.

0031-235  invalid userid received
Explanation:  The userid is not valid on this node.
User Response:  Run under a valid user ID.

0031-237  invalid group id received
Explanation:  The group ID received by the pm daemon is either negative or non-numeric, and therefore not valid.
User Response:  This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-243  invalid environment length received
Explanation:  The length received by the pm daemon is either negative or non-numeric, and therefore not valid.
User Response:  This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-247  pmd: setgid <number>
Explanation:  The pmd was unable to set the groupid for the remote task.
User Response:  This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-249  Job number completed with exit status number. Use the ipcrm command to reclaim shared memory if necessary.
Explanation:  The job has completed, but probably abnormally terminated and did not reclaim shared memory used by the communication protocols. The job identifier is a hexadecimal value.
User Response:  Unreclaimed shared memory segments will eventually affect the system's ability to allocate shared memory, so they should be reclaimed periodically. Use the ipcs -m command to identify shared segments in use on each node. The job identifier in this message is the shared memory key for the segment listed in the ipcs command. The segment may then be removed via the ipcrm -m command, where the argument is the memory segment identifier listed in the second column of the ipcs command. This process should be repeated for each node on which the parallel job the shared memory communication protocol option.
<table>
<thead>
<tr>
<th>Task Number</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-250</td>
<td><strong>task</strong> <em>number: string</em></td>
<td>The given task has received the given signal.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-251</td>
<td><strong>task</strong> <em>number exited: rc=number</em></td>
<td>The indicated task has exited. This informational message is displayed when processing completes normally and when the job is terminated by the <code>&lt;Ctrl-C&gt;</code> interrupt key.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-252</td>
<td><strong>task</strong> <em>number stopped: string</em></td>
<td>The indicated task has been stopped. The second variable in this message indicates the signal that stopped the task.</td>
<td>This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-253</td>
<td><strong>Priority adjustment call failed: rc = number, errno = number</strong></td>
<td>The call to start the priority adjustment process failed. Check that the priority adjustment program is executable. Execution continues, but no priority adjustment is applied to this process. The return code and <em>errno</em> reported relate to the system function.</td>
<td>This is probably a system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-254</td>
<td><strong>User</strong> <em>string not authorized on host string</em></td>
<td>The user ID is not found on the specified host.</td>
<td>Add the user ID to the host with SMIT.</td>
</tr>
<tr>
<td>0031-255</td>
<td><strong>Group</strong> <em>string does not exist on host string</em></td>
<td>The group ID is not found in <code>/etc/group</code>.</td>
<td>Add the group ID to the host with SMIT.</td>
</tr>
<tr>
<td>0031-256</td>
<td><strong>Priority adjustment process has been invoked</strong></td>
<td>The user has elected to adjust the priority of the poe job.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-257</td>
<td><strong>mp_euilib is not us, high priority daemon has been started.</strong></td>
<td>User has elected to use high priority for the POE job and the user space library is not being used.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-258</td>
<td><strong>User</strong> <em>string not authorized for group string on host string.</em></td>
<td>The user ID is not permitted to access the specified group ID on the specified host.</td>
<td>Add the user ID to the group access list on the host.</td>
</tr>
</tbody>
</table>

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0031-259 /etc/poe.priority file not found; priority adjustment function not started

Explanation: In attempting to start the dispatching priority adjustment function, there was no /etc/poe.priority parameter file found for this task. Most likely, it was not set up or is inaccessible. Normal application execution continues, although the priority adjustment function will not be run.

User Response: Ensure the /etc/poe.priority file exists. For more information on file formats, see IBM Parallel Environment for AIX 5L: Installation.

0031-260 Invalid entry in /etc/poe.priority file for user string, class string; priority adjustment function not started

Explanation: In attempting to start the dispatching priority adjustment function, there was no entry for the user and class found in the /etc/poe.priority file for this task. Most likely, the entry is missing or in error. Normal application execution continues, although the priority adjustment function will not be run.

User Response: Ensure the entries for this user and class in /etc/poe.priority file exists and are properly defined. For more information on file formats, see IBM Parallel Environment for AIX 5L: Installation.

0031-300 Program statically linked with ip, css library loaded is not ip.

Explanation: The IP library does not exist on the system or the user is specifying the usage of the us library when the program has been linked with IP.

User Response: Make sure the IP library exists. Make sure you're not specifying us when you want to use IP.

0031-301 mp_euilib specifies ip, css library loaded is not ip.

Explanation: The IP library does not exist on the system.

User Response: Make sure the IP library exists. Make sure you're not specifying US when you want to use IP.

0031-302 Program statically linked with us, css library loaded is not us.

Explanation: The US library does not exist on the system or the user is specifying the usage of the IP library when the program has been linked with US.

User Response: Make sure the US library exists. Make sure you're not specifying IP when you want to use US.

0031-303 mp_euilib specifies us, css library loaded is not us.

Explanation: The us library does not exist on the system.

User Response: Make sure the us library exists. Make sure you're not specifying ip when you want to use us.

0031-304 remote child: error restoring stdout.

Explanation: The previously closed stdout cannot be restored.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-305 remote child: error restoring stderr.

Explanation: The previously closed stderr cannot be restored.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
<thead>
<tr>
<th>Code</th>
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<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-306</td>
<td><code>pm_atexit: pm_exit_value is number</code>.</td>
<td>Program exit value</td>
<td>Informational message. No action required.</td>
</tr>
<tr>
<td>0031-307</td>
<td><code>remote child: error restoring stdin</code>.</td>
<td>The previously closed stdin cannot be restored.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-308</td>
<td><code>Invalid value for string: string</code>.</td>
<td>Indicated value is not a valid setting for the indicated environment variable or command line option.</td>
<td>Set to a valid value and rerun.</td>
</tr>
<tr>
<td>0031-309</td>
<td><code>Connect failed during message passing initialization, task number, reason: string</code></td>
<td>The Communication Subsystem was unable to connect this task to one or more other tasks in the current partition for the reason given.</td>
<td></td>
</tr>
</tbody>
</table>

**Explanation:**

If a timeout has occurred, the `MP_TIMEOUT` environment variable is set to too low of a value. (The default value is 150 seconds.) If you have not explicitly set the `MP_TIMEOUT` environment variable and the program being run under POE is NFS mounted, 150 seconds may not be sufficient.

If the reason given indicates “Permission denied,” you should ensure the login name and user ID of the user submitting the job is consistent on all nodes on which the job is running.

If the reason given indicates “Permission denied” or “Not owner” and the job was submitted under LoadLeveler, you should ensure that the adapter requirement given to LoadLeveler is compatible with the `MP_EUILIB` environment variable.

If the reason given indicates “No such device,” the Communication Subsystem library (`libmpci.a`) bound into the executable does not match the switch adapter for that node. This error usually occurs when the executable was statically bound on a system that was configured for a different switch adapter. For example, this error might occur if you were to compile a program on a system configured with an SP Switch adapter, and you then tried to run this program on a system with an SP Switch2 adapter. In this case, you should recompile the program on a system configured for the same switch adapter as that of the node where the executable will be run. Also, make sure the LoadLeveler configuration file includes the correct adapter type.

The reason “Library and switch interface device mismatch” implies that the user is trying to use the SP Switch2 library on a system on which the SP Switch2 is not installed. Verify the installation of PSSP and the MPCI libraries by checking that the following symbolic links are in place for the SP Switch or the SP Switch2:

- For the SP Switch:
  
  ```
  /etc/ssp/css/libbus/libmpci.a -> /usr/lpp/ssp/css/libtb3/libmpci.a
  /etc/ssp/css/libbus/libmpci_r.a -> /usr/lpp/ssp/css/libtb3/libmpci_r.a
  ```

- For the SP Switch2:
  
  ```
  /etc/ssp/css/libbus/libmpci.a -> /usr/lpp/ssp/css/libcolony/libmpci.a
  /etc/ssp/css/libbus/libmpci_r.a -> /usr/lpp/ssp/css/libcolony/libmpci_r.a
  ```

Also, verify that the user's setting of the `LIBPATH` and `MP_EUILIBPATH` environment variables causes the correct version of the MPCI library to be used.

For any other reason, an internal error has occurred. You should gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
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<tr>
<th>Code</th>
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</tr>
</thead>
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<tr>
<td>0031-310</td>
<td>Socket open failed during message passing initialization, task number, reason: string</td>
<td>The Communication Subsystem was unable to open a socket for message passing for the indicated task for the reason given.</td>
<td>If the reason given is “No buffer space available,” have the system administrator raise the value of sb_max using the no command. The current suggested value is 128000. For any other reason, an internal error has most likely occurred. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-311</td>
<td>Restart of program string failed. Return code is number.</td>
<td>The restart of the program indicated was unsuccessful.</td>
<td>Check that the program name is valid, and that it was previously checkpointed.</td>
</tr>
<tr>
<td>0031-312</td>
<td>The checkpoint file string already exists in the working directory.</td>
<td>While attempting to checkpoint the program, an existing version of the checkpoint file was found in the working directory. Execution is terminated.</td>
<td>Check the name of the file specified by the MP_CHECKFILE and MP_CHECKDIR environment variables. If necessary, remove the previous version of the file.</td>
</tr>
<tr>
<td>0031-313</td>
<td>Error saving information for program string. Return code is number.</td>
<td>The internal routine setExecInfo failed. This is an unrecoverable internal error.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-314</td>
<td>Checkpointing is not enabled. Set CHKPT_STATE to enable.</td>
<td>Checkpointing of the program is not enabled, because the value of the CHKPT_STATE LoadLeveler environment variable was not set to enable.</td>
<td>To enable checkpointing, set CHKPT_STATE to enable.</td>
</tr>
<tr>
<td>0031-315</td>
<td>Invalid value for mp_chkpt flags.</td>
<td>A non-valid value was set for the flags of the mp_chkpt function. MP_CUSER is the only valid value.</td>
<td>Set the flag value in the mp_chkpt function call to MP_CUSER.</td>
</tr>
<tr>
<td>0031-316</td>
<td>Error suspending the pipe connection during checkpointing. Return code is number.</td>
<td>An error occurred calling the internal routine mp_stopMPI, to suspend the pipe connection during checkpointing.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-317</td>
<td>Error resuming the pipe connection during checkpointing. Return code is number.</td>
<td>An error occurred calling the internal routine mp_resumeMPI(), to resume the pipe connection during checkpointing.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
</tbody>
</table>
0031-318  Checkpointing failed. Return code is number.
Explanation:  An error occurred during the checkpointing process.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-319  Error blocking signals during checkpointing. Return code is number.
Explanation:  An error occurred attempting to block all signals while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-320  Error occurred saving file information during checkpointing. Return code is number.
Explanation:  An error occurred attempting to save the file information for the data segment while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-321  Error occurred saving signal information during checkpointing. Return code is number.
Explanation:  An error occurred attempting to save the signal information for the data segment while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-322  Error occurred opening the checkpoint file.
Explanation:  An error occurred attempting to open the checkpoint file. Processing is terminated.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-323  Error occurred writing header information during checkpointing. Return code is number.
Explanation:  An error occurred writing the header information while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-324  Error occurred writing program information during checkpointing. Return code is number.
Explanation:  An error occurred writing the program information while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-325  Error occurred saving data segment during checkpointing. Return code is number.
Explanation:  An error occurred saving the data segment while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-326  Error occurred saving the MPCI data during checkpointing. Return code is number.
Explanation:  An error occurred saving the MPCI data while checkpointing the program.
User Response:  Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
| 0031-327 | Error occurred saving the stack data during checkpointing. Return code is `number`.  
**Explanation:** An error occurred saving the stack data while checkpointing the program.  
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-328 | Error occurred writing the footer data during checkpointing. Return code is `number`.  
**Explanation:** An error occurred writing the footer data while checkpointing the program.  
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-329 | Error occurred unblocking signals during checkpointing. Return code is `number`.  
**Explanation:** An error occurred unblocking signals while checkpointing the program.  
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-330 | Error getting environment variable `string`.  
**Explanation:** The internal `getenv` function failed to get the specified environment variable. The remote node terminates.  
**User Response:** Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-331 | Error occurred disconnecting from MPCI during checkpointing. Return code is `number`.  
**Explanation:** An error occurred disconnecting from MPCI while checkpointing the program.  
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-332 | Error reading message type `number`, return code `number`.  
**Explanation:** System error occurred reading the specified internal message type. The remote node terminates.  
**User Response:** Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-333 | More node information found than expected.  
**Explanation:** An internal error was detected where there was more node information returned from `SSM_CSS_INIT` than expected. The remote node terminates.  
**User Response:** Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
| 0031-334 | SSM not SSM_ACK to our sync request.  
**Explanation:** An internal error was detected where there was no acknowledgement returned for a synchronization request. The remote node terminates.  
**User Response:** Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems. |
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<th>Message</th>
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<tr>
<td>0031-335</td>
<td>SSM subtype not what was expected</td>
<td>An internal error was detected where an unexpected message type was returned. The remote node terminates.</td>
<td>Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-337</td>
<td>Error in starting the user’s code.</td>
<td>An internal error was detected after trying to start the user executable code in the remote node. The remote node terminates.</td>
<td>Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-338</td>
<td>Error sending exit request to home node.</td>
<td>An internal error was detected after trying to send an exit request to the home node. The remote node terminates.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-339</td>
<td>Parallel trace initialization failed.</td>
<td>Parallel trace initialization failed on a remote node. The remote node continues, but no trace file will be created for that node.</td>
<td>Check for other messages from POE. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-340</td>
<td>Error occurred getting time during checkpointing. Return code is number.</td>
<td>An error occurred getting time while checkpointing the program.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-341</td>
<td>Error occurred reconnecting MPCI during checkpointing. Return code is number.</td>
<td>An error occurred reestablishing the connections to MPCI while checkpointing the program.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-342</td>
<td>Error occurred initializing time during checkpointing. Return code is number.</td>
<td>An error occurred initializing time while checkpointing the program.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-343</td>
<td>Error occurred opening the checkpoint directory.</td>
<td>An error occurred during opening the checkpoint file directory while checkpointing the program.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
</tbody>
</table>
0031-344 Checkpoint files were not found. Restart cannot be performed.

Explanation: Local checkpoint/restart files were not found. As a result, restart of the program is not possible.

User Response: Make sure the location of the checkpoint files match what is specified by the MP_CHECKDIR and MP_CHECKFILE environment variables, and that those files are valid from a previously checkpointed parallel program. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-345 Checkpointed program is not a parallel program. Restart cannot be performed.

Explanation: The program contained in the checkpoint file is not a parallel program. As a result, restart of the program is not possible.

User Response: Make sure the location of the checkpoint files match what is specified by the MP_CHECKDIR and MP_CHECKFILE environment variables, and that those files are valid from a previously checkpointed parallel program. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-346 Error occurred restoring data segment. Return code is number.

Explanation: An error occurred restoring the data segment of a checkpointed program. Restore operation has failed.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-347 Error occurred restoring file descriptors. Return code is number.

Explanation: An error occurred restoring the file descriptors of a checkpointed program. Restore operation has failed.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-348 Error occurred restoring signal handlers. Return code is number.

Explanation: An error occurred restoring the signal handlers of a checkpointed program. Restore operation has failed.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-349 Program restart processing ended without program being restarted.

Explanation: The program restart function completed without the checkpointed program ever restarting.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-350 Error occurred comparing environment variables during restart. Return code is number.

Explanation: The original POE and MPI environment variables do not match those contained in the program to be restarted. As a result, the program cannot be restarted.

User Response: Make sure the contents of the checkpoint files specified by the MP_CHECKDIR and MP_CHECKFILE environment variables is valid for the previously checkpointed parallel program. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-351 Error occurred unblocking signals during restore processing. Return code is number.

Explanation: An error occurred unblocking the signals while restoring a checkpointed program. Restore operation has failed.
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>0031-352</td>
<td><strong>Error occurred reestablishing MPI/MPCI connection during restore processing. Return code is number.</strong></td>
<td>An error occurred reconnecting to MPI/MPCI while restoring a checkpointed program. Restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-353</td>
<td><strong>Error occurred synchronizing POE tasks during restore processing. Return code is number.</strong></td>
<td>An error occurred synchronizing the POE tasks while restoring a checkpointed program. Restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-354</td>
<td><strong>Error occurred obtaining global variables during restore processing. Return code is number.</strong></td>
<td>An error occurred obtaining the global variables from the environment while restoring a previously checkpointed program. Restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-355</td>
<td><strong>Error allocating data while restoring a checkpointed program.</strong></td>
<td>An error occurred allocating storage during the restore processing of previously checkpointed program. Restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-356</td>
<td><strong>Error occurred reinitializing the clock during restore processing. Return code is number.</strong></td>
<td>An error occurred obtaining the switch clock address and reinitializing the clock for a previously checkpointed program. Restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-357</td>
<td><strong>Error occurred opening the checkpoint directory during restore.</strong></td>
<td>An error occurred during opening the checkpoint file directory while restoring the program.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-358</td>
<td><strong>Error reading internal messages while synchronizing POE tasks. Return code is number.</strong></td>
<td>An internal error in pm_SSM_read occurred while trying to read the messages during the synchronization of POE tasks, while restoring a previously checkpointed file. Restore processing is terminated.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>Code</td>
<td>Message</td>
<td>Explanation</td>
<td>User Response</td>
</tr>
<tr>
<td>---------</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0031-359</td>
<td>Comparison of values for string is not consistent between original and restored value.</td>
<td>The original and restored values of the environment variable indicated were not consistent, when a checkpointed program was being restored.</td>
<td>Make sure the contents of the checkpoint files specified by the MP_CHECKDIR and MP_CHECKFILE environment variables is valid for the previously checkpointed parallel program. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-360</td>
<td>Variable string was not found in the environment when restoring program.</td>
<td>The environment variable indicated was not found in the current environment, for a previously checkpointed program during restore processing.</td>
<td>Make sure the contents of the checkpoint files specified by the MP_CHECKDIR and MP_CHECKFILE environment variables is valid for the previously checkpointed parallel program. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-361</td>
<td>Unexpected return code number from ll_get_job.</td>
<td>An internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-362</td>
<td>Unexpected return code number from ll_request.</td>
<td>An internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-363</td>
<td>Unexpected return code number from ll_event.</td>
<td>An internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-364</td>
<td>Contacting LoadLeveler to string information for string job.</td>
<td>LoadLeveler is being used for the interactive or batch job.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-365</td>
<td>LoadLeveler unable to run job, reason: string</td>
<td>LoadLeveler either could not run the interactive job for the reason indicated, or, LoadLeveler terminated the interactive job for the reason indicated.</td>
<td>Refer to IBM LoadLeveler for AIX 5L: Using and Administering for information on the specific reason indicated in the LoadLeveler message that follows this message.</td>
</tr>
<tr>
<td>0031-366</td>
<td>Invalid combination: nodes=number, tasks_per_node=number, procs=number.</td>
<td>The combination specified did not result in a mathematical equality -- nodes times tasks_per_node must equal procs, when all three are specified.</td>
<td>Correct one or more of the specifications to ensure they are mathematically consistent.</td>
</tr>
</tbody>
</table>
0031-367 Invalid combination: tasks_per_node=number, procs=number.

Explanation: User specified the options indicated, and tasks_per_node did not divide evenly into procs, which is required as described in *IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1.*

User Response: Correct the specifications as described above.

0031-368 Number of nodes specified (number) may not exceed total number of tasks (number).

Explanation: User has specified more nodes (using MP_NODES or -nodes) than tasks (using MP_PROCS or -procs), which is an error.

User Response: Correct the specifications so that there are the same or fewer nodes than tasks.

0031-369 Number of tasks or nodes must also be specified when using tasks_per_node.

Explanation: User has specified tasks per node (using MP_TASKS_PER_NODE or -tasks_per_node), but has not specified either the number of nodes (using MP_NODES or -nodes) or the number of tasks (using MP_PROCS or -procs), which is required as described in *IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1.*

User Response: Provide either of the omitted specifications.

0031-370 Internal error: invalid taskid (number) received from LoadLeveler.

Explanation: An internal error has occurred.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-371 Conflicting specification for -msg_api, using string.

Explanation: A batch job, or an interactive job that used the MP_LLFILE environment variable or the -llfile command-line option, was submitted to LoadLeveler with a network statement in the Job Command File that contained a specification for messaging API that was different from the specification provided to POE via the MP.MSG_API environment variable or the -msg_api command-line option. The specification used in this case will be that which appeared in the network statement.

User Response: Verify that the specification in the network statement was intended. If it was, modify the POE specification to eliminate the warning, if desired.

0031-372 Cannot run MPI/LAPI job as specified in submit file.

Explanation: A batch job, or an interactive job that used the MP_LLFILE environment variable or the -llfile command-line option was submitted to LoadLeveler with a Job Command File that did not contain any network statements, and the specification provided to POE (using the MP.MSG_API environment variable or the -msg_api command-line flag) indicated that both MPI and LAPI were being used. For these types of jobs using both messaging APIs, the network statements must be used.

User Response: Ensure that use of both messaging APIs was intended. If so, add the required network statements. If not, modify the POE specification to indicate the correct messaging API.

0031-373 Using string for messaging API.

Explanation: Informational message to indicate the messaging API being used for the batch job, or the interactive job that used the MP_LLFILE environment variable or the -llfile command-line option that was submitted to LoadLeveler.

User Response: None.
0031-374 Conflicting specification for string -euilib, using string

Explanation: A batch job, or an interactive job that used the MP_LLFILE environment variable or the -llfile command-line option, was submitted to LoadLeveler with a network statement in the Job Command File that contained a specification for the messaging passing library that was different from the specification provided to POE via the MP_EUILIB environment variable or the -euilib command-line option. The specification used in this case will be that which appeared in the network statement.

User Response: Verify that the specification in the network statement was intended. If it was, modify the POE specification to eliminate the warning, if desired.

0031-375 Using string for string euilib

Explanation: Informational message to indicate the message passing library being used for the batch job, or the interactive job that used the MP_LLFILE environment variable or the -llfile command-line option, that was submitted to LoadLeveler.

User Response: None.

0031-376 Conflicting specification for -euidevice, using string.

Explanation: A batch job using POE was submitted to LoadLeveler with a network statement in the Job Command File that contained a specification for the message passing device that was different than the specification provided to POE via the MP_EUIDevice environment variable or the -euidevice command line option. The specification used in this case will be that which appeared in the network statement.

User Response: Verify that the specification in the network statement was intended. If it was, modify the POE specification to eliminate the warning, if desired.

0031-377 Using string for string euidevice for task number

Explanation: Informational message to indicate the message passing device being used for the batch job, or the interactive job that used the MP_LLFILE environment variable or the -llfile command-line option, that was submitted to LoadLeveler.

User Response: None.

0031-379 Pool setting ignored when hostfile used

Explanation: User has set the MP_RMPool environment variable or the -rmpool command-line option but a hostfile was found.

User Response: Ensure that use of the hostfile was intended.

0031-380 LoadLeveler step ID is string

Explanation: The indicated step ID was assigned by LoadLeveler to the current interactive job. It may be useful when using the llq command to determine the job status.

User Response: None.

0031-381 Switch clock source requested, but not all tasks on SP

Explanation: The user set MP_CLOCK_SOURCE=SWITCH, but not all tasks were on SP nodes that have access to the switch. The job is terminated.

User Response: If mixed-node execution is acceptable, unset the MP_CLOCK_SOURCE environment variable. Otherwise, check that the nodes allocated were all on an SP.
0031-382  Error obtaining authentication methods in use on local host, errno: number.

Explanation: An internal error occurred when calling spsec_get_ts_authent to determine the authentication method in use on the home node. POE terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-383  Error determining whether DCE authentication was in use.

Explanation: An internal error occurred when calling spsec_using_auth_method to determine if DCE authentication in use on the home node. This message should be followed by an additional message containing the DCE error text. POE terminates.

User Response: Check that the system has the proper level of PSSP installed, which supports the SP Security functions. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-384  string

Explanation: This message contains additional DCE error message text, which should have been preceded by other messages.

User Response: Handle according to the earlier message’s response.

0031-385  Error initializing DCE on home node.

Explanation: An internal error occurred when calling spsec_start to initialize the DCE environment. This message should be followed by an additional message containing the DCE error text. POE terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-386  MP_INSTANCES setting ignored when LoadLeveler is not being used.

Explanation: The execution environment specified by the user did not specify the use of LoadLeveler, and the MP_INSTANCES environment variable or the -instances POE option flag was specified.

User Response: Ensure that the job was intended to run without LoadLeveler. Refer to the Parallel Environment for AIX, Operation and Use, Volume 1 for additional information on the use of LoadLeveler with these options. To eliminate the occurrence of this message, do not specify MP_INSTANCES/-instances when LoadLeveler is not being used.

0031-387  Error obtaining PMD service DCE principal name for string.

Explanation: An error occurred trying to get the PMD service DCE principal on the POE home node for the remote node indicated. It is possible that DCE authentication is enabled but there is no DCE principal defined for the PMD service. This message may be followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Consult with your system administrator to ensure the PMD service principal has been properly set up in DCE for the remote node using the SP Security Services. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-388  Error obtaining user’s DCE credentials for string

Explanation: An internal error occurred calling spsec_get_client_creds to obtain the user’s DCE credentials and security context for the remote node indicated. This message may be followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Contact the system administrator to ensure the proper authentication methods and service principals are enabled. Also check that the system has the proper level of PSSP installed, which supports the SP Security functions. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.
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<tbody>
<tr>
<td>0031-389</td>
<td>No PMD service configured for DCE authentication on node string...processing continues.</td>
<td>POE could not get the PMD service principal for the remote node indicated, so no DCE authentication can be performed. Processing continues normally.</td>
<td>If the remote node indicated was expected to have a DCE principal for the PMD service, contact the system administrator to ensure the proper authentication methods and principals are enabled.</td>
</tr>
<tr>
<td>0031-390</td>
<td>Error determining whether compatibility authentication was in use.</td>
<td>An internal error occurred when calling spsec_using_auth_method to determine if compatibility authentication is in use on the home node. This message should be followed by an additional message containing the DCE error text. POE terminates.</td>
<td></td>
</tr>
<tr>
<td>0031-391</td>
<td>Error occurred seeking in checkpoint file during restore processing. Error code is number.</td>
<td>An error occurred while performing a seek operation of the checkpoint file while restoring a checkpointed program. The restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-392</td>
<td>Error occurred restoring MPI/MPCI data during restore processing. Return code is number.</td>
<td>An error occurred restoring MPI/MPCI data while restoring a checkpointed program. The restore operation has failed.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-393</td>
<td>Ignoring string specified for batch job.</td>
<td>The user is running a batch job and has specified the use of -llfile (or MP_LLFILE), or -save_llfile (or MP_SAVE_LLFILE). These settings are ignored for batch jobs and the user receives a warning message.</td>
<td>Unset the appropriate flag(s) or environment variable(s) to eliminate the warning message(s).</td>
</tr>
<tr>
<td>0031-394</td>
<td>The save_llfile specification is ignored when llfile is used</td>
<td>The user has specified a LoadLeveler Job Command File (JCF) to be used and has also specified that the JCF be saved. This is redundant and causes a warning message to be issued.</td>
<td>Ensure that the use of JCF was intended, and if so, unset -save_llfile or MP_SAVE_LLFILE to eliminate the warning message.</td>
</tr>
<tr>
<td>0031-395</td>
<td>Hostfile may not contain pools when llfile is specified</td>
<td>The user has specified a LoadLeveler Job Command File (JCF) to be used and the hostfile (either host.list the directory from which poe was invoked, or the file specified with -hostfile or MP_HOSTFILE) contained a pool entry. An error message is printed and the job is terminated.</td>
<td>If the use of the JCF was intended, either rename or remove the hostfile or modify the hostfile to contain node names. Otherwise, unset -llfile or MP_LLFILE.</td>
</tr>
<tr>
<td>0031-396</td>
<td>Unable to open save_llfile string</td>
<td>Specified save_llfile could not be opened. The job continues to run without saving the JCF.</td>
<td>Check the path name and permissions.</td>
</tr>
</tbody>
</table>
0031-397 Ignoring save_llfile specified for non-LoadLeveler job

Explanation: The execution environment (see IBM Parallel Environment for AIX SL: Operation and Use, Volume 1) did not specify use of LoadLeveler, but the -save_llfile command-line option or the MP_SAVE_LLFILE environment variable was specified.

