

IBM Parallel Environment for AIX



# Messages

*Version 3 Release 2*



IBM Parallel Environment for AIX



# Messages

*Version 3 Release 2*

**Note**

Before using this information and the product it supports, read the information in "Notices" on page 161.

**Second Edition (December 2001)**

This edition applies to version 3, release 2 of IBM® Parallel Environment for AIX® (product number 5765-D93) and to all subsequent releases and modifications until otherwise indicated in new editions.

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## About this book

This book is designed to help any user of IBM Parallel Environment for AIX (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.

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*.

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## 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.

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## 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 93
- “Chapter 5. X-Windows Performance Profiler (Xprofiler) messages” on page 135
- “Chapter 6. PE Benchmark messages” on page 147
- “Chapter 7. Unified Trace Environment (UTE) messages” on page 157

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## Conventions and terminology used in this book

This book uses the following typographic conventions:

Convention	Usage
<b>bold</b>	<b>Bold</b> words or characters represent system elements that you must use literally, such as: command names, file names, flag names, path names, PE component names ( <b>poe</b> , for example), and subroutines.
constant width	Examples and information that the system displays appear in constant-width typeface.
<i>italic</i>	<i>Italicized</i> words or characters represent variable values that you must supply. <i>Italics</i> are also used for book titles, for the first use of a glossary term, and for general emphasis in text.
[item]	Used to indicate optional items.
<Key>	Used to indicate keys you press.

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.

Short Name	Full Name
AIX	Advanced Interactive Executive
CSS	communication subsystem
DPCL	dynamic probe class library
dsh	distributed shell
GUI	graphical user interface
HDF	Hierarchical Data Format
IP	Internet Protocol
MPI	Message Passing Interface
MPL	Message Passing Library
PE	IBM Parallel Environment for AIX
PE MPI	IBM's implementation of the MPI standard for PE
PE MPI-IO	IBM's implementation of MPI I/O for PE
PM array	program marker array
POE	parallel operating environment
pSeries™	IBM @server pSeries
PSSP	IBM Parallel System Support Programs for AIX
RISC	reduced instruction set computer
rsh	remote shell
RS/6000	IBM RS/6000
SDR	System Data Repository
SP™	IBM RS/6000 SP
STDERR	standard error
STDIN	standard input
STDOUT	standard output
US	user space

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## Prerequisite and related information

See "Bibliography" on page 173 for a list of related publications.

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## 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: [mhvrcfs@us.ibm.com](mailto:mhvrcfs@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.

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## 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 5.1 General Programming Concepts: Writing and Debugging Programs*.

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## What's new in Parallel Environment 3.2?

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

- new PE Benchmarking tools
- improved parallel checkpointing capabilities
- support for 64-bit applications
- MPI enhancements

In addition, PE 3.2 includes these changes:

- PE now supports, and requires, AIX 5L 5.1.
- PE Version 2, Release 2 is no longer supported.

- The Dynamic Probe Class Library (DPCL) is no longer a part of PE, though it is still shipped with PE. Instead, DPCL is now an open source offering that supports PE.
- The **pedb** debugger has been removed.
- The VT parallel tracing facility has been removed.

The following sections describe these functional enhancements and changes in more detail.

## New PE Benchmarker tools

This release of PE contains a new suite of applications and utilities that you can use to analyze the performance of programs. This suite of tools is called *PE Benchmarker* and contains:

- the *Performance Collection Tool*, which enables you to collect either MPI and user event data, or else hardware and operating system profiles for one or more application processes. This tool is built on dynamic instrumentation technology (the Dynamic Probe Class Library, or DPCL) which enables you to make the decision of what data to collect at run time. Probes are placed in the running executable to collect just the information you requested. This ability typically results in a more acceptable intrusion cost than you would have with more traditional styles of instrumentation.
- a set of Unified Trace Environment (UTE) utilities for converting one or more AIX trace files (as output by the Performance Collection Tool) into UTE interval files. Additional UTE utilities enable you to:
  - generate statistics tables from UTE interval files.
  - convert UTE interval files into a single SLOG file. You can analyze an SLOG file using Jumpshot (a public domain tool developed by Argonne National Laboratory).
- the *Profile Visualization Tool*, for viewing hardware and operating system profiles collected by the Performance Collection Tool.

## Improved parallel checkpointing capabilities

This release of PE includes more flexible parallel checkpoint/restart capabilities. In previous releases, only POE/MPI applications submitted under LoadLeveler® in batch mode could be checkpointed, and there were significant limitations. What's more, a checkpoint sequence could be initiated only by all tasks in the parallel MPI program. In this release, PE's checkpointing capabilities have been extended to allow:

- a user to initiate a checkpoint sequence explicitly by issuing the new command **poeckpt**. Another new command, **poerestart**, enables a user to restart a POE job using a checkpoint file.
- a single task in a parallel MPI or LAPI job to initiate a checkpoint sequence. It is no longer necessary for all tasks in the job to call checkpointing functions.
- a system administrator or LoadLeveler to initiate a checkpoint sequence.

Also, many significant limitations of the checkpointing capabilities have been removed, and the checkpointing compiler scripts (**mpcc\_chkpt**, for example) are no longer used.

## MPI enhancements

With this release, PE MPI provides all of the functions in the MPI standard, except for the functionality defined in the "Process Creation and Management" chapter of MPI-2.

### Additional command for starting MPI jobs

While you can continue to use the **poe** command to start MPI jobs, this release of PE provides support for the **mpiexec** command described in the MPI-2 standard. This command is not meant to replace the **poe** command; instead it is provided as a portable way to start MPI programs, and should prove helpful for applications that target multiple implementations of MPI.

### Support for 64-bit applications

Certain architectures that PE supports, such as POWER3 SMP High Node, POWER3 SMP Thin Node, and POWER3 Wide Node, can run applications using a 64-bit address space. Accordingly, the tools that are provided with PE, as well as the MPI threads library, have been enhanced to support 64-bit applications on 64-bit processors.

### MPI-IO performance enhancements

To improve the performance of IBM's implementation of MPI-IO, a variety of optimizations have been made to this release of PE. For example, two new POE environment variable/command-line flag pairs and one new file hint have been added. The two new POE environment variable/command-line flag pairs are the:

- **MP\_IO\_BUFFER\_SIZE** environment variable (**-io\_buffer\_size** flag), which enables you to set the default size of buffers used by I/O agents.
- **MP\_IO\_ERRLOG** environment variable (**-io\_errlog** flag), which enables you to log errors that occurred at the file system level throughout the MPI-IO application run.

The new file hint, **IBM\_sparse\_access**, enables you to specify whether the file access requests from participating tasks are sparse or dense.

### Extended collective communication

This release provides the **MPI\_IN\_PLACE** and intercommunicator semantic that MPI-2 has added to a number of MPI 1.1 collective communication subroutines. The new subroutines, **MPI\_ALLTOALLW** and **MPI\_EXSCAN**, are also provided. The nonblocking collective subroutines, which have a prefix of **MPE\_I**, are not enhanced.

### C++ and FORTRAN90 support

This release provides the C++ bindings described by MPI-2. C++ programmers can now use PE MPI more naturally, as they no longer need to use the C bindings.

FORTRAN programs can now use the **mpi** module in place of **mpif.h**.

The nonblocking collective subroutines, which have a prefix of **MPE\_I**, are not enhanced for C++.

### MPI-2 external interfaces support

With this release, PE now provides full support of MPI-2 external interfaces in the MPI threads library. This support enables you to layer additional functionality on top of MPI with an interface that is similar to MPI's.

### **Miscellaneous MPI-2 enhancements**

Some of the functions included in the "Miscellany" chapter of MPI-2 were provided in prior releases of PE. This release provides the rest of these miscellaneous functions.

### **DPCL is now an open source offering**

The Dynamic Probe Class Library (DPCL) is no longer a part of the IBM PE for AIX licensed program, but it is still shipped with PE for convenience. Instead, DPCL is now available as an open source offering that supports PE. For more information on the DPCL open source project, go to this World Wide Web address:

<http://oss.software.ibm.com/developerworks/opensource/dpcl/>

### **Removal of pedb debugger support**

Beginning with this release, PE no longer includes the **pedb** parallel debugger. As a result, the **pedb** command is no longer available. The **pdbx** parallel debugger, however, is still supported; use it instead of **pedb** to debug your parallel applications.

### **Removal of VT trace collection support**

Beginning with this release, PE no longer supports the parallel trace collection facility formerly used by the PE Visualization Tool (which was removed from PE in release 3.1). Because the usefulness of examining these traces independent of VT is limited, the VT trace facility has been replaced by the more robust tracing capabilities of the new PE Benchmark suite of tools.

### **Commands no longer supported**

Beginning with this release, PE no longer supports these commands:

- **mpcc\_chkpt**
- **mpCC\_chkpt**
- **mpxf\_chkpt**
- **mpxf90\_chkpt**
- **mpxf95\_chkpt**
- **pedb**

# 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)

**0031-A4*nn***

Program marker (PM) array

**0032-*nnn***

Message Passing Interface (MPI)

**2537-*nnn***

X-Windows Performance Profiler (Xprofiler)

**2554-*nnn***

PE Benchmark

**2554-9*nn***

Unified Trace Environment (UTE)

where:

- The first four, five, or six digits (0029, 0031, 0031-A4, 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.



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## 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**.

---

**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: 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.

---

**0029-2024 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.

---

**0029-2033** No action was taken because the first character in the group name specified was not an alphabetic character.

**Explanation:** The group name specified started with a character that was not alphabetic.

**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.

---

---

**0029-2034** Cannot create any more groups because the maximum number already exists.

**Explanation:** You issued the **group add** command but there are already as many groups defined as can exist.

**User Response:** You need to reduce the current number of groups in order to open up a slot for another group to be created.

---

**0029-2035** No action was taken on group *string*, because it is the group reserved to contain all of the tasks.

**Explanation:** You issued the **group add** 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.

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

---

**0029-2036** Task: *number* has experienced an error in communicating with **pdbx**. It cannot be added to a group.

**Explanation:** The specified task is not communicating properly with the home node, so it is marked as unavailable for any command that attempts communications.

**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.

---

**0029-2037** Cannot add task: *number*, because it is already in group *string*.

**Explanation:** The task specified on the **group add** command is already included in the group specified.

**User Response:** Retry the command specifying only task(s) that are not already included within the specified group.

---

**0029-2038** No action has been taken because a task number is out of range.

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

**User Response:** Retry the range specification using only task numbers between 0 and one less than the value of **-procs** or **MP\_PROCS** (since the first task is number 0).

---

**0029-2039** One task was added to group *string*.

**Explanation:** A task was added to the specified group.

**User Response:** None.

---

**0029-2040** *number* tasks were added to group *string*.

**Explanation:** The list of tasks was added to the specified group.

**User Response:** None.

---

**0029-2041** The correct syntax is: 'group change old\_name new\_name'.

**Explanation:** The **group change** command was improperly formed.

**User Response:** Re-issue the command specifying the existing group name and the new group name.

---

**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.

---

**0029-2068** *string* is not aliased.

**Explanation:** You attempted to **unalias** an unknown alias.

**User Response:** To display the existing aliases, issue the **alias** command with no arguments. Issue the **unalias** command with one of the existing aliases to remove it.

---

---

**0029-2069** Reading command file *string*.

**Explanation:** The debugger has started reading the command file specified by the **-c** command line flag, the **source** command or as a result of having a **.pdbxinit** file in the current working directory or your home directory.

**User Response:** None.

---

**0029-2070** command file line *number: string*

**Explanation:** The debugger displays each line of the command file as it is read showing the line number and the text.

**User Response:** 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.

---

**0029-2071** No tasks were attached due to a badly formed task list.

**Explanation:** Incorrect syntax for the **attach** command.

**User Response:** Specify the **attach** command followed by a space or comma-separated list of task numbers. Specify ranges of tasks using a dash or a colon. The command **attach all** may be used to attach to all the tasks of the poe application.

---

**0029-2072** Cannot send commands to task: *number* because it is executing.

**Explanation:** It is not possible to send a dbx command to a task that is RUNNING.

**User Response:** Issue the **group list** or **tasks** command to to make sure the tasks are not RUNNING.

---

**0029-2073** Error creating temporary file *string*.

**Explanation:** When starting **pdbx** 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: **</tmpdir>/pdbx.<poe-pid>.host.list** 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 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.

**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.

---

**0029-2075** *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.

---

**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: 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: 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**.