User Response: If LoadLeveler use was intended, check environment variables or command-line options or both. Otherwise, remove the save_llfile setting to eliminate the warning.

0031-398 Unexpected return code number from ll_parse_verify.

Explanation: When the file specified using the MP_LLFILE environment variable or the -llfile command-line option was processed by the LoadLeveler parsing verification routine, an error occurred.

User Response: Examine the LoadLeveler messages preceding this message and correct the problem indicated. This message is usually the result of using a restricted keyword or assigning an non-valid value to an allowed keyword.

0031-399 Unexpected return code number from ll_parse_file.

Explanation: An error occurred when LoadLeveler parsed the file specified with the MP_LLFILE environment variable or the -llfile command-line option.

User Response: Examine the LoadLeveler messages preceding this message and correct the problem indicated. This message is usually the result of one of the following:
- The specified file could not be opened.
- The file contained syntax errors.
- The file contained restricted keywords.

0031-400 Invalid value number for stdoutmode

Explanation: You (or another user) entered a non-negative value with -stdoutmode or MP_STDOUTMODE that is greater than or equal to the number of processes requested. For SINGLE mode, this value must be between 0 and n-1, where n is the number of processes.

User Response: Rerun with a valid value.

0031-401 Invalid value number for stdinmode

Explanation: You (or another user) entered a non-negative value with -stdinmode or MP_STDINMODE that is greater than or equal to the number of processes requested. For SINGLE mode, this value must be between 0 and n-1, where n is the number of processes.

User Response: Rerun with a valid value.

0031-402 Using css0 as euidevice for User Space job

Explanation: You (or another user) specified the command-line option -euidevice or used the MP_EUIDEVICE environment variable with a setting that was something other than css0.

You must use a setting of css0 for User Space jobs. The value you entered has been overridden to allow the job to continue.

User Response: None.

0031-403 Unexpected instance number number in SSM_CSS_INIT, expecting number

Explanation: An internal error has occurred during message passing subsystem initialization.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-404  Ignoring checkpoint request received from debugger

Explanation: An attached debugger sent a SIGSOUND or SIGRETRACT to the POE process to request a checkpoint, but the CHECKPOINT environment variable was not set to "yes" in POE's environment. The request is ignored, because AIX will fail the checkpoint anyway.

User Response: Invoke POE with the CHECKPOINT environment variable set to "yes" if the ability to checkpoint the parallel job is desired.

0031-405  Hostfile entries for string usage for task number conflict, using string

Explanation: You (or another user) has a hostfile entry that, for the same node, specifies shared AND dedicated, or multiple AND unique, adapter or CPU usage, respectively.

User Response: Correct the conflicting entries and rerun.

0031-406  Error opening file string

Explanation: An error occurred attempting to open the debugger attach configuration file. If not running under the debugger (such as pdbx), processing continues. If running under pdbx, processing will be terminated. The most likely cause of this error is that the file already exists for a previously running task, or a task that had been prematurely killed by a terminating signal.

User Response: Remove the file specified in the message to prevent the message from occurring again. Also, in the future, exercise care if a user initiated signal (such as SIGKILL) is used to cancel a running task.

0031-407  LoadLeveler unable to allocate nodes to POE for batch job, rc = number

Explanation: An internal error occurred in LoadLeveler. Reason codes follow:

- 2 Could not get jobid from environment
- 5 Socket error
- 6 Could not connect to host
- 8 Could not get hostlist

User Response: Retry. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-408  number tasks allocated by LoadLeveler, continuing...

Explanation: LoadLeveler allocated the indicated number of nodes, which was different than that specified by the POE job (using MP_PROCS or -procs or default). The job is continued with the indicated number of nodes.

User Response: If a fixed number of nodes is required, verify that the min_processors and max_processors keywords in the job command file agree with the number of nodes requested from POE. If they agree and the message continues, contact the System Administrator to determine node availability.

0031-409  Unable to start Partition Manager daemon (string) on node string, rc = number

Explanation: An error (possibly internal) occurred when LoadLeveler attempted to start /etc/pmdv4 on the indicated node. Reason codes for internal LoadLeveler errors are as follows:

- 1 Remote host could not fork new process
- 2 Could not get jobid from environment
- 3 Could not get hostname
- 4 Nameserver could not resolve host
- 5 Socket error
- 6 Could not connect to host
- 7 Could not send command to remote startd

User Response: Check the path name and permissions for /etc/pmdv4 and retry. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-410  Invalid cpu usage: string
Explanation: User has requested an invalid cpu usage, via the -cpu_use command line option or via the MP_CPU_USE environment variable.
User Response: Correct the request to be either multiple or unique and rerun.

0031-411  Invalid adapter usage: string
Explanation: User has requested an invalid adapter usage, via the -adapter_use command line option or via the MP_ADAPTER_USE environment variable.
User Response: Correct the request to be either shared or dedicated and rerun.

0031-412  Invalid pulse value.
Explanation: An invalid value was specified for the MP_PULSE environment variable or the -pulse command line flag.
User Response: Respecify a valid value for MP_PULSE or -pulse.

0031-413  Incompatible version of LoadLeveler installed... terminating job
Explanation: POE has determined that an incompatible version of LoadLeveler is installed on the node where this job was attempted to be run.
User Response: Follow local site procedures to request installation of a supported version of LoadLeveler on the node.

0031-414  pm_collect: read select error
Explanation: A system error occurred while reading from a remote node. The system error message is appended. POE terminates.
User Response: Verify that the remote nodes in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-415  Non-zero status number returned from pm_collect
Explanation: An error has occurred in a lower level function.
User Response: Perform whatever corrective action is indicated for earlier messages and retry. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-416  string: no response; rc = number
Explanation: An error occurred on reading data from remote node to home node.
User Response: This is an IP communication error between home and remote node. No acknowledgement of startup was received from the pmd daemon running on the indicated node. Check for error message from that node. The return codes are: -1, EOF on connection; 1 I/O error; 2 allocation error

0031-417  unexpected acknowledgment of type string from remote node
Explanation: The Partition Manager received an unexpected data value from remote node during pm_collect function. The data is ignored and processing continues.
User Response: None.
0031-418   No schedd host configured to receive submissions from this node.

**Explanation:** LoadLeveler configuration files do not indicate a schedd host to receive submissions from this node or the /tmp directory is full on the submitting node. For either case, LoadLeveler is unable to allocate nodes, so POE terminates the job.

**User Response:** For the first case, modify the LoadLeveler configuration files to indicate a schedd host to receive submissions from this node. For the second case, which only occurs when the MP_LLFILE environment variable or the -llfile command-line option are not used, either increase the size of /tmp or remove unused files to allow a file of 1024 bytes maximum size to be created.

0031-419   Unable to submit job due to LoadLeveler communication or configuration error.

**Explanation:** A communication or configuration error occurred within LoadLeveler causing the job to be unsubmittable. Possible causes for this error are:
1. The schedd host(s) configured to receive submit from this node is (are) down or drained.
2. The LoadLeveler configuration file is missing or contains an error.

**User Response:** For 1), use the lstatus command to examine the status of schedds configured for submission from this node an restart or resume at least one of them. For 2), verify that the configuration file exists and does not contain any obvious errors. There may be LoadLeveler messages preceding this message that indicate the configuration error(s) needing correction. Otherwise, gather information about the problem and follow local site procedures for reporting hardware software problems.

0031-420   All configured schedds for this node are unavailable

**Explanation:** The schedd host(s) configured to receive submissions from this node is (are) drained or down, causing LoadLeveler to be unable to submit the job.

**User Response:** Use the lstatus command to examine the status of schedds configured for submission from this node and restart or resume at least one of them.

0031-421   No valid DCE login found during LoadLeveler initialization.

**Explanation:** DCE is enabled for LoadLeveler, however LoadLeveler was unable to determine your DCE identity. The DCE credentials may have expired.

**User Response:** Verify that the user’s DCE credentials have not expired.

0031-422   DCE credentials have expired during LoadLeveler initialization.

**Explanation:** DCE is enabled for LoadLeveler, however LoadLeveler has determined that the DCE credentials have expired.

**User Response:** Perform a `dce_login` again to get new credentials then reissue the command.

0031-423   DCE credentials were about to expire during LoadLeveler initialization.

**Explanation:** The requested operation did not complete since the remaining lifetimes of your DCE credentials were less than 5 minutes. The request is terminated.

**User Response:** Perform a `dce_login` again to get new credentials then reissue the command.

0031-424   Checkpoint succeeded, file *string* has been created

**Explanation:** Informational message indicating to the user where the checkpoint file from a successful user-initiated checkpoint was saved.

**User Response:** None.
0031-425  MPI initialization has completed
Explanation: Informational message indicating to the user that POE has received MPI initialization messages from all tasks.
User Response: None.

0031-426  POE not in checkpointable state per LoadLeveler
Explanation: LoadLeveler has informed one or more of the PMDs in the parallel job not to perform a checkpoint. This could occur if an interactive job used MP_LLFILE or -llfile, where the LoadLeveler job command file specified @checkpoint=no, the environment variable CHECKPOINT was set to yes when poe was invoked, and a user-initiated checkpoint request is issued by the task(s). Otherwise, an internal error has likely occurred in LoadLeveler.
User Response: Remove the @checkpoint=no from the LoadLeveler job command file, or do not use the LoadLeveler job command file. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-427  POE not in checkpointable state—MPI initialization began during checkpoint
Explanation: MPI initialization began after POE detected that a checkpoint was in progress, which is not supported. The checkpoint operations will be cancelled on the remote nodes.
User Response: Reissue the checkpoint request after the 0031-425 message indicates that MPI initialization is complete.

0031-428  The checkpoint call in POE failed
Explanation: Either the checkpoint operation was cancelled prior to POE calling checkpoint_commit in its checkpoint handler, or an internal error has occurred.
User Response: If the checkpoint was cancelled, this message is expected and no action is required. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-429  User-initiated checkpoint cannot be performed on job being run under pdbx or DPCL
Explanation: A program being run under pdbx or DPCL issued a call to one of the user-initiated checkpoint routines, which is not supported.
User Response: Ignore the error message, or remove the call from the program.

0031-430  LoadLeveler-initiated checkpoint cannot be performed on job being run under pdbx or DPCL
Explanation: A program being run under pdbx or DPCL was attempted to be checkpointed through LoadLeveler, which is not supported.
User Response: Ignore the error message, or do not attempt a checkpoint when the programs are being run under pdbx or DPCL.

0031-431  Checkpoint cancelled by POE due to termination condition
Explanation: A task exited abnormally or a STOPALL order was received while a checkpoint operation was in progress. POE cancels the checkpoint operation and the job is terminated.
User Response: None.

0031-432  Unexpected checkpoint by debugger
Explanation: A checkpoint was issued on the POE process while it was under the control of a debugger, but the debugger had not received permission to perform the checkpoint prior to issuing the checkpoint.
User Response: None, the checkpoint of the parallel job will fail.
<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
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<tbody>
<tr>
<td>0031-433</td>
<td><strong>Checkpoint was not issued by debugger</strong></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A checkpoint was issued on the POE process while it was under the control of a debugger, and POE had granted permission to the debugger to issue a checkpoint, but POE detected that the checkpoint was not issued by the debugger, which is not supported.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>None, the checkpoint of the parallel job will fail.</td>
</tr>
</tbody>
</table>

| 0031-434   | **Debugger refused batch checkpoint** |
| **Explanation:** | LoadLeveler issued a checkpoint of a batch POE job that was under debugger control, but the debugger denied permission for the checkpoint to proceed. This would occur when the debugger asked the user if they wanted their job checkpointed, and the user said no. |
| **User Response:** | None, the LoadLeveler checkpoint will fail. |

| 0031-435   | **Interactive POE jobs under debugger control may only be checkpointed by debugger** |
| **Explanation:** | A checkpoint was issued on the POE process while it was under control of the debugger, but the checkpoint was not issued by the debugger, which is not supported. |
| **User Response:** | None, the checkpoint of the parallel job will fail. |

| 0031-436   | **Unable to broadcast SSM_DBG_CKPTPIPECHECK to PMDs** |
| **Explanation:** | An internal error occurred that prevented POE from sending the indicated SSM to the PMDs. |
| **User Response:** | Gather information about the problem and follow local site procedures for reporting hardware and software problems. |

| 0031-437   | **Unexpected adapter count (number) returned by LoadLeveler** |
| **Explanation:** | An internal error has occurred. |
| **User Response:** | Gather information about the problem and follow local site procedures for reporting hardware and software problems. |

| 0031-438   | **Unexpected count (number) for string instances returned by LoadLeveler** |
| **Explanation:** | An internal error has occurred. |
| **User Response:** | Gather information about the problem and follow local site procedures for reporting hardware and software problems. |

| 0031-439   | **Invalid security configuration entry found on node string** |
| **Explanation:** | The security configuration file (/etc/poe.security) contained an invalid entry on the specified node. POE terminates. |
| **User Response:** | Contact the system administrator to ensure the proper authentication methods are defined and enabled. |

| 0031-440   | **CTSec security was defined but not enabled on node string** |
| **Explanation:** | The CTsec security mechanism was configured on the specified node, but the rsct.core.sec fileset libraries were not installed on that node. POE terminates. |
| **User Response:** | Contact the system administrator to ensure the proper authentication methods are defined and enabled, and that rsct.core.sec is properly installed. |
0031-441 PSSP security was defined but not enabled on node string
Explanation: The PSSP security mechanism was configured on the specified node, but the required libraries were not installed on that node. POE terminates.
User Response: Contact the system administrator to ensure the proper authentication methods are defined and enabled.

0031-442 More than one security entry was made on node string
Explanation: There was more than one security mechanism defined on the specified node, when only one method can be configured.
User Response: Contact the system administrator to ensure the proper authentication methods are defined and enabled.

0031-443 Error initializing cluster security services on string: string, return code number.
Explanation: An internal error occurred when calling sec_start to initialize the cluster security services. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-444 Error setting up socket security information for node string, task string, return code: number
Explanation: An internal error occurred when calling sec_setup_socket to initialize set up the security information for the socket on the specified task and node. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-445 Error returning the trusted security mechanisms in use on home node, return code: number
Explanation: An internal error occurred when calling sec_get_auth_methods to determine the trusted security methods in use on the POE home node. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-446 Error getting client security context on home node for host string, return code: number
Explanation: An internal error occurred when calling sec_start_sec_context to obtain the security context and credentials for the specified remote node host name. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-447 Error logging in as PMD service on node string, return code: number
Explanation: An internal error occurred when calling sec_login_as_service to login as the PMD service principal while attempting to authenticate. This message may be followed by an additional message containing the CTSec error text. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-448 string
Explanation: This message contains additional CTSec error message text, which should have been preceded by other messages.
User Response: Handle according to the earlier message's response.
0031-449  Error creating security context on node string, return code: number
Explanation: An internal error occurred when calling sec_receive_sec_context to create a security context while attempting to authenticate. This message may be followed by an additional message containing the CTSec error text. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-450  Error creating identity context on node string, return code: number
Explanation: An internal error occurred when calling sec_create_id_context to create an identity context from the security context while attempting to authenticate. This message may be followed by an additional message containing the CTSec error text. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-451  Error authenticating user string on node string, return code: number
Explanation: The user could not be authenticated by the sec_user_valid routine. If the return code was 36, the user does not have the proper security authorization. Any other return code values indicate possible administrative or internal errors. This message may be followed by an additional message containing the CTSec error text. POE terminates.
User Response: Note the return code and consult with the system administrator to ensure the proper security methods are defined and that the user is properly authorized to use that method. Otherwise, if the return code indicates an internal type of error, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-452  POE security configuration file not found on node string.
Explanation: The security configuration file (/etc/poe.security) was not found on the specified node. POE terminates.
User Response: Contact the system administrator to ensure the proper authentication methods are defined and enabled.

0031-453  Unexpected protocol (string) returned by LoadLeveler
Explanation: An internal error has occurred.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-454  Security mechanism on node string does not match mechanism on home node.
Explanation: The security mechanism configured on the remote node does not match the mechanism configured on the POE home node. The mechanisms must match in order for POE to determine the proper security method to use. POE terminates.
User Response: Contact the system administrator to ensure the proper authentication methods are defined and enabled properly.

0031-455  Environment print request return code = number
Explanation: An internal error occurred processing the MP_PRINTENV environment variable. The job is terminated.
User Response: Probable PE system error. Gather information about the problem and follow local site procedures for reporting software problems.
Environment print request ignored
Explanation: The MP_PRINTENV environment variable was set for this task, but not for all tasks in the job. The request is ignored.
User Response: Re-run with MP_PRINTENV set on all tasks.

An internal error occurred attempting to execute the named script as a value for the MP_PRINTENV environment variable. The job is terminated.
Explanation: An internal error occurred processing the MP_PRINTENV environment variable. The job is terminated.
User Response: Probable PE system error. Gather information about the problem and follow local site procedures for reporting software problems.

Shared segment not initialized to zero for restart of checkpointed job
Explanation: AIX has not returned a zero filled shared memory segment. This may result in a race condition among the restarted tasks. Job is terminated.
User Response: Gather information about the problem and follow local site procedures for reporting software problems.

Open of lightweight corefile string failed.
Explanation: An error occurred when POE opened the file specified with the MP_COREFILE_FORMAT environment variable or the -corefile_format command-line option.
User Response: Check permissions. Check the file name, which could contain a restricted keyword.

Checkpoint commit call failed: rc=number
Explanation: An error occurred when the task checkpoint handler called the checkpoint_commit system call.
User Response: Probable system error.

Error sending a restarting failure to home node.
Explanation: An internal error was detected after trying to send a restarting failure to the home node. The remote node terminates.
User Response: Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Unexpected environment variable string was set.
Explanation: An unexpected environment variable was set during executing the poerestart command.
User Response: Unset the unexpected environment variable.

Unexpected /host.list file exists.
Explanation: An unexpected /host.list file exists during executing the poerestart command.
User Response: Remove the unexpected /host.list file.

poerestart: fork error <string>
Explanation: The poerestart is unable to fork for restart_wait function.
User Response: Probable system error.
0031-509  Cannot checkpoint a signal-based program
Explanation:  The user inadvertently attempts to checkpoint a signal-based program. Checkpoint/Restart function supports the threaded MPI library only.
User Response:  Check the MPI library.

0031-510  Open of file *string* failed.
Explanation:  The specified io node file could not be opened.
User Response:  Check the path name, permissions, and io node file.

0031-511  Couldn't get info for hostname *string*.
Explanation:  The host name in the io node file was not found.
User Response:  The name mentioned cannot be identified. Check that the host name is spelled correctly.

0031-512  Couldn't find any node name in file *string*.
Explanation:  The specified io node file did not contain a node name.
User Response:  Check the path name and io node file.

0031-513  Couldn't find a matching node in the POE host list for file *string*.
Explanation:  No matching node that was found in the POE host node list for this io node file.
User Response:  Check the path name and io node file.

0031-514  Couldn't find a matching node in the host list for node name *string*.
Explanation:  No matching node was found in the POE host node list for this node.
User Response:  Check the path name and io node file.

0031-515  Duplicate node name *string* in inodefile.
Explanation:  A duplicate node was found in the io node file.
User Response:  Check the path name and io node file.

0031-600  Number of tasks (number) > maximum (number)
Explanation:  User has requested more tasks than maximum number allowed.
User Response:  Rerun job within defined limits for number of tasks.

0031-601  Open of file *string* failed
Explanation:  Specified hostfile could not be opened.
User Response:  Check path name and permissions.

0031-604  Unexpected non-numeric entry in hostfile
Explanation:  A non-numeric pool number exists in hostfile.
User Response:  Correct the hostfile entry.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-605</td>
<td>Unexpected EOF on allocation file for task <code>number</code></td>
<td>There were not enough entries in the hostfile for the number of processes specified.</td>
<td>Lower the number of processes or add more entries to the hostfile.</td>
</tr>
<tr>
<td>0031-606</td>
<td>Unrecognized environment variable, <code>string</code>.</td>
<td>An environment variable was specified that was not recognized. It is possible that it was misspelled or incorrectly specified.</td>
<td>Check the spelling of the indicated variable and correct if necessary.</td>
</tr>
<tr>
<td>0031-607</td>
<td>Pool requests and host entries may not be intermixed in hostfile</td>
<td>Pool requests and host entries co-existed in hostfile.</td>
<td>Modify hostfile to contain only pool requests or only hostnames.</td>
</tr>
<tr>
<td>0031-608</td>
<td>Unrecognized option for task <code>number</code>: <code>&lt;string&gt;</code></td>
<td>An option other than <code>shared</code>, <code>dedicated</code>, <code>multiple</code>, or <code>unique</code> was found in the hostfile.</td>
<td>Correct hostfile entry.</td>
</tr>
<tr>
<td>0031-609</td>
<td>Unable to open <code>save_hostfile</code> <code>string</code></td>
<td>Specified save hostfile could not be opened.</td>
<td>Check pathname and permissions.</td>
</tr>
<tr>
<td>0031-610</td>
<td>Error in command broadcast</td>
<td>An error occurred in broadcasting the <code>poe</code> command to the partition. Probably one of the remote nodes is no longer accessible. POE terminates.</td>
<td>Verify that the remote nodes in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-611</td>
<td>Unable to open command file <code>&lt;string&gt;</code></td>
<td>The file designated to issue POE commands can not be opened. POE terminates.</td>
<td>Verify that the file name is spelled correctly and is readable.</td>
</tr>
<tr>
<td>0031-612</td>
<td><code>pm_contact</code>: write select error</td>
<td>A system error occurred while writing to a remote node. The system error message is appended. POE terminates.</td>
<td>Verify that the remote nodes in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-613</td>
<td>Unable to send command to task <code>number</code></td>
<td>An error occurred in sending the <code>poe</code> command to the indicated task. Probably the remote node is no longer accessible. POE terminates.</td>
<td>Verify that the remote node in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>0031-614</td>
<td><strong>Unable to send single command to task</strong> <em>number</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An error occurred in sending the <strong>poe</strong> command to the indicated task. Probably the remote node is no longer accessible. POE terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Verify that the remote node in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-615</td>
<td><strong>strappend failed for</strong> <em>string</em>, <em>rc = number</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The internal string append function failed. The system terminates.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-616</td>
<td><strong>gethostbyname failed for home node</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The internal <strong>gethostbyname</strong> function failed. The system terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
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</tr>
<tr>
<td>0031-617</td>
<td><strong>pm_getcwd failed, rc = number</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The internal <strong>pm_getcwd</strong> function failed. A return code of 1 implies either can’t open pipe to <strong>ksh</strong> or command failed. A return code of 2 means the working directory string is longer than <strong>bufsize</strong>. The system terminates.</td>
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<tr>
<td></td>
<td><strong>User Response:</strong> Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
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<td></td>
</tr>
<tr>
<td>0031-618</td>
<td><strong>The following nodes were not contacted:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> See message 0031-623 for a list of the remote nodes that did not respond during the phase indicated by the code in message 0031-631. It is possible that some nodes were not tried, so the list doesn’t necessarily indicate that all the nodes were unavailable. POE terminates.</td>
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<tr>
<td></td>
<td><strong>User Response:</strong> Probably connectivity to one of the listed nodes has been lost. Verify that the node can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-619</td>
<td><strong>string</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><strong>Explanation:</strong> The text is explanatory text as would be provided by the <strong>perror</strong>() or <strong>psignal</strong>() functions. For <strong>perror</strong>(), it is the text contained in <strong>sys_errlist</strong>(errno) for the error <strong>errno</strong>. For <strong>psignal</strong>(), it is the text contained in <strong>sys_siglist</strong>(signal) for signal <strong>signal</strong>. A preliminary 0031-number message indicates the context.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-620</td>
<td><strong>pm_SSM_write failed in sending the user/environment for taskid</strong> <em>number</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The internal <strong>pm_SSM_write</strong> function failed. The system terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-621</td>
<td><strong>pm_SSM_write failed in sending the partition map information for taskid</strong> <em>number</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The internal <strong>pm_SSM_write</strong> function failed. The system terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
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</tr>
<tr>
<td>Code</td>
<td>Message Description</td>
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<td></td>
</tr>
<tr>
<td>0031-622</td>
<td><strong>unexpected msg from task</strong> <em>number</em>, type <em>number</em> <strong>Text:</strong> <em>string</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An unexpected message was returned from the indicated task. The system continues.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-623</td>
<td><strong>task</strong> <em>number</em>: <strong>hostname</strong> <em>string</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The line indicates the task number and associated host name. See message 0031-618 and 0031-631 for more information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>The list may contain names of failing nodes. Verify that connectivity exists and the <em>pmd</em> daemon is executable on that node.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-624</td>
<td><strong>Error from sigprocmask for blocking stop signals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An error occurred in setting the signal mask to block stop signals during installation. POE terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Probable PE internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-625</td>
<td><strong>sigaction(SIGSTOP)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An error occurred in setting the flags for the SIGSTOP signal. POE terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Probable PE internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-626</td>
<td><strong>got signal</strong> <em>number</em>, awaiting response from signal <em>number</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>POE received a signal while processing the responses to a previous signal. The new signal is ignored unless it is the SIGKILL signal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Often this means that a remote node is not responding. Verify that the node can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-627</td>
<td><strong>Task</strong> <em>number</em> <strong>connection blocked. Task will be abandoned.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>While shutting down the partition, POE was unable to write to the indicated task, because the socket was blocked. The socket and task are subsequently ignored and the shutdown continues.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Often this means that a remote node is not responding. The tasks running on this node must be terminated manually. Verify that the node can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-628</td>
<td><strong>pm_contact: read select error</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A system error occurred while reading from a remote node. The system error message is appended. POE terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Verify that the remote nodes in the partition can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0031-629</td>
<td><strong>pm_contact: write timeout occurred; nprocs</strong> = <em>number</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The select statement timed out waiting for ready to write to a remote node. A list of nodes not contacted is appended. POE terminates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Verify that the remote nodes in the partition can be contacted by other means. If necessary, the timeout interval may be set with the environment variable <em>MP_TIMEOUT</em>. The default is 150 seconds. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
0031-630  pm_contact: read timeout occurred; nprocs = number

Explanation:  The select statement timed out waiting for ready to read from a remote node. A list of nodes not contacted is appended. POE terminates.