---

**0029-2104** 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.

---

---

**0029-2105** 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.

---

**0029-2106** 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.

---

**0029-2107** 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.

---

**0029-2108** 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.

---

**0029-2109** 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.

---

**0029-2110** 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.

---

**0029-2111** 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.

---

**0029-2120** 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.

**Explanation:** All the tasks of the partition have exited.

**User Response:** Issue the **quit** or **detach pdbx** command.

---

---

**0029-2121** No action has been taken because the partition is already loaded.

**Explanation:** You issued the **load** command after the partition was already loaded.

**User Response:** The **load** command is not valid after the partition has been loaded.

---

**0029-2122** This event cannot be set because task: *number* is unhooked.

**Explanation:** 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.

**User Response:** 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.

---

**0029-2123** This event cannot be set because some task(s) in the group are unhooked.

**Explanation:** You issued a **trace** or **stop** command against a group which contains some task(s) that are unhooked.

**User Response:** 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.

---

**0029-2124** Could not add event to task: *number*, because it is in state: *string*.

**Explanation:** 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.

**User Response:** 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.

---

**0029-2125** Could not delete event: *number* from task: *number*, because it is in state: *string*.

**Explanation:** 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.

**User Response:** If the task is unhooked, use the **hook** command to bring it to DEBUG READY state.

---

**0029-2126** Could not delete event: *number* from task: *number* of this group on the remote node, because it is in state: *string*.

**Explanation:** 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.

**User Response:** 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.

---

**0029-2128** The correct syntax is: 'group list [ group\_name ]'.

**Explanation:** You issued the **group list** with incorrect syntax.

**User Response:** 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.

---

**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.

---

---

**0029-2130 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.

---

**0029-2133 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.

---

**0029-9036**

**Problem Determination:**

**Syntax:**

**pdbx**

```
[program [program arguments]] [-c command_file]
[-d nesting_depth] [-l directory [-l directory]...]
[-F] [-x] [poe options]
```

**pdbx**

```
-a poe_process_id [-c command_file]
[-d nesting_depth] [-l directory [-l 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.
- c** Reads startup commands from the specified *command\_file*.
- d** Sets the limit for the nesting of program blocks. The default nesting depth limit is 25.

- F This flag can be used to turn off lazy reading mode. Turning lazy reading mode off forces the remote **dbx** 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 **dbx** sessions. Because all symbol table information is not read at **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 **whereis** command, where instances of the specified local variable may not be found until the other files containing these instances are somehow referenced.
- h Writes the **pdbx** usage to STDERR, then exits. This includes **pdbx** command line syntax and a description of **pdbx** options.
- I Specifies a directory to be searched for an executable's source files. This flag must be specified multiple times to set multiple paths. (Once **pdbx** is running, this list can be overridden on a group or single node basis with the 'use' command.)
- x Prevents the **dbx** command from stripping \_ (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 **xxx** and **xxx\_**.
- tmpdir This directory specifies the directory to which the individual startup files (**.pdbxinit.process\_id.task\_id**) are written for each **dbx** 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 **/tmp**.

#### Environment Variables:

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

#### 0029-9039 Cannot read attach configuration file.

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

#### User Response:

1. Make sure 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 **/tmp/ppe.<poe pid>.attach.cfg**).

#### 0029-9040 Cannot open attach configuration file.

**Explanation:** **pdbx** was unable to open 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**).

#### 0029-9041 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:** p**dbx** 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 p**dbx** 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** fileset 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 or 3 via the **-pmd\_version** command-line option or the **MP\_PMD\_VERSION** environment variable.

**User Response:** Correct the non-valid entry.

---

**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.

---

**0031-011** tcp service *string* unknown

**Explanation:** The Partition Manager terminates.

**User Response:** The PM daemon, **pmd**, is not known to the system. Review the results of installation to assure that the daemon specified by **inetd** is startable on each remote node.

---

**0031-012** pm\_contact: socket

**Explanation:** The Partition Manager terminates, as it could not create a socket.

**User Response:** This message is followed by an explanatory sentence. Check that the number of sockets required does not exceed the number available.

---

---

**0031-013 pm\_contact: setsockopt**

**Explanation:** The Partition Manager continues, but some socket options may not be set correctly.

This is probably a PE error.

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

---

**0031-014 pm\_contact: getsockopt**

**Explanation:** The Partition Manager continues, but some socket options may not be obtained correctly.

This is probably a PE error.

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

---

**0031-015 Couldn't create *string*, job may not be checkpointable...**

**Explanation:** POE was unable to create the indicated file in the directory from which POE was run. If the user attempts to use the **poeckpt** 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.

**User Response:** If no attempt to checkpoint the POE job will be made, the message can be ignored. Otherwise, check the permissions of the indicated file.

---

**0031-016 Unable to create thread for checkpoint handler**

**Explanation:** POE was unable to create a thread on which the advanced checkpoint handler could be run.

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

---

**0031-017 Unable to register checkpoint handler, rc=*number*.**

**Explanation:** POE was unable to register the checkpoint handler with the AIX kernel.

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

---

**0031-018 Couldn't get info for hostname *string***

**Explanation:** The Partition Manager terminates.

**User Response:** 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.

---

**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.

---

**0031-022 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.

---

**0031-024 *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.

---

**0031-031 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.

---

**0031-036** sigaction(SIGHUP)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-037** sigaction(SIGINT)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-038** sigaction(SIGQUIT)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-039** sigaction(SIGILL)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-040** sigaction(SIGTRAP)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-041** sigaction(SIGIOT)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-042** sigaction(SIGEMT)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-043** sigaction(SIGFPE)

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

---

**0031-044 sigaction(SIGBUS)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-045 sigaction(SIGSEGV)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-046 sigaction(SIGSYS)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**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.

---

**0031-057 sigaction(SIGMSG)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-058 sigaction(SIGWINCH)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-059 sigaction(SIGPWR)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-060 sigaction(SIGUSR1)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-061 sigaction(SIGUSR2)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-062 sigaction(SIGPROF)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-063 sigaction(SIGDANGER)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

---

**0031-064 sigaction(SIGVTALRM)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-065 sigaction(SIGMIGRATE)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-066 sigaction(SIGPRE)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-067 sigaction(SIGGRANT)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-068 sigaction(SIGRETRACT)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-069 sigaction(SIGSOUND)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-070 sigaction(SIGSAK)**

**Explanation:** An explanatory sentence follows. The Partition Manager terminates.

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

---

**0031-071 invalid number of procs entered**

**Explanation:** The Partition Manager terminates. Incorrect number of tasks specified.

**User Response:** Enter a number from 1 to the max numbers of tasks to be run.

---

**0031-072 POE job will not be checkpointable**

**Explanation:** Information message indicating that the **CHECKPOINT** 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.

**User Response:** Restart the POE job with the environment variable set if a checkpoint of the job is possible.

---

**0031-073 Unable to create pipes for communication with checkpoint handler**

**Explanation:** The AIX **pipe()** call failed in POE.

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

---

---

**0031-074 POE not in checkpointable state — all tasks have exited**

**Explanation:** An attempt was made to checkpoint a POE job for which exit processing had begun for all tasks.

**User Response:** None required.

---

**0031-075 Checkpoint handler communication failure**

**Explanation:** A communication error occurred between the POE main thread and the checkpoint handler thread.

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

---

**0031-076 invalid infolevel**

**Explanation:** The **-infolevel** option was neither a 0 nor a positive number.

**User Response:** Correct the flag.

---

**0031-077 invalid tracelevel**

**Explanation:** The **-tracelevel** option is no longer valid. Parallel tracing is no longer supported.

**User Response:** Do not specify **-tracelevel** or **-tlevel**.

---

**0031-078 invalid retrytime**

**Explanation:** The **-retrytime** option was neither a 0 nor a positive number.

**User Response:** Correct the flag.

---

**0031-079 invalid pmlights**

**Explanation:** The **-pmlights** option was neither a 0 nor a positive number.

**User Response:** Correct the flag.

---

**0031-080 invalid usrport**

**Explanation:** The **-usrport** option was neither a 0 nor a positive number less than 32768.

**User Response:** Correct the flag.

---

**0031-081 invalid samplefreq**

**Explanation:** The **-samplefreq** option was neither a 0 nor a positive number.

**User Response:** Correct the flag.

---

**0031-083 invalid wrap trace buffer**

**Explanation:** The **-tbufwrap** option was neither YES or NO.

**User Response:** Correct the flag.

---

**0031-084 invalid tbufsize value**

**Explanation:** The **-tbufsize** option specifies too large a trace buffer (or an invalid number).

**User Response:** Correct the flag.

---

---

**0031-085    invalid tbuffer size unit**

**Explanation:** The **-tbuffer size** option is not of the form *numberK* or *numberM*.

**User Response:** Correct the flag.

---

**0031-086    invalid ttemp size value**

**Explanation:** The **-ttemp size** option specifies too large a file (or an invalid number).

**User Response:** Correct the flag.

---

**0031-087    invalid ttemp size unit**

**Explanation:** The **-ttemp size** option is not of the form *numberM* or *numberG*.

**User Response:** Correct the flag.

---

**0031-088    invalid tperm size value**

**Explanation:** The **-tperm size** option specifies too large a file (or an invalid number).

**User Response:** Correct the flag.

---

**0031-089    invalid tperm size unit**

**Explanation:** The **-tperm size** 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.

---

**0031-098 MP\_SAMPLEFREQ not set correctly**

**Explanation:** The **MP\_SAMPLEFREQ** environment variable is neither 0 nor a positive number less than 32768.

**User Response:** Correct the variable.

---

**0031-100 MP\_TBUFFWRAP not set correctly**

**Explanation:** The **MP\_TBUFFWRAP** environment variable is neither YES nor NO.

**User Response:** Correct the variable.

---

**0031-101 Invalid *string***

**Explanation:** The indicated environment variable specifies too large a buffer size (or an incorrect number).

**User Response:** Reduce or correct the size.

---

**0031-102 incorrect *number* unit**

**Explanation:** The indicated environment variable is not of the form *numberM* or *numberG*.

**User Response:** Correct the value.

---

**0031-103 Invalid MP\_TTEMPSIZE**

**Explanation:** The **MP\_TTEMPSIZE** environment variable specifies too large a trace file (or an invalid number).

**User Response:** Reduce or correct the size.

---

**0031-104 Incorrect MP\_TTEMPSIZE unit**

**Explanation:** The **MP\_TTEMPSIZE** environment variable is not of the form *numberM* or *numberG*.

**User Response:** Correct the flag.

---

**0031-105 Invalid MP\_TPERMSIZE**

**Explanation:** The **MP\_TPERMSIZE** environment variable specifies too large a trace file (or an invalid number).

**User Response:** Reduce or correct the size.

---

---

**0031-106 Incorrect MP\_TPERMSIZE unit**

**Explanation:** The **MP\_TPERMSIZE** environment variable is not of the form *numberM* or *numberG*.

**User Response:** Correct the flag.

---

**0031-107 Batch job may not be restarted using the poerestart command**

**Explanation:** The **poerestart** command was issued on a checkpoint file which was created from a batch POE job, which is not supported.

**User Response:** Refer to *IBM LoadLeveler for AIX 5L: Using and Administering* for instructions on restarting a batch POE job.

---

**0031-108 Non-batch job cannot be restarted as a batch job**

**Explanation:** The user submitted a command file to LoadLeveler 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.

**User Response:** Use the **poerestart** command to restart this job.

---

**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: 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\_RESD not set correctly.**

**Explanation:** The specification of MP\_RESD was neither **YES** or **NO**.

**User Response:** Correct the specification of MP\_RESD.

---

**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.

---

**0031-121**    **Invalid combination of settings for MP\_EUILIB, MP\_HOSTFILE, and MP\_RESD**

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

**User Response:** See *IBM Parallel Environment for AIX: 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 **-euideslop** 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 euidevelop option**

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

**User Response:** Re-specify **euidevelop** 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: Operation and Use, Volume 1*.

---

**0031-149** **Unable to load shared objects required for LoadLeveler.**

**Explanation:** 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.

One of the following files cannot be accessed:

/usr/lpp/LoadL/full/lib/llapi\_shr.o

/usr/lpp/LoadL/full/lib/libllapi.a

**User Response:** 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.

---

**0031-151** **Pool specified in hostfile for task *number* not same as previous**

**Explanation:** Pool entries in a hostfile must be the same for all tasks.

**User Response:** Modify the hostfile as described, or use the **MP\_RMPOOL** environment variable or the **-rmpool** command line option.

---

**0031-152** **Ignoring adapter and/or CPU usage specification in hostfile**

**Explanation:** Adapter and CPU usage specifications are ignored in the hostfile.

**User Response:** Remove the usage specifications from the hostfile to eliminate the warning messages, if desired. Usages are described in *IBM Parallel Environment for AIX: 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.

---

**0031-153** **Unexpected return code *number* from ll\_init\_job**

**Explanation:** An internal error has occurred.

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

---

**0031-154** **Unexpected return code *number* from ll\_parse\_string**

**Explanation:** An internal error has occurred.

**User Response:** In most cases for which this error occurs, there is no explicit user response that will correct the problem. 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.

---

**0031-155** Unexpected return code *number* from `ll_set_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.

---

**0031-156** 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.

---

---

**0031-164 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.

---

**0031-166 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 (*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 **-ilfile** command line option or the **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 adapters may not be changed when restarting**

**Explanation:** The user attempted to restart a POE job with a different number of adapters than the job had when it was originally started. This could occur for batch POE jobs, or for interactive POE jobs that use the **-llfile** command line option or the **MP\_LLFILE** environment variable.

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

---

**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 **-llfile** command line option or the **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 **-llfile** command line option or the **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, rc=*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 *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 on 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.

---

**0031-196 Checkpoint operation was cancelled**

**Explanation:** 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**.

**User Response:** None.

---

**0031-197 Unable to broadcast SSM\_CHKPT\_DO 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.

---

**0031-198 Checkpoint failed for the following tasks:**

**Explanation:** 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 *l*) 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.

**User Response:** 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.

---

---

**0031-199** Checkpoint failed: *errno=number, Sy\_errno=prefix/suffix, errdata=string*

**Explanation:** 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 *l*) 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.

**User Response:** 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.

---

**0031-200** pmd: *getpeername <string>*

**Explanation:** The daemon is unable to identify the partition manager.

**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.

---

**0031-201** pmd: *setsockopt(SO\_KEEPALIVE): <string>*

**Explanation:** The daemon is unable to set the indicated 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.

---

**0031-202** pmd: *setsockopt(SO\_LINGER): <string>*

**Explanation:** The daemon is unable to set the indicated 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.

---

**0031-203** malformed from address: *<string>*

**Explanation:** The socket address family is incorrect.

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

---

**0031-204** 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:** Re-run 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 dbx (number) versions are incompatible.

**Explanation:** The versions of POE, pmd, and the debug engine (dbx) are incompatible.

**User Response:** You should check that POE, pmd, and dbx 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: 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.

---

**0031-250**    **task *number*: *string***

**Explanation:** The given task has received the given signal.

**User Response:** None.

---

**0031-251**    **task *number* exited: rc=*number***

**Explanation:** The indicated task has exited. This informational message is displayed when processing completes normally and when the job is terminated by the **<Ctrl-C>** interrupt key.

**User Response:** None.

---

**0031-252**    **task *number* stopped: *string***

**Explanation:** The indicated task has been stopped. The second variable in this message indicates the signal that stopped the 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.

---

---

**0031-253** Priority adjustment call failed: rc = number, errno = number

**Explanation:** 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 **errno** reported relate to the system function.

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

---

**0031-254** User string not authorized on host string

**Explanation:** The user ID is not found on the specified host.

**User Response:** Add the user ID to the host with SMIT.

---

**0031-255** Group string does not exist on host string

**Explanation:** The group ID is not found in */etc/group*.

**User Response:** Add the group ID to the host with SMIT.

---

**0031-256** Priority adjustment process has been invoked

**Explanation:** The user has elected to adjust the priority of the **poe** job.

**User Response:** None.

---

**0031-257** mp\_euilib is not us, high priority daemon has been started.

**Explanation:** User has elected to use high priority for the POE job and the user space library is not being used.

**User Response:** None.

---

**0031-258** User string not authorized for group string on host string.

**Explanation:** The user ID is not permitted to access the specified group ID on the specified host.

**User Response:** Add the user ID to the group access list on the host.

---

**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: 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 mor information on file formats, see *IBM Parallel Environment for AIX: 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.

---

**0031-306** pm\_atexit: pm\_exit\_value is *number*.

**Explanation:** Program exit value

**User Response:** Informational message. No action required.

---

**0031-307** remote child: error restoring stdin.

**Explanation:** The previously closed stdin cannot be restored.

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

---

**0031-308** Invalid value for *string*: *string*

**Explanation:** Indicated value is not a valid setting for the indicated environment variable or command line option.

**User Response:** Set to a valid value and rerun.

---

**0031-309** Connect failed during message passing initialization, task *number*, reason: *string*

**Explanation:** The Communication Subsystem was unable to connect this task to one or more other tasks in the current partition for the reason given.

**User Response:** 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 MPCPI 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/libus/libmpci.a -> /usr/lpp/ssp/css/libtb3/libmpci.a  
/etc/ssp/css/libus/libmpci_r.a -> /usr/lpp/ssp/css/libtb3/libmpci_r.a
```

- For the SP Switch2:

```
/etc/ssp/css/libus/libmpci.a -> /usr/lpp/ssp/css/libcolony/libmpci.a  
/etc/ssp/css/libus/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 MPCPI 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.

---

**0031-310 Socket open failed during message passing initialization, task *number*, reason: *string***

**Explanation:** The Communication Subsystem was unable to open a socket for message passing for the indicated task for the reason given.

**User Response:** 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.

---

**0031-311 Restart of program *string* failed. Return code is *number*.**

**Explanation:** The restart of the program indicated was unsuccessful.

**User Response:** Check that the program name is valid, and that it was previously checkpointed.

---

**0031-312 The checkpoint file *string* already exists in the working directory.**

**Explanation:** While attempting to checkpoint the program, an existing version of the checkpoint file was found in the working directory. Execution is terminated.

**User Response:** 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.

---

**0031-313 Error saving information for program *string*. Return code is *number*.**

**Explanation:** The internal routine setExecInfo failed. This is an unrecoverable internal error.

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

---

---

**0031-314 Checkpointing is not enabled. Set CHKPT\_STATE to enable.**

**Explanation:** Checkpointing of the program is not enabled, because the value of the **CHKPT\_STATE** LoadLeveler environment variable was not set to enable.

**User Response:** To enable checkpointing, set **CHKPT\_STATE** to enable.

---

**0031-315 Invalid value for mp\_chkpt flags.**

**Explanation:** A non-valid value was set for the flags of the **mp\_chkpt** function. **MP\_CUSER** is the only valid value.

**User Response:** Set the flag value in the **mp\_chkpt** function call to **MP\_CUSER**.

---

**0031-316 Error suspending the pipe connection during checkpointing. Return code is *number*.**

**Explanation:** An error occurred calling the internal routine **mp\_stopMPI**, to suspend the pipe connection during checkpointing.

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

---

**0031-317 Error resuming the pipe connection during checkpointing. Return code is *number*.**

**Explanation:** An error occurred calling the internal routine **mp\_resumeMPI()**, to resume the pipe connection during checkpointing.

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

---

**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 MPC1 data during checkpointing. Return code is *number*.**

**Explanation:** An error occurred saving the MPC1 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 MPCPI during checkpointing. Return code is *number*.**

**Explanation:** An error occurred disconnecting from MPCPI 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**    **SSM\_CSS\_INIT expected and it was not received.**

**Explanation:** System error occurred where an **SSM\_CSS\_INIT** was expected for the control pipe input. 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.

---

**0031-335**    **SSM subtype not what was expected**

**Explanation:** An internal error was detected where an unexpected message type was returned. 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.

---

**0031-337**    **Error in starting the user's code.**

**Explanation:** An internal error was detected after trying to start the user executable code in the remote 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.

---

**0031-338**    **Error sending exit request to home node.**

**Explanation:** An internal error was detected after trying to send an exit request to the home node. 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.

---

**0031-339**    **Parallel trace initialization failed.**

**Explanation:** Parallel trace initialization failed on a remote node. The remote node continues, but no trace file will be created for that node.

This is probably a PE error.

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

---

**0031-340 Error occurred getting time during checkpointing. Return code is *number*.**

**Explanation:** An error occurred getting time 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.

---

**0031-341 Error occurred reconnecting MPCl during checkpointing. Return code is *number*.**

**Explanation:** An error occurred re-establishing the connections to MPCl 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.

---

**0031-342 Error occurred initializing time during checkpointing. Return code is *number*.**

**Explanation:** An error occurred initializing time 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.

---

**0031-343 Error occurred opening the checkpoint directory.**

**Explanation:** An error occurred during opening the checkpoint file directory 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.

---

**0031-344 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.

---

**0031-352** Error occurred reestablishing MPI/MPCI connection during restore processing. Return code is *number*.

**Explanation:** An error occurred reconnecting to MPI/MPCI 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.

---

**0031-353** Error occurred synchronizing POE tasks during restore processing. Return code is *number*.

**Explanation:** An error occurred synchronizing the POE tasks 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.

---

**0031-354** Error occurred obtaining global variables during restore processing. Return code is *number*.

**Explanation:** An error occurred obtaining the global variables from the environment while restoring a previously 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.

---

**0031-355** Error allocating data while restoring a checkpointed program.

**Explanation:** An error occurred allocating storage during the restore processing of previously 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.

---

**0031-356**    **Error occurred reinitializing the clock during restore processing. Return code is *number*.**

**Explanation:** An error occurred obtaining the switch clock address and reinitializing the clock for a previously 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.

---

**0031-357**    **Error occurred opening the checkpoint directory during restore.**

**Explanation:** An error occurred during opening the checkpoint file directory while restoring the program.

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

---

**0031-358**    **Error reading internal messages while synchronizing POE tasks. Return code is *number*.**

**Explanation:** 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.

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

---

**0031-359**    **Comparison of values for *string* is not consistent between original and restored value.**

**Explanation:** The original and restored values of the environment variable indicated were not consistent, when a checkpointed program was being restored.

**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.

---

**0031-360**    **Variable *string* was not found in the environment when restoring program.**

**Explanation:** The environment variable indicated was not found in the current environment, for a previously checkpointed program during restore processing.

**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.

---

**0031-361**    **Unexpected return code *number* from `ll_get_job`.**

**Explanation:** An internal error has occurred.

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

---

**0031-362**    **Unexpected return code *number* from `ll_request`.**

**Explanation:** An internal error has occurred.

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

---

**0031-363**    **Unexpected return code *number* from `ll_event`.**

**Explanation:** An internal error has occurred.

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

---

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**0031-364**    **Contacting LoadLeveler to *string* information for *string* job.**

**Explanation:** LoadLeveler is being used for the interactive or batch job.

**User Response:** None.

---

**0031-365**    **LoadLeveler unable to run job, reason: *string***

**Explanation:** LoadLeveler either could not run the interactive job for the reason indicated, or, LoadLeveler terminated the interactive job for the reason indicated.

**User Response:** 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.

---

**0031-366**    **Invalid combination: nodes=*number*, tasks\_per\_node=*number*, procs=*number*.**

**Explanation:** The combination specified did not result in a mathematical equality -- nodes times tasks\_per\_node must equal procs, when all three are specified.

**User Response:** Correct one or more of the specifications to ensure they are mathematically consistent.

---

**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: 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: 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 **-lfile** 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 **-lfile** command-line option that was submitted to LoadLeveler.

**User Response:** None.

---

**0031-374 Conflicting specification for **-euilib**, using *string*.**

**Explanation:** A batch job, or an interactive job that used the MP\_LLFILE environment variable or the **-lfile** 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 **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 **-lfile** 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 **euidevice**.**

**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 **-lfile** 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 PSSP Version 3 Release 2 or later installed, as earlier releases do not support 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.

---

**0031-387** 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 PSSP Version 3 Release 2 or later installed, as earlier releases do not support the SP Security functions. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**0031-389 No PMD service configured for DCE authentication on node *string*...processing continues.**

**Explanation:** POE could not get the PMD service principal for the remote node indicated, so no DCE authentication can be performed. Processing continues normally.

**User Response:** 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.

---

**0031-390 Error determining whether compatibility authentication was in use.**

**Explanation:** 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.

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

---

**0031-391 Error occurred seeking in checkpoint file during restore processing. Error code is *number*.**

**Explanation:** An error occurred while performing a seek operation of the checkpoint file while restoring a checkpointed program. The 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.

---

**0031-392 Error occurred restoring MPI/MPCI data during restore processing. Return code is *number*.**

**Explanation:** An error occurred restoring MPI/MPCI data while restoring a checkpointed program. The 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.

---

**0031-393 Ignoring *string* specified for batch job.**

**Explanation:** 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.

**User Response:** Unset the appropriate flag(s) or environment variable(s) to eliminate the warning message(s).

---

**0031-394 The `save_llfile` specification is ignored when `llfile` is used**

**Explanation:** 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.

**User Response:** Ensure that the use of JCF was intended, and if so, unset `-save_llfile` or `MP_SAVE_LLFILE` to eliminate the warning message.

---

---

**0031-395 Hostfile may not contain pools when llfile is specified**

**Explanation:** 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.

**User Response:** 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.

---

**0031-396 Unable to open save\_llfile string**

**Explanation:** Specified save\_llfile could not be opened. The job continues to run without saving the JCF.

**User Response:** Check the path name and permissions.

---

**0031-397 Ignoring save\_llfile specified for non-LoadLeveler job**

**Explanation:** The execution environment (see *IBM Parallel Environment for AIX: 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 a 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:** Re-run 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:** Re-run 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.

---

**0031-405 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 re-run.

---

**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/pmdv3** 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/pmdv3** 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 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 submis from this node is (are) down or drained.
2. The LoadLeveler configuration file is missing o contains an error.

**User Response:** For 1), use the **llstatus** 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 **llstatus** 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 due to an internal error in LoadLeveler.

**User Response:** 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 checkpnt\_commit call in POE failed**

**Explanation:** Either the checkpoint operation was cancelled prior to POE calling **checkpnt\_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.

---

**0031-501 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.

---

---

**0031-502 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.

---

**0031-505 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.

---

**0031-506 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.

---

**0031-507 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.

---

**0031-508 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 ionodefile.**

**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.

---

**0031-605**    **Unexpected EOF on allocation file for task *number***

**Explanation:** There were not enough entries in the hostfile for the number of processes specified.

**User Response:** Lower the number of processes or add more entries to the hostfile.

---

**0031-606**    **Unrecognized environment variable, *string*.**

**Explanation:** An environment variable was specified that was not recognized. It is possible that it was misspelled or incorrectly specified.

**User Response:** Check the spelling of the indicated variable and correct if necessary.

---

**0031-607**    **Pool requests and host entries may not be intermixed in hostfile**

**Explanation:** Pool requests and host entries co-existed in hostfile.

**User Response:** Modify hostfile to contain only pool requests or only hostnames.

---

**0031-608**    **Unrecognized option for task *number*: < *string*>**

**Explanation:** An option other than **shared**, **dedicated**, **multiple**, or **unique** was found in the hostfile.

**User Response:** Correct hostfile entry.

---

**0031-609**    **Unable to open save\_hostfile *string***

**Explanation:** Specified save hostfile could not be opened.

**User Response:** Check pathname and permissions.

---

---

**0031-610 Error in command broadcast**

**Explanation:** An error occurred in broadcasting the **poe** command to the partition. Probably one of the remote nodes is no longer accessible. 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.

---

**0031-611 Unable to open command file <string>**

**Explanation:** The file designated to issue POE commands can not be opened. POE terminates.

**User Response:** Verify that the file name is spelled correctly and is readable.

---