User Response:  Verify that the remote nodes in the partition can be contacted by other means. If necessary, the timeout interval may be set with the MP_TIMEOUT environment variable. The default is 150 seconds.

If the SP security method is DCE compatibility, you may need to increase the MP_TIMEOUT value to allow POE to wait for the DCE servers to respond (or time out if the servers are down).

If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-631  pm_contact: signal received; nprocs = number, code = number

Explanation:  Operation was terminated by a signal, either created by the user (SIGINT), or with the system (for example, SIGPIPE). POE terminates. The code indicates where in the contact sequence the signal occurred as follows:
2 - connect
3 - write select
4 - write message 1
5 - write message 2
6 - read select
7 - read acknowledgement
8 - end of contact routine

User Response:  The remote node(s) do not respond. Verify that the node can be contacted by other means. Verify that the pmdv4 daemon is executable on the indicated remote node. If necessary, the timeout interval may be set with the environment variable MP_TIMEOUT. The default is 150 seconds. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-632  Can’t connect to PM Array. errno = number

Explanation:  POE tried to connect to the Program Marker Array tool, but was unsuccessful. The system error number is returned. Most likely, the Program Marker Array has not been started.

User Response:  The Program Marker Array is no longer supported. Users should discontinue its use.

0031-633  Unexpected EOF on socket to task number

Explanation:  POE got a socket EOF when trying to broadcast a message to the partition. The affected node is marked as not active, and the broadcast continues. The broadcast calling routine may take additional actions.

User Response:  Verify the reason for loss of connection. Often this means that a remote node is not responding. Verify that the node can be contacted by other means. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-634  Non-zero status number returned from pm_parse_args

Explanation:  An error has occurred parsing the parameters.

User Response:  More information or error messages should accompany this message, describing the errors in more detail. Correct the invalid values and retry.

0031-635  Non-zero status number returned from pm_mgr_init

Explanation:  An error has occurred in a lower level function.

User Response:  Perform whatever corrective action is indicated for earlier messages and retry. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-636</td>
<td>User requested or EOF termination of pm_command</td>
<td>End of file was reached in the specified command file or user typed <strong>quit</strong>.</td>
<td>If termination is unexpected, verify that command file contains correct number of commands based on <strong>MP_PROCS</strong> and <strong>MP_PGMMODEL</strong> settings.</td>
</tr>
<tr>
<td>0031-637</td>
<td>Non-zero status <strong>number</strong> returned from pm_command</td>
<td>An error has occurred in a lower level function.</td>
<td>Perform whatever corrective action is indicated for earlier messages and retry. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-638</td>
<td>Non-zero status <strong>number</strong> returned from pm RESP</td>
<td>An error has occurred in a lower level function.</td>
<td>Perform whatever corrective action is indicated for earlier messages and retry. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-639</td>
<td>Exit status from pm RESP = <strong>number</strong></td>
<td>The pm RESP function exited with the indicated status.</td>
<td>If other error messages occurred, perform corrective action indicated for the message(s); otherwise, no action is required.</td>
</tr>
<tr>
<td>0031-640</td>
<td>Error resending message type <strong>number</strong> to node <strong>string</strong>, return code <strong>number</strong></td>
<td>An internal error has occurred attempting to resend an internal message to the specified node.</td>
<td>Verify that the remote nodes are accessible and rerun POE or the application. If the failure continues, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-642</td>
<td>End of File from Program Marker Array</td>
<td>The socket connecting POE to the Program Marker Array has returned EOF. Execution of POE continues.</td>
<td>The Program Marker Array is no longer supported. Users should discontinue its use.</td>
</tr>
<tr>
<td>0031-643</td>
<td>Error read from Program Marker Array</td>
<td>The socket connecting POE to the Program Marker Array has returned an error condition. POE continues. The defined error codes are:</td>
<td>The Program Marker Array is no longer supported. Users should discontinue its use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - I/O error on the socket. An explanatory message is appended if errno is set.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - POE was unable to allocate storage for the message from PM Array. Probable internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Some other error. An explanatory message is appended if errno is set.</td>
<td></td>
</tr>
<tr>
<td>0031-644</td>
<td>Can’t route PM Array message to task <strong>number</strong></td>
<td>An error occurred while trying to forward a message from the Program Marker array to the indicated task. POE continues, but the connection to PM Array is closed.</td>
<td>The Program Marker Array is no longer supported. Users should discontinue its use.</td>
</tr>
</tbody>
</table>
0031-645  **PM Array message to unknown destination number**

**Explanation:** The PM Array message is not to a remote task and not for the Home Node. The destination code is given. POE continues, but the connection to PM Array is closed.

**User Response:** The Program Marker Array is no longer supported. Users should discontinue its use.

0031-646  **PM Array is trying to tell us something ...**

**Explanation:** A message from PM Array is directed to the Home Node. At present there are no Home Node functions responding to the PM Array, so the message text is just printed out.

**User Response:** The Program Marker Array is no longer supported. Users should discontinue its use.

0031-647  **string**

**Explanation:** This is the message buffer text from PM Array as described in message 0031-646.

**User Response:** Verify that the PM Array tool is working correctly.

0031-648  **Couldn’t tell world about EOF on STDIN**

**Explanation:** An error occurred while broadcasting EOF on STDIN to the partition. The partition is terminated, and POE exits.

**User Response:** Verify that the remote nodes are accessible and restart POE. If the failure continues, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-649  **Couldn’t tell task number about EOF on STDIN**

**Explanation:** An error occurred while sending EOF on STDIN to the indicated task. The partition is terminated, and POE exits.

**User Response:** Verify that the remote node is accessible and restart POE. If the failure continues, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-650  **No receiver for STDIN bound for number**

**Explanation:** STDINMODE defines a task number that is not active.

**User Response:** Probable user error. Verify the value of STDINMODE set by the environment variable or under program control.

0031-651  **Error reading input command file**

**Explanation:** An I/O error occurred reading the input command file describing the initialization sequence for **pdbx** and **ped7**. Input reverts to STDIN.

**User Response:** If possible, determine which file is being read and correct it. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-652  **Error reading STDIN**

**Explanation:** An I/O error occurred reading STDIN. STDIN is subsequently ignored.

**User Response:** Verify that the file used for STDIN is readable. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-653  **Couldn’t route data from STDIN to task number**

**Explanation:** An error occurred routing STDIN to the indicated task. The partition is terminated and POE exits.

**User Response:** Verify that the remote task is active. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.
Allocation error for SSM_read, node string, length number

Explanation: An error occurred allocating storage for a message from a remote node. The partition is terminated and POE exits. The node name and length requested are printed.

User Response: Verify that sufficient storage is available to run POE on the Home Node, and that the requested length is not excessive. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

Can’t route message to destination number

Explanation: An error occurred routing a message to the indicated destination task. The requested routing is not supported.

User Response: If the message is generated by Parallel Environment, this is an internal error. If generated by a user program, this is a user error. Determine the source of the message. If the problem is an internal error, gather information about the problem and follow local site procedures for reporting hardware and software problems.

I/O file string closed by task number

Explanation: The stdout stream indicated has been closed by the indicated task.

User Response: Verify if this is the intended operation. If so, ignore the message. This message may also occur at the end of a job that terminates normally.

Can’t send mpl_init_data to nodes

Explanation: An error occurred in broadcasting the CSS initialization data to the remote nodes. The partition is terminated and POE exits.

User Response: The failing routine is pm_address. Look for other symptoms to determine the cause of failure.

Can’t send termination signal to nodes.

Explanation: An error occurred in broadcasting the termination message to the remote nodes. The partition is terminated and POE exits (which it was trying to do, anyway).

User Response: The failing routine is pm_shutdown_job. Look for other symptoms to determine the cause of failure.

Can’t log accounting data from node number

Explanation: An error occurred in logging the accounting records received from the remote nodes. Execution continues.

User Response: The failing routine is pm_acct_response. Look for other symptoms to determine the cause of failure.

Partition Manager stopped ...

Explanation: The Home Node (POE) has stopped in response to a SIGTSTOP (<Ctrl>Z) signal. The remote nodes have been stopped.

User Response: To resume the job, issue SIGCONT, or use the shell job control commands fg or bg.

signal_sent = number not recognized

Explanation: The indicated signal was recorded as being sent to the remote nodes, but is not recognized by POE. Execution continues.

User Response: Probable POE internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-662  Node number did not send PROFILE_DONE, sent msgtype number

Explanation: The indicated node did not send the PROFILE_DONE message after profiling, but sent a message of the indicated type. Message 0031-663 gives the text sent.

User Response: Consult the explanatory text. If that fails to disclose the problem, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-663  string

Explanation: This is the text of a message received instead of the expected PROFILE_DONE message.

User Response: If the text fails to disclose the problem, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-664  Unknown message type number received

Explanation: The indicated message type is not known by POE. Execution is terminated.

User Response: Probably the socket contains a non-structured message, which would be a stray. If the source of the stray socket message cannot be determined, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-665  Invalid value for SSM_SINGLE number

Explanation: The indicated value is invalid as a destination for SINGLE I/O mode. The specification is ignored.

User Response: Verify that the correct value for SINGLE I/O mode is used.

0031-666  Out of range value for SSM_SINGLE number

Explanation: The indicated value is out of range: less than zero, or greater than the number of tasks. The specification is ignored.

User Response: Verify that the correct value for SINGLE I/O mode is used.

0031-667  Invalid value for SSM_UNORDERED number

Explanation: The indicated value is invalid as a specification for UNORDERED I/O mode. The specification is ignored.

User Response: Verify that the correct value for I/O mode is used.

0031-668  pm_io_command: error in pm_SSM_write, rc = number

Explanation: An error occurred while responding to a STDIO MODE QUERY message. The response is abandoned.

User Response: Probable POE internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-669  Can’t acknowledge IO_command sync

Explanation: A socket error occurred while broadcasting a synchronization request acknowledgment. The partition is terminated and POE exits.

User Response: One or more remote nodes may not be reachable. Verify that the remote nodes can be contacted, and restart POE. If problems persist, gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-670</td>
<td>Illegal stdout mode number</td>
<td>The indicated value for STDOUT mode is not valid. The requested I/O buffering is not performed.</td>
<td>Correct the value for STDOUT mode.</td>
</tr>
<tr>
<td>0031-671</td>
<td>Can't acknowledge PMArray data from task number</td>
<td>An error occurred trying to return an acknowledgement to a node sending data to PM Array.</td>
<td>Probable POE internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-672</td>
<td>Invalid routing request from task number to task number</td>
<td>The Home Node has received a message, but doesn't know how to route it to the indicated task (destination).</td>
<td>Probable POE internal error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-673</td>
<td>Invalid mode/destination for STDIN: number</td>
<td>The requested destination for STDIN is invalid. The request to route STDIN is ignored.</td>
<td>Verify the STDIN I/O mode requested.</td>
</tr>
<tr>
<td>0031-674</td>
<td>Unexpected return code number from pm_SSM_write</td>
<td>Internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-675</td>
<td>Invalid mode number requested</td>
<td>User program has called function MP_STDOUTMODE or mpc_stdoutmode with invalid mode.</td>
<td>Refer to man page for explanation of valid modes.</td>
</tr>
<tr>
<td>0031-676</td>
<td>Invalid value string for mp_euidevice</td>
<td>The mp_euidevice specified on the command line with -euidevice or in the environment with MP_EUIDEVICE is not valid.</td>
<td>Refer to IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1 for valid choices and rerun.</td>
</tr>
<tr>
<td>0031-677</td>
<td>Unexpected return code number from _mp_stdoutmode</td>
<td>An error may have occurred in a lower-level function.</td>
<td>If earlier error messages exist, perform whatever corrective actions are indicated for those messages. If there are no other messages or if the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-678</td>
<td>Hostfile may not contain pool requests if not using LoadLeveler</td>
<td>The user explicitly requested not to use LoadLeveler (with the MP_RESID environment variable or the -resd command line flag), but the hostfile contained pool requests.</td>
<td>Use hostnames in the hostfile or do not request that LoadLeveler not be used.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Message Description</td>
<td>Explanation</td>
<td>User Response</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0031-679</td>
<td>Profiling may not have completed on node number</td>
<td>A profiling file may not have been completed for the given node. However, profiling files may exist for other nodes in the job.</td>
<td>If a profiling file from this node is needed, ensure that there is enough room on the node’s filesystem for the profiling file and re-run the job. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-680</td>
<td>Invalid mode number requested</td>
<td></td>
<td>User Response: Refer to man page for explanation of valid modes.</td>
</tr>
<tr>
<td>0031-682</td>
<td>Unexpected return code number from _mp_in_mode</td>
<td>An error may have occurred in a lower level function.</td>
<td>If earlier error messages exist, perform whatever corrective action is indicated for these. If there are no other messages or if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-683</td>
<td>POE couldn't get process info for process id number</td>
<td>The Partition Manager is unable to get the time stamp in the procsinfo structure for creating the /tmp/ppe.xxx.attach.cfg file.</td>
<td>User Response: Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-687</td>
<td>Unsuccessful call to pm_SSM_read</td>
<td>Internal error has occurred.</td>
<td>User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-688</td>
<td>Incorrect subtype number received in structured socket message</td>
<td>Internal error has occurred.</td>
<td>User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-689</td>
<td>Unexpected return code number from _mp_stdoutmode_query</td>
<td>An error may have occurred in a lower-level function.</td>
<td>User Response: If earlier error messages exist, perform whatever corrective actions are indicated for those messages. If there are no other messages or if the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-692</td>
<td>Invalid option number requested</td>
<td></td>
<td>User Response: Refer to man page for explanation of valid options.</td>
</tr>
</tbody>
</table>
Unexpected return code number from _mp_flush

Explanation: An error may have occurred in a lower level function.

User Response: If earlier error messages exist, perform whatever corrective action is indicated for these. If there are no other messages or if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

Task number waiting to profile...

Explanation: Designated task is waiting to profile.

User Response: None.

Invalid priority received

Explanation: The priority received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Invalid envc received

Explanation: The envc received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Invalid pmdlog argument

Explanation: The pmdlog argument received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Invalid nprocs argument

Explanation: The nprocs argument received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Invalid newjob argument

Explanation: The newjob argument received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Invalid pdbx argument

Explanation: The pdbx argument received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Invalid spmd argument

Explanation: The spmd argument received by the pm daemon is invalid.

User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-707</td>
<td><code>pmd: error sending string ack to home node.</code></td>
<td>The <code>pm</code> daemon was not able to send the indicated acknowledgment to the home node.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-708</td>
<td><code>pmd: invalid JOBID.</code></td>
<td>The <code>pm</code> daemon was not able to send a node map <code>ack</code> to the home node.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-709</td>
<td><code>pmd: SSM rec’v’d not cmd str or exit</code></td>
<td>An incorrect SSM was received by the <code>pm</code> daemon from the home node.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-710</td>
<td><code>pmd: pipe creation error</code></td>
<td>The <code>pm</code> daemon was unable to create pipes to its child.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-711</td>
<td><code>parent select errno = number</code></td>
<td><code>select</code> error from <code>pmd</code> parent.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-712</td>
<td><code>parent error reading STDIN, rc = number</code></td>
<td><code>pm</code> daemon parent was unable to read STDIN.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-713</td>
<td><code>pmd parent: error w/ack for sig req to home</code></td>
<td><code>pm</code> daemon parent had error sending <code>ack</code> for <code>sig</code> request.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-714</td>
<td><code>pmd parent: error writing to task number child’s STDIN</code></td>
<td><code>pm</code> daemon parent was not able to write to the indicated child’s STDIN.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-715</td>
<td><code>pmd parent: error writing to task number child’s cntl</code></td>
<td><code>pm</code> daemon parent was not able to write to the indicated child’s control pipe.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-716</td>
<td><code>pmd parent: error reading STDOUT from task number child</code></td>
<td><code>pm</code> daemon parent was not able to read STDOUT from the indicated child.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>Code</td>
<td>Message</td>
<td>Explanation</td>
<td>User Response</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>0031-717</td>
<td>pmd parent: error writing to STDOUT for task number</td>
<td>pm daemon parent was not able to write to STDOUT for the indicated child.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-718</td>
<td>pmd parent: error reading control from task number child</td>
<td>pm daemon parent was not able to read the control pipe from the indicated child.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-719</td>
<td>AFS authorization failed in settokens</td>
<td>settokens() failed in pmd child when given the afstoken.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-720</td>
<td>child: initgroups error - errno = &lt;number&gt;</td>
<td>initgroups failed, errno given.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-721</td>
<td>unable to set user info</td>
<td>userinfo() was unable to set user info.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-722</td>
<td>can’t set priority to number</td>
<td>setpriority() failed in pmd child.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-723</td>
<td>userid = &lt;number&gt;</td>
<td>userid is set to the given userid.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-724</td>
<td>Executing program: &lt;string&gt;</td>
<td>The child is executing the given program.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-725</td>
<td>Failed to exec program string; errno = number</td>
<td>The child failed to execute the given program.</td>
<td>Probable system error. Verify that the euilibpath includes the following path: /usr/lpp/ppe.poe/lib.</td>
</tr>
<tr>
<td>0031-726</td>
<td>pmd: error sending node attach data record to home node.</td>
<td>The remote node PMD was not able to send the node attach data via IP communications to home node. The remote node will now exit.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>Code</td>
<td>Message</td>
<td>Explanation</td>
<td>User Response</td>
</tr>
<tr>
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</tr>
<tr>
<td>0031-727</td>
<td>pmd parent: error writing to child’s debug engine pipe</td>
<td>pm daemon parent was not able to write to debug engine pipe, which is used to communicate with the node debug server.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-728</td>
<td>Cannot set string limit to number, hard limit is number.</td>
<td>If the user’s soft limit is greater than the inetd hard limit, the soft limit will only get changed to the hard limit value.</td>
<td>If this causes a problem, ask the system administrator to increase the hard limit values for inetd.</td>
</tr>
<tr>
<td>0031-729</td>
<td>ident_match failed; user identification failed.</td>
<td>The user is not authorized to communicate via the TCP/IP socket between the POE home node and partition manager daemon.</td>
<td>Ensure the user is properly authorized to use POE, and ensure ident_match routine is properly installed and available.</td>
</tr>
<tr>
<td>0031-730</td>
<td>Error initializing DCE on remote node.</td>
<td>An internal error occurred when calling spsec_start to initialize the DCE environment. This message should be followed by an additional message containing the DCE error text. POE terminates.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-731</td>
<td>string.</td>
<td>This message contains additional DCE error message text, which should have been preceded by other messages.</td>
<td>Handle according to the earlier message’s response.</td>
</tr>
<tr>
<td>0031-732</td>
<td>Restarting program from file: &lt;string&gt;</td>
<td>The child is executing the given program for restart.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-733</td>
<td>The initialization of the remote debug engine failed.</td>
<td>The Partition Manager Daemon detected an error while starting the remote debug engine. The debugger is terminated.</td>
<td>The remote debug engine portion of pdbx and pedb depend on the bos.adt.debug fileset. Contact your system administrator to make sure that the fileset bos.adt.debug is properly installed on the nodes where the job runs.</td>
</tr>
<tr>
<td>0031-734</td>
<td>DCE is not available...processing continues.</td>
<td>DCE was not installed on the remote node host, so no DCE authentication can be performed. Processing continues normally.</td>
<td>If the remote node host was expected to have DCE available, contact the system administrator to ensure the proper authentication methods are enabled.</td>
</tr>
</tbody>
</table>
0031-735  Free space threshold for message logging reached (node string).
Explanation: You requested to log diagnostic messages (through MP_PMDLOG or -pmdlog), but there is less than 1Mb of space remaining in /tmp. Logging will be stopped if /tmp becomes full. Processing continues.
User Response: Expand the file system or clean up files in /tmp in order to provide additional space.

0031-736  /tmp filled for node string. Logging is stopped.
Explanation: You requested to log diagnostic messages (through MP_PMDLOG or -pmdlog), but the /tmp directory on the indicated remote node was filled during execution. Processing continues, but the logging of diagnostic messages has been stopped for the indicated node.
User Response: After the job has finished, increase the size of the /tmp directory on the indicated remote node before you execute POE again with MP_PMDLOG=YES.

0031-737  Error obtaining authentication methods in use on remote host for node string, errno: number.
Explanation: An internal error occurred when calling spsec_get_ts_authent to determine the authentication method in use on the remote node. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-738  Error determining whether DCE authentication method was in use on node string.
Explanation: An internal error occurred when calling spsec_using_auth_method to determine if DCE authentication was in use on the remote node. This message should be followed by an additional message containing the DCE error text. POE terminates.
User Response: Check that the system has the proper level of PSSP installed, which supports the SP Security functions. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-739  Error determining whether compatibility authentication method was in use on node string.
Explanation: An internal error occurred when calling spsec_using_auth_method to determine if compatibility authentication was in use on the remote node. This message should be followed by an additional message containing the DCE error text. POE terminates.
User Response: Check that the system has the proper level of PSSP installed, which supports the SP Security functions. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-740  Error reading DCE credentials on node string.
Explanation: An internal error occurred reading the DCE credentials data sent from the POE home node. POE terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-741  Error logging into DCE with PMD server principal on node string.
Explanation: An internal error occurred when calling spsec_login_as_service to log in to DCE with the PMD server principal. This message should be followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-742  Error authenticating user’s credentials on node string.

Explanation: An internal error occurred when calling spsec_authenticate_client to check the authenticity of the user’s credentials on the remote node followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Consult with the system administrator to ensure the user is properly authorized to access the Partition Manager Daemon service principal (ppe/pmdv3) according to DCE, and that their DCE principal and credentials are valid and have not yet expired, using the DCE klist command. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-743  Error obtaining PMD client identity on node string.

Explanation: An internal error occurred when calling spsec_get_client_identity to obtain the UID for the authenticated principal. This message should be followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-744  Error establishing the login context on node string.

Explanation: An internal error occurred when calling spsec_assume_client_identity to establish the user’s login context as the current login context. This message should be followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-745  DCE user authentication failed on node string.

Explanation: The user does not have the proper DCE authorization to submit parallel jobs on this node. The Partition Manager will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Consult with the system administrator to ensure the user is properly authorized to access the Partition Manager Daemon service principal (ppe/pmdv3) according to DCE, and that their DCE principal and credentials are valid and have not yet expired, using the DCE klist command. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-746  Error converting DCE principal to Kerberos cell name on node string.

Explanation: An internal error occurred when calling spsec_convert_dce_principal_to_k5 to convert the DCE principal to its corresponding Kerberos Version cell name. The Partition Manager will continue if the compatibility authentication method is enabled; otherwise, it terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-747  Error resuming PMD server identity on node string.

Explanation: An internal error occurred when calling spsec_resume_server_identity to re-establish the identity of the PMD server principal. The Partition Manager terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-748  Error reading security mechanism on node string.

Explanation: An internal error occurred reading the security mechanism data sent from the POE home node. POE terminates.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-749  Error changing owner of *string*, *errno* is *number*.

**Explanation:** An internal error occurred changing the owner and group of the DCE credentials file indicated. The indicated ERRNO value describes the reason for the error.

**User Response:** Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-750  **DCE authentication is enabled on node *string* however no credentials were sent.**

**Explanation:** DCE authentication has been enabled on the remote node indicated. However, the POE home node did not send any DCE credentials to the Partition Manager daemon. Most likely the POE home node is not enabled for DCE, yet the remote node has been enabled. DCE authentication will be attempted without credentials, which may result in the ultimate failure of the parallel job.

**User Response:** Consult with the system administrator to ensure the security authentication methods have been properly established and are compatible among the POE home and remote nodes. There appears to be a mismatch between nodes expected to run with DCE, in which case a different set of nodes should be used to submit the parallel job, or the home node needs to be enabled to use DCE authentication.

0031-751  **Error obtaining PMD server principal after login on node *string*.**

**Explanation:** An error occurred when calling spsec_get_my_identity after login into DCE with the PMD server principal was successful. This message should be followed by an additional message containing the DCE error text. POE will continue if the compatibility authentication method is enabled; otherwise, it terminates.

**User Response:** Consult with the system administrator to ensure the security authentication methods have been properly established and the DCE principals for the PMD service have been properly defined. Otherwise, if the problems persist, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-752  **Error reading token on task *number*.**

**Explanation:** An internal error occurred reading the token sent from the POE home node. POE terminates.

**User Response:** Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-753  **No token was passed from home node, when one was expected.**

**Explanation:** The remote node was expecting a token from the home node, and none was sent. The remote node has the token-handling functions enabled, but the home node does not. The PMD terminates.

**User Response:** Consult with your system administrator to make sure the key table functions are properly enabled on the home and remote nodes. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-754  **spchkkey failed; user identification failed.**

**Explanation:** The user is not authorized to communicate via the TCP/IP socket between the POE home node and partition manager daemon.

**User Response:** Make sure the user is properly authorized to use POE, and make sure the **spchkkey** routine is properly installed and available.

0031-755  **PMD unable to create a restarting thread, rc=*number*.