**0031-612 pm\_contact: write select error**

**Explanation:** A system error occurred while writing to 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.

---

**0031-613 Unable to send command to task number**

**Explanation:** An error occurred in sending the **poe** command to the indicated task. Probably the remote node is no longer accessible. POE terminates.

**User Response:** 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.

---

**0031-614 Unable to send single command to task number**

**Explanation:** An error occurred in sending the **poe** command to the indicated task. Probably the remote node is no longer accessible. POE terminates.

**User Response:** 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.

---

**0031-615 strappend failed for string , rc = number**

**Explanation:** The internal string append function failed. The system terminates.

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

---

**0031-616 gethostbyname failed for home node**

**Explanation:** The internal **gethostbyname** function failed. The system terminates.

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

---

**0031-617 pm\_getcwd failed, rc = number**

**Explanation:** The internal **pm\_getcwd** function failed. A return code of 1 implies either can't open pipe to **ksh** or command failed. A return code of 2 means the working directory string is longer than **bufsize**. The system terminates.

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

---

---

**0031-618**    **The following nodes were not contacted:**

**Explanation:** 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.

**User Response:** 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.

---

**0031-619**    *string*

**Explanation:** The text is explanatory text as would be provided by the **perror()** or **psignal()** functions. For **perror()**, it is the text contained in **sys\_errlist[errno]** for the error **errno**. For **psignal()**, it is the text contained in **sys\_siglist[signal]** for signal **signal**. A preliminary 0031-*number* message indicates the context.

---

**0031-620**    **pm\_SSM\_write failed in sending the user/environment for taskid** *number*

**Explanation:** The internal **pm\_SSM\_write** function failed. The system terminates.

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

---

**0031-621**    **pm\_SSM\_write failed in sending the partition map information for taskid** *number*

**Explanation:** The internal **pm\_SSM\_write** function failed. The system terminates.

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

---

**0031-622**    **unexpected msg from task** *number*, **type** *number* **Text:** *string*

**Explanation:** An unexpected message was returned from the indicated task. The system continues.

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

---

**0031-623**    **task** *number*: **hostname** *string*

**Explanation:** The line indicates the task number and associated host name. See message 0031-618 and 0031-631 for more information.

**User Response:** The list may contain names of failing nodes. Verify that connectivity exists and the the **pmd** daemon is executable on that node.

---

**0031-624**    **Error from sigprocmask for blocking stop signals**

**Explanation:** An error occurred in setting the signal mask to block stop signals during installation. POE terminates.

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

---

**0031-625**    **sigaction(SIGSTOP)**

**Explanation:** An error occurred in setting the flags for the SIGSTOP signal. POE terminates.

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

---

---

**0031-626** got signal *number*; awaiting response from signal *number*

**Explanation:** POE received a signal while processing the responses to a previous signal. The new signal is ignored unless it is the SIGKILL signal.

**User Response:** 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.

---

**0031-627** Task *number* connection blocked. Task will be abandoned.

**Explanation:** 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.

**User Response:** 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.

---

**0031-628** pm\_contact: 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.

---

**0031-629** pm\_contact: write timeout occurred; nprocs = *number*

**Explanation:** The select statement timed out waiting for ready to write to 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 environment variable **MP\_TIMEOUT**. The default is 150 seconds. If problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**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 **pmdv3** 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:** If the Program Marker Array is not being used, ignore this message. Otherwise, terminate POE, start **pmarray**, and restart POE. If Program Marker Array has been started, verify the value of the environment variable **MP\_USRPORT** for a valid port number for connection.

---

**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.

---

**0031-636 User requested or EOF termination of pm\_command**

**Explanation:** End of file was reached in the specified command file or user typed **quit**.

**User Response:** If termination is unexpected, verify that command file contains correct number of commands based on **MP\_PROCS** and **MP\_PGMMODEL** settings.

---

**0031-637 Non-zero status *number* returned from pm\_command**

**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.

---

**0031-638 Non-zero status *number* returned from pm\_respond**

**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.

---

**0031-639 Exit status from pm\_respond = *number***

**Explanation:** The **pm\_respond** function exited with the indicated status.

**User Response:** If other error messages occurred, perform corrective action indicated for the message(s); otherwise, no action is required.

---

**0031-642 End of File from Program Marker Array**

**Explanation:** The socket connecting POE to the Program Marker Array has returned EOF. Execution of POE continues.

**User Response:** If the Program Marker Array has not been deliberately terminated, determine the cause of the EOF, and, if desired, restart POE. Otherwise, ignore the message and allow the POE job to terminate normally.

---

**0031-643 Error read from Program Marker Array**

**Explanation:** The socket connecting POE to the Program Marker Array has returned an error condition. POE continues. The defined error codes are:

- 1 - I/O error on the socket. An explanatory message is appended if **errno** is set.
- 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.
- 3 - Some other error. An explanatory message is appended if **errno** is set.

**User Response:** If the Program Marker Array has not been deliberately terminated, determine the cause of the error, and, if desired, restart POE. Otherwise, ignore the message and allow the POE job to terminate normally. If the error code was 2 or 3, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**0031-644 Can't route PM Array message to task *number***

**Explanation:** 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.

**User Response:** Probably the remote task is no longer active, but the Program Marker array responses are backlogged. In this case, the messages can be ignored. Otherwise, look for other failures that may also cause this symptom.

---

**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:** Probably the PM Array tool is issuing invalid messages. Check the PM Array application.

---

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

---

**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 **pedb**. 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.

---

**0031-654**    **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.

---

**0031-655**    **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.

---

**0031-656**    **I/O file *string* closed by task *number***

**Explanation:** The **stdio** 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.

---

---

**0031-657 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.

---

**0031-658 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.

---

**0031-659 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.

---

**0031-660 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**.

---

**0031-661 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.

---

**0031-670** Illegal **stdout mode** *number*

**Explanation:** The indicated value for STDOUT mode is not valid. The requested I/O buffering is not performed.

**User Response:** Correct the value for STDOUT mode.

---

**0031-671** Can't acknowledge **PMArray data from task** *number*

**Explanation:** An error occurred trying to return an acknowledgement to a node sending data to PM Array.

**User Response:** Probable POE internal error. The error may also be caused by loss of contact with the remote node. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**0031-672** Invalid routing request from task *number* to task *number*

**Explanation:** The Home Node has received a message, but doesn't know how to route it to the indicated task (destination).

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

---

**0031-673** Invalid mode/destination for **STDIN:** *number*

**Explanation:** The requested destination for STDIN is invalid. The request to route STDIN is ignored.

**User Response:** Verify the STDIN I/O mode requested.

---

---

**0031-674 Unexpected return code *number* from `pm_SSM_write`**

**Explanation:** Internal error has occurred.

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

---

**0031-675 Invalid mode *number* requested**

**Explanation:** User program has called function `MP_STDOUTMODE` or `mpc_stdoutmode` with invalid mode.

**User Response:** Refer to man page for explanation of valid modes.

---

**0031-676 Invalid value *string* for `mp_euidevice`**

**Explanation:** The `mp_euidevice` specified on the command line with `-euidevice` or in the environment with `MP_EUIDEVICE` is not valid.

**User Response:** Refer to *IBM Parallel Environment for AIX: Operation and Use, Volume 1* for valid choices and rerun.

---

**0031-677 Unexpected return code *number* from `_mp_stdoutmode`**

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

**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.

---

**0031-678 Hostfile may not contain pool requests if not using LoadLeveler**

**Explanation:** The user explicitly requested not to use LoadLeveler (with the `MP_RESD` environment variable or the `-resd` command line flag), but the hostfile contained pool requests.

**User Response:** Use hostnames in the hostfile or do not request that LoadLeveler not be used.

---

**0031-679 Profiling may not have completed on node *number***

**Explanation:** A profiling file may not have been completed for the given node. However, profiling files may exist for other nodes in the job.

**User Response:** 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.

---

**0031-680 Invalid mode *number* requested**

**Explanation:** User program has called function `MP_STDINMODE` or `mpc_stdinmode` with invalid mode.

**User Response:** Refer to man page for explanation of valid modes.

---

**0031-682 Unexpected return code *number* from `_mp_in_mode`**

**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.

---

---

**0031-683 POE couldn't get process info for process id *number***

**Explanation:** The Partition Manager is unable to get the time stamp in the procsinfo structure for creating the `/tmp/.ppe.xxx.attach.cfg` file.

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

---

**0031-687 Unsuccessful call to `pm_SSM_read`**

**Explanation:** Internal error has occurred.

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

---

**0031-688 Incorrect subtype *number* received in structured socket message**

**Explanation:** Internal error has occurred.

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

---

**0031-689 Unexpected return code *number* from `_mp_stdoutmode_query`**

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

**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.

---

**0031-692 Invalid option *number* requested**

**Explanation:** A user program has called function `MP_FLUSH` or `mpc_flush` with an incorrect option.

**User Response:** Refer to man page for explanation of valid options.

---

**0031-696 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.

---

**0031-699 Task *number* waiting to profile...**

**Explanation:** Designated task is waiting to profile.

**User Response:** None.

---

**0031-700 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.

---

**0031-701 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.

---

---

**0031-702    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.

---

**0031-703    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.

---

**0031-704    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.

---

**0031-705    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.

---

**0031-706    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.

---

**0031-707    pmd: error sending *string* ack to home node.**

**Explanation:** The **pm** daemon was not able to send the indicated acknowledgment to the home node.

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

---

**0031-708    pmd: invalid JOBID.**

**Explanation:** The **pm** daemon was not able to send a node map **ack** to the home node.

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

---

**0031-709    pmd: SSM recv'd not cmd str or exit**

**Explanation:** An incorrect SSM was received by the **pm** daemon from the home node.

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

---

**0031-710    pmd: pipe creation error**

**Explanation:** The **pm** daemon was unable to create pipes to its child.

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

---

---

**0031-711** parent select errno = *number*

**Explanation:** select error from **pmd** parent.

**User Response:** Probable system error.

---

**0031-712** parent error reading STDIN, rc = *number*

**Explanation:** **pm** daemon parent was unable to read STDIN.

**User Response:** Probable system error.

---

**0031-713** pmd parent: error w/ack for sig req to home

**Explanation:** **pm** daemon parent had error sending **ack** for **sig** request.

**User Response:** Probable system error.

---

**0031-714** pmd parent: error writing to task *number* child's STDIN

**Explanation:** **pm** daemon parent was not able to write to the indicated child's STDIN.

**User Response:** Probable system error.

---

**0031-715** pmd parent: error writing to task *number* child's cntl

**Explanation:** **pm** daemon parent was not able to write to the indicated child's control pipe.

**User Response:** Probable system error.

---

**0031-716** pmd parent: error reading STDOUT from task *number* child

**Explanation:** **pm** daemon parent was not able to read STDOUT from the indicated child.

**User Response:** Probable system error.

---

**0031-717** pmd parent: error writing to STDOUT for task *number*

**Explanation:** **pm** daemon parent was not able to write to STDOUT for the indicated child.

**User Response:** Probable system error.

---

**0031-718** pmd parent: error reading control from task *number* child

**Explanation:** **pm** daemon parent was not able to read the control pipe from the indicated child.

**User Response:** Probable system error.

---

**0031-719** AFS authorization failed in settokens

**Explanation:** **settokens()** failed in **pmd** child when given the **afstoken**.

**User Response:** Probable system error.

---

**0031-720** child: initgroups error - errno = *<number>*

**Explanation:** **initgroups** failed, errno given.

**User Response:** Probable system error.

---

---

**0031-721    unable to set user info**

**Explanation:** `userinfo()` was unable to set user info.

**User Response:** None.

---

**0031-722    can't set priority to *number***

**Explanation:** `setpriority()` failed in `pmd` child.

**User Response:** None.

---

**0031-723    `userid = <number>`**

**Explanation:** `userid` is set to the given `userid`.

**User Response:** None.

---

**0031-724    Executing program: *<string>***

**Explanation:** The child is executing the given program.

**User Response:** None.

---

**0031-725    Failed to exec program *string*; `errno = number`**

**Explanation:** The child failed to execute the given program.

**User Response:** Probable system error. POE's `/usr/lpp/ppe.poe/lib/libc.a` may not be up to date. Have the system administrator run the following script to rebuild POE's `libc.a`: `/usr/lpp/ppe.poe/bin/makellibc`. Verify that the `euilibpath` includes the following path: `/usr/lpp/ppe.poe/lib`.

---

**0031-726    `pmd: error sending node attach data record to home node.`**

**Explanation:** 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.

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

---

**0031-727    `pmd parent: error writing to child's debug engine pipe`**

**Explanation:** `pm` daemon parent was not able to write to debug engine pipe, which is used to communicate with the node debug server.

**User Response:** Probable system error.

---

**0031-728    Cannot set *string* limit to *number*, hard limit is *number*.**

**Explanation:** 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.

**User Response:** If this causes a problem, ask the system administrator to increase the hard limit values for `inetd`.

---

**0031-729    `ident_match 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:** Ensure the user is properly authorized to use POE, and ensure `ident_match` routine is properly installed and available.

---

---

**0031-730 Error initializing DCE on remote 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.

---

**0031-731 *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.

---

**0031-732 Restarting program from file: <*string*>**

**Explanation:** The child is executing the given program for restart.

**User Response:** None.

---

**0031-733 The initialization of the remote debug engine failed.**

**Explanation:** The Partition Manager Daemon detected an error while starting the remote debug engine. The debugger is terminated.

**User Response:** 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.

---

**0031-734 DCE is not available...processing continues.**

**Explanation:** DCE was not installed on the remote node host, so no DCE authentication can be performed. Processing continues normally.

**User Response:** If the remote node host was expected to have DCE available, contact the system administrator to ensure the proper authentication methods are enabled.

---

**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 PSSP Version 3 Release 2 or later installed, as earlier releases do not support 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 PSSP Version 3 Release 2 or later installed, as earlier releases do not support 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.

---

**0031-749 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.

---

**0031-756** A restarting thread within PMD cannot be joined, *rc=number*

**Explanation:** An error occurred when PMD attempted to join with 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.

---

**0031-757** PMD unable to create a checkpointing thread, *rc=number*

**Explanation:** An error occurred when PMD attempted to create a checkpointing 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.

---

**0031-759** pmd parent: error writing to STDOUT for task *number*

**Explanation:** pm daemon parent was not able to write to STDOUT for the indicated task.

**User Response:** Probable system error.

---

**0031-760** pmd parent: error reading stdin for task *number*, *count=number*

**Explanation:** An error occurred when pmd parent read data from the stdin pipe for indicated task for checkpointing.

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

---

**0031-761** pmd parent: error writing to STDOUT for task *number*

**Explanation:** pm daemon parent was not able to write to STDOUT for the indicated task.

**User Response:** Probable system error.

---

- 
- 0031-762**    **pmd parent: error reading ctlin for task *number*, count=*number***  
**Explanation:** An error occurred when **pmd** parent read data from the ctlin pipe for indicated task for checkpointing.  
**User Response:** Gather information about the problem and follow local site procedures for reporting hardware and software problems.
- 
- 0031-763**    **pmd parent: error writing to STDOUT for task *number***  
**Explanation:** **pm** daemon parent was not able to write to STDOUT for the indicated task.  
**User Response:** Probable system error.
- 
- 0031-764**    **pmd parent: error writing to task *number* child's STDIN**  
**Explanation:** **pm** daemon parent was not able to write to the indicated child's STDIN.  
**User Response:** Probable system error.
- 
- 0031-765**    **pmd parent: error writing to task *number* child's cntl**  
**Explanation:** **pm** daemon parent was not able to write to the indicated child's control pipe.  
**User Response:** Probable system error.
- 
- 0031-766**    **pmd parent: error writing to STDOUT for task *number***  
**Explanation:** **pm** daemon was not able to write to STDOUT for the indicated task.  
**User Response:** Probable system error.
- 
- 0031-767**    **signal *string***  
**Explanation:** The message is sent from the signal handler in response to the indicated signal, which is not handled explicitly by the Partition Manager Daemon.  
**User Response:** Verify that the signal was intended.
- 
- 0031-770**    **NULL pointer passed for the reg, errno: *number***  
**Explanation:** Null pointer passed for the parameter while call registered CSS checkpoint and restart api function.  
**User Response:** Check the reg passed to the registered CSS checkpoint and restart api function.
- 
- 0031-771**    **Error allocating data while calling registered CSS, errno: *number***  
**Explanation:** An error occurred allocating storage during calling registered CSS checkpoint and restart api function.  
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.
- 
- 0031-772**    **Invalid value for the handle, errno: *number***  
**Explanation:** Incorrect handle passed for the parameter while calling unregistered checkpoint and restart api function.  
**User Response:** Check the handle passed to the unregistered checkpoint and restart api function.
- 
- 0031-773**    **The handle is not currently active, errno: *number***  
**Explanation:** A handle, which is a parameter, is not currently active while calling unregistered CSS checkpointing callback api function.  
**User Response:** Probable system error. Gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**0031-774** Checkpoint of POE process *process-ID* has failed *errno*

**Explanation:** The **poeckpt** command was unsuccessful. The system call **checkpnt()** failed. The indicated *errno* value describes the reason for the error. An *errno* value of **3** may indicate that the CHECKPOINT environment variable was not set to **yes** when POE was invoked.

**User Response:** Check that the process ID is valid.

---

**0031-775** Error changing owner of *string*, *errno* is *number*

**Explanation:** An internal error occurred changing the owner of the checkpoint file. 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.

---

**0031-776** Restart of POE job from file *string* has failed, *errno* is *number*

**Explanation:** The **poerestart** command was unsuccessful. The system call **restart()** was failure. The indicated ERRNO value describes the reason for the error.

**User Response:** Check that the program name is valid, and that it was previously checkpointed. If the *errno* indicated is ESTALE (*errno* 52), make sure the checkpoint file supplied as an argument to the **poerestart** command is from a checkpoint of the POE executable and not from one of the parallel tasks.

---

**0031-777** Unexpected return code *number* from **checkpnt\_register**, *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.

---

**0031-778** **mp\_main** function is not available for checkpointing, *errno: number*

**Explanation:** User program cannot call **mpc\_set\_ckpt\_callbacks** because the **mp\_main** function is not available.

**User Response:** Use **mpcc\_r** to compile the user program.

---

**0031-779** Can't call **mpc\_set\_ckpt\_callbacks** or **mpc\_unset\_ckpt\_callbacks**

**Explanation:** User program can't call **mpc\_set\_ckpt\_callbacks** or **mpc\_unset\_ckpt\_callbacks** in checkpoint handler, resume handler, or restart handler because the **mp\_ckpt\_thread\_handler** function is active.

**User Response:** Check the user program.

---

**0031-780** **poerestart: fork error** <*string*>

**Explanation:** The **poerestart** is unable to fork for **restart\_wait** function.

**User Response:** Probable system error.

---

**0031-781** NULL pointer passed for the parameter, *errno: number*

**Explanation:** NULL pointer passed for the parameter while call checkpointing callback api function.

**User Response:** Check the func passed to the checkpointing callback api function.

---

**0031-782** Checkpointing is not enabled, *errno: number*

**Explanation:** Checkpointing of the program is not enabled, because the value of the **CHECKPOINT** environment variable was not set to **yes**.

**User Response:** To enable checkpointing, set **CHECKPOINT** to **yes**.

---

- 
- 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 of 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.

---

---

**0031-802**    **-newjob** *string* ignored in remote child

**Explanation:** **-newjob** interpreted only in parent code.

**User Response:** None.

---

**0031-803**    **-pmdlog** *string* ignored in remote child

**Explanation:** **-pmdlog** interpreted only in parent code.

**User Response:** None.

---

**0031-804**    **-pgmmodel** *string* ignored in remote child

**Explanation:** **-pgmmodel** interpreted only in parent code.

**User Response:** None.

---

**0031-805**    **Invalid programming model specified:** *string*

**Explanation:** **-pgmmodel** should be either SPMD or MPMD.

**User Response:** Re-enter **-pgmmodel** with either SPMD or MPMD.

---

**0031-806**    **Invalid retry count** *string*

**Explanation:** The retry count should be an integer.

**User Response:** Re-enter **-retry** followed by an integer.

---

**0031-807**    **Invalid node pool specified:** *string*

**Explanation:** **-rmpool** should be an integer  $\geq 0$ .

**User Response:** Re-enter **-rmpool** followed by an integer  $\geq 0$ .

---

**0031-808**    **Hostfile or pool must be used to request nodes.**

**Explanation:** When using LoadLeveler, the environment variable **MP\_RMPOOL** or the command-line option **-rmpool** must be used to specify the pool, because a hostfile did not exist.

**User Response:** Ensure that the absence of a hostfile was intended, verify the command-line or environment variable settings of **hostfile**, **resd**, and **rmpool**, and then retry. See *IBM Parallel Environment for AIX: Operation and Use, Volume 1* for more information.

---

**0031-809**    **-tracefile** *string* ignored in remote child

**Explanation:** **-tracefile** interpreted only in parent code.

**User Response:** None.

---

**0031-810**    **-tracelevel** *string* ignored in remote child

**Explanation:** **-tracelevel** interpreted only in parent code.

**User Response:** None.

---

**0031-811**    **System Checkpoint/Restart not supported**

**Explanation:** System Checkpoint/Restart is not supported by the MPI/MPCI libraries.

**User Response:** Rerun with newer version of threaded MPI/MPCI libraries.

---

---

**0031-812 Parallel checkpoint callbacks registration failed**

**Explanation:** Registration of checkpoint callback functions failed. This is an internal error.

**User Response:** Rerun program.

---

**0031-813 Error occurred closing HAL during a program checkpoint**

**Explanation:** An error occurred when closing HAL while taken a program checkpoint.

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

---

**0031-814 Error occurred terminating HAL during a program checkpoint**

**Explanation:** An error occurred when terminating HAL while taken a program checkpoint.

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

---

**0031-815 Error occurred re-initializing HAL after a program checkpoint**

**Explanation:** An error occurred during HAL re-initialization after taken a program checkpoint.

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

---

**0031-816 Error occurred re-opening HAL after a program checkpoint**

**Explanation:** An error occurred while re-opening HAL after taken a program checkpoint.

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

---

**0031-818 Error occurred resuming the interprocess communication during checkpointing**

**Explanation:** An error occurring calling the internal routine `mp_resume_handler()`, to resume 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.

---

**0031-819 Could not open error file *string*. *errno=number*.**

**Explanation:** An error occurred attempting to open the checkpoint error file.

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

---

**0031-820 Unexpected return code *number* from `_mp_init_ckpt`.**

**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.

---

**0031-821 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.

---

**0031-900 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 *string*.**

**Explanation:** There was a failure in sending the acknowledgment message for the POE pulse function from POE to pmd for the indicated node.

**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 *string*.**

**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.

**User Response:** It is possible the 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.

---

---

**0031-A400 Error in creating socket**

**Explanation:** The program **pmarray** terminates. An explanatory sentence is appended.

**User Response:** Probable system error. Check the condition(s) given in the explanatory sentence.

---

**0031-A401 Error in binding socket**

**Explanation:** The program **pmarray** terminates. An explanatory sentence is appended.

**User Response:** Probable system error. Check the condition(s) given in the explanatory sentence.

---

**0031-A402 Error in listen**

**Explanation:** The program **pmarray** terminates. An explanatory sentence is appended.

**User Response:** Probable system error. Check the condition(s) given in the explanatory sentence.

---

**0031-A403 Error in accept**

**Explanation:** The program **pmarray** terminates. An explanatory sentence is appended.

**User Response:** Probable system error. Check the condition(s) given in the explanatory sentence.

---

**0031-A404 Error in socket read. File descriptor = *number***

**Explanation:** The program **pmarray** terminates. An explanatory sentence is appended.

**User Response:** Probable system error. Check the condition(s) given in the explanatory sentence.

---

**0031-A405 Unsupported data type *number* received by PMArray, task *number***

**Explanation:** Execution continues. The data is ignored.

**User Response:** PM Array received data that was not recognized. This probably indicates that the **pmarray** program is not connected properly to the Partition Manager.

---