**Explanation:** An error occurred when PMD attempted to create a restarting thread for a task.

**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
<table>
<thead>
<tr>
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<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
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<tbody>
<tr>
<td>0031-756</td>
<td>A restarting thread within PMD cannot be joined, rc=number</td>
<td>An error occurred when PMD attempted to join with a restarting thread for a task.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-757</td>
<td>PMD unable to create a checkpointing thread, rc=number</td>
<td>An error occurred when PMD attempted to create a checkpointing thread for a task.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-758</td>
<td>Error reconciling security mechanism on node string, return code: number</td>
<td>An error occurred when PMD attempted to call sec_reconcile_auth_methods to determine the security mechanisms that the POE home node and the remote node have in common. If the return code was 8, there is no security mechanism in common and authentication is not possible. For other error codes, some type of system error occurred. POE terminates.</td>
<td>If there was no common security method found (return code of 8), consult your system administrator on the system security configuration. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-759</td>
<td>pmd parent: error writing to STDOUT for task number</td>
<td>pm daemon parent was not able to write to STDOUT for the indicated task.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-760</td>
<td>pmd parent: error reading stdin for task number, count=number</td>
<td>An error occurred when pmd parent read data from the stdin pipe for indicated task for checkpointing.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-761</td>
<td>pmd parent: error writing to STDOUT for task number</td>
<td>pm daemon parent was not able to write to STDOUT for the indicated task.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-762</td>
<td>pmd parent: error reading ctlin for task number, count=number</td>
<td>An error occurred when pmd parent read data from the ctlin pipe for indicated task for checkpointing.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-763</td>
<td>pmd parent: error writing to STDOUT for task number</td>
<td>pm daemon parent was not able to write to STDOUT for the indicated task.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-764</td>
<td>pmd parent: error writing to task number child's STDIN</td>
<td>pm daemon parent was not able to write to the indicated child's STDIN.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Explanation</td>
<td>User Response</td>
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</tr>
<tr>
<td>0031-765</td>
<td><strong>pmd parent: error writing to task</strong> <em>number</em> child’s ctl</td>
<td><strong>Explanation:</strong> pm daemon parent was not able to write to the indicated child’s control pipe.</td>
<td><strong>User Response:</strong> Probable system error.</td>
</tr>
<tr>
<td>0031-766</td>
<td><strong>pmd parent: error writing to STDOUT</strong> for <em>task</em> <em>number</em></td>
<td><strong>Explanation:</strong> pm daemon was not able to write to STDOUT for the indicated task.</td>
<td><strong>User Response:</strong> Probable system error.</td>
</tr>
<tr>
<td>0031-767</td>
<td><strong>signal</strong> <em>string</em></td>
<td><strong>Explanation:</strong> The message is sent from the signal handler in response to the indicated signal, which is not handled explicitly by the Partition Manager Daemon.</td>
<td><strong>User Response:</strong> Verify that the signal was intended.</td>
</tr>
<tr>
<td>0031-768</td>
<td><strong>Error reading security context on node</strong> <em>string</em>.</td>
<td><strong>Explanation:</strong> An internal error occurred reading the security context data sent from the POE home node. POE terminates.</td>
<td><strong>User Response:</strong> Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-769</td>
<td><strong>Invalid task environment data received.</strong></td>
<td><strong>Explanation:</strong> An internal error occurred receiving the task specific environment data sent from the home node. Most likely this occurred as a result of an internal error in LoadLeveler defining the adapter information. POE terminates.</td>
<td><strong>User Response:</strong> Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-770</td>
<td><strong>NULL pointer passed for the reg,</strong> <em>errno: number</em></td>
<td><strong>Explanation:</strong> Null pointer passed for the parameter while call registered CSS checkpoint and restart api function.</td>
<td><strong>User Response:</strong> Check the reg passed to the registered CSS checkpoint and restart api function.</td>
</tr>
<tr>
<td>0031-771</td>
<td><strong>Error allocating data while calling registered CSS,</strong> <em>errno: number</em></td>
<td><strong>Explanation:</strong> An error occurred allocating storage during calling registered CSS checkpoint and restart api function.</td>
<td><strong>User Response:</strong> Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-772</td>
<td><strong>Invalid value for the handle,</strong> <em>errno: number</em></td>
<td><strong>Explanation:</strong> Incorrect handle passed for the parameter while calling unregistered checkpoint and restart api function.</td>
<td><strong>User Response:</strong> Check the handle passed to the unregistered checkpoint and restart api function.</td>
</tr>
<tr>
<td>0031-773</td>
<td><strong>The handle is not currently active,</strong> <em>errno: number</em></td>
<td><strong>Explanation:</strong> A handle, which is a parameter, is not currently active while calling unregistered CSS checkpointing callback api function.</td>
<td><strong>User Response:</strong> Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>Code</td>
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</tr>
<tr>
<td>0031-774</td>
<td>Checkpoint of POE process process-ID has failed errno</td>
<td>The poeckpt command was unsuccessful. The system call <code>checkpoint()</code> failed. The indicated <code>errno</code> value describes the reason for the error. An <code>errno</code> value of 3 may indicate that the CHECKPOINT environment variable was not set to yes when POE was invoked.</td>
<td>Check that the process ID is valid.</td>
</tr>
<tr>
<td>0031-775</td>
<td>Error changing owner of string, errno is number</td>
<td>An internal error occurred changing the owner of the checkpoint file. The indicated ERRNO value describes the reason for the error.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-776</td>
<td>Restart of POE job from file string has failed, errno is number</td>
<td>The poerestart command was unsuccessful. The system call <code>restart()</code> was failure. The indicated ERRNO value describes the reason for the error.</td>
<td>Check that the program name is valid, and that it was previously checkpointed. If the <code>errno</code> indicated is ESTALE (errno 52), make sure the checkpoint file supplied as an argument to the <code>poerestart</code> command is from a checkpoint of the POE executable and not from one of the parallel tasks.</td>
</tr>
<tr>
<td>0031-777</td>
<td>Unexpected return code number from checkpoint_register, errno=number</td>
<td>Internal error has occurred.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-778</td>
<td>mp_main function is not available for checkpointing, errno: number</td>
<td>User program cannot call <code>mpc_set_ckpt_callbacks</code> because the <code>mp_main</code> function is not available.</td>
<td>Use <code>mpcc_r</code> to compile the user program.</td>
</tr>
<tr>
<td>0031-779</td>
<td>Can’t call mpc_set_ckpt_callbacks or mpc_unset_ckpt_callbacks</td>
<td>User program can’t call <code>mpc_set_ckpt_callbacks</code> or <code>mpc_unset_ckpt_callbacks</code> in checkpoint handler, resume handler, or restart handler because the <code>mpckpt_thread_handler</code> function is active.</td>
<td>Check the user program.</td>
</tr>
<tr>
<td>0031-780</td>
<td>poerestart: fork error &lt;string&gt;</td>
<td>The poerestart is unable to fork for <code>restart_wait</code> function.</td>
<td>Probable system error.</td>
</tr>
<tr>
<td>0031-781</td>
<td>NULL pointer passed for the parameter, errno: number</td>
<td>NULL pointer passed for the parameter while call checkpointing callback api function.</td>
<td>Check the func passed to the checkpointing callback api function.</td>
</tr>
<tr>
<td>0031-782</td>
<td>Checkpointing is not enabled, errno: number</td>
<td>Checkpointing of the program is not enabled, because the value of the CHECKPOINT environment variable was not set to yes.</td>
<td>To enable checkpointing, set CHECKPOINT to yes.</td>
</tr>
</tbody>
</table>
0031-783  Error allocating data while calling checkpoint callback api, errno: number  
Explanation: An error occurred allocating storage during calling checkpoint callback api function.  
User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-784  Restart wait call failed: rc=number, errno=number  
Explanation: An error occurred when the restart child process called the restart_wait system call.  
User Response: Probable system error.

0031-785  The host was not specified during executing the poerestart command  
Explanation: The host that should be used for the restarted job was not specified. If the -s flag was not used and the MP_LLFILE environment was not set, the MP_HOSTFILE environment should be set, or a host.list file should exist in the directory from which the command was run, or the MP_RMPOOL environment should be set.  
User Response: Specify the host that should be used for the restarted job.

0031-786  Invalid value for the handle, errno: number  
Explanation: A negative number of handle passed for the parameter while calling unregistered checkpointing callback api function.  
User Response: Check the handle passed to the unregistered checkpointing callback api function.

0031-787  The handle is not currently active, errno: number  
Explanation: A handle, which is a parameter, is not currently active while calling unregistered checkpointing callback api function.  
User Response: Check the handle passed to the unregistered checkpointing callback api function.

0031-788  pm_getcwd failed, rc=number  
Explanation: The internal pm_rst_getcwd function failed. A return code of 1 implies either can’t open pipe to ksh or command failed. A return code or 2 means the working directory string is longer than maxpath. The system terminates.  
User Response: Probable PE error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-789  Unable to read string for current directory  
Explanation: The poerestart is unable to interpret the data from the pwd command.  
User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-790  invalid envc received  
Explanation: The restart_envc received by the pm daemon is incorrect.  
User Response: Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-791  Unexpected message type from pm_SSM_read, expecting string, received string  
Explanation: Internal error has occurred.  
User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.
0031-792  Unexpected return code number from pm_SSM_read. errno=number

Explanation: Internal error has occurred.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-793  sigaction(SIGINT) failed.

Explanation: The return from sigaction for the indicated signal is negative.

User Response: Probable system error.

0031-794  sigaction(SIGQUIT) failed.

Explanation: The return from sigaction for the indicated signal is negative.

User Response: Probable system error.

0031-795  sigaction(SIGTERM) failed.

Explanation: The return from sigaction for the indicated signal is negative.

User Response: Probable system error.

0031-796  sigaction(SIGHUP) failed.

Explanation: The return from sigaction for the indicated signal is negative.

User Response: Probable system error.

0031-797  sigaction(SIGXCPU) failed.

Explanation: The return from sigaction for the indicated signal is negative.

User Response: Probable system error.

0031-798  The poeckpt command cannot be used to checkpoint a job being run under string

Explanation: The poeckpt command cannot be used to checkpoint a parallel job being run under LoadLeveler.

User Response: Verify that the parallel job does not run under LoadLeveler.

0031-799  The checkpoint of a parallel POE job with pid number failed.

Explanation: The process id is not yet in checkpointable state.

User Response: Check that the process id is in checkpointable state.

0031-800  -procs string ignored in remote child

Explanation: -procs interpreted only in parent code.

User Response: None.

0031-801  -hostfile string ignored in remote child

Explanation: -hostfile interpreted only in parent code.

User Response: None.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031-802</td>
<td><code>-newjob string ignored in remote child</code></td>
<td>-newjob interpreted only in parent code.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-803</td>
<td><code>-pmdlog string ignored in remote child</code></td>
<td>-pmdlog interpreted only in parent code.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-804</td>
<td><code>-pgmmodel string ignored in remote child</code></td>
<td>-pgmmodel interpreted only in parent code.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-805</td>
<td>Invalid programming model specified: <code>string</code></td>
<td>-pgmmodel should be either SPMD or MPMD.</td>
<td>Reenter <code>-pgmmodel</code> with either SPMD or MPMD.</td>
</tr>
<tr>
<td>0031-806</td>
<td>Invalid retry count <code>string</code></td>
<td>The retry count should be an integer.</td>
<td>Reenter <code>-retry</code> followed by an integer.</td>
</tr>
<tr>
<td>0031-807</td>
<td>Invalid node pool specified: <code>string</code></td>
<td>-rmpool should be an integer &gt;= 0.</td>
<td>Reenter <code>-rmpool</code> followed by an integer &gt;= 0.</td>
</tr>
<tr>
<td>0031-808</td>
<td>Hostfile or pool must be used to request nodes.</td>
<td>When using LoadLeveler, the environment variable <code>MP_RMPOOL</code> or the command-line option <code>-rmpool</code> must be used to specify the pool, because a hostfile did not exist.</td>
<td>Ensure that the absence of a hostfile was intended, verify the command-line or environment variable settings of <code>hostfile</code>, <code>resd</code>, and <code>rmpool</code>, and then retry. See IBM Parallel Environment for AIX 5L: Operation and Use, Volume 1 for more information.</td>
</tr>
<tr>
<td>0031-809</td>
<td><code>-tracefile string ignored in remote child</code></td>
<td>-tracefile interpreted only in parent code.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-810</td>
<td><code>-tracelevel string ignored in remote child</code></td>
<td>-tracelevel interpreted only in parent code.</td>
<td>None.</td>
</tr>
<tr>
<td>0031-811</td>
<td>System Checkpoint/Restart not supported</td>
<td>System Checkpoint/Restart is not supported by the MPI/MPCI libraries.</td>
<td>Rerun with newer version of threaded MPI/MPCI libraries.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Explanation</td>
<td>User Response</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0031-812</td>
<td>Parallel checkpoint callbacks registration failed</td>
<td>Registration of checkpoint callback functions failed. This is an internal error.</td>
<td>Rerun program.</td>
</tr>
<tr>
<td>0031-813</td>
<td>Error occurred closing HAL during a program checkpoint</td>
<td>An error occurred when closing HAL while taken a program checkpoint.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-814</td>
<td>Error occurred terminating HAL during a program checkpoint</td>
<td>An error occurred when terminating HAL while taken a program checkpoint.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-815</td>
<td>Error occurred re-initializing HAL after a program checkpoint</td>
<td>An error occurred during HAL re-initialization after taken a program checkpoint.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-816</td>
<td>Error occurred re-opening HAL after a program checkpoint</td>
<td>An error occurred while re-opening HAL after taken a program checkpoint.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-817</td>
<td>Invalid setting for MPI striping flags.</td>
<td>-mpi_stripe_flags should be “msg”, “msg_failover”, “failover”, or “none”.</td>
<td>Reenter -mpi_stripe_flags with one of the valid values.</td>
</tr>
<tr>
<td>0031-818</td>
<td>Error occurred resuming the interprocess communication during checkpointing</td>
<td>An error occurring calling the internal routine mp_resume_handler(), to resume the interprocess communication during checkpointing.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-819</td>
<td>Could not open error file string. errno=number.</td>
<td>An error occurred attempting to open the checkpoint error file.</td>
<td>Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
<tr>
<td>0031-820</td>
<td>Unexpected return code number from _mp_init_ckpt.</td>
<td>An error may have occurred in a lower level function.</td>
<td>If earlier error messages exist, perform whatever corrective action is indicated for these. If there are no other messages or if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
</tbody>
</table>
0031-821 Unexpected return code *number* from _mp_set_ckpt_callbacks.

**Explanation:** An error may have occurred in a lower level function.

**User Response:** If earlier error messages exist, perform whatever corrective action is indicated for these. If there are no other messages or if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-822 Unexpected return code *number* from _mp_unset_ckpt_callbacks.

**Explanation:** An error may have occurred in a lower level function.

**User Response:** If earlier error messages exist, perform whatever corrective action is indicated for these. If there are no other messages or if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-823 Error occurred checkpointing the interprocess communication

**Explanation:** An error occurring calling the internal routine mp_ckpt_handler(), to checkpoint the interprocess communication during checkpointing.

**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-824 Checkpointing failure returned from checkpnt_commit

**Explanation:** Internal error has occurred.

**User Response:** Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-825 Partial user-initiated checkpointing failed

**Explanation:** Internal error has occurred.

**User Response:** Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-826 Complete user-initiated checkpointing failed

**Explanation:** Internal error has occurred.

**User Response:** Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-827 The *string* error file is empty or does not exist

**Explanation:** The checkpoint error file is empty or does not exist.

**User Response:** None.

0031-828 Unexpected environment variable *string* was set to *string*

**Explanation:** An unexpected environment variable was set during executing the poerestart command.

**User Response:** Unset the unexpected environment variable.

0031-829 Unexpected ./*host.list* file exists

**Explanation:** An unexpected ./*host.list* file exists during executing the poerestart command.

**User Response:** Remove the unexpected ./*host.list* file.
0031-830 Invalid setting for LAPI striping flags.
Explanation: -lapi_stripe_flags should be msg, msg_failover, failover, or none.
User Response: Reenter -lapi_stripe_flags with one of the valid values.

0031-831 LoadLeveler as configured requires an application to use the threaded MPI library.
Explanation: The application is built with the non-threaded MPI library.
User Response: Rebuild the application using the threaded MPI library by using one of the threaded POE compiler scripts (mpcc_r, etc).

0031-900 Can't request profiling for task number
Explanation: A communication failure has occurred.
User Response: Retry; if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-901 Didn't get response to profiling request for task number
Explanation: A communication failure has occurred.
User Response: Retry; if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-902 Unexpected response to profiling request for task number
Explanation: A stray message may have been received during profiling.
User Response: Retry; if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-903 Can't confirm profiling for task number
Explanation: A communication failure has occurred.
User Response: Retry; if problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-904 Can't rename profiling file to string
Explanation: A communication failure may have occurred, or the profiling file could not be opened.
User Response: Check path name and permissions. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-906 Task number finished profile...
Explanation: Designated task has finished profile.
User Response: None.

0031-907 Task on node string terminating due to pulse timeout
Explanation: The designated task has been terminated due to a timeout in the POE pulse processing. The connection to the home node may have dropped, or the job may have been hung or abnormally functioning.
User Response: It is possible that the pulse interval was too small to allow sufficient time for the task to complete. Verify that the node is still up, or that the job was not doing something abnormal. You may also want to increase your interval value with the MP_PULSE environment variable or -pulse command line flag.
0031-908  SSM_PULSE acknowledgment failed for node \textit{string}.

\textbf{Explanation:} There was a failure in sending the acknowledgment message for the POE pulse function from POE to pmd for the indicated node.

\textbf{User Response:} Possible system error, unless the network connection between the nodes dropped. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0031-909  POE terminating due to pulse timeout for node \textit{string}.

\textbf{Explanation:} POE has determined that there were remote nodes which did not respond during POE pulse processing. There was not enough responses prior to the pulse timeout interval. The connection to the home node may have dropped, or the job may have been hung or abnormally functioning.

\textbf{User Response:} It is possible that the pulse interval was too small to allow sufficient time for the task to complete. Verify that the nodes are still up, or that the job was not doing something abnormal. You may also want to increase your interval value with the MP_PULSE environment variable or -pulse command line flag.
# Chapter 4. Message Passing Interface (MPI) messages

## 0032-050 Invalid buffer pointer

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred. Since much of the information defining an MPI message buffer is buried in the MPI_Datatype, accurate detection of an invalid buffer would be prohibitively expensive. Although this error class is defined by the MPI Standard, it is not used.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_BUFFER

## 0032-051 Invalid count argument

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_COUNT

## 0032-052 Invalid datatype argument

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_TYPE

## 0032-053 Invalid tag argument

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_TAG

## 0032-054 Invalid communicator

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_COMM

## 0032-055 Invalid rank

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_RANK

## 0032-056 Invalid request (handle)

**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

**User Response:** See the entry for the specific error code returned by the MPI function.

**Error Class:** MPI_ERR_REQUEST
0032-057  Invalid root
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_ROOT

0032-058  Invalid group
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_GROUP

0032-059  Invalid operation
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_OP

0032-060  Invalid topology
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_TOPOLOGY

0032-061  Invalid dimension argument
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_DIMS

0032-062  Invalid argument
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_ARG

0032-063  Unknown error
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_UNKNOWN
0032-064  Message truncated on receive

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_TRUNCATE

0032-065  Known error not in this list

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_OTHER

0032-066  Internal MPI error

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_INTERN

0032-067  Error code is in status

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_IN_STATUS

0032-068  Pending request

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_PENDING

0032-069  Invalid info key.

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_INFO_KEY

0032-070  Invalid info value.

Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.

User Response: See the entry for the specific error code returned by the MPI function.

Error Class: MPI_ERR_INFO_VALUE
0032-071  Info key not defined.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_INFO_NOKEY

0032-072  Invalid info.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_INFO

0032-073  Invalid file handle.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_FILE

0032-074  Collective arguments not identical or erroneous collective call order.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_NOT_SAME

0032-075  Invalid access mode.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_AMODE

0032-076  Unsupported data representation.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_UNSUPPORTED_DATAREP

0032-077  Unsupported operation.
Explanation:  This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response:  See the entry for the specific error code returned by the MPI function.
Error Class:  MPI_ERR_UNSUPPORTED_OPERATION
**0032-078**  
**File does not exist.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_NO_SUCH_FILE

**0032-079**  
**File exists.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_FILE_EXISTS

**0032-080**  
**Invalid file name.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_BAD_FILE

**0032-081**  
**Permission denied.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_ACCESS

**0032-082**  
**Not enough space.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_NO_SPACE

**0032-083**  
**Quota exceeded.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_QUOTA

**0032-084**  
**Read-only file or file system.**  
**Explanation:** This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.  
**User Response:** See the entry for the specific error code returned by the MPI function.  
**Error Class:** MPI_ERR_READ_ONLY
0032-085   File currently in use.
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_FILE_IN_USE

0032-086   Data representation already defined.
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_DUP_DATAREP

0032-087   An error occurred in data conversion.
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_CONVERSION

0032-088   Known I/O error not in this list.
Explanation: This is an MPI error class, returned by MPI_Error_class. It provides a broad description of the type of error that occurred.
User Response: See the entry for the specific error code returned by the MPI function.
Error Class: MPI_ERR_IO

0032-100   No error
Explanation: The function completed successfully.
User Response: No response required.
Error Class: MPI_SUCCESS

0032-101   Invalid source rank (number) in string, task number
Explanation: The value of source (source rank) is out of range.
User Response: Make sure that the source rank is within the range 0 to N-1, where N is the number of tasks in the communicator group.
Error Class: MPI_ERR_RANK

0032-102   Invalid destination rank (number) in string, task number
Explanation: The value of dest (destination rank) is out of range.
User Response: Make sure that the destination rank is within the range 0 to N-1, where N is the number of tasks in the communicator group.
Error Class: MPI_ERR_RANK
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-103</td>
<td>Invalid count (number) in string, task number</td>
<td>The value of count (element count) is out of range.</td>
<td>Make sure that the count is greater than or equal to zero.</td>
<td>MPI_ERR_COUNT</td>
</tr>
<tr>
<td>0032-104</td>
<td>Invalid message tag (number) in string, task number</td>
<td>The value specified for tag (message tag) is out of range.</td>
<td>Make sure that the message tag is within the range zero to val, as specified by MPI_Attr_get(MPI_COMM_WORLD,MPI_TAG_UB,&amp;val, &amp;flag).</td>
<td>MPI_ERR_TAG</td>
</tr>
<tr>
<td>0032-105</td>
<td>Invalid group handle (number) in string, task number</td>
<td>The specified group handle is undefined or NULL.</td>
<td>Make sure that the group handle is either predefined or was returned by an MPI function.</td>
<td>MPI_ERR_GROUP</td>
</tr>
<tr>
<td>0032-106</td>
<td>Negative length or position for buffer (number) in string, task number</td>
<td>The values specified for buffer size and position must be positive.</td>
<td>Specify a proper size and/or position for the pack or unpack buffer.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-107</td>
<td>Invalid stride (number) in string, task number</td>
<td>The value specified for stride is incorrect.</td>
<td>Make sure that the value(s) of stride (ranges[?] in C, or ranges(3,?) in FORTRAN) is non-zero.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-108</td>
<td>Invalid use of NULL request in string, task number</td>
<td>A NULL request is not allowed as input to the function.</td>
<td>Make sure that the request is valid.</td>
<td>MPI_ERR_REQUEST</td>
</tr>
<tr>
<td>0032-109</td>
<td>Uncommitted datatype (number) in string, task number</td>
<td>The datatype handle has not been committed.</td>
<td>Make sure that you call MPI_Type_commit to commit the datatype before using it in the specified function.</td>
<td>MPI_ERR_TYPE</td>
</tr>
<tr>
<td>0032-110</td>
<td>Attempt to free a predefined datatype (number) in string, task number</td>
<td>It is not valid to attempt to free a predefined datatype.</td>
<td>Call MPI_Type_free for user-defined datatypes only.</td>
<td>MPI_ERR_TYPE</td>
</tr>
<tr>
<td>Error Code</td>
<td>Error Message</td>
<td>Explanation</td>
<td>User Response</td>
<td>Error Class</td>
</tr>
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<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
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<td>---------------------</td>
</tr>
<tr>
<td>0032-111</td>
<td><strong>Invalid blocklength</strong> <em>(number)</em> in type constructor <strong>string, task number</strong></td>
<td>The value specified for <code>blocklength</code> is incorrect.</td>
<td>Make sure that <code>blocklength</code> is greater than or equal to zero.</td>
<td><strong>MPI_ERR_ARG</strong></td>
</tr>
<tr>
<td>0032-112</td>
<td><strong>Collective requests not supported in</strong> <strong>string, task number</strong></td>
<td>This function does not support the non-blocking collective communication extensions to MPI.</td>
<td>Only use point-to-point request handles with this function.</td>
<td><strong>MPI_ERR_REQUEST</strong></td>
</tr>
<tr>
<td>0032-113</td>
<td><strong>Out of memory in</strong> <strong>string, task number</strong></td>
<td>There is insufficient memory available to continue.</td>
<td>Reduce the size of user storage required per task.</td>
<td><strong>MPI_ERR_INTERN</strong></td>
</tr>
<tr>
<td>0032-114</td>
<td><strong>MPI internal error:</strong> <strong>string in</strong> <strong>string, task number</strong></td>
<td>An internal software error occurred within MPI, during execution.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td><strong>MPI_ERR_INTERN</strong></td>
</tr>
<tr>
<td>0032-115</td>
<td><strong>System error:</strong> <strong>string, in</strong> <strong>string task number</strong></td>
<td>A system software error occurred during execution.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td><strong>MPI_ERR_INTERN</strong></td>
</tr>
<tr>
<td>0032-116</td>
<td><strong>Null function not allowed in</strong> <strong>string, task number</strong></td>
<td>The value NULL (zero) was specified for <code>function</code>.</td>
<td>A valid function must be specified. If a do-nothing function is desired, it must be supplied by the user.</td>
<td><strong>MPI_ERR_OTHER</strong></td>
</tr>
<tr>
<td>0032-117</td>
<td><strong>User pack or receive buffer too small</strong> <em>(number)</em> in <strong>string, task number</strong></td>
<td>The buffer specified for the operation was too small to hold the message. In the PACK and UNPACK cases it is the space between current position and buffer end which is too small.</td>
<td>Increase the size of the buffer or reduce the size of the message. Error Class: <strong>MPI_ERR_TRUNCATE</strong></td>
<td></td>
</tr>
<tr>
<td>0032-118</td>
<td><strong>Invalid datatype</strong> <em>(number)</em> in <strong>string, task number</strong></td>
<td>The <code>datatype</code> is not a valid argument to the function.</td>
<td>The MPI_Datatypes (MPI_LB, MPI_UB, MPI_PACKED) are not valid in all functions. Make sure the type being use is valid for the function.</td>
<td><strong>MPI_ERR_TYPE</strong></td>
</tr>
</tbody>
</table>
0032-119  **Datatype already committed** *(number)* in *string, task number*

**Explanation:** It is incorrect to try to commit a **datatype** that is already committed.

**User Response:** Avoid calling MPI_Type_commit more than once per user defined datatype.

**Error Class:** MPI_ERR_TYPE

0032-120  **Declaration has upper bound < lower bound** *(number)* in *string, task number*

**Explanation:** No **datatype** can be defined with negative extent (upper bound less than lower bound).

**User Response:** Make sure any MPI_LB or MPI_UB argument to MPI_Type_struct is consistent with the layout being defined.

**Error Class:** MPI_ERR_ARG

0032-121  **Invalid rank** *(number)* in *string, task number*

**Explanation:** The value specified for **rank** is out of range.

**User Response:** Make sure that **rank** is within the range 0 to N-1, where N is the number of tasks in the group or communicator.

**Error Class:** MPI_ERR_RANK

0032-122  **Invalid dimension** *(number)* in *string, task number*

**Explanation:** The specified dimension is incorrect.

**User Response:** Make sure that all dimension values are valid for the function.

**Error Class:** MPI_ERR_DIMS

0032-123  **MPI_DATATYPE_NULL** not valid in *string, task number*

**Explanation:** The **datatype** is one which has already been freed.

**User Response:** Free a datatype only when it is known that it will not be needed again.

**Error Class:** MPI_ERR_TYPE

0032-124  **Invalid use of predefined key** *(number)* in *string, task number*

**Explanation:** The specified **keyval** is predefined.

**User Response:** Only user-defined keys are allowed with this function.

**Error Class:** MPI_ERR_OTHER

0032-125  **Duplicate rank** *(number)* in *string, task number*

**Explanation:** A duplicate rank was found in the group list.

**User Response:** Make sure that each rank in the group list is included only once.

**Error Class:** MPI_ERR_RANK

0032-126  **Inconsistent message size** *(number)* in *string, task number*

**Explanation:** Collective operations require that the amount of data sent must equal the amount received, pair-wise between tasks.

**User Response:** Make sure that all (count,datatype) pairs used in collective communication operations specify the same number of bytes for sender and receiver.

**Error Class:** MPI_ERR_NOT_SAME
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-127</td>
<td>Inconsistent reduction operator <em>(number)</em> in string, task <em>number</em></td>
<td>The participants in a collective operation did not all specify the same value for op.</td>
<td>Make sure that op is identical for all tasks making the call.</td>
<td>MPI_ERR_NOT_SAME</td>
</tr>
<tr>
<td>0032-128</td>
<td>Inconsistent root node <em>(number)</em> in string, task <em>number</em></td>
<td>The participants in a collective operation did not all specify the same value for root.</td>
<td>Make sure that root is identical for all tasks making the call.</td>
<td>MPI_ERR_NOT_SAME</td>
</tr>
<tr>
<td>0032-129</td>
<td>Can’t use an intercommunicator <em>(number)</em> in string, task <em>number</em></td>
<td>Only intra-communicators are valid with this function.</td>
<td>Make sure that comm is a handle for an intra-communicator.</td>
<td>MPI_ERR_COMM</td>
</tr>
<tr>
<td>0032-130</td>
<td>Can’t use an intracommunicator <em>(number)</em> in string, task <em>number</em></td>
<td>Only inter-communicators are valid with this function.</td>
<td>Make sure that comm is a handle for an inter-communicator.</td>
<td>MPI_ERR_COMM</td>
</tr>
<tr>
<td>0032-131</td>
<td>Can’t free a predefined communicator <em>(number)</em> in string, task <em>number</em></td>
<td>It is invalid to try to free a predefined communicator.</td>
<td>Only attempt to free user-defined communicators.</td>
<td>MPI_ERR_COMM</td>
</tr>
<tr>
<td>0032-132</td>
<td>Only valid with graph topology <em>(number)</em> in string, task <em>number</em></td>
<td>This function is only valid for communicators with graph topologies.</td>
<td>Make sure that the communicator has a graph topology. See MPI_Graph_create.</td>
<td>MPI_ERR_COMM</td>
</tr>
<tr>
<td>0032-133</td>
<td>Only valid with Cartesian topology <em>(number)</em> in string, task <em>number</em></td>
<td>This function is only valid for communicators with Cartesian topologies.</td>
<td>Make sure that the communicator has a Cartesian topology. See MPI_Cart_create.</td>
<td>MPI_ERR_COMM</td>
</tr>
<tr>
<td>0032-134</td>
<td>A Buffer is already attached in string, task <em>number</em></td>
<td>An attempt was made to attach a buffer when a buffer was already attached.</td>
<td>Call MPI_Buffer_detach first to remove the current buffer.</td>
<td>MPI_ERR_OTHER</td>
</tr>
</tbody>
</table>
0032-135  Invalid send buffer update in string, task number
Explanation: The contents of a buffer posted by a non-blocking send operation were modified before the send was completed.
User Response: Make sure that the buffer used to send a message is not reused before a WAIT or STATUS operation indicates that the send is complete.
Error Class: MPI_ERR_OTHER

0032-136  Invalid communicator (number) in string, task number
Explanation: The value used for communicator is not a valid communicator handle.
User Response: Make sure that the communicator is valid (predefined or created by an MPI function) and has not been freed by MPI_Comm_free.
Error Class: MPI_ERR_COMM

0032-137  Invalid keyval (number) in string, task number
Explanation: The value used for keyval is not a valid attribute key handle.
User Response: Make sure that the key handle is valid (predefined or created by an MPI function) and has not been freed by MPI_Keyval_free.
Error Class: MPI_ERR_ARG

0032-138  Undefined datatype (number) in string, task number
Explanation: The datatype handle does not represent a defined datatype.
User Response: Make sure the MPI_Datatype argument is either an MPI predefined type or has been defined by an MPI type constructor function.
Error Class: MPI_ERR_TYPE

0032-139  Invalid reduction operation (number) in string, task number
Explanation: The value used for op is not a valid reduction operation handle.
User Response: Make sure that the op handle is valid (predefined or created by an MPI function) and has not been freed by MPI_Op_free.
Error Class: MPI_ERR_OP

0032-140  Invalid error code (number) in string, task number
Explanation: The value used for code is not a valid error code.
User Response: Make sure that the error code was returned by an MPI function.
Error Class: MPI_ERR_ARG

0032-141  Invalid error handler (number) in string, task number
Explanation: The value used for errhandler is not a valid error handler handle.
User Response: Make sure that the error handler handle is valid and has not been freed by MPI_ERRHANDLER_FREE. A valid error handler handle is one that is predefined or one that was created by a call to create an errhandler for the same object type (a file error handler cannot be used as the error handler for a communicator, for example).
Error Class: MPI_ERR_ARG
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Message</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-142</td>
<td><strong>Invalid task count</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>An incorrect number of tasks was specified (either explicitly, or implicitly).</td>
<td>Make sure that the number of tasks is non-negative, and is not greater than the size of the communicator.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-143</td>
<td><strong>Invalid dimension count</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>The value specified for <em>ndims</em> is incorrect.</td>
<td>Make sure that the number of dimensions is greater than zero.</td>
<td>MPI_ERR_DIMS</td>
</tr>
<tr>
<td>0032-144</td>
<td>There is no solution in <em>string, task number</em></td>
<td>There is no set of dimensions which satisfies the conditions required by a call to MPI_Dims_create.</td>
<td>Modify the parameters used in the call to MPI_Dims_create so that a solution is possible.</td>
<td>MPI_ERR_DIMS</td>
</tr>
<tr>
<td>0032-145</td>
<td><strong>Invalid array size</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>An array size was specified to be less than zero.</td>
<td>Make sure that all array sizes (specified by maxdims, maxedges, maxindex, etc.) are non-negative.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-146</td>
<td><strong>Invalid neighbor rank</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>An incorrect rank was used for an element of the edges array.</td>
<td>Make sure that all elements of the edges array are greater than or equal to zero, and less than <em>n</em> nodes.</td>
<td>MPI_ERR_RANK</td>
</tr>
<tr>
<td>0032-147</td>
<td><strong>Invalid coordinate</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>The value specified is not a valid process coordinate in the communicator <em>comm</em>.</td>
<td>Make sure that each coordinate is in the range zero to <em>N-1</em>, where <em>N</em> is the size of the corresponding dimension of the Cartesian topology associated with <em>comm</em>.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-148</td>
<td><strong>Invalid root</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>The value specified for <em>root</em> is not a valid process rank in the communicator <em>comm</em>.</td>
<td>Make sure that <em>root</em> is within the range zero to <em>N-1</em>, where <em>N</em> is the number of tasks in the group associated with <em>comm</em>. <em>N</em> can be determined by calling MPI_Comm_size.</td>
<td>MPI_ERR_ROOT</td>
</tr>
<tr>
<td>0032-149</td>
<td>MPI is already initialized in <em>string, task number</em></td>
<td>A call to MPI_Init was made when MPI was already initialized.</td>
<td>If in doubt, make sure that MPI is not already initialized (by calling MPI_Initialized) before calling MPI_Init.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>Error Code</td>
<td>Message Description</td>
<td>Explanation</td>
<td>User Response</td>
<td>Error Class</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>0032-150</td>
<td>MPI is not initialized in string, task number</td>
<td>A call to an MPI function other than MPI_Init or MPI_Initialized was made before MPI was initialized.</td>
<td>Call MPI_Init before any other MPI function other than MPI_Initialized.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-151</td>
<td>MPI is already finalized in string, task number</td>
<td>A call to an MPI function was made when MPI was in the finalized state.</td>
<td>Do not call any MPI function after calling MPI_Finalize.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-152</td>
<td>Inconsistent algorithm selected in string, task number</td>
<td>The collective function resulted in different algorithms being selected by different tasks.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td>MPI_ERR_INTERN</td>
</tr>
<tr>
<td>0032-153</td>
<td>Inconsistent datatype (number) in string, task number</td>
<td>Different datatypes were used by different tasks in the collective communication operation.</td>
<td>Make sure that all tasks use the same datatype.</td>
<td>MPI_ERR_NOTSAME</td>
</tr>
<tr>
<td>0032-154</td>
<td>Not a persistent request (number), string, task number</td>
<td>An attempt was made to start a non-persistent request.</td>
<td>Make sure that the request handle is associated with a persistent request (i.e., it was returned by MPI_Send_init, MPI_Recv_init, etc.).</td>
<td>MPI_ERR_REQUEST</td>
</tr>
<tr>
<td>0032-155</td>
<td>Invalid number of ranks specified (number) in string, task number</td>
<td>The number of process ranks specified (either explicitly or implicitly) is out of range.</td>
<td>Make sure that the rank count is between zero and the number of tasks in the group, inclusive.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-156</td>
<td>Group is not a subset of communicator (number), in string, task number</td>
<td>The group specified in MPI_Comm_create is not a subset of the group associated with comm.</td>
<td>Make sure that all of the process ranks in group are also in comm.</td>
<td>MPI_ERR_GROUP</td>
</tr>
<tr>
<td>0032-157</td>
<td>Invalid request handle (number) in string, task number</td>
<td>The value specified is not a valid request handle.</td>
<td>Make sure that the request handle was returned by an MPI function.</td>
<td>MPI_ERR_REQUEST</td>
</tr>
</tbody>
</table>
0032-158  Persistent request already active *(number)* in *string, task* *number*

Explanation: An attempt was made to start a persistent request when the request was already active.

User Response: Complete the request by calling MPI_Wait, MPI_Test, etc. before starting it again.

Error Class: MPI_ERR_REQUEST

0032-159  Can't free an active receive request *(number)* in *string, task* *number*

Explanation: An attempt was made to free an active receive request (by calling MPI_Request_free).

User Response: Active receive requests should never be freed, as there is no way to verify that the receive has completed.

Error Class: MPI_ERR_REQUEST

0032-160  Too many communicators *(number)* in *string, task* *number*

Explanation: MPI is unable to create a new communicator because the maximum number of simultaneous communicators would be exceeded.

User Response: Be sure to free unneeded communicators with MPI_Comm_free so that they can be reused.

Error Class: MPI_ERR_COMM

0032-161  Can't free a predefined reduction op *(number)* in *string, task* *number*

Explanation: An attempt was made to free a predefined MPI reduction op.

User Response: Only use MPI_Op_free to free user-defined ops.

Error Class: MPI_ERR_OP

0032-162  Can't free a predefined error handler *(number)* in *string, task* *number*

Explanation: An attempt was made to free a predefined MPI error handler.

User Response: Only use MPI_Errhandler_free to free user-defined error handlers.

Error Class: MPI_ERR_ARG

0032-163  Copy callback failed in *string, task* *number*

Explanation: A non-zero return code was returned by the copy callback function associated with an attribute keyval. The specific value returned by the copy callback function is not available via MPI.

User Response: Make sure that user-defined copy callback functions are functioning correctly, and are returning MPI_SUCCESS upon successful completion.

Error Class: MPI_ERR_OTHER

0032-164  Delete callback failed in *string, task* *number*

Explanation: A non-zero return code was returned by the delete callback function associated with an attribute keyval. The specific value returned by the delete callback function is not available via MPI.

User Response: Make sure that user-defined delete callback functions are functioning correctly, and are returning MPI_SUCCESS upon successful completion.

Error Class: MPI_ERR_OTHER
0032-165  Out of buffer space in string, task number
Explanation: There is insufficient buffer space available to complete the buffered send.
User Response: Use MPI_Buffer_attach to attach a larger buffer.
Error Class: MPI_ERR_OTHER

0032-166  Local and remote leaders are the same (number) in string, task number
Explanation: The local and remote leaders are not allowed to be the same task, as this would create an intercommunicator with overlapping local and remote groups.
User Response: Make sure the local and remote leaders are distinct.
Error Class: MPI_ERR_RANK

0032-167  Local and remote groups overlap (number) in string, task number
Explanation: The local and remote groups are not allowed to overlap.
User Response: Make sure the local and remote groups are disjoint.
Error Class: MPI_ERR_RANK

0032-168  Invalid reduction operation/datatype combination (number) in string, task number
Explanation: The combination of reduction operation and datatype specified is not allowed.
User Response: Check the MPI documentation to determine which datatypes are allowed with each reduction operation.
Error Class: MPI_ERR_TYPE

0032-169  Invalid buffer size (number) in string, task number
Explanation: The size of a buffer must be greater than or equal to zero.
User Response: Make sure that the buffer size is non-negative.
Error Class: MPI_ERR_ARG

0032-170  Invalid direction (number) in string, task number
Explanation: The direction value was out of range.
User Response: Make sure that the direction is between zero and N-1, where N is the number of dimensions in the communicator topology.
Error Class: MPI_ERR_DIMS

0032-171  Communication subsystem error: reason in function_name, task task_id
Explanation: If the reason string includes a second message ID then the source of the error is from one of the communication subsystems, such as LAPI or device driver. If the error has a separate message ID then look up the proper response for that message in the appropriate message book. If the reason string does not include a second message ID then the error is from an internal (MPCI) component of the MPI library. These errors are explained immediately below. If any reason string displays without a message ID number and not listed below, contact IBM service.
User Response:   Error Class: MPI_ERR_INTERN

Note: The MPCI component of the MPI library issues certain messages that are informational in nature. These are not part of the MPI error messages but the information that they provide can be helpful for users to manage their MPI programs. See "MPCI informational messages," on page 153 for more information.
Memory is corrupted
Explanation: Either the message header or the send/receive descriptor of a message is corrupted.
User Response: Contact IBM service.

Memory is exhausted
Explanation: Could not allocate from predefined system memory.
User Response: Allocate more memory by increasing MP_BUFFER_MEM size. If this size already equals maximum value (64MB) then contact IBM service.

Incorrect argument.
Explanation: Internal (communication subsystem) error.
User Response: If the application program has called the MPCI functions mpci_env_get and mpci_env_set, modify program. Otherwise Contact IBM service.

Unknown error.
Explanation: Unknown communication subsystem error.
User Response: Contact IBM service.

MPCI Internal error.
Explanation: Error occurs in the MPCI internal component of the MPI library.
User Response: Contact IBM service.

Cannot attach buffer now.
Explanation: Application attempts to attach new buffer via MPI_BUFFER_ATTACH before detaching a previous buffer.
User Response: Modify application program.

MPI library is not in initializing state.
Explanation: Internal (Communication subsystem) error.
User Response: If the application program has called the MPCI functions mpci_env_get and mpci_env_set, modify program. Otherwise contact IBM services.

MPI library is not in connected state.
Explanation: Communication subsystem has not established connection.
User Response: Check switch/network connectivity

Insufficient buffer space.
Explanation: Not enough buffer attached via MPI_BUFFER_ATTACH.
User Response: Modify application program by adding more buffer space via MPI_BUFFER_ATTACH.

Send/Receive Handle is already being waited for.
Explanation: MPI_Wait has been called for a handle which already has another MPI_Wait call waiting for that request to complete.
User Response: Modify application program.
Service thread did not terminate.

Explanation: MPI_Finalize was unable to terminate the thread that handles SIGIO interrupts and to restore the user's specified signal handler.

User Response: None.

System callback thread did not terminate.

Explanation: MPI_Finalize was unable to terminate the system callback thread. The most probable cause is that a user-written reduction function is still running when the MPI library is finalizing.

User Response: None.

Restart job after increasing MP_BUFFER_MEM to minimum value equals 'amount'

Explanation: Insufficient memory allocated for MPI library internal use.

User Response: Increase MP_BUFFER_MEM to suggested value and re-start job.

MPI internal call to LAPI resulted in error condition.

Explanation: A MPI internal call to the LAPI communication subsystem has returned an error.

User Response: Contact IBM service.

0032-172 Invalid color (number) in string, task number

Explanation: A negative value was used for color.

User Response: Make sure that color is greater than or equal to zero, or is MPI_UNDEFINED.

Error Class: MPI_ERR_ARG

0032-173 Invalid node degree (number) in string, task number

Explanation: A negative value was used for an element of the index array.

User Response: Make sure that the index array contains only non-negative entries.

Error Class: MPI_ERR_ARG

0032-174 Too many messages in string, task number

Explanation: Too many outgoing and incoming messages have been posted without being completed.

User Response: Make sure that MPI_WAIT, MPI_TEST, or one of the other MPI wait or test functions is being called to complete pending sends and receives. In addition, make sure that for each message sent, there is a corresponding receive issued by some task.

Error Class: MPI_ERR_OTHER

0032-175 No receive posted for ready mode send in string, task number

Explanation: A ready mode send was posted for which there was no corresponding receive. This error is flagged only at the destination. It cannot be detected at the sender.

User Response: When ready mode send (MPI_RSEND, MPI_IRSEND) is used, make sure that the corresponding receive has already been posted on the destination task. This error always uses MPI_ERRORS_ARE_FATAL as its error handler. Any user defined error handler is ignored.

Error Class: MPI_ERR_OTHER
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-176</td>
<td><strong>One or more tasks became unreachable via</strong> <em>string, task number</em></td>
<td>Some node or switch adapter that is part of the MPI job has been reset or shutdown. There may be hardware problems.</td>
<td>Restart the job. Consider checking with local system support first to learn whether they are aware of the underlying problem and are dealing with it.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-177</td>
<td><strong>A nonblocking collective communication failed to complete</strong>, <em>string, task number</em></td>
<td>A nonblocking collective communication operation has failed to complete at the time MPI_Finalize is called. This is most likely the result of an infinite loop in a reduction operation.</td>
<td>This message should not be seen in a program which has correctly waited on every nonblocking request. Make sure every request is completed before calling MPI_FINALIZE.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-178</td>
<td><strong>A negative number of triplets was specified</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>The number of range triplets specified must be positive. A zero is accepted as a valid number though calling the range include or exclude function with zero ranges is probably not useful.</td>
<td>Correct the number of ranges argument.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-179</td>
<td><strong>The values of first and last are inconsistent with stride</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>For each range, the value of last need not be greater than the value of first but when last is less than first, the stride must be negative and when it is greater, the stride must be positive.</td>
<td>Use values of (first, last, stride) which agree.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-180</td>
<td><strong>MPI_CANCEL was attempted on an inactive persistent request</strong> <em>(number)</em> in <em>string, task number</em></td>
<td>A persistent request only represents a communication when it is active. It is made active by an MPI_START and made inactive by MPI_WAIT or MPI_TEST. Since there is no communication to cancel, MPI_CANCEL cannot be applied to an inactive request.</td>
<td>Avoid using MPI_CANCEL on a persistent request that does not currently involve a communication.</td>
<td>MPI_ERR_REQUEST</td>
</tr>
<tr>
<td>0032-182</td>
<td><strong>The value given for high disagrees with rank zero</strong> <em>string, task number</em></td>
<td>All members of the intercommunicator local group must give the same value for high. For the purpose of this error message, rank zero is presumed to have the correct value with which others can be compared.</td>
<td>Decide which value is correct and use it for the entire group.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-183</td>
<td><strong>An asymmetric graph was specified</strong> <em>string, task number</em></td>
<td>For each edge, a to b specified in a graph there must also be an entry in edges to specify the edge b to a.</td>
<td>Correct the asymmetry in the graph.</td>
<td>MPI_ERR_ARG</td>
</tr>
</tbody>
</table>
0032-184 MPI was not finalized in string, task number

Explanation: An MPI program exited without calling MPI_Finalize. The parallel job is terminated with an error exit code.

User Response: Correct the program and/or determine if the program terminated abnormally, perhaps via a library routine calling exit (0) after encountering an error condition.

Error Class: MPI_ERR_OTHER

0032-185 Locally detected error occurred on another task in string, task number

Explanation: Another task detected an input argument error on a collective operation. This error is flagged only when special checking is active. Setting MP_EUIDEVELOP to yes turns this checking on for collective communication. This checking is always active for MPI-IO collective calls, so deadlock can be avoided with the default MPI_ERRORS_RETURN error handler.

When an errors_return error handler is in effect, this return code appears for tasks that did not detect a local error. These tasks will not print any messages. Tasks that detect local errors can print a message identifying the local error. The return code alerts the user that the collective operation has failed because of errors elsewhere.

User Response: Correct the program, ensuring that all tasks have correct input. Focus on the tasks that indicate a local error.

Error Class: MPI_ERR_OTHER

0032-186 Consistency error occurred on another task in string, task number

Explanation: In a collective routine, two or more tasks detected that they were provided with inconsistent arguments. MPI requires that all callers have matching arguments. This error is flagged only when consistency checking is active. Setting MP_EUIDEVELOP to yes turns this checking on for collective communication and collective I/O.

When an error_return error handler is in effect, this return code appears for tasks that did not detect the inconsistency. These tasks will not print any messages. Tasks that detect an inconsistency can print a message identifying the inconsistency. The return code alerts the user that the collective operation has failed because of errors detected elsewhere. This error message cannot identify which values are correct and which are not.

User Response: Correct the program, ensuring that all tasks have correct and consistent arguments to collective calls.

Error Class: MPI_ERR_OTHER

0032-187 Datatype size cannot be expressed as an integer or MPI_Aint in string, task number

Explanation: A call to create a user-defined datatype would create a type with a size whose magnitude is too great to be expressed by an integer or MPI_AINT.

User Response: Restructure the program to use datatypes of smaller magnitude.

Error Class: MPI_ERR_OTHER

0032-188 Datatype stride cannot be expressed as an integer or MPI_Aint in string, task number

Explanation: A call to create a user-defined datatype would create a type with a stride whose magnitude is too great to be expressed by an integer or MPI_AINT.

User Response: Restructure the program to use datatypes of smaller magnitude.

Error Class: MPI_ERR_OTHER

0032-189 Datatype extent cannot be expressed as an integer or MPI_Aint in string, task number

Explanation: A call to create a user-defined datatype would create a type with an extent or true extent set by MPI_LB or MPI_UB whose magnitude is too great to be expressed by an integer or MPI_AINT.

User Response: Restructure the program to use datatypes of smaller magnitude.
**Error Class:** MPI_ERR_OTHER

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-190</td>
<td>Datatype upper or lower bound cannot be expressed as an integer or MPI_Aint in string, task number</td>
<td>A call to create a user-defined datatype would create a type with an upper bound, lower bound or other displacement within the datatype whose magnitude is too great to be expressed by an integer or MPI_AINT. The bound or displacement that overflowed could be based on either range of bytes touched or on MPI_LB and MPI_UB positions.</td>
<td>Restructure the program to use datatypes of smaller magnitude.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-201</td>
<td>Must use a Grequest handle with function string, task number</td>
<td>The only request type valid with this function is one created by a call to MPI_Grequest_start.</td>
<td>Correct the program so it does not call this function with any request type other than a generalized request.</td>
<td>MPI_ERR_REQUEST</td>
</tr>
<tr>
<td>0032-202</td>
<td>A GRequest query function returned error (code) in string, task number</td>
<td>An application provided query function for a generalized request has returned an error code. This is not an MPI library code, so this documentation cannot provide information about it.</td>
<td>Any failure analysis must focus on the application or its documentation.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-203</td>
<td>A GRequest free function returned error (code) in string, task number</td>
<td>An application provided free function for a generalized request has returned an error code. This is not an MPI library code, so this documentation cannot provide information about it.</td>
<td>Any failure analysis must focus on the application or its documentation.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-204</td>
<td>A GRequest cancel function returned error (code) in string, task number</td>
<td>An application provided cancel function for a generalized request has returned an error code. This is not an MPI library code, so this documentation cannot provide information about it.</td>
<td>Any failure analysis must focus on the application or its documentation.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-251</td>
<td>MPI-IO operations attempted in single threaded environment. In string, task number.</td>
<td>MPI-IO operations can only be performed if the MPI environment is multi-threaded.</td>
<td>Make sure the MP_SINGLE_THREAD environment variable is not set or is set to NO.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-252</td>
<td>Attention: There are more outstanding nonblocking collective communication calls than threads (number) to support them, which may cause a deadlock condition. In string, task number.</td>
<td>In the threads library, each nonblocking collective communication call is carried out on a separate thread. There is a limited number of threads to service these requests. Extra requests are queued, which may lead to a deadlock condition depending on the starting order of the nonblocking collective communication requests. This condition can occur only with nonblocking collective communication, an IBM extension to standard MPI.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**User Response:** There are two possible user responses: If you only need a few outstanding collective communication operations, make sure that other nonblocking requests have been waited on to keep the number of outstanding requests smaller than the available threads. If you need many outstanding nonblocking requests, you need to manage your own pool of threads and call the blocking collective routines on those threads.

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-253</td>
<td>Conflicting collective operations on communicator in string, task number</td>
<td>Any program that creates two or more concurrent collective operations on a single communicator is erroneous. This error is due to a race condition that occurs when two or more threads issue collective calls using the same communicator without enforcing an order. Programs that contain this race condition may sometimes complete normally, sometimes receive this message, and sometimes exhibit unexpected failures in collective communication. This error is only detected by calls that create a new communicator or file handle.</td>
<td>Add thread synchronization to the program to ensure that the same communicator is not used concurrently by two different collective communications calls in the same process.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-254</td>
<td>MP_SINGLE_THREAD is set in a multi-threaded program, detected in string, task number</td>
<td>The MP_SINGLE_THREAD environment variable is set, but multiple threads are executing.</td>
<td>Unset the MP_SINGLE_THREAD environment variable and rerun the program.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-255</td>
<td>It is not valid to decode a named predefined datatype. In string, task number.</td>
<td>The datatype given is a named predefined datatype which cannot be decoded.</td>
<td>When attempting to decode a datatype be sure that it is a derived datatype.</td>
<td>MPI_ERR_TYPE</td>
</tr>
<tr>
<td>0032-256</td>
<td>Maximum array size is not big enough. In string, task number.</td>
<td>The maximum size of an array, passed by an argument, is not big enough for the amount of information that needs to be returned.</td>
<td>Check the function call to make sure the correct arguments have been used and that a big enough storage area has been allocated.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-257</td>
<td>Key is not defined in info (number) in string, task number</td>
<td>The key passed to MPI_INFO_DELETE does not exist in the info which was passed in.</td>
<td>Check the function call to make sure the correct arguments have been used.</td>
<td>MPI_ERR_INFO_NOKEY</td>
</tr>
<tr>
<td>0032-258</td>
<td>Insufficient memory to satisfy request (number) in string, task number</td>
<td>MPI_Alloc_mem() was unable to obtain the requested memory.</td>
<td>Reduce the size of user storage required per task.</td>
<td>MPI_ERR_NO_MEM</td>
</tr>
<tr>
<td>0032-259</td>
<td>Invalid key type (number) in string, task number</td>
<td>The value used for key does not match the object type. Keys created for one MPI object type cannot be used to set attributes for a different object type.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
User Response: Make sure that the key was created by a call to a create keyval function for the same object type (communicator, type, or window).

Error Class: MPI_ERR_ARG

0032-260  Wrong error handler handle type \texttt{(number)} in \texttt{string, task number}  
Explanation: The value used for errhandle does not match the object type. Error handler handles created for one MPI object type cannot be used to set an error handler for a different object type.  
User Response: Make sure that the key was created by a call to a create errhandle function for the same object type (communicator, file, or window).