**0031-A406 Bad message type *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-A407 Internal error reading socket message**

**Explanation:** Internal error has occurred.

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

---

**0031-A409 Invalid action code *number*, msg type *number***

**Explanation:** An unexpected message was received during initialization of the Program Marker Array.

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

---



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## Chapter 4. Message Passing Interface (MPI) messages

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**0032-001** Invalid source task (*number*) in *string*, task *number*

**Explanation:** The value of **src** (source task ID) is out of range.

**User Response:** Make sure that the source task ID is within the range of **0** to **N-1**, where **N** is the number of tasks in the partition.

---

**0032-002** Invalid destination task (*number*) in *string*, task *number*

**Explanation:** The value of **dest** (destination task id) is out of range.

**User Response:** Make sure that the destination task id is within the range 0 to N-1, where N is the number of tasks in the partition.

---

**0032-003** Invalid message length (*number*) in *string*, task *number*

**Explanation:** The value specified for message length or block length is out of range.

**User Response:** Make sure that the message length is not less than zero.

---

**0032-004** Invalid message type (*number*) in *string*, task *number*

**Explanation:** The value specified for **type** (message type) is out of range.

**User Response:** Make sure that the message type is within the allowable range as specified by MP\_TASK\_QUERY (**qtype=2**).

---

**0032-005** Invalid message id (*number*) in *string*, task *number*

**Explanation:** The value specified for **msgid** (message id) is incorrect.

**User Response:** Make sure that the message id is not less than 0.

---

**0032-006** Invalid message buffer addr= *number* in *string*, task *number*

**Explanation:** The message buffer address cannot be valid.

**User Response:** Make sure that the buffer is correctly identified in the call.

---

**0032-007** Invalid message offset (*number*) in *string*, task *number*

**Explanation:** The value specified for **offset** is incorrect.

**User Response:** Make sure that **offset** is not less than **blklen**.

---

**0032-008** Invalid blknum (*number*) in *string*, task *number*

**Explanation:** The value specified for **blknum** is incorrect.

**User Response:** Make sure that **blknum** is not less than 0.

---

**0032-009** Invalid stype value (*number*) in *string*, task *number*

**Explanation:** The value specified for **stype** is incorrect.

**User Response:** Make sure that **stype** is either 1, 2, or 3.

---

---

**0032-010** Invalid **nbuf** value (*number*) in *string*, **task number**

**Explanation:** The value specified in **nbuf** is incorrect.

**User Response:** Make sure that **nbuf** contains valid data.

---

**0032-011** Invalid **qtype** value (*number*) in *string*, **task number**

**Explanation:** The value specified for **qtype** is incorrect.

**User Response:** Make sure that **qtype** is either 1, 2, or 3.

---

**0032-012** Invalid **nelem** value (*number*) in *string*, **task number**

**Explanation:** The value specified for **nelem** is incorrect.

**User Response:** Make sure that **nelem** is not less than 0.

---

**0032-013** Out of memory, **task number**

**Explanation:** There is insufficient memory available to continue.

**User Response:** Reduce the size of user storage required per task.

---

**0032-014** Internal error: *string*, **task number**

**Explanation:** An internal software error occurred during execution.

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

---

**0032-015** System error: *string*, **task number**

**Explanation:** A system software error occurred during execution.

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

---

**0032-016** Deadlock detected, **task number**

**Explanation:** A software-generated deadlock was detected.

**User Response:** Make sure that your application code does not contain potential deadlock conditions.

---

**0032-017** Receive buffer too small, **task number**

**Explanation:** The buffer specified for the operation was too small to hold the received message.

**User Response:** Increase the size of the buffer or reduce the size of the message.

---

**0032-018** Too many messages, **task number**

**Explanation:** Too many outgoing and incoming messages have been posted without being completed.

**User Response:** Make sure that **MP\_WAIT** (**mpc\_wait**) or **MP\_STATUS** (**mpc\_status**) is being called to complete pending non-blocking sends and receives. In addition, make sure that for each message sent, there is a corresponding receive issued by some task.

---

**0032-019** Invalid **group id** (*number*) in *string*, **task number**

**Explanation:** The value of **gid** (group id) is out of range.

**User Response:** Make sure that **gid** is not less than 0. In addition, make sure that the value specified for **gid** is a value that was returned by either **MP\_GROUP** (**mpc\_group**) or **MP\_PARTITION** (**mpc\_partition**).

---

---

**0032-020** Invalid task id (*number*) in *string*, task *number*

**Explanation:** The value specified for **taskid** is out of range.

**User Response:** Make sure that **taskid** is within the range 0 to N-1, where N is the number of tasks in the partition.

---

**0032-021** Invalid task 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 referenced by **gid**.

---

**0032-022** Invalid step value (*number*) in *string*, task *number*

**Explanation:** The value specified by **step** is out of range.

**User Response:** Make sure that **step** is in the range -N to N, where N is the number of tasks in the group referenced by **gid**.

---

**0032-023** Invalid gsize value (*number*) in *string*, task *number*

**Explanation:** The value specified by **gsize** is out of range.

**User Response:** Make sure that **gsize** is in the range 1 to N, where N is the number of tasks in the partition.

---

**0032-024** Invalid task group list (*number*) in *string*, task *number*

**Explanation:** The list of task ids for the group (**glist**) contains one or more incorrect task ids.

**User Response:** Make sure that the local task id is included in the group list, and that all of the task ids in the list are within the range 0 to N-1, where N is the number of tasks in the partition.

---

**0032-025** Duplicate task id (*number*) in *string*, task *number*

**Explanation:** A duplicate task id was found in the group list.

**User Response:** Make sure that each task in the group list is included only once.

---

**0032-026** Inconsistent source task in *string*, task *number*

**Explanation:** The same source task was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same source task.

---

**0032-027** Inconsistent destination task in *string*, task *number*

**Explanation:** The same destination task was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same destination task.

---

**0032-028** Inconsistent message length in *string*, task *number*

**Explanation:** The same message length was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same message length.

---

**0032-029** Inconsistent step value in *string*, task *number*

**Explanation:** The same value of **step** was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same **step** value.

---

---

**0032-030**    **Inconsistent flag value in *string*, task number**

**Explanation:** The same value of **flag** was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same **flag** value

---

**0032-031**    **Inconsistent gsize value in *string*, task number**

**Explanation:** The same value of **gsize** was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same **gsize** value.

---

**0032-032**    **Inconsistent label value in *string*, task number**

**Explanation:** The same value of **label** was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same **label** value.

---

**0032-033**    **Inconsistent task group list in *string*, task number**

**Explanation:** The same task group list was not specified by each task in the group.

**User Response:** Make sure that each task specifies the same task group list.

---

**0032-034**    **Buffering cannot be turned on twice, task number**

**Explanation:** A task called MP\_TASK\_SET (**mpc\_task\_set**) with **stype=3** twice.

**User Response:** Make sure that each task makes the indicated call no more than once.

---

**0032-035**    **Buffer changed before message completion, 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.

---

**0032-036**    **Calling *string* from a RCVNCALL handler is invalid, task number**

**Explanation:** MPL routines for Collective Communication as well as those which can modify the operation mode of MPL are not valid within Receive and Call handler code.

**User Response:** Use only point to point subroutines for messaging within a Receive and Call handler. Do not attempt to change any MPL operating mode or use Collective Communications from within a handler.

---

**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

---

**0032-103**    **Invalid count (*number*) in *string*, task *number***

**Explanation:** The value of **count** (element count) is out of range.

**User Response:** Make sure that the count is greater than or equal to zero.

**Error Class:** MPI\_ERR\_COUNT

---

**0032-104**    **Invalid message tag (*number*) in *string*, task *number***

**Explanation:** The value specified for **tag** (message tag) is out of range.

**User Response:** 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, &val, &flag).

**Error Class:** MPI\_ERR\_TAG

---

**0032-105**    **Invalid group handle (*number*) in *string*, task *number***

**Explanation:** The specified group handle is undefined or NULL.

**User Response:** Make sure that the group handle is either predefined or was returned by an MPI function.

**Error Class:** MPI\_ERR\_GROUP

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**0032-106**    **Negative length or position for buffer** (*number*) in *string*, **task number**

**Explanation:** The values specified for buffer size and position must be positive.

**User Response:** Specify a proper size and/or position for the pack or unpack buffer.

**Error Class:** MPI\_ERR\_ARG

---

| **0032-107**    **Invalid stride** (*number*) in *string*, **task number**

| **Explanation:** The value specified for **stride** is incorrect.

| **User Response:** Make sure that the value(s) of stride (ranges[?][2] in C, or ranges(3,?) in FORTRAN) is non-zero.

| **Error Class:** MPI\_ERR\_ARG

---

**0032-108**    **Invalid use of NULL request** in *string*, **task number**

**Explanation:** A NULL request is not allowed as input to the function.

**User Response:** Make sure that the request is valid.

**Error Class:** MPI\_ERR\_REQUEST

---

**0032-109**    **Uncommitted datatype** (*number*) in *string*, **task number**

**Explanation:** The **datatype** handle has not been committed.

**User Response:** Make sure that you call MPI\_Type\_commit to commit the datatype before using it in the specified function.

**Error Class:** MPI\_ERR\_TYPE

---

**0032-110**    **Attempt to free a predefined datatype** (*number*) in *string*, **task number**

**Explanation:** It is not valid to attempt to free a predefined datatype.

**User Response:** Call MPI\_Type\_free for user-defined datatypes only.

**Error Class:** MPI\_ERR\_TYPE

---

| **0032-111**    **Invalid blocklength** (*number*) in **type constructor** *string*, **task number**

| **Explanation:** The value specified for **blocklength** is incorrect.

| **User Response:** Make sure that blocklength is greater than or equal to zero.

| **Error Class:** MPI\_ERR\_ARG

---

**0032-112**    **Collective requests not supported** in *string*, **task number**

**Explanation:** This function does not support the non-blocking collective communication extensions to MPI.

**User Response:** Only use point-to-point request handles with this function.

**Error Class:** MPI\_ERR\_REQUEST

---

**0032-113**    **Out of memory** in *string*, **task number**

**Explanation:** There is insufficient memory available to continue.

**User Response:** Reduce the size of user storage required per task.

**Error Class:** MPI\_ERR\_INTERN

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---

**0032-114 MPI internal error:** *string in string, task number*

**Explanation:** An internal software error occurred within MPI, during execution.

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

**Error Class:** MPI\_ERR\_INTERN

---

**0032-115 System error:** *string, in string task number*

**Explanation:** A system software error occurred during execution.

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

**Error Class:** MPI\_ERR\_INTERN

---

**0032-116 Null function not allowed in** *string, task number*

**Explanation:** The value NULL (zero) was specified for **function**.

**User Response:** A valid function must be specified. If a do-nothing function is desired, it must be supplied by the user.

**Error Class:** MPI\_ERR\_OTHER

---

**0032-117 User pack or receive buffer too small (number) in** *string, task number*

**Explanation:** 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.

**User Response:** Increase the size of the buffer or reduce the size of the message. Error Class: MPI\_ERR\_TRUNCATE

---

**0032-118 Invalid datatype (number) in** *string, task number*

**Explanation:** The **datatype** is not a valid argument to the function.

**User Response:** 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.

**Error Class:** MPI\_ERR\_TYPE

---

**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 that 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, pairwise 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

---

**0032-127** Inconsistent reduction operator (*number*) in *string*, task *number*

**Explanation:** The participants in a collective operation did not all specify the same value for **op**.

**User Response:** Make sure that **op** is identical for all tasks making the call.

**Error Class:** MPI\_ERR\_NOT\_SAME

---

**0032-128** Inconsistent root node (*number*) in *string*, task *number*

**Explanation:** The participants in a collective operation did not all specify the same value for **root**.

**User Response:** Make sure that **root** is identical for all tasks making the call.

**Error Class:** MPI\_ERR\_NOT\_SAME

---

---

**0032-129**    **Can't use an intercommunicator (*number*) in *string*, *task number***

**Explanation:** Only intra-communicators are valid with this function.

**User Response:** Make sure that **comm** is a handle for an intra-communicator.

**Error Class:** MPI\_ERR\_COMM

---

**0032-130**    **Can't use an intracommunicator (*number*) in *string*, *task number***

**Explanation:** Only inter-communicators are valid with this function.

**User Response:** Make sure that **comm** is a handle for an inter-communicator.

**Error Class:** MPI\_ERR\_COMM

---

**0032-131**    **Can't free a predefined communicator (*number*) in *string*, *task number***

**Explanation:** It is invalid to try to free a predefined communicator.

**User Response:** Only attempt to free user-defined communicators.

**Error Class:** MPI\_ERR\_COMM

---

**0032-132**    **Only valid with graph topology (*number*) in *string*, *task number***

**Explanation:** This function is only valid for communicators with graph topologies.

**User Response:** Make sure that the communicator has a graph topology. See MPI\_Graph\_create.

**Error Class:** MPI\_ERR\_COMM

---