Error Class: MPI_ERR_ARG

0032-270  Cannot pass a \texttt{STATUS\_IGNORE} in \texttt{string, task number}  
Explanation: Routines that extract data from an MPI\_Status cannot be passed either \texttt{STATUS\_IGNORE} form.  
User Response: Provide a real status or delete the call from the user program.

Error Class: MPI_ERR_ARG

0032-280  Invalid info key \texttt{string, task number}.  
Explanation: The info key specified is too long.  
User Response: Make sure that the info key length is less than MPI\_MAX\_INFO\_KEY.

Error Class: MPI_ERR_INFO_KEY

0032-281  Invalid info value \texttt{string, task number}.  
Explanation: The info value specified is too long.  
User Response: Make sure that the info value length is less than MPI\_MAX\_INFO\_VAL.

Error Class: MPI_ERR_INFO_VALUE

0032-282  Invalid info key number \texttt{(number)} in \texttt{string, task number}.  
Explanation: The info key number specified must be between 0 and N-1, where N is the number of keys currently defined in the info argument.  
User Response: Correct the info key number argument.

Error Class: MPI_ERR_ARG

0032-283  Invalid info argument \texttt{(number)} in \texttt{string, task number}  
Explanation: The info handle provided does not represent a valid MPI\_Info object.  
User Response: Make sure the info argument has been created and has not been freed yet.

Error Class: MPI_ERR_INFO

0032-290  Improper error message change \texttt{string, task number}  
Explanation: Users cannot change the error messages for error codes and classes defined by the implementation.  
User Response: Correct the \texttt{errcode} argument.

Error Class: MPI_ERR_OTHER
0032-291  Error String too long string, task number
Explanation:  The size of the string argument is larger than the limit.
User Response:  Make sure the string argument has a length less than MPI_MAX_ERROR_STRING.
Error Class: MPI_ERR_OTHER

0032-292  Invalid error code string, task number
Explanation:  The error code specified is not valid.
User Response:  Correct the errorcode argument.
Error Class: MPI_ERR_OTHER

0032-300  Invalid file handle (number) in string, task number.
Explanation:  The file handle specified is not associated with an open file.
User Response:  Make sure the file has not already been closed.
Error Class: MPI_ERR_FILE

0032-301  Pathname too long string, task number.
Explanation:  The pathname specified is too long.
User Response:  Shorten the pathname.
Error Class: MPI_ERR_BAD_FILE

0032-302  Invalid access mode (number) in string, task number.
Explanation:  The amode argument specified is incorrect.
User Response:  Correct the amode argument.
Error Class: MPI_ERR_AMODE

0032-303  File does not exist string, task number.
Explanation:  The name specified does not correspond to an existing file or directory.
User Response:  Correct the file name argument.
Error Class: MPI_ERR_NO_SUCH_FILE

0032-304  Unsupported operation on sequential access file string, task number.
Explanation:  The operation attempted is not supported on a file opened in MPI_MODE_SEQUENTIAL amode.
User Response:  Close the file and re-open it with the appropriate amode.
Error Class: MPI_ERR_UNSUPPORTED_OPERATION

0032-305  Pending I/O operations when closing a file string, task number.
Explanation:  The file is being closed while there are still pending I/O operations on it. MPI_FILE_CLOSE does not provide an implicit MPI_WAIT on uncompleted nonblocking file operations.
User Response:  Modify the program so that all I/O operations are complete prior to closing the file.
Error Class: MPI_ERR_OTHER

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0032-306  Unclosed files when finalizing string, task number.
Explanation: There are still open files when MPI_FINALIZE is called.
User Response: Make sure that all files are closed prior to calling MPI_FINALIZE.
Error Class: MPI_ERR_OTHER

0032-307  Invalid environment string, task number
Explanation: You did not specify a documented MP_ environment variable.
User Response: Contact IBM service.
Error Class: MPI_ERR_OTHER

0032-308  Invalid order (number) in string, task number
Explanation: The value of the order argument in the type constructor call must be either MPI_ORDER_FORTRAN or MPI_ORDER_C.
User Response: Correct the value of the order argument.
Error Class: MPI_ERR_ARG

0032-309  Invalid array element (number) in string, task number.
Explanation: One element of the array has an incorrect value (either negative or zero).
User Response: Correct the value of the array element.
Error Class: MPI_ERR_ARG

0032-310  Invalid element in array_of_distrib (number) in string, task number.
Explanation: One element of the array_of_distrib argument to MPI_TYPE_CREATE_DARRAY has an incorrect value (not one of MPI_DISTRIBUTE_BLOCK, MPI_DISTRIBUTE_CYCLIC, MPI_DISTRIBUTE_NONE).
User Response: Correct the value of the array_of_distrib element.
Error Class: MPI_ERR_ARG

0032-311  Invalid element in array_of_dargs (number) in string task number.
Explanation: One element of the array_of_dargs argument to MPI_TYPE_CREATE_DARRAY() has an incorrect value (either negative or zero, and different from MPI_DISTRIBUTE_DFLT_DARG).
User Response: Correct the value of the array_of_dargs element.
Error Class: MPI_ERR_ARG

0032-312  Invalid group size (number) in string, task number.
Explanation: The value of the size argument must be positive.
User Response: Correct the value of the size argument.
Error Class: MPI_ERR_ARG

0032-313  Invalid grid size (number) in string, task number.
Explanation: The Cartesian grid of processes defined by arguments ndims and array_of_psizes to MPI_TYPE_CREATE_DARRAY() has a size different from argument size.
User Response: Correct either the value of the size argument or the values of the array_of_psizes elements.
Error Class: MPI_ERR_ARG
0032-314  Invalid psize element (number) in string, task number.

Explanation: One element of the array_of_psizes argument to MPI_TYPE_CREATE_DARRAY() must have a value of 1 since distribution MPI_DISTRIBUTE_NONE has been set in that dimension.

User Response: Correct the value of the array_of_psizes element.

Error Class: MPI_ERR_ARG

0032-315  Invalid block distribution (number) in string, task number.

Explanation: The values of the three arguments array_of_psizes, array_of_dargs, and array_of_gsizes do not satisfy the condition: array_of_psizes[i] * array_of_dargs[i] >= array_of_gizes[i], whereas distribution MPI_DISTRIBUTE_BLOCK has been set in dimension i.


Error Class: MPI_ERR_ARG

0032-316  Invalid subarray size (number) in string, task number.

Explanation: One element of the array_of_subsizes argument to MPI_TYPE_CREATE_SUBARRAY() has a value greater than the element of array_of_sizes in the same dimension.

User Response: Correct the value of the array_of_subsizes element.

Error Class: MPI_ERR_ARG

0032-317  Invalid start element (number) in string, task number.

Explanation: One element of the array_of_starts argument to MPI_TYPE_CREATE_SUBARRAY() has a value which is not compatible with the values of the elements of array_of_sizes and array_of_subsizes in the same dimension.

User Response: Set appropriate values to array_of_starts, array_of_sizes, and array_of_subsizes elements.

Error Class: MPI_ERR_ARG

0032-318  Internal error in cyclic distribution (number) in string, task number.

Explanation: An internal error occurred while processing a cyclic distribution.

User Response: Please note the return code and contact IBM.

Error Class: MPI_ERR_OTHER

0032-319  Internal error in block distribution (number) in string, task number.

Explanation: An internal error occurred while processing a block distribution.

User Response: Please note the return code and contact IBM.

Error Class: MPI_ERR_OTHER

0032-320  Invalid displacement (number) in string, task number.

Explanation: A negative displacement has been specified.

User Response: Modify the value of the disp argument.

Error Class: MPI_ERR_ARG

0032-321  Permission denied string, task number.

Explanation: The user does not have the required access permissions on the file.

User Response: Modify file access permissions.

Error Class: MPI_ERR_ACCESS
0032-322  File already exists string, task number.
Explanation: The file already exists, and MPI_MODE_CREATE and MPI_MODE_EXCL have been specified.
User Response: Modify access mode or make sure file does not exist at open.
Error Class: MPI_ERR_FILE_EXISTS

0032-323  Not enough space in file system string, task number.
Explanation: The file system does not have the required space to complete the requested operation.
User Response: Increase file system size.
Error Class: MPI_ERR_NO_SPACE

0032-324  File is a directory string, task number.
Explanation: The file specified is a directory.
User Response: Modify file pathname.
Error Class: MPI_ERR_BAD_FILE

0032-326  Read-only file system string, task number.
Explanation: The requested operation cannot be performed on the file specified, which resides in a read-only file system.
User Response: Modify file pathname or change file system attributes.
Error Class: MPI_ERR_READ_ONLY

0032-327  Pending I/O operations when setting a view string, task number.
Explanation: A view is being set while there are still pending I/O operations on the file.
User Response: Modify the program so that all I/O operations are complete prior to setting the new view on the file.
Error Class: MPI_ERR_OTHER

0032-328  Invalid data representation string, task number.
Explanation: An incorrect data representation was specified.
User Response: Assign to datarep either a predefined data representation or a user-defined data representation that has been previously registered.
Error Class: MPI_ERR_UNSUPPORTED_DATAREP

0032-329  Pending I/O operations when setting file size string, task number.
Explanation: The file size is being set while there are still pending I/O operations on the file.
User Response: Modify the program so that all I/O operations are complete prior to setting the file size.
Error Class: MPI_ERR_OTHER

0032-330  Invalid offset (number) in string, task number.
Explanation: A negative offset has been specified.
User Response: Modify the value of the offset argument.
Error Class: MPI_ERR_ARG
0032-332  File too big string, task number.
Explanation:  An attempt was made to write a file that exceeds the maximum file size.
User Response:  Modify your program so that the file does not exceed the maximum size.
Error Class: MPI_ERR_OTHER

0032-333  Pending I/O operations when synchronizing a file string, task number.
Explanation:  A sync operation is being attempted while there are still pending I/O operations on the file.
User Response:  Modify the program so that all I/O operations are complete prior to synchronizing the file.
Error Class: MPI_ERR_OTHER

0032-334  Inconsistent file inodes string, task number.
Explanation:  An open operation is being attempted and the file name corresponds to an inode that is not consistent with the inode associated with the file names provided by other processes.
User Response:  Modify the file names and make sure they are all associated with the same file inode.
Error Class: MPI_ERR_NOTSAME

0032-335  Inconsistent access modes string, task number.
Explanation:  An open operation is being attempted and the access mode is not consistent with the access modes provided by other processes.
User Response:  Modify the values of the access modes and make sure they are identical on all processes.
Error Class: MPI_ERR_NOTSAME

0032-336  Inconsistent file sizes string, task number
Explanation:  The file size is being set and values for the new size are not identical on all participating processes.
User Response:  Modify the values of the new size and make sure they are identical on all processes.
Error Class: MPI_ERR_NOTSAME

0032-338  Inconsistent elementary datatypes string, task number
Explanation:  The file view is being set and the elementary datatypes specified by the participating processes do not have the same extent.
User Response:  Modify the elementary datatypes and make sure they have the same extent on all processes.
Error Class: MPI_ERR_NOTSAME

0032-339  Invalid file system type string, task number
Explanation:  The file being opened does not reside in a file system of a supported type.
User Response:  Make sure the file name refers to a file residing in a file system of a supported type.
Error Class: MPI_ERR_OTHER

0032-340  Invalid file size (number) in string, task number
Explanation:  The size of a file must be greater than or equal to zero.
User Response:  Make sure that the file size is non-negative.
Error Class: MPI_ERR_ARG
0032-341 **Invalid whence** *(number)* in *string, task number*

**Explanation:** The whence argument has an incorrect value.

**User Response:** Make sure that the whence argument is equal to MPI_SEEK_CUR, MPI_SEEK_END, or MPI_SEEK_SET.

**Error Class:** MPI_ERR_ARG

---

0032-342 **Invalid file position** *string, task number*

**Explanation:** A seek operation led to a negative position in the current file view.

**User Response:** Modify the whence and offset arguments in order to ensure that the new position in the current file view is positive or null.

**Error Class:** MPI_ERR_ARG

---

0032-343 **Inconsistent offsets** *string, task number*

**Explanation:** A seek operation on a shared file pointer is not using the same offset on all participating processes.

**User Response:** Modify the values of offset and make sure they are identical on all processes.

**Error Class:** MPI_ERR_NOTSAME

---

0032-344 **Inconsistent whences** *string, task number*

**Explanation:** A seek operation on a shared file pointer is not using the same whence on all participating processes.

**User Response:** Modify the values of whence and make sure they are identical on all processes.

**Error Class:** MPI_ERR_NOTSAME

---

0032-345 **Pending split collective operation** *string, task number*

**Explanation:** A collective data access operation is attempted while a split collective operation is pending on the same handle.

**User Response:** Make sure all collective data access operations are executed in the same order on all processes. If required, implement inter-thread synchronization to ensure the same order.

**Error Class:** MPI_ERR_OTHER

---

0032-346 **No pending split collective operation** *string, task number*

**Explanation:** The end phase of a split collective data access operation is being attempted while there is no pending split collective operation currently associated with the file handle.

**User Response:** Make sure a begin phase has been issued on the file handle prior to the call to the end phase.

**Error Class:** MPI_ERR_OTHER

---

0032-347 **Pending I/O operations when preallocating file blocks** *string, task number*

**Explanation:** A preallocate operation is being attempted while there are still pending I/O operations on the file.

**User Response:** The user should modify the program so that all I/O operations are complete prior to preallocating file blocks.

**Error Class:** MPI_ERR_OTHER
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-348</td>
<td>Duplicated data representation string, task number</td>
<td>The data representation is already registered.</td>
<td>The user is attempting to register the same data representation a second time. Make sure the name of the data representation is correct.</td>
<td>MPI_ERR_DUP_DATAREP</td>
</tr>
<tr>
<td>0032-349</td>
<td>Data representation name too long string, task number</td>
<td>The name specified for the data representation to be registered is too long.</td>
<td>Shorten the name.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-350</td>
<td>Invalid filetype string, task number</td>
<td>The user is attempting to define a file view for which filetype is not derived from etype.</td>
<td>Modify the filetype and/or the etype arguments in order to ensure that filetype is derived from etype.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-351</td>
<td>Read conversion error (number) in string, task number</td>
<td>The conversion attempted during a read operation was unsuccessful.</td>
<td>The error number reported by this message is the conversion function return code. For the internal and external32 data representations, 999 indicates overflow. For user-provided data representations, the meaning of a reported error number is determined by the author of the conversion routine.</td>
<td>MPI_ERR_CONVERSION</td>
</tr>
<tr>
<td>0032-352</td>
<td>Write conversion error (number) in string, task number</td>
<td>The conversion attempted during a write operation was unsuccessful.</td>
<td>The error number reported by this message is the conversion function return code. For the internal and external32 data representations, 999 indicates overflow. For user-provided data representations, the meaning of a reported error number is determined by the author of the conversion routine.</td>
<td>MPI_ERR_CONVERSION</td>
</tr>
<tr>
<td>0032-353</td>
<td>Inconsistent flags string, task number</td>
<td>A set_atomicity operation is not using the same flag on all participating processes.</td>
<td>Modify the values of flag and make sure they are identical on all processes.</td>
<td>MPI_ERR_NOTSAME</td>
</tr>
<tr>
<td>0032-354</td>
<td>Conversion of MPI_BYTE items is invalid string, task number</td>
<td>The only valid data representation for MPI_BYTE items is “native”.</td>
<td>Change the data representation to &quot;native&quot; or change the elementary datatype.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-390</td>
<td>Invalid status ignore value string, task number</td>
<td>The wrong status ignore value was used.</td>
<td>Check that MPI_STATUS_IGNORE is used for single status parameters, and MPI_STATUSES_IGNORE is used for parameters that are arrays.</td>
<td></td>
</tr>
</tbody>
</table>
Error Class: MPI_ERR_ARG

0032-391  MPI_COMM_SELF attribute delete function returned error (code) in string, task number
Explanation:  COMM_SELF was not freed in the finalize call.
User Response:  Check the delete callback function for problems.

Error Class: MPI_ERR_OTHER

0032-392  Pack conversion error string, task number
Explanation:  The conversion attempted during packing failed.
User Response:  The error number reported by this message is the conversion function return code. For the external32 data representation, 999 indicates overflow.

Error Class: MPI_ERR_CONVERSION

0032-393  Unpack conversion error string, task number
Explanation:  The conversion attempted during unpacking failed.
User Response:  The error number reported by this message is the conversion function return code. For the external32 data representation, 999 indicates overflow.

Error Class: MPI_ERR_CONVERSION

0032-394  Data rep type error
Explanation:  The data representation type is not valid.
User Response:  Check that the data representation requested was external32.

Error Class: MPI_ERR_OTHER

0032-400  Internal stat failed (number) in string, task number.
Explanation:  An internal call to stat() was unsuccessful.
User Response:  Check error number and take appropriate action.

Error Class: MPI_ERR_IO

0032-401  Internal unlink failed (number) in string, task number.
Explanation:  An internal call to unlink() was unsuccessful.
User Response:  Check error number and take appropriate action.

Error Class: MPI_ERR_IO

0032-402  Internal ftruncate failed (number) in string, task number.
Explanation:  An internal call to ftruncate() was unsuccessful.
User Response:  Check error number and take appropriate action.

Error Class: MPI_ERR_IO

0032-403  Internal open failed (number) in string, task number.
Explanation:  An internal call to open() was unsuccessful.
User Response:  Check error number and take appropriate action.

Error Class: MPI_ERR_IO
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-404</td>
<td>Internal close failed (number) in string, task number</td>
<td>An internal call to close() was unsuccessful.</td>
<td>Check error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-405</td>
<td>Internal fsync failed (number) in string, task number</td>
<td>An internal call to fsync() was unsuccessful.</td>
<td>Check error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-406</td>
<td>Internal lseek failed (number) in string, task number</td>
<td>An internal call to lseek() was unsuccessful.</td>
<td>Check the error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-407</td>
<td>Internal read failed (number) in string, task number</td>
<td>An internal call to read() was unsuccessful.</td>
<td>Check the error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-408</td>
<td>Internal write failed (number) in string, task number</td>
<td>An internal call to write() was unsuccessful.</td>
<td>Check the error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-409</td>
<td>Internal fstat failed (number) in string, task number</td>
<td>An internal call to fstat() was unsuccessful.</td>
<td>Check the error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-410</td>
<td>Internal fstatvfs failed (number) in string, task number</td>
<td>An internal call to fstatvfs() was unsuccessful.</td>
<td>Check the error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
<tr>
<td>0032-411</td>
<td>Internal gpfs_prealloc() failed (number) in string, task number</td>
<td>An internal call to gpfs_prealloc() was unsuccessful.</td>
<td>Check the error number and take appropriate action.</td>
<td>MPI_ERR_IO</td>
</tr>
</tbody>
</table>
0032-425  **Invalid window handle** *(number)* in *string, task number*
Explanation: The window handle specified is not associated with an existing window.
User Response: Make sure that the window has been created by MPI_Win_create.
Error Class: MPI_ERR_WIN

0032-426  **Invalid window size** *(number)* in *string, task number*
Explanation: The value specified for the size of the window buffer is less than zero.
User Response: Make sure that the window buffer size is non-negative.
Error Class: MPI_ERR_SIZE

0032-427  **Invalid window displacement unit** *(number)* in *string, task number*
Explanation: The value specified for the local window displacement unit is less than one.
User Response: Make sure that the local displacement unit is positive.
Error Class: MPI_ERR_DISP

0032-428  Can’t create RMA window in single threaded environment in *string, task number*
Explanation: MPI one-sided windows can be created only if the MPI environment is multi-threaded.
User Response: Make sure the MP_SINGLE_THREAD environment variable is not set or is set to no.
Error Class: MPI_ERR_OTHER

0032-429  **Invalid origin count** *(number)* in *string, task number*
Explanation: The value specified for the origin element count is less than zero.
User Response: Make sure that the count is non-negative.
Error Class: MPI_ERR_COUNT

0032-430  **Invalid origin datatype** *(number)* in *string, task number*
Explanation: The origin datatype handle is not valid.
User Response: Make sure that the handle is associated with either a predefined datatype (except MPI_LB, MPI_UB, and MPI_PACKED) or an existing derived datatype that has been committed via MPI_Type_commit.
Error Class: MPI_ERR_TYPE

0032-431  **Invalid target rank** *(number)* in *string, task number*
Explanation: The value specified for the target rank is out of range.
User Response: Make sure that the target rank is within the range 0 to N-1, where N is the number of tasks in the communicator group associated with the window.
Error Class: MPI_ERR_RANK

0032-432  **Invalid target displacement** *(number)* in *string, task number*
Explanation: The value specified for the displacement in the target window buffer is less than zero.
User Response: Make sure that the displacement is non-negative.
Error Class: MPI_ERR_ARG
0032-433  Invalid target count (number) in string, task number

Explanation: The value specified for the target element count is less than zero.

User Response: Make sure that the count is non-negative.

Error Class: MPI_ERR_COUNT

0032-434  Invalid target datatype (number) in string, task number

Explanation: The target datatype handle is not valid.

User Response: Make sure that the handle is associated with either a predefined datatype (except MPI_LB, MPI_UB, and MPI_PACKED) or an existing derived datatype that has been committed via MPI_Type_commit.

Error Class: MPI_ERR_TYPE

0032-435  Origin buffer too small (number) in string, task number

Explanation: The total amount of data requested for sending from an MPI_Get target is larger than the amount of data specified for receiving at the origin.

User Response: Make sure the total number of bytes sent from the target is less than or equal to the number of bytes received by the origin.

Error Class: MPI_ERR_TRUNCATE

0032-436  Target buffer too small (number) in string, task number

Explanation: The total amount of data requested for sending from an MPI_Put or MPI_Accumulate origin is larger than the amount of data specified for receiving by the target.

User Response: Make sure the total number of bytes sent from the origin is less than or equal to the number of bytes received by the target.

Error Class: MPI_ERR_TRUNCATE

0032-437  Target buffer starts outside target window (number) in string, task number

Explanation: The leftmost byte of the data requested to be sent or received by a target of an RMA communication lands before the window buffer start in memory.

User Response: Make sure all the data is positioned after the window buffer start.

Error Class: MPI_ERR_TRUNCATE

0032-438  Target buffer ends outside target window (number) in string, task number

Explanation: The rightmost byte of the data requested to be sent or received by a target of an RMA communication lands beyond the window buffer end in memory.

User Response: Make sure all the data is positioned before the window buffer end.

Error Class: MPI_ERR_TRUNCATE

0032-439  Target outside access group (number) in string, task number

Explanation: The target specified for an RMA communication call either is not a member of the group specified by a previous call to MPI_Win_start, or is not locked by a previous call to MPI_Win_lock.

User Response: Make sure that the target is in the origin's access group.

Error Class: MPI_ERR_RANK
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Message Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-440</td>
<td>Origin datatype inappropriate for MPI_ACCUMULATE <em>(number)</em> in string, task number</td>
<td>The specified origin datatype is neither a predefined datatype nor a derived</td>
<td>Make sure that the datatype is built of a single predefined datatype.</td>
<td>MPI_ERR_TYPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>datatype whose basic components are all of the same predefined datatype.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0032-441</td>
<td>Target datatype inappropriate for MPI_ACCUMULATE <em>(number)</em> in string, task number</td>
<td>The specified target datatype is neither a predefined datatype nor a derived</td>
<td>Make sure that the datatype is built of a single predefined datatype.</td>
<td>MPI_ERR_TYPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>datatype whose basic components are all of the same predefined datatype.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0032-442</td>
<td>Incompatible origin and target datatypes in string, task number</td>
<td>The origin and target datatypes specified for MPI_Accumulate are built of</td>
<td>Make sure that the origin and target datatypes' basic types are the same.</td>
<td>MPI_ERR_TYPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>different predefined datatypes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0032-443</td>
<td>Invalid accumulate operation <em>(number)</em> in string, task number</td>
<td>The value of the combine operation handle specified for MPI_Accumulate is</td>
<td>Make sure that the operation handle is predefined.</td>
<td>MPI_ERR_OP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>not valid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0032-444</td>
<td>Group is not a subset of window group <em>(number)</em> in string, task number</td>
<td>The task group whose handle is passed to MPI_WIN_START or MPI_WIN_POST is</td>
<td>Make sure that all of the process ranks in the specified group are also in the window group.</td>
<td>MPI_ERR_GROUP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>not a subgroup of the task group associated with the RMA window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0032-445</td>
<td>Invalid synchronization assertion <em>(number)</em> in string, task number</td>
<td>The assertion value specified for an RMA synchronization call is not valid.</td>
<td>Make sure the assertion value is either zero or an OR-sum of the assertion values valid for this synchronization call.</td>
<td>MPI_ERR_ASSERT</td>
</tr>
<tr>
<td>0032-446</td>
<td>Invalid lock type <em>(number)</em> in string, task number</td>
<td>The RMA lock type value specified for MPI_Win_lock is not valid.</td>
<td>Make sure the lock type value is either MPI_LOCK_EXCLUSIVE or MPI_LOCK_SHARED.</td>
<td>MPI_ERR_LOCKTYPE</td>
</tr>
<tr>
<td>0032-447</td>
<td>Origin holds no lock on the target <em>(number)</em> in string, task number</td>
<td>The target whose rank value has been specified for MPI_Win_unlock had not</td>
<td>Make sure the target has been locked by the origin task.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>been previously locked by the origin task through an MPI_Win_lock call.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Error Class: MPI_ERR_RANK

0032-448  RMA communication call outside access epoch in string, task number

Explanation: An RMA communication call is attempted at a point when no access epoch is in effect.

User Response: Make sure the call is preceded by an RMA synchronization call starting an access epoch (either MPI_Win_fence, MPI_Win_start, or MPI_Win_lock).

Error Class: MPI_ERR_RMA_CONFLICT

0032-449  Access epoch already in effect in string, task number

Explanation: An access epoch start at the origin task is attempted while another access epoch previously started at the same origin task (by MPI_Win_start, MPI_Win_lock, or MPI_Win_fence, followed by an RMA communication call) is still in effect.

User Response: Make sure the previously started access epoch is terminated by the appropriate synchronization call (MPI_Win_complete, MPI_Win_unlock, or another MPI_Win_fence, respectively) before starting the new access epoch.

Error Class: MPI_ERR_RMA_SYNC

0032-450  Exposure epoch already in effect in string, task number

Explanation: An exposure epoch start at the target task is attempted while another exposure epoch previously started at the same target task by MPI_Win_post or MPI_Win_fence, followed by a target processing of RMA communications, is still in effect.

User Response: Make sure the previously started exposure epoch is terminated by, respectively, MPI_Win_wait (or MPI_Win_test returning TRUE), or another MPI_Win_fence, before starting the new exposure epoch.

Error Class: MPI_ERR_RMA_SYNC

0032-451  No access epoch to terminate in string, task number

Explanation: An MPI_Win_complete or MPI_Win_unlock called at a point where no access epoch started by, respectively, MPI_Win_start or MPI_Win_lock, is in effect.

User Response: Make sure the call is preceded by the appropriate call starting an access epoch.

Error Class: MPI_ERR_RMA_SYNC

0032-452  No exposure epoch to terminate in string, task number

Explanation: An MPI_Win_wait or MPI_Win_test called at a point where no exposure epoch started by MPI_Win_post is in effect.

User Response: Make sure the call is preceded by an MPI_Win_post call starting an exposure epoch.

Error Class: MPI_ERR_RMA_SYNC

0032-453  Unsolicited access of local window while exposed in string, task number

Explanation: The local target window has been accessed by an origin task that is not a member of the exposure group, during the epoch being terminated by MPI_Win_wait or MPI_Win_test on the target.

User Response: Make sure RMA accesses of the target window throughout the exposure epoch are made only by the members of the group specified in the MPI_Win_post call starting the exposure epoch.

Error Class: MPI_ERR_RMA_CONFLICT
0032-454 Unsolicited access of target window while locked (number) in string, task number

Explanation: The locked target window has been accessed by an origin task that does not hold an RMA lock on that target, during the lock period being terminated by MPI_Win_unlock on the lock origin.

User Response: Make sure RMA accesses of the target window throughout the lock period are made only by the origin tasks who have secured an RMA lock on the target via a call to MPI_Win_unlock.

Error Class: MPI_ERR_RMA_CONFLICT

0032-455 Can’t lock an exposed window at the target (number) in string, task number

Explanation: An exposure epoch (started either by MPI_Win_fence followed by the target’s RMA communication processing or by MPI_Win_post) is in effect on the target the origin task attempts to lock via MPI_Win_lock.

User Response: Make sure the target window is not exposed to RMA accesses at the time of the lock attempt.

Error Class: MPI_ERR_RMA_SYNC

0032-456 Can’t start exposure epoch on a locked window in string, task number

Explanation: An attempt is made to start an exposure epoch (via either MPI_Win_post or MPI_Win_fence) while at least one RMA lock is held on the target window.

User Response: Make sure all of the RMA locks on the target window are released by the responsible origin tasks via MPI_Win_unlock prior to starting an exposure epoch at the target.

Error Class: MPI_ERR_RMA_SYNC

0032-457 Pending origin activity when freeing a window in string, task number

Explanation: An access epoch previously started at the task has not been terminated by the MPI_Win_free time.

User Response: Make sure the access epoch has been terminated by an appropriate synchronization call.

Error Class: MPI_ERR_RMA_SYNC

0032-458 Pending target activity when freeing a window in string, task number

Explanation: An exposure epoch or lock period previously started at the task has not been terminated by the MPI_Win_free time.

User Response: Make sure the exposure epoch has been terminated by an appropriate synchronization call, and all RMA locks held on the target are released by the lock origins via MPI_Win_unlock.

Error Class: MPI_ERR_RMA_SYNC

0032-459 RMA communication call in progress in string, task number

Explanation: An RMA communication call is being executed by another thread at the task concurrently with an RMA synchronization call.

User Response: Make sure no RMA communication calls are being executed by any other thread at the task.

Error Class: MPI_ERR_RMA_OTHER

0032-460 RMA synchronization call in progress in string, task number

Explanation: An RMA synchronization call is being executed by another thread at the task concurrently with either an RMA synchronization call or an RMA communication call

User Response: Make sure no RMA synchronization calls are being executed by any other thread at the task.

Error Class: MPI_ERR_RMA_OTHER
0032-461  **Invalid typeclass in** *string, task number*

**Explanation:** The type class specified is not valid. The valid type classes are: MPI_TYPECLASS_COMPLEX, MPI_TYPECLASS_INTEGER, and MPI_TYPECLASS_REAL.

**User Response:** Correct the *typeclass* parameter.

**Error Class:** MPI_ERR_TYPE

0032-462  **The typeclass has no MPI_Datatype of size** *(size)* **in** *string, task number*

**Explanation:** There is no MPI_Datatype of the specified byte size in the type class.

**User Response:** MPI provides datatypes which match the FORTRAN language types. The size parameter must correspond to the number of bytes in a FORTRAN datatype within the type class.

**Error Class:** MPI_ERR_TYPE

0032-463  **The system does not support the floating point precision** *(precision)* **in** *string, task number*

**Explanation:** The function returns an MPI_Datatype that will support the requested decimal precision. If the upper limit supported by the FORTRAN compiler is exceeded, this error is reported.

**User Response:** MPI provides datatypes that match the FORTRAN language types. Use a precision no higher than is supported by the compiler.

**Error Class:** MPI_ERR_PARM

0032-464  **The system does not support the floating point range** *(exponent)* **in** *string, task number*

**Explanation:** The function returns an MPI_Datatype that will support the requested decimal exponent. If the upper limit supported by the FORTRAN compiler is exceeded, this error is reported.

**User Response:** MPI provides datatypes that match the FORTRAN language types. Use an exponent no higher than is supported by the compiler.

**Error Class:** MPI_ERR_PARM

0032-465  **Too many MPI_UNDEFINED arguments in** *string, task number*

**Explanation:** At least one of the arguments must provide selection information. The other can be MPI_UNDEFINED.

**User Response:** Use at least one meaningful selector.

**Error Class:** MPI_ERR_TYPE

0032-466  **Cannot free an F90 type in** *string, task number*

**Explanation:** The MPI_CREATE_F90_xxx routines create datatypes that are already committed and may not be freed.

**User Response:** Call this routine only for user constructed datatypes.

**Error Class:** MPI_ERR_TYPE

0032-467  **Call is from code not using the Fortran MPI module in** *string, task number*

**Explanation:** The routine MPI_SIZEOF is supported only by FORTRAN code with a USE MPI statement. It is not supported for C code or for FORTRAN code that includes mpif.h.

**User Response:** If the functionality is required, the code must be compiled as F90 code with a USE MPI statement.

**Error Class:** MPI_ERR_OTHER
<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
<th>Explanation</th>
<th>User Response</th>
<th>Error Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032-468</td>
<td>User defined error raised (code) in string, task number</td>
<td>One of the MPI_xxx_CALL_ERRORHANDLER subroutines has been called with a user-defined error code.</td>
<td>The error is application-defined. Refer to any available application documentation.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-469</td>
<td>Invalid errorclass (class) in string, task number</td>
<td>Only a valid error class can be used with this subroutine. Provide either a predefined error class or a previously-defined user error class.</td>
<td></td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-470</td>
<td>Improper use of MPI_IN_PLACE in string, task number</td>
<td>MPI_IN_PLACE is only permitted in certain contexts. It has been used as an argument where it is not permitted.</td>
<td>Refer to the man page for information about the use of MPI_IN_PLACE in this subroutine.</td>
<td>MPI_ERR_ARG</td>
</tr>
<tr>
<td>0032-480</td>
<td>Cross memory attachment kernel extension not available in string task number</td>
<td>The cross memory attachment kernel extension can not be found or loaded. The attempt to enable MPI shared memory collective communication optimization failed.</td>
<td>The cross memory attachment kernel extension is part of rsct.lapi files. Make sure it is installed. Check config method to ensure that the KE will be loaded and correctly configured. If MP_SHM_CC is set to yes it can be unset as a work around until the problem is corrected.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-481</td>
<td>No shared memory for SHM CC in string task number</td>
<td>No available segment for MPI shared memory collective communication optimization or failure to attach to shared memory region.</td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-482</td>
<td>Invalid program mode for SHM CC in string task number</td>
<td>MPI shared memory collective communication optimization supports only 64bit executables.</td>
<td>Refer to man page for information about the use of MP_SHM_CC environment variable.</td>
<td>MPI_ERR_OTHER</td>
</tr>
<tr>
<td>0032-483</td>
<td>Too many tasks per node (number) in string task number</td>
<td>The intent for the MPI shared memory collective communication optimization is to support a maximum of one MPI task per CPU. For the initial release of PE 4.1, the limit is 32 tasks on a node. This limit may be increased as PE 4.1 evolves to support future SMP nodes.</td>
<td>Refer to man page for information about the use of MP_SHM_CC environment variable.</td>
<td>MPI_ERR_OTHER</td>
</tr>
</tbody>
</table>
0032-485  Mismatching blocking and non-blocking collectives in string, task number

Explanation: The use of MPI shared memory collective communication optimization does not allow blocking collectives to be used in conjunction with non-blocking collective (MPE) routines.

User Response: Refer to man page for information about the use of MP_SHM_CC environment variable and non-blocking collective routines.

Error Class: MPI_ERR_OTHER
# Chapter 5. PE Benchmarker messages

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-002</td>
<td>Internal error from file:line-number</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An internal error was found at the specified line number.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Gather information about the problem and follow local site procedures for reporting hardware and software problems.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-003</td>
<td>Syntax error, near location</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A syntax error was found near the location of the command.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Correct the input command and retry.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-004</td>
<td>Duplicate keyword keyword found</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The command keyword was repeated more than once.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Correct the error and retry.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-005</td>
<td>Connect command has both all and task/group qualifier</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>Both the all and task group qualifiers are present with the connect command.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Remove either the all or the task qualifier.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-006</td>
<td>The task does not exist, is in an inappropriate state, or does not contain the data requested.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>There was an attempt to retrieve data, such as a file ID, on a task that either does not exist or does not have the data requested. Also, the task could be in a state that does not allow the specified action, such as a disconnected task trying to be destroyed. You can destroy the target if it is disconnected, but you cannot specify individual tasks.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Try a different task, different data, or both.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-007</td>
<td>Group name group-name is not a defined group</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The specified group name is not defined.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Use show groups to find all of the defined groups.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-008</td>
<td>Group name group-name is empty</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The specified group name is empty.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Enter some tasks into the specified group.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-009</td>
<td>Cannot find the default group or the default group is empty</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The default group could not be found, or the default group is empty.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>If the application is not connected, connect to it. Run the show group command to see the tasks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-010</td>
<td>Session needs to connect or load before running the command</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The session is not connected to any application.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Correct the error and retry.</td>
</tr>
<tr>
<td>Code</td>
<td>Message</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2554-011</td>
<td><strong>AisStatus failure code</strong> &lt;code&gt;code&lt;/code&gt;</td>
</tr>
<tr>
<td>2554-012</td>
<td><strong>Cannot modify predefined group name</strong> &lt;code&gt;group-name&lt;/code&gt;</td>
</tr>
<tr>
<td>2554-013</td>
<td><strong>The target application has completed or has been killed on its own.</strong></td>
</tr>
<tr>
<td>2554-014</td>
<td><strong>The command failed to allocate enough memory for its use.</strong></td>
</tr>
<tr>
<td>2554-015</td>
<td><strong>Multiple programs detected in the command.</strong></td>
</tr>
<tr>
<td>2554-016</td>
<td><strong>Input line is longer than the 1000 byte limit</strong></td>
</tr>
<tr>
<td>2554-021</td>
<td><strong>session is already connected to an application</strong></td>
</tr>
<tr>
<td>2554-022</td>
<td><strong>cannot disconnect task</strong> &lt;code&gt;task-number&lt;/code&gt;</td>
</tr>
<tr>
<td>2554-023</td>
<td><strong>pid</strong> &lt;code&gt;pid&lt;/code&gt; specified is not valid</td>
</tr>
</tbody>
</table>
2554-024  All tasks in this command are already connected
Explanation:  All tasks in the connect command are already connected, or there was an attempt to connect an empty group.
User Response:  Correct the error and retry.

2554-025  pid pid specified is not a valid poe pid
Explanation:  The process ID is not a valid POE process ID.
User Response:  Double check the process ID.

2554-026  cannot find help information for string
Explanation:  There is no help information available for the specified string.
User Response:  Correct the error and retry.

2554-027  Help is not available in the beta release
Explanation:  Help is not provided in beta release.
User Response:  None.

2554-031  cannot suspend task-number
Explanation:  The specified task cannot be suspended.
User Response:  Check the task number; the task must be connected or loaded.

2554-033  cannot resume task-number
Explanation:  The specified task cannot be resumed.
User Response:  Check the task number; the task must be suspended.

2554-036  Target application not connected.
Explanation:  There is no target application to destroy.
User Response:  Connect to a target application.

2554-038  The target application was not loaded.
Explanation:  The target application was connected to, not created.
User Response:  Do not try the start command on this target application.

2554-041  The stdin command input is not valid.
Explanation:  The text part of the stdin command is not valid.
User Response:  Check the input text; it must be a quoted string.

2554-042  The application loaded cannot take stdin as input
Explanation:  The application that is loaded reads the STDIN from a file.
User Response:  If the application needs to read the input from user input, remove the stdin clause from the load command.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-043</td>
<td>The user closed STDIN already</td>
<td>The user has closed STDIN.</td>
<td>The user cannot close STDIN if more input is expected.</td>
</tr>
<tr>
<td>2554-051</td>
<td>No file_spec was provided.</td>
<td>No file_spec was specified for a command that requires it.</td>
<td>Type file regexp, where regexp is a regular expression such as: <code>*;</code>.</td>
</tr>
<tr>
<td>2554-052</td>
<td>session loaded with tool-name already</td>
<td>The session loaded a tool.</td>
<td>Use a separate session.</td>
</tr>
<tr>
<td>2554-053</td>
<td>tool name string is not a valid tool name</td>
<td>The string specified is not a valid tool name.</td>
<td>Use show tools to find all the defined tools.</td>
</tr>
<tr>
<td>2554-054</td>
<td>Tool tool-name failed to load</td>
<td>The tool specified in the tool-name field did not load.</td>
<td>Report the failure to the owner of the tool.</td>
</tr>
<tr>
<td>2554-055</td>
<td>Tool tool-name failed to initialize.</td>
<td>The tool specified in the tool-name field did not initialize properly.</td>
<td>Report the failure to the owner of the tool.</td>
</tr>
<tr>
<td>2554-060</td>
<td>The file id string provided is invalid.</td>
<td>The file ID specified does not exist.</td>
<td>Enter a different file ID. Use the file command to find a list of valid file ID.</td>
</tr>
<tr>
<td>2554-061</td>
<td>The function id string provided is invalid.</td>
<td>The function ID specified does not exist.</td>
<td>Enter a different function ID. Use the function command to find a list of valid function ids.</td>
</tr>
<tr>
<td>2554-062</td>
<td>End of File</td>
<td>The end of the file was reached.</td>
<td>State an earlier line.</td>
</tr>
<tr>
<td>2554-063</td>
<td>file string was not found.</td>
<td>The file specified was not found.</td>
<td>State a different file name.</td>
</tr>
</tbody>
</table>
2554-064  Function *string* was not found.
Explanation: The function specified was not found.
User Response: State a different function name.

2554-065  The first line specified is invalid.
Explanation: The file does not have this many lines.
User Response: Enter a smaller line number. The number must be positive, that is, greater than 0.

2554-066  The last line specified is invalid.
Explanation: The file does not have this many lines.
User Response: Enter a smaller line number. The number must be positive, that is, greater than 0, and must be greater than or equal to the start line.

2554-067  No path was set.
Explanation: The path was not yet set. The default path is the current directory.
User Response: Issue a set sourcepath command.

2554-068  no previous file set for this command
Explanation: There is no previous file set for this command.
User Response: Use the list file command before the list next call.

2554-076  File *file-name* failed to open
Explanation: The file specified cannot be opened.
User Response: Check to see if the user has permission to open the file to write.

2554-080  poeargs was specified but not poe.
Explanation: The user tried to specify the poeargs argument for a job that is not a POE job.
User Response: If the job is supposed to be a POE job, type poe on the line; if not, do not use poeargs.

2554-081  load command needs an exec clause or mpmdcmd clause to specify program to load.
Explanation: There is no program specified to attempt to load.
User Response: Try load again; this time with an exec clause or mpmdcmd clause.

2554-082  load failed.
Explanation: PE Benchmarker was unable to load the program specified.
User Response: Make sure the correct path was specified, that the program is the correct one, and if it is a POE program, that either environment variables are set or you specify poeargs.

2554-083  load command cannot have both exec clause and mpmdcmd clause.
Explanation: You cannot specify both the exec clause and the mpmdcmd clause with the load command.
User Response: Try load again; this time with only an exec clause or an mpmdcmd clause.
2554-084  mpmdcmd clause also requires poe keyword.
Explanation: The load mpmdcmd command requires the poe keyword.
User Response: Try load again; this time with the poe keyword.

2554-085  different version between tool and application.
Explanation: The tool and target application do not have the same version.
User Response: Recompile the application.

2554-086  path-name is not a full path.
Explanation: The specified path is not a full path.
User Response: Use the full path name.

2554-087  Target was linked with -pg or contains disallowed function 'monstartup'.
Explanation: The performance collection tool's session manager does not allow targets that have monstartup system calls.
User Response: Make sure the program does not contain an explicit reference to monstartup and was not linked with the -p flag or the -pg flag.

2554-201  Path name not set.
Explanation: The path name is not set yet.
User Response: Set the path name.

2554-202  Excessive probe data size: number.
Explanation: The size of the probe data memory is too large to allocate.
User Response: Try using a smaller amount.

2554-203  Error has occurred while updating MPI event masks.
Explanation: One of the probe expressions that was executing failed.
User Response: Note the scenario that causes the error message to occur, then report the problem to IBM support using the usual problem reporting procedures.

2554-204  Error has occurred while installing and activating probes.
Explanation: One or more of the probe installations or activations failed.
User Response: Note the scenario that causes the error message to occur, then report the problem to IBM support using the usual problem reporting procedures.

2554-205  The probe id: number is out of range.
Explanation: The probe ID is either less than 0 or is greater than the number of probes.
User Response: List the probes to see how many there are and choose a valid ID.

2554-206  The task id: number has previous errors.
Explanation: The task ID has had an AisStatus error on a previous add.
User Response: Use a different task or restart the tool.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-207</td>
<td><strong>Invalid probe path:</strong> <em>string.</em></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The path assigned using the trace set path or profile set path command is incorrect for a given task.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Make sure you have set an output directory using the trace set path or profile set path command. If you have, make sure the specified directory exists.</td>
</tr>
<tr>
<td>2554-208</td>
<td><strong>Multiple programs detected in the command.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Subgroup the application into multiple homogeneous programs and rerun the command on each group.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An attempt was made to run the command in an unsupported heterogeneous environment.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Use the group command to partition the images and rerun the command on each partition.</td>
</tr>
<tr>
<td>2554-221</td>
<td><strong>Invalid keyword string found in trace help command.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> Incorrect help keyword.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Check the input text.</td>
</tr>
<tr>
<td>2554-231</td>
<td><strong>event string is unknown to the command.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The event name specified is unknown to this command. No events are set.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Provide a valid event name.</td>
</tr>
<tr>
<td>2554-232</td>
<td><strong>bufsize specified size K is outside the valid range minimum-size K — maximum-size K.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The size specified is incorrect.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Provide a valid size.</td>
</tr>
<tr>
<td>2554-233</td>
<td><strong>logsize specified size M is outside the valid range minimum-size M — maximum-size M.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The size specified is incorrect.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Provide a valid size.</td>
</tr>
<tr>
<td>2554-234</td>
<td><strong>Path string is invalid.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The path specified is incorrect.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Provide a valid path.</td>
</tr>
<tr>
<td>2554-241</td>
<td><strong>No functions were found to meet any of the expressions provided.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> Unlike specific function IDs or ranges, an expression may match nothing and will not produce an error in the internal functions. For the adding of probes and markers, this is incorrect. Therefore, if not even one function from any function expression provided produces a match, and a valid function ID is provided, then the add command itself will produce this generic message.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Provide a valid file ID and expression and a valid function ID and expression. Use the file, function, and point commands to find out what is and is not valid.</td>
</tr>
<tr>
<td>2554-242</td>
<td><strong>Invalid mpiname string found in the command</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The list of MPI names is not valid.</td>
</tr>
<tr>
<td></td>
<td><strong>User Response:</strong> Run the trace show probetypes command to see the list of valid MPI names.</td>
</tr>
</tbody>
</table>
2554-243  Invalid mpiid string found in the command
Explanation: The list of MPI IDs is not valid.
User Response: Run the trace show probetypes command to see the list of valid MPI IDs.

2554-244  Fail to add because some of the tasks have already been probed.
Explanation: Some of the tasks have point probe added. Probes cannot be added in global fashion.
User Response: Remove the previous added probes.

2554-245  Fail to add because some of the tasks have all functions probed.
Explanation: Some of the tasks have all function probe added. Probes cannot be added to the subset of functions.
User Response: Remove the previous added probes in those tasks.

2554-251  More than one instrumentation point can be derived from this command
Explanation: Only one instrumentation point can occur in one add marker command.
User Response: Check the input text and remove the extra files or functions, especially if a regular expression is involved.

2554-252  no instrumentation point can be derived from this command
Explanation: Only one instrumentation point can occur in one add marker command.
User Response: Check the input text, or use the point command to find all of the available points.

2554-253  no matching marker name string found from previous commands
Explanation: The marker name must be paired with the previous begin marker.
User Response: Issue trace show markers to see all of the previously-defined markers.

2554-254  no marker name found in the command
Explanation: The marker name is missing for the begin marker and the end marker.
User Response: Add the marker name.

2554-255  different tasks between 'beginmarker' and 'endmarker'
Explanation: Tasks are mismatched for the begin marker and the end marker.
User Response: Match the tasks.

2554-256  duplicate name marker-name found in marker id marker-ID.
Explanation: A duplicate name was found in the previously-defined marker.
User Response: Change the name.

2554-257  Invalid marker name found
Explanation: The marker name contains unprintable characters.
User Response: Change the name.
Marker id marker-ID is invalid.
Explanation: The marker ID specified is not valid.
User Response: Issue the trace show markers command to find all of the valid marker IDs.

Marker id marker-ID is already removed.
Explanation: The marker ID specified is already removed.
User Response: Issue the trace show markers command to find all of the valid marker IDs.

Probe id probe-ID has already been removed.
Explanation: The probe ID specified has already been removed.
User Response: Issue the trace show probes command to find all of the valid probe IDs.

Path name not set
Explanation: The path name is not set.
User Response: Set the path name.

The task id: task-ID has previous errors.
Explanation: The task ID has had an AisStatus error on a previous add.
User Response: Use a different task or restart tool.

Multiple programs detected in the command.
Subgroup the application into multiple homogeneous programs and rerun the command on each group.
Explanation: An attempt was made to run the command in an unsupported heterogeneous environment.
User Response: Use the group command to partition the images and rerun the command on each partition.

Invalid keyword string found in profile help command.
Explanation: A non-valid help keyword was found.
User Response: Check the input text.

ProfName string is unknown to this cpu type
Explanation: The ProfName used in this show probetype command is not valid.
User Response: Use the show probetypes command to find a valid name.

Profld or ProfName is not valid in this cpu type
Explanation: The Profld or ProfName used in this add command is not valid.
User Response: Make sure the tasks do not have mixed cpu type.

Option part of the command is not valid in this ProfType
Explanation: The Option part of the command is not valid for the ProfType.
User Response: Make sure the option specified is valid.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2554-343</td>
<td>ProfId has been specified, Only one option is allowed</td>
<td>Only one ProfId/Option pair is allowed in the command.</td>
<td>Remove the duplicates.</td>
</tr>
<tr>
<td>2554-344</td>
<td>Some functions are profiled in the probe id probe-number, duplication is not allowed</td>
<td>Some of the functions are profiled in the previous command. Duplication is not allowed.</td>
<td>Use the <strong>show probes</strong> command to examine the command in question.</td>
</tr>
<tr>
<td>2554-345</td>
<td>Task task-ID has different probe type specified.</td>
<td>The task ID had been used before with a different probe type. Only one probe type can be used in a</td>
<td>The user needs to plan ahead on what profile type to monitor, and use that type across the profiling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>profile session.</td>
<td>session.</td>
</tr>
<tr>
<td>2554-346</td>
<td>There is no function in the specified file and function combination.</td>
<td>The specified file and function combination generates an empty result.</td>
<td>Use the <strong>function</strong> command to verify the function list.</td>
</tr>
<tr>
<td>2554-347</td>
<td>Too many files/functions in the add command.</td>
<td>The number of functions that can be added in a single <strong>add</strong> command is 200.</td>
<td>Separate the command in two.</td>
</tr>
<tr>
<td>2554-348</td>
<td>Name string is unknown to the command.</td>
<td>The event name specified is unknown to the <strong>add</strong> command.</td>
<td>Type the correct name.</td>
</tr>
<tr>
<td>2554-349</td>
<td>At least one task task-ID does not have PMAPI installed.</td>
<td>The host that runs the specified task ID does not have PMAPI installed and cannot collect the</td>
<td>Install the PMAPI on the node.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hardware counter event information.</td>
<td></td>
</tr>
<tr>
<td>2554-351</td>
<td>No previous added profile to be removed</td>
<td>There is no previous added profile to be removed.</td>
<td>Issue the <strong>add</strong> command before the <strong>remove</strong> command.</td>
</tr>
<tr>
<td>2554-352</td>
<td>The range started from number is too big.</td>
<td>The range specified is outside the boundary of the added profile.</td>
<td>Issue <strong>show probes</strong> to see the list of profiles.</td>
</tr>
</tbody>
</table>
Chapter 6. Unified Trace Environment (UTE) messages

2554-900  count record(s) excluded due to invalid field(s).
Explanation:  One or more records were excluded because they did not contain one or more field(s) that were expected to be in all records.
User Response:  Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2554-901  count record(s) were excluded from table table due to invalid field(s).
Explanation:  Records were excluded from a table because the records did not contain an expected field or the field had a value other than an expected type.
User Response:  Correct the table definition to use fields that exist in all selected records.

2554-902  Could not open file filename: reason.
Explanation:  An attempt to open a file failed.
User Response:  Use the correct file name.

2554-903  Program option option_name option_value is invalid.
Explanation:  A program option value is invalid.
User Response:  Correct the option value.

2554-904  Field field_name in record type record_type (record_index) could not be mapped to a bin in table table_name.
Explanation:  A field to be mapped to a table index bin had a value that was not in the domain of the mapping.
User Response:  Change the table definition to select records with values that are in the domain of mapped values.

2554-905  Field field_name in record type record_type (record_index) could not be used as a table index.
Explanation:  A field to be used as a table index was not an unsigned integer field or a signed field with a non-negative value.
User Response:  Change the table definition to use an unsigned field.

2554-906  count interval(s) excluded due to missing begin record.
Explanation:  Intervals were excluded from the statistics because the input files contained an end record for the interval, but no begin record.
User Response:  Run the program on files containing all interval records.

2554-907  count continuation record(s) excluded due to wrong event type.
Explanation:  Records were excluded from the statistics because the input files contained continuation records whose event type did not match the event type at the top of the state stack.
User Response:  Report the error; it should not happen.

2554-908  count interval(s) excluded due to missing end record.
Explanation:  Intervals were excluded from the statistics because the input files contained a begin record for the interval, but no end record.
User Response:  Run the program on files containing all interval records.
2554-909  Output format format does not support tables with count dimensions.
Explanation:  The output tables have more dimensions than the output format supports.
User Response:  Specify a different output format.

2554-910  reason on line number number near string.
Explanation:  Statistics table specification could not be parsed.
User Response:  Correct the table specifications.

2554-911  construct on line number is not supported.
Explanation:  Statistics table specification contained a feature that is not currently supported.
User Response:  Correct the table specifications.