**0032-133**    **Only valid with cartesian topology (*number*) in *string*, *task number***

**Explanation:** This function is only valid for communicators with cartesian topologies.

**User Response:** Make sure that the communicator has a cartesian topology. See MPI\_Cart\_create.

**Error Class:** MPI\_ERR\_COMM

---

**0032-134**    **A Buffer is already attached in *string*, *task number***

**Explanation:** An attempt was made to attach a buffer when a buffer was already attached.

**User Response:** Call MPI\_Buffer\_detach first to remove the current buffer.

**Error Class:** MPI\_ERR\_OTHER

---

**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

---

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**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

---

**0032-142** Invalid task count (*number*) in string, task *number*

**Explanation:** An incorrect number of tasks was specified (either explicitly, or implicitly).

**User Response:** Make sure that the number of tasks is non-negative, and is not greater than the size of the communicator.

**Error Class:** MPI\_ERR\_ARG

---

**0032-143** Invalid dimension count (*number*) in string, task *number*

**Explanation:** The value specified for **ndims** is incorrect.

**User Response:** Make sure that the number of dimensions is greater than zero.

**Error Class:** MPI\_ERR\_DIMS

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---

**0032-144**    **There is no solution in *string*, task *number***

**Explanation:** There is no set of dimensions which satisfies the conditions required by a call to `MPI_Dims_create`.

**User Response:** Modify the parameters used in the call to `MPI_Dims_create` so that a solution is possible.

**Error Class:** `MPI_ERR_DIMS`

---

**0032-145**    **Invalid array size (*number*) in *string*, task *number***

**Explanation:** An array size was specified to be less than zero.

**User Response:** Make sure that all array sizes (specified by `maxdims`, `maxedges`, `maxindex`, etc.) are non-negative.

**Error Class:** `MPI_ERR_ARG`

---

**0032-146**    **Invalid neighbor rank (*number*) in *string*, task *number***

**Explanation:** An incorrect rank was used for an element of the edges array.

**User Response:** Make sure that all elements of the edges array are greater than or equal to zero, and less than *n* nodes.

**Error Class:** `MPI_ERR_RANK`

---

**0032-147**    **Invalid coordinate (*number*) in *string*, task *number***

**Explanation:** The value specified is not a valid process coordinate in the communicator **comm**.

**User Response:** Make sure that each coordinate is in the range zero to N-1, where N is the size of the corresponding dimension of the cartesian topology associated with **comm**

**Error Class:** `MPI_ERR_ARG`

---

**0032-148**    **Invalid root (*number*) in *string*, task *number***

**Explanation:** The value specified for **root** is not a valid process rank in the communicator **comm**.

**User Response:** Make sure that **root** is within the range zero to N-1, where N is the number of tasks in the group associated with **comm**. N can be determined by calling `MPI_Comm_size`.

**Error Class:** `MPI_ERR_ROOT`

---

**0032-149**    **MPI is already initialized in *string*, task *number***

**Explanation:** A call to `MPI_Init` was made when MPI was already initialized.

**User Response:** If in doubt, make sure that MPI is not already initialized (by calling `MPI_Initialized`) before calling `MPI_Init`.

**Error Class:** `MPI_ERR_OTHER`

---

**0032-150**    **MPI is not initialized in *string*, task *number***

**Explanation:** A call to an MPI function other than `MPI_Init` or `MPI_Initialized` was made before MPI was initialized.

**User Response:** Call `MPI_Init` before any other MPI function other than `MPI_Initialized`.

**Error Class:** `MPI_ERR_OTHER`

---

**0032-151**    **MPI is already finalized in *string*, task *number***

**Explanation:** A call to an MPI function was made when MPI was in the finalized state.

**User Response:** Do not call any MPI function after calling `MPI_Finalize`.

**Error Class:** `MPI_ERR_OTHER`

---

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**0032-152**    **Inconsistent algorithm selected in *string*, task number**

**Explanation:** The collective function resulted in different algorithms being selected by different tasks.

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

**Error Class:** MPI\_ERR\_INTERN

---

**0032-153**    **Inconsistent datatype (*number*) in *string*, task number**

**Explanation:** Different datatypes were used by different tasks in the collective communication operation.

**User Response:** Make sure that all tasks use the same datatype.

**Error Class:** MPI\_ERR\_NOT\_SAME

---

**0032-154**    **Not a persistent request (*number*), *string*, task number**

**Explanation:** An attempt was made to start a non-persistent request.

**User Response:** 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.).

**Error Class:** MPI\_ERR\_REQUEST

---

**0032-155**    **Invalid number of ranks specified (*number*) in *string*, task number**

**Explanation:** The number of process ranks specified (either explicitly or implicitly) is out of range.

**User Response:** Make sure that the rank count is between zero and the number of tasks in the group, inclusive.

**Error Class:** MPI\_ERR\_ARG

---

**0032-156**    **Group is not a subset of communicator (*number*), in *string*, task number**

**Explanation:** The group specified in MPI\_Comm\_create is not a subset of the group associated with **comm**.

**User Response:** Make sure that all of the process ranks in **group** are also in **comm**.

**Error Class:** MPI\_ERR\_GROUP

---

**0032-157**    **Invalid request handle (*number*) in *string*, task number**

**Explanation:** The value specified is not a valid request handle.

**User Response:** Make sure that the request handle was returned by an MPI function.

**Error Class:** MPI\_ERR\_REQUEST

---

**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: *string* in *string*, task *number*

or

Communication subsystem error: *reason*, task *number*

**Explanation:** If *reason* is **Data packet header mismatch**, the user is trying to communicate between two tasks with incompatible library versions. Probably, one task is using the SP Switch2 version of the library and the other task is using the SP Switch version of the library.

If *reason* is **No space left in heap for communication pipe**, the communication library failed to allocate buffer space for a communication link between two tasks.

Otherwise, an internal error occurred within the communication subsystem during execution.

**User Response:** If *reason* is **Data packet header mismatch**, verify that the installation of PSSP has been completed correctly on the nodes running the tasks in question, and that the proper symbolic links have been created. Verify that the user's setting of LIBPATH and MP\_EUILIBPATH environment variables causes compatible MPCPI library versions to be used.

If *reason* is **No space left in heap for communication pipe**, make more heap space available to the communication library by increasing the size of the heap with the **-bmaxdata** binder option, or disable MPI's initial all-to-all synchronization by setting the POE environment variable MP\_SYNC\_ON\_CONNECT=NO.

If this is an internal error, gather information about the problem and follow local site procedures for reporting hardware and software problems.

**Error Class:** MPI\_ERR\_INTERN

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**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

---

**0032-176 One or more tasks became unreachable via *string*, *task number***

**Explanation:** Some node or switch adapter that is part of the MPI job has been reset or shutdown. There may be hardware problems.

**User Response:** 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.

**Error Class:** MPI\_ERR\_OTHER

---

**0032-177 A nonblocking collective communication failed to complete, *string*, *task number***

**Explanation:** 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.

**User Response:** 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.

**Error Class:** MPI\_ERR\_OTHER

---

**0032-178 A negative number of triplets was specified (*number*) in *string*, *task number***

**Explanation:** 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.

**User Response:** Correct the number of ranges argument.

**Error Class:** MPI\_ERR\_ARG

---

---

**0032-179** The values of first and last are inconsistent with stride (*number*) in *string*, task *number*

**Explanation:** 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.

**User Response:** Use values of (first, last, stride) which agree.

**Error Class:** MPI\_ERR\_ARG

---

**0032-180** MPI\_CANCEL was attempted on an inactive persistent request (*number*) in *string*, task *number*

**Explanation:** 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.

**User Response:** Avoid using MPI\_CANCEL on a persistent request that does not currently involve a communication.

**Error Class:** MPI\_ERR\_REQUEST

---

**0032-181** MPI calls are not permitted on MPL callbacks *string*, task *number*

**Explanation:** The Receive and call facility is part of MPL and does not support MPI calls on handlers created by MP\_RCVNCALL.

**User Response:** Use only the prescribed set of MPL calls on callbacks.

**Error Class:** MPI\_ERR\_OTHER

---

**0032-182** The value given for high disagrees with rank zero *string*, task *number*

**Explanation:** 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.

**User Response:** Decide which value is correct and use it for the entire group.

**Error Class:** MPI\_ERR\_ARG

---

**0032-183** An asymmetric graph was specified *string*, task *number*

**Explanation:** 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.

**User Response:** Correct the asymmetry in the graph.

**Error Class:** MPI\_ERR\_ARG

---

**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

---

**0032-190 Datatype upper or lower bound 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 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.

**User Response:** Restructure the program to use datatypes of smaller magnitude.

**Error Class:** MPI\_ERR\_OTHER

---

**0032-201 Must use a Grequest handle with function *string*, task *number***

**Explanation:** The only request type valid with this function is one created by a call to MPI\_Grequest\_start.

**User Response:** Correct the program so it does not call this function with any request type other than a generalized request.

| **Error Class:** MPI\_ERR\_REQUEST

---

| **0032-202**    **A GRequest query function returned error (code) in string, task number**

| **Explanation:** 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.

| **User Response:** Any failure analysis must focus on the application or its documentation.

| **Error Class:** MPI\_ERR\_OTHER

---

| **0032-203**    **A GRequest free function returned error (code) in string, task number**

| **Explanation:** 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.

| **User Response:** Any failure analysis must focus on the application or its documentation.

| **Error Class:** MPI\_ERR\_OTHER

---

| **0032-204**    **A GRequest cancel function returned error (code) in string, task number**

| **Explanation:** 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.

| **User Response:** Any failure analysis must focus on the application or its documentation.

| **Error Class:** MPI\_ERR\_OTHER

---

| **0032-251**    **MPI-IO operations attempted in single threaded environment. In string, task number.**

| **Explanation:** MPI-IO operations can only be performed 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

---

| **0032-252**    **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.**

| **Explanation:** 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.

| **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.

---

| **0032-253**    **Conflicting collective operations on communicator in string, task number**

| **Explanation:** 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.

| **User Response:** 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.

| **Error Class:** MPI\_ERR\_OTHER

---

---

**0032-254** **MP\_SINGLE\_THREAD is set in a multi-threaded program, detected in *string*, *task number***

**Explanation:** The MP\_SINGLE\_THREAD environment variable is set, but multiple threads are executing.

**User Response:** Unset the MP\_SINGLE\_THREAD environment variable and rerun the program.

**Error Class:** MPI\_ERR\_OTHER

---

**0032-255** **It is not valid to decode a named predefined datatype. In *string*, *task number*.**

**Explanation:** The datatype given is a named predefined datatype which cannot be decoded.

**User Response:** When attempting to decode a datatype be sure that it is a derived datatype.

**Error Class:** MPI\_ERR\_TYPE

---

**0032-256** **Maximum array size is not big enough. In *string*, *task number*.**

**Explanation:** The maximum size of an array, passed by an argument, is not big enough for the amount of information that needs to be returned.

**User Response:** Check the function call to make sure the correct arguments have been used and that a big enough storage area has been allocated.

**Error Class:** MPI\_ERR\_ARG

---

**0032-257** **Key is not defined in info (*number*) in *string*, *task number***

**Explanation:** The key passed to MPI\_INFO\_DELETE does not exist in the info which was passed in.

**User Response:** Check the function call to make sure the correct arguments have been used.

**Error Class:** MPI\_ERR\_INFO\_NOKEY

---

**0032-258** **Insufficient memory to satisfy request (*number*) in *string*, *task number***

**Explanation:** MPI\_Alloc\_mem() was unable to obtain the requested memory.

**User Response:** Reduce the size of user storage required per task.

**Error Class:** MPI\_ERR\_NO\_MEM

---

**0032-259** **Invalid key type (*number*) in *string*, *task number***

**Explanation:** 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.

**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 (*number*) in *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 STATUS\_IGNORE in *string*, *task number***

**Explanation:** Routines that extract data from an MPI\_Status cannot be passed either 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 *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 *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 (*number*) in *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 (*number*) in *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 *string*, *task number***

**Explanation:** Users cannot change the error messages for error codes and classes defined by the implementation.

**User Response:** Correct the *errorcode* 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**

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**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

---

**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

---

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**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\_distribs* (*number*) in *string*, *task number*.

**Explanation:** One element of the *array\_of\_distribs* 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\_distribs* 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:  $\text{array\_of\_psizes}[i] * \text{array\_of\_dargs}[i] \geq \text{array\_of\_gsizes}[i]$ , whereas distribution MPI\_DISTRIBUTE\_BLOCK has been set in dimension *i*.

**User Response:** Set appropriate values to array\_of\_psize, array\_of\_dargs, and array\_of\_gizes elements.

**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

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**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\_NOT\_SAME

---

**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\_NOT\_SAME

---

**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\_NOT\_SAME

---

**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\_NOT\_SAME

---

**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\_NOT\_SAME

---

**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\_NOT\_SAME

---

**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

---

**0032-348**    **Duplicated data representation** *string, task number*

**Explanation:** The data representation is already registered.

**User Response:** The user is attempting to register the same data representation a second time. Make sure the name of the data representation is correct.

**Error Class:** MPI\_ERR\_DUP\_DATAREP

---

---

**0032-349**    **Data representation name too long** *string, task number*

**Explanation:** The name specified for the data representation to be registered is too long.

**User Response:** Shorten the name.

**Error Class:** MPI\_ERR\_ARG

---

**0032-350**    **Invalid filetype** *string, task number*

**Explanation:** The user is attempting to define a file view for which filetype is not derived from etype.

**User Response:** Modify the filetype and/or the etype arguments in order to ensure that filetype is derived from etype.

**Error Class:** MPI\_ERR\_ARG

---

**0032-351**    **Read conversion error (number) in** *string, task number*

**Explanation:** The conversion attempted during a read operation was unsuccessful.

**User Response:** 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.

**Error Class:** MPI\_ERR\_CONVERSION

---

**0032-352**    **Write conversion error (number) in** *string, task number*

**Explanation:** The conversion attempted during a write operation was unsuccessful.

**User Response:** 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.

**Error Class:** MPI\_ERR\_CONVERSION

---

**0032-353**    **Inconsistent flags** *string, task number*

**Explanation:** A set\_atomicsity operation is not using the same flag on all participating processes.

**User Response:** Modify the values of flag and make sure they are identical on all processes.

**Error Class:** MPI\_ERR\_NOT\_SAME

---

**0032-354**    **Conversion of MPI\_BYTE items is invalid** *string, task number*

**Explanation:** The only valid data representation for MPI\_BYTE items is "native".

**User Response:** Change the data representation to "native" or change the elementary datatype.

**Error Class:** MPI\_ERR\_ARG

---

**0032-390**    **Invalid status ignore value** *string, task number*

**Explanation:** The wrong status ignore value was used.

**User Response:** Check that MPI\_STATUS\_IGNORE is used for single status parameters, and MPI\_STATUSES\_IGNORE is used for parameters that are arrays.

**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**

---

**0032-404 Internal close failed (*number*) in *string*, task *number*.**  
**Explanation:** An internal call to **close()** was unsuccessful.  
**User Response:** Check error number and take appropriate action.  
**Error Class: MPI\_ERR\_IO**

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**0032-405** Internal fsync failed (*number*) in *string*, task *number*.

**Explanation:** An internal call to fsync() was unsuccessful.

**User Response:** Check error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**0032-406** Internal lseek failed (*number*) in *string*, task *number*

**Explanation:** An internal call to lseek() was unsuccessful.

**User Response:** Check the error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**0032-407** Internal read failed (*number*) in *string*, task *number*

**Explanation:** An internal call to read() was unsuccessful.

**User Response:** Check the error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**0032-408** Internal write failed (*number*) in *string*, task *number*

**Explanation:** An internal call to write() was unsuccessful.

**User Response:** Check the error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**0032-409** Internal fstat failed (*number*) in *string*, task *number*

**Explanation:** An internal call to fstat() was unsuccessful.

**User Response:** Check the error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**0032-410** Internal fstatvfs failed (*number*) in *string*, task *number*

**Explanation:** An internal call to fstatvfs() was unsuccessful.

**User Response:** Check the error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**0032-411** Internal gpfs\_prealloc() failed (*number*) in *string*, task *number*

**Explanation:** An internal call to gpfs\_prealloc() was unsuccessful.

**User Response:** Check the error number and take appropriate action.

**Error Class:** MPI\_ERR\_IO

---

**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

---

**0032-440 Origin datatype inappropriate for MPI\_ACCUMULATE (*number*) in *string*, task *number***

**Explanation:** The specified origin datatype is neither a predefined datatype nor a derived datatype whose basic components are all of the same predefined datatype.

**User Response:** Make sure that the datatype is built of a single predefined datatype.

**Error Class:** MPI\_ERR\_TYPE

---

---

**0032-441 Target datatype inappropriate for MPI\_ACCUMULATE (*number*) in *string*, *task number***

**Explanation:** The specified target datatype is neither a predefined datatype nor a derived datatype whose basic components are all of the same predefined datatype.

**User Response:** Make sure that the datatype is built of a single predefined datatype.

**Error Class:** MPI\_ERR\_TYPE

---

**0032-442 Incompatible origin and target datatypes in *string*, *task number***

**Explanation:** The origin and target datatypes specified for MPI\_Accumulate are built of different predefined datatypes.

**User Response:** Make sure that the origin and target datatypes' basic types are the same.

**Error Class:** MPI\_ERR\_TYPE

---

**0032-443 Invalid accumulate operation (*number*) in *string*, *task number***

**Explanation:** The value of the combine operation handle specified for MPI\_Accumulate is not valid.

**User Response:** Make sure that the operation handle is predefined.

**Error Class:** MPI\_ERR\_OP

---

**0032-444 Group is not a subset of window group (*number*) in *string*, *task number***

**Explanation:** The task group whose handle is passed to MPI\_WIN\_START or MPI\_WIN\_POST is not a subgroup of the task group associated with the RMA window.

**User Response:** Make sure that all of the process ranks in the specified group are also in the window group.

**Error Class:** MPI\_ERR\_GROUP

---

**0032-445 Invalid synchronization assertion (*number*) in *string*, *task number***

**Explanation:** The assertion value specified for an RMA synchronization call is not valid.

**User Response:** Make sure the assertion value is either zero or an OR-sum of the assertion values valid for this synchronization call.

**Error Class:** MPI\_ERR\_ASSERT

---

**0032-446 Invalid lock type (*number*) in *string*, *task number***

**Explanation:** The RMA lock type value specified for MPI\_Win\_lock is not valid.

**User Response:** Make sure the lock type value is either MPI\_LOCK\_EXCLUSIVE or MPI\_LOCK\_SHARED.

**Error Class:** MPI\_ERR\_LOCKTYPE

---

**0032-447 Origin holds no lock on the target (*number*) in *string*, *task number***

**Explanation:** The target whose rank value has been specified for MPI\_Win\_unlock had not been previously locked by the origin task through an MPI\_Win\_lock call.

**User Response:** Make sure the target has been locked by the origin task.

**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

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---

**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

---

**0032-468** User defined error raised (*code*) in *string*, *task number*

**Explanation:** One of the MPI\_xxx\_CALL\_ERRORHANDLER subroutines has been called with a user-defined error code.

**User Response:** The error is application-defined. Refer to any available application documentation.

**Error Class:** MPI\_ERR\_OTHER

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| **0032-469**    **Invalid errorclass (*class*) in *string*, *task number***

| **Explanation:** Only a valid error class can be used with this subroutine.

| **User Response:** Provide either a predefined error class or a previously-defined user error class.

| **Error Class:** MPI\_ERR\_OTHER

---

| **0032-470**    **Improper use of MPI\_IN\_PLACE in *string*, *task number***

| **Explanation:** MPI\_IN\_PLACE is only permitted in certain contexts. It has been used as an argument where it is not permitted.

| **User Response:** Refer to the man page for information about the use of MPI\_IN\_PLACE in this subroutine.

| **Error Class:** MPI\_ERR\_ARG



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## Chapter 5. X-Windows Performance Profiler (Xprofiler) messages

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### 2537-0002 No file was specified in Binary Executable File dialog.

**Explanation:** When you are trying to load one or more **gmon.out** files, you are required to also specify the name of the binary executable file that was executed to produce the **gmon.out** file(s).

**User Response:** Specify a valid binary executable file in the Binary Executable File dialog by either selecting one from the Files list, or by entering the file in the Selection field, along with its path.

---

### 2537-0003 No file was specified in Gmon.out Profile File(s) dialog.

**Explanation:** At least one **gmon.out** file must be specified in the Gmon.out Profile File(s) dialog.

**User Response:** Specify valid **gmon.out** file(s) in the Gmon.out Profile File(s) dialog by either selecting them from the Files list, or by entering the file(s) in the Selection field, along with their path.

---

### 2537-0004 Space allocation by XtRealloc() failed.

**Explanation:** A memory allocation function was unsuccessful because there is not enough memory available. Xprofiler continues processing, but it is likely you will have subsequent problems.

**User Response:** Exit Xprofiler and re-start it. You may want to contact your System Administrator to increase system resources, if possible.

If you continue to receive this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

### 2537-0005 The total number of objects (nodes + arcs) in the Function Call Tree for the specified application is greater than what Xprofiler allows to be displayed at one time. Only *number* of these objects will be displayed.

**Explanation:** Xprofiler limits the number of objects that can be displayed in the main window to a combined total of 5,000 function boxes and their corresponding arcs. If the Function Call Tree for the specified application exceeds this total number of objects, Xprofiler will give priority to functions that consumed most of the CPU time. Then functions with smaller amount of CPU usage and arcs are added in, until the upper limit is reached.

**User Response:** When analyzing a large application, it is a good practice to limit the number of functions that are initially displayed each time you load **gmon.out** file(s). The option **-disp\_max** is used to limit the number of function boxes that are initially displayed when **gmon.out** file(s) are loaded. From this point, additional function boxes can be displayed through filtering options in the Xprofiler main display. The **-disp\_max** option can be specified on the command line when starting Xprofiler, or through a field in the Load Files dialog.

---

### 2537-0006 The value of runtime option **-disp\_max** (=number) exceeds the number of objects that can be displayed at one time. The value for **-disp\_max** has been reset to *number*.

**Explanation:** The value that you specified for the **-disp\_max** option is greater than the maximum number of objects that Xprofiler allows to be displayed at one time, which is 5,000. The value for **-disp\_max** has been set to this limit.

**User Response:** When specifying the **-disp\_max** value, make sure it does not exceed Xprofiler's upper limit.

---

### 2537-0007 You must first select a function from the list.

**Explanation:** Before using the **Utility->Locate in Graph** option in either the Flat Profile or Function Index report window, a function in the report must be selected first. This same rule also applies to the Code Display menu options in Flat Profile report.

**User Response:** Before using these options, you must first select a function from the report window. To select a function, you can either click on an entry in the window, or use the Search Engine at the bottom of the report window to locate the entry for the specified function. If the entry is found using the Search Engine, it is automatically selected for you.

---

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**2537-0008 The selected function is not currently in the display.**

**Explanation:** The function box for the function you specified is not currently displayed in the Function Call Tree. The reason for this could be due to some previous filtering by you, or because the program being analyzed calls more functions than Xprofiler allows to be represented in the Function Call Tree at one time. Another possibility is that you specified the name of a function in the Search By Function Name Dialog which is not called in the program.

**User Response:** If you are using the Search By Function Name Dialog to locate the function box in the Function Call Tree, first check that you have specified the name of a function that is called by your program. If you have specified a valid function name, or if you are trying to locate the function box from a different window, check to be sure that the function box wasn't removed due to a previous filtering operation. If this is the case, the Filter by Function Names Dialog can be used to add this function to the Function Call Tree. You should then be able to use any of the methods for locating the associated function box in the main display.

---

**2537-0009 You must first select a call entry from the list.**

**Explanation:** Before using the Utility->Locate in Graph option in the Function Call Summary report window, a function caller-callee entry in the report must be selected first.

**User Response:** Before using these options, you must first select a function caller-callee entry from the report window. To select an entry in this report window, you can either click on it, or use the Search Engine at the bottom of the report window to locate the entry for the specified caller-callee pair. If the entry is found using the Search Engine, it is automatically selected for you.

---

**2537-0010 The selected arc is not currently displayed in the Function Call Tree.**

**Explanation:** You tried to locate the arc that corresponds to the selected entry in the Function Call Summary report window, but this arc is not currently displayed in the Function Call Tree. One reason for this could be due to some previous filtering by you, which resulted in the removal of one or both of the corresponding function boxes in the Function Call Tree. The other reason is that the two functions in the entry belong to different libraries, and both libraries are currently displayed in the Function Call Tree within cluster boxes.

**User Response:** If both functions for the selected entry of the Function Call Summary report belong to different libraries, and both libraries are currently displayed within cluster boxes, then either select the Remove Cluster Box option from the Cluster Node Menu