2554-912  utestats: string
Explanation:  A system library routine returned an error code.
User Response:  Report the error; it should not happen.

2554-913  profile_name does not define the field field_name.
Explanation:  The profile file does not contain a definition for a field that was expected to be present in all UTE interval records.
User Response:  Specify the correct profile file as a command argument.

2554-914  field_name is not in record type record_type (record_index).
Explanation:  The profile file does not contain a definition for a field that was expected to be present in an UTE interval record of the given type.
User Response:  Specify the correct profile file as a command argument or correct the field name.

2554-915  Line number line_number contains unterminated string string.
Explanation:  Statistics table specification contains a quoted string that was not ended before the end of the line.
User Response:  Correct the table specifications.

2554-916  Usage: utestats [-?] [-o out_file] [-B n] input_file ...n-?\tDisplay this message\n-o out_file \n-B n \n\tNumber of time bins in predefined overview table (default: bins)\ninput_file ...\nUTE interval files to generate statistics from
Explanation:  The command line contained an invalid option flag or it contained the option flag that triggers the usage message.
User Response:  Correct the command line options.

2554-917  field_name in record type record_type (record_index) is a vector.
Explanation:  A field to aggregate statistics on is a vector field.
User Response:  Change the table definition to use a scalar field.
Field field_name in record type record_type (record_index) is a vector; it cannot be used as an index.

Explanation: A field to use as a table index was a vector field.
User Response: Change the table definition to use a scalar field.

Missing argument for '-o' option

Explanation: user supplied '-o' without an accompanying filename argument
User Response: supply a filename for the '-o' option
Appendix. MPCI informational messages

The following messages may appear during the execution of an MPI application, however these messages do not have message identification numbers because they do not belong to any MPI message class. These messages are informational and are intended to help you to execute MPI applications more efficiently.

MPCI shared object was compiled at

**Explanation:** Compilation time of the MPCI internal component.

**User Response:** This is an informational message. It is activated when MP_INFOLEVEL is greater than or equal to 2.

**ATTENTION: Due to memory limitation eager limit is reduced to** value

**Explanation:** Eager_limit value has been automatically reduced due to memory limitation.

**User Response:** This is an informational message. Program continues to execute with reduced eager limit. This can be avoided by increasing the MP_BUFFER_MEM size.

**ATTENTION: Due to internal memory requirement, buffer_mem is changed to** value

**Explanation:** MP_BUFFER_MEM value has been automatically increased due to internal memory requirement.

**User Response:** This is an informational message. Program continues to execute with the increased buffer. This can be avoided by increasing the MP_BUFFER_MEM size.

**ATTENTION: MP_COPY_SEND_BUF_SIZE has been reduced to** value

**Explanation:** The MP_COPY_SEND_BUF_SIZE has been automatically adjusted.

**User Response:** This is an informational message. Program continues to execute with the reduced size. This can be avoided by specifying a MP_COPY_SEND_BUF_SIZE value equals to or less than the value of MP_EAGER_LIMIT.

**Note:** For information on limits for MP_BUFFER_MEM and MP_EAGER_LIMIT please refer to *IBM Parallel Environment for AIX Operation and Use, Volume 1, Using the Parallel Operation Environment.*
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Glossary

A

AFS. Andrew File System.

address. A value, possibly a character or group of characters that identifies a register, a device, a particular part of storage, or some other data source or destination.

AIX. Abbreviation for Advanced Interactive Executive, IBM's licensed version of the UNIX operating system. AIX is particularly suited to support technical computing applications, including high-function graphics and floating-point computations.

AIXwindows® Environment/6000. A graphical user interface (GUI) for the IBM RS/6000. It has the following components:
- A graphical user interface and toolkit based on OSF/Motif
- Enhanced X-Windows, an enhanced version of the MIT X Window System
- Graphics Library (GL), a graphical interface library for the application programmer that is compatible with Silicon Graphics' GL interface.

API. Application programming interface.

application. The use to which a data processing system is put; for example, payroll application, an airline reservation application.

argument. A parameter passed between a calling program and a called program or subprogram.

attribute. A named property of an entity.

Authentication. The process of validating the identity of a user or server.

Authorization. The process of obtaining permission to perform specific actions.

B

bandwidth. The difference, expressed in hertz, between the highest and the lowest frequencies of a range of frequencies. For example, analog transmission by recognizable voice telephone requires a bandwidth of about 3000 hertz (3 kHz). The bandwidth of an optical link designates the information-carrying capacity of the link and is related to the maximum bit rate that a fiber link can support.

blocking operation. An operation that does not complete until the operation either succeeds or fails. For example, a blocking receive will not return until a message is received or until the channel is closed and no further messages can be received.

breakpoint. A place in a program, specified by a command or a condition, where the system halts execution and gives control to the workstation user or to a specified program.

classic. A communication operation in which one processor sends (or broadcasts) a message to all other processors.

buffer. A portion of storage used to hold input or output data temporarily.

C

C. A general-purpose programming language. It was formalized by Uniforum in 1983 and the ANSI standards committee for the C language in 1984.

C++. A general-purpose programming language that is based on the C language. C++ includes extensions that support an object-oriented programming paradigm. Extensions include:
- strong typing
- data abstraction and encapsulation
- polymorphism through function overloading and templates
- class inheritance.

chaotic relaxation. An iterative relaxation method which uses a combination of the Gauss-Seidel and Jacobi-Seidel methods. The array of discrete values is divided into sub-regions that can be operated on in parallel. The sub-region boundaries are calculated using Jacobi-Seidel, whereas the sub-region interiors are calculated using Gauss-Seidel. See also Gauss-Seidel.

client. A function that requests services from a server and makes them available to the user.

cluster. A group of processors interconnected through a high-speed network that can be used for high-performance computing. A cluster typically provides excellent price/performance.

Cluster 1600. See IBM @server Cluster 1600.

collective communication. A communication operation that involves more than two processes or tasks. Broadcasts, reductions, and the MPI_Allreduce subroutine are all examples of collective communication operations. All tasks in a communicator must participate.

command alias. When using the PE command line debugger pdbx, you can create abbreviations for existing commands using the pdbx alias command. These abbreviations are known as command aliases.

Communication Subsystem (CSS). A component of the IBM Parallel System Support Programs for AIX that
provides software support for the SP Switch. CSS provides two protocols: Internet Protocol (IP) for LAN-based communication and user space (US) as a message-passing interface that is optimized for performance over the switch. See also Internet Protocol and User Space.

communicator. An MPI object that describes the communication context and an associated group of processes.

compile. To translate a source program into an executable program.

current context. One of a set of specified values that a data item can assume.

control workstation. A workstation attached to the IBM RS/6000 SP that serves as a single point of control allowing the administrator or operator to monitor and manage the system using IBM Parallel System Support Programs for AIX.

core dump. A process by which the current state of a program is preserved in a file. Core dumps are usually associated with programs that have encountered an unexpected, system-detected fault, such as a Segmentation Fault or a severe user error. The current program state is needed for the programmer to diagnose and correct the problem.

core file. A file that preserves the state of a program, usually just before a program is terminated for an unexpected error. See also core dump.

current context. When using either the pdbx debugger, control of the parallel program and the display of its data can be limited to a subset of the tasks belonging to that program. This subset of tasks is called the current context. You can set the current context to be a single task, multiple tasks, or all the tasks in the program.

D

data decomposition. A method of breaking up (or decomposing) a program into smaller parts to exploit parallelism. One divides the program by dividing the data (usually arrays) into smaller parts and operating on each part independently.

data parallelism. Refers to situations where parallel tasks perform the same computation on different sets of data.

dbx. A symbolic command line debugger that is often provided with UNIX systems. The PE command line debugger pdbx is based on the dbx debugger.

debugger. A debugger provides an environment in which you can manually control the execution of a program. It also provides the ability to display the program's data and operation.


domain name. The hierarchical identification of a host system (in a network), consisting of human-readable labels, separated by decimals.

E

environment variable. 1) A variable that describes the operating environment of the process. Common environment variables describe the home directory, command search path, and the current time zone. 2) A variable that is included in the current software environment and is therefore available to any called program that requests it.

Ethernet. A baseband local area network (LAN) that allows multiple stations to access the transmission medium at will without prior coordination, avoids contention by using carrier sense and deference, and resolves contention by using collision detection and delayed retransmission. Ethernet uses carrier sense multiple access with collision detection (CSMA/CD).

event. An occurrence of significance to a task — the completion of an asynchronous operation such as an input/output operation, for example.

executable. A program that has been link-edited and therefore can be run in a processor.

execution. To perform the actions specified by a program or a portion of a program.

expression. In programming languages, a language construct for computing a value from one or more operands.

F

fairness. A policy in which tasks, threads, or processes must be allowed eventual access to a resource for which they are competing. For example, if multiple threads are simultaneously seeking a lock, no set of circumstances can cause any thread to wait indefinitely for access to the lock.

FDDI. Fiber Distributed Data Interface.

Fiber Distributed Data Interface (FDDI). An American National Standards Institute (ANSI) standard for a local area network (LAN) using optical fiber cables. An FDDI LAN can be up to 100 kilometers (62 miles) and can
include up to 500 system units. There can be up to 2 kilometers (1.24 miles) between system units and concentrators.

file system. In the AIX operating system, the collection of files and file management structures on a physical or logical mass storage device, such as a diskette or minidisk.

files. 1) An individually-installable option or update. Options provide specific functions. Updates correct an error in, or enhance, a previously installed program. 2) One or more separately-installable, logically-grouped units in an installation package. See also licensed program and package.

foreign host. See remote host.

FORTRAN. One of the oldest of the modern programming languages, and the most popular language for scientific and engineering computations. Its name is a contraction of FORMula TRANslation. The two most common FORTRAN versions are FORTRAN 77, originally standardized in 1978, and FORTRAN 90. FORTRAN 77 is a proper subset of FORTRAN 90.

function cycle. A chain of calls in which the first caller is also the last to be called. A function that calls itself recursively is not considered a function cycle.

functional decomposition. A method of dividing the work in a program to exploit parallelism. One divides the program into independent pieces of functionality, which are distributed to independent processors. This method is in contrast to data decomposition, which distributes the same work over different data to independent processors.

functional parallelism. Refers to situations where parallel tasks specialize in particular work.

G

Gauss-Seidel. An iterative relaxation method for solving Laplace’s equation. It calculates the general solution by finding particular solutions to a set of discrete points distributed throughout the area in question. The values of the individual points are obtained by averaging the values of nearby points. Gauss-Seidel differs from Jacobi-Seidel in that, for the i+1st iteration, Jacobi-Seidel uses only values calculated in the ith iteration. Gauss-Seidel uses a mixture of values calculated in the ith and i-th iterations.

global max. The maximum value across all processors for a given variable. It is global in the sense that it is global to the available processors.

global variable. A variable defined in one portion of a computer program and used in at least one other portion of the computer program.

gprof. A UNIX command that produces an execution profile of C, COBOL, FORTRAN, or Pascal programs. The execution profile is in a textual and tabular format. It is useful for identifying which routines use the most CPU time. See the man page on gprof.

graphical user interface (GUI). A type of computer interface consisting of a visual metaphor of a real-world scene, often of a desktop. Within that scene are icons, which represent actual objects, that the user can access and manipulate with a pointing device.

GUI. Graphical user interface.

H

SP Switch. The high-performance message-passing network of the IBM RS/6000 SP(SP) machine that connects all processor nodes.

HIPPI. High performance parallel interface.

hook. A pdbx command that lets you re-establish control over all tasks in the current context that were previously unhooked with this command.

home node. The node from which an application developer compiles and runs his program. The home node can be any workstation on the LAN.

host. A computer connected to a network that provides an access method to that network. A host provides end-user services.

host list file. A file that contains a list of host names, and possibly other information, that was defined by the application which reads it.

host name. The name used to uniquely identify any computer on a network.

hot spot. A memory location or synchronization resource for which multiple processors compete excessively. This competition can cause a disproportionately large performance degradation when one processor that seeks the resource blocks, preventing many other processors from having it, thereby forcing them to become idle.

IBM @server Cluster 1600. An IBM @server Cluster 1600 is any PSSP or CSM-managed cluster comprised of POWER microprocessor based systems (including RS/6000 SMPs, RS/600 SP nodes, and pSeries SMPs).

IBM Parallel Environment (PE) for AIX. A licensed program that provides an execution and development environment for parallel C, C++, and FORTRAN programs. It also includes tools for debugging, profiling, and tuning parallel programs.
installation image. A file or collection of files that are required in order to install a software product on a IBM RS/6000 workstation or on SP system nodes. These files are in a form that allows them to be installed or removed with the AIX installp command. See also fileset, licensed program, and package.

Internet. The collection of worldwide networks and gateways that function as a single, cooperative virtual network.

Internet Protocol (IP). 1) The TCP/IP protocol that provides packet delivery between the hardware and user processes. 2) The SP Switch library, provided with the IBM Parallel System Support Programs for AIX, that follows the IP protocol of TCP/IP.

IP. Internet Protocol.

J

Jacobi-Seidel. See Gauss-Seidel.

K

Kerberos. A publicly available security and authentication product that works with the IBM Parallel System Support Programs for AIX software to authenticate the execution of remote commands.

kernel. The core portion of the UNIX operating system that controls the resources of the CPU and allocates them to the users. The kernel is memory-resident, is said to run in kernel mode (in other words, at higher execution priority level than user mode), and is protected from user tampering by the hardware.

L

Laplace’s equation. A homogeneous partial differential equation used to describe heat transfer, electric fields, and many other applications. The dimension-free version of Laplace’s equation is:

latency. The time interval between the instant at which an instruction control unit initiates a call for data transmission, and the instant at which the actual transfer of data (or receipt of data at the remote end) begins. Latency is related to the hardware characteristics of the system and to the different layers of software that are involved in initiating the task of packing and transmitting the data.

licensed program. A collection of software packages sold as a product that customers pay for to license. A licensed program can consist of packages and filesets a customer would install. These packages and filesets bear a copyright and are offered under the terms and conditions of a licensing agreement. See also fileset and package.

lightweight corefiles. An alternative to standard AIX corefiles. Corefiles produced in the Standardized Lightweight Corefile F ormat provide simple process stack traces (listings of function calls that led to the error) and consume fewer system resources than traditional corefiles.

LoadLeveler. A job management system that works with POE to let users run jobs and match processing needs with system resources, in order to make better use of the system.

local variable. A variable that is defined and used only in one specified portion of a computer program.

loop unrolling. A program transformation that makes multiple copies of the body of a loop, also placing the copies within the body of the loop. The loop trip count and index are adjusted appropriately so the new loop computes the same values as the original. This transformation makes it possible for a compiler to take additional advantage of instruction pipelining, data cache effects, and software pipelining. See also optimization.

M

menu. A list of options displayed to the user by a data processing system, from which the user can select an action to be initiated.

message catalog. A file created using the AIX Message Facility from a message source file that contains application error and other messages, which can later be translated into other languages without having to recompile the application source code.

message passing. Refers to the process by which parallel tasks explicitly exchange program data.

Message Passing Interface (MPI). A standardized API for implementing the message-passing model.

MIMD. Multiple instruction stream, multiple data stream.

Multiple instruction stream, multiple data stream (MIMD). A parallel programming model in which different processors perform different instructions on different sets of data.

MPMD. Multiple program, multiple data.

Multiple program, multiple data (MPMD). A parallel programming model in which different, but related, programs are run on different sets of data.

MPI. Message Passing Interface.
network. An interconnected group of nodes, lines, and terminals. A network provides the ability to transmit data to and receive data from other systems and users.

Network Information Services. A set of UNIX network services (for example, a distributed service for retrieving information about the users, groups, network addresses, and gateways in a network) that resolve naming and addressing differences among computers in a network.

NIS. See Network Information Services.

node. (1) In a network, the point where one or more functional units interconnect transmission lines. A computer location defined in a network. (2) In terms of the IBM RS/6000 SP, a single location or workstation in a network. An SP node is a physical entity (a processor).

node ID. A string of unique characters that identifies the node on a network.

nonblocking operation. An operation, such as sending or receiving a message, that returns immediately whether or not the operation was completed. For example, a nonblocking receive will not wait until a message is sent, but a blocking receive will wait. A nonblocking receive will return a status value that indicates whether or not a message was received.

object code. The result of translating a computer program to a relocatable, low-level form. Object code contains machine instructions, but symbol names (such as array, scalar, and procedure names), are not yet given a location in memory. Contrast with source code.

optimization. A widely-used (though not strictly accurate) term for program performance improvement, especially for performance improvement done by a compiler or other program translation software. An optimizing compiler is one that performs extensive code transformations in order to obtain an executable that runs faster but gives the same answer as the original. Such code transformations, however, can make code debugging and performance analysis very difficult because complex code transformations obscure the correspondence between compiled and original source code.

option flag. Arguments or any other additional information that a user specifies with a program name. Also referred to as parameters or command line options.

package. A number of filesets that have been collected into a single installable image of licensed programs. Multiple filesets can be bundled together for installing groups of software together. See also fileset and licensed program.

parallelism. The degree to which parts of a program may be concurrently executed.

parallelize. To convert a serial program for parallel execution.

parallel operating environment (POE). An execution environment that smooths the differences between serial and parallel execution. It lets you submit and manage parallel jobs. It is abbreviated and commonly known as POE.

parameter. (1) In FORTRAN, a symbol that is given a constant value for a specified application. (2) An item in a menu for which the operator specifies a value or for which the system provides a value when the menu is interpreted. (3) A name in a procedure that is used to refer to an argument that is passed to the procedure. (4) A particular piece of information that a system or application program needs to process a request.

partition. (1) A fixed-size division of storage. (2) In terms of the IBM RS/6000 SP, a logical definition of nodes to be viewed as one system or domain. System partitioning is a method of organizing the SP into groups of nodes for testing or running different levels of software of product environments.

Partition Manager. The component of the parallel operating environment (POE) that allocates nodes, sets up the execution environment for remote tasks, and manages distribution or collection of standard input (STDIN), standard output (STDOUT), and standard error (STDERR).

pdbx. The parallel, symbolic command line debugging facility of PE. pdbx is based on the dbx debugger and has a similar interface.

PE. The IBM Parallel Environment for AIX SP licensed program.

performance monitor. A utility that displays how effectively a system is being used by programs.

PID. Process identifier.

POE. parallel operating environment.

pool. Groups of nodes on an SP that are known to LoadLeveler, and are identified by a pool name or number.

point-to-point communication. A communication operation which involves exactly two processes or
tasks. One process initiates the communication through a send operation. The partner process issues a receive operation to accept the data being sent.

**procedure.** (1) In a programming language, a block, with or without formal parameters, whose execution is invoked by means of a procedure call. (2) A set of related control statements that cause one or more programs to be performed.

**process.** A program or command that is actually running the computer. It consists of a loaded version of the executable file, its data, its stack, and its kernel data structures that represent the process's state within a multitasking environment. The executable file contains the machine instructions (and any calls to shared objects) that will be executed by the hardware. A process can contain multiple threads of execution.

The process is created via a fork() system call and ends using an exit() system call. Between fork and exit, the process is known to the system by a unique process identifier (PID).

Each process has its own virtual memory space and cannot access another process's memory directly. Communication methods across processes include pipes, sockets, shared memory, and message passing.

**prof.** A utility that produces an execution profile of an application or program. It is useful to identifying which routines use the most CPU time. See the man page for prof.

**profiling.** The act of determining how much CPU time is used by each function or subroutine in a program. The histogram or table produced is called the execution profile.

**Program Marker Array.** An X-Windows run time monitor tool provided with parallel operating environment, used to provide immediate visual feedback on a program's execution.

**pthread.** A thread that conforms to the POSIX Threads Programming Model.

**R**

**reduced instruction-set computer.** A computer that uses a small, simplified set of frequently-used instructions for rapid execution.

**reduction operation.** An operation, usually mathematical, that reduces a collection of data by one or more dimensions. For example, the arithmetic SUM operation is a reduction operation which reduces an array to a scalar value. Other reduction operations include MAXVAL and MINVAL.

**Reliable Scalable Cluster Technology.** A set of software components that together provide a comprehensive clustering environment for AIX. RSCT is the infrastructure used by a variety of IBM products to provide clusters with improved system availability, scalability, and ease of use.

**remote host.** Any host on a network except the one at which a particular operator is working.

**remote shell (rsh).** A command supplied with both AIX and the IBM Parallel System Support Programs for AIX that lets you issue commands on a remote host.

**RISC.** See reduced instruction-set computer.

**RSCT.** See Reliable Scalable Cluster Technology.

**RSCT peer domain.** See peer domain.

**S**

**shell script.** A sequence of commands that are to be executed by a shell interpreter such as the Bourne shell (sh), the C shell (csh), or the Korn shell (ksh). Script commands are stored in a file in the same form as if they were typed at a terminal.

**segmentation fault.** A system-detected error, usually caused by referencing an non-valid memory address.

**server.** A functional unit that provides shared services to workstations over a network — a file server, a print server, or a mail server, for example.

**signal handling.** A type of communication that is used by message passing libraries. Signal handling involves using AIX signals as an asynchronous way to move data in and out of message buffers.

**Single program, multiple data (SPMD).** A parallel programming model in which different processors execute the same program on different sets of data.

**source code.** The input to a compiler or assembler, written in a source language. Contrast with object code.

**source line.** A line of source code.

**SP.** IBM RS/6000 SP; a scalable system arranged in various physical configurations, that provides a high-powered computing environment.

**SPMD.** Single program, multiple data.

**standard input (STDIN).** In the AIX operating system, the primary source of data entered into a command. Standard input comes from the keyboard unless redirection or piping is used, in which case standard input can be from a file or the output from another command.

**standard output (STDOUT).** In the AIX operating system, the primary destination of data produced by a command. Standard output goes to the display unless
redirection or piping is used, in which case standard output can go to a file or to another command.

**STDIN.** Standard input.

**STDOUT.** Standard output.

**stencil.** A pattern of memory references used for averaging. A 4-point stencil in two dimensions for a given array cell, \(x(i,j)\), uses the four adjacent cells, \(x(i-1,j)\), \(x(i+1,j)\), \(x(i,j-1)\), and \(x(i,j+1)\).

**subroutine.** (1) A sequence of instructions whose execution is invoked by a call. (2) A sequenced set of instructions or statements that may be used in one or more computer programs and at one or more points in a computer program. (3) A group of instructions that can be part of another routine or can be called by another program or routine.

**synchronization.** The action of forcing certain points in the execution sequences of two or more asynchronous procedures to coincide in time.

**system administrator.** (1) The person at a computer installation who designs, controls, and manages the use of the computer system. (2) The person who is responsible for setting up, modifying, and maintaining the Parallel Environment.

System Data Repository. A component of the IBM Parallel System Support Programs for AIX software that provides configuration management for the SP system. It manages the storage and retrieval of system data across the control workstation, file servers, and nodes.

target application. See DPCL target application.

task. A unit of computation analogous to an AIX process.

**thread.** A single, separately dispatchable, unit of execution. There may be one or more threads in a process, and each thread is executed by the operating system concurrently.

**tracing.** In PE, the collection of information about the execution of the program. This information is accumulated into a trace file that can later be examined.

**tracepoint.** Tracepoints are places in the program that, when reached during execution, cause the debugger to print information about the state of the program.

**trace record.** In PE, a collection of information about a specific event that occurred during the execution of your program. For example, a trace record is created for each send and receive operation that occurs in your program (this is optional and may not be appropriate). These records are then accumulated into a trace file that can later be examined.

**U**

unrolling loops. See loop unrolling.

**US.** User space.

user. (1) A person who requires the services of a computing system. (2) Any person or anything that may issue or receive commands and message to or from the information processing system.

user space (US). A version of the message passing library that is optimized for direct access to the SP Switch, that maximizes the performance capabilities of the SP hardware.

utility program. A computer program in general support of computer processes; for example, a diagnostic program, a trace program, a sort program.

utility routine. A routine in general support of the processes of a computer; for example, an input routine.

**V**

variable. (1) In programming languages, a named object that may take different values, one at a time. The values of a variable are usually restricted to one data type. (2) A quantity that can assume any of a given set of values. (3) A name used to represent a data item whose value can be changed while the program is running. (4) A name used to represent data whose value can be changed, while the program is running, by referring to the name of the variable.

view. (1) To display and look at data on screen.

(2) A special display of data, created as needed. A view temporarily ties two or more files together so that the combined files can be displayed, printed, or queried. The user specifies the fields to be included. The original files are not permanently linked or altered; however, if the system allows editing, the data in the original files will be changed.

**X**

X Window System. The UNIX industry’s graphics windowing standard that provides simultaneous views of several executing programs or processes on high resolution graphics displays.
Bibliography

This bibliography helps you find product documentation related to Parallel Environment.

You can find most of the IBM product information for most of these products on the World Wide Web. Formats for both viewing and downloading are available.

This bibliography also contains a list of non-IBM publications that discuss parallel computing and other topics related to Parallel Environment.

Information formats and them on the Web

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or from the IBM @server Cluster Information Center at:

http://publib.boulder.ibm.com/clresctr/windows

The man pages for public code, which are shipped with the PE product and can be easily installed on your system, are also available online. In order to use the man pages, you must first install the ppe.docs file set.

You can view a book or download a Portable Document Format (PDF) version of it. To view the PE PDF publications, you need access to the Adobe Acrobat Reader. The Acrobat Reader is shipped with the AIX Bonus Pack and is also freely available for downloading from the Adobe Web site:

http://www.adobe.com

To successfully print a large PDF file (approximately 300 or more pages) from the Adobe Acrobat reader, you may need to select the “Download Fonts Once” button on the Print window.

System planning publications

You can find links to the latest system planning publications on the Web site:


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http://publib.boulder.ibm.com/clresctr/windows
RS/6000 SP Switch Router publications

The RS/6000 SP Switch Router is based on the Ascend GRF switched IP router product from Lucent Technologies. You can order the SP Switch Router as the IBM 9077.

You can find links to the RS/6000 SP Switch Router publications on the Web site:

Related hardware publications

For publications on the latest IBM @server pSeries and RS/6000 hardware products, see the Web site:
http://www.ibm.com/servers/eserver/pseries/library/hardware_docs/

That site includes links to the following:
• General service documentation
• Guides by system (pSeries and RS/6000)
• Installable options
• IBM Hardware Management Console for pSeries guides
• IBM pSeries High Performance Switch guides

RS/6000 SP software publications

This section lists relates software products. These products include:
• IBM Parallel System Support Programs for AIX (PSSP)
• IBM LoadLeveler
• IBM Parallel Environment for AIX (Parallel Environment)
• IBM General Parallel File System for AIX (GPFS)
• IBM Engineering and Scientific Subroutine Library (ESSL) for AIX
• IBM Parallel ESSL for AIX
• IBM High Availability Cluster Multi-Processing for AIX (HACMP)

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Redbooks

For a current list of Redbooks published by IBM’s International Technical Support Organization (ITSO), see the ITSO Web site:

http://www.ibm.com/redbooks

Non-IBM publications

Here are some non-IBM publications that you might find helpful.

- Foster, I., *Designing and Building Parallel Programs*, Addison-Wesley, 1995.
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Messages
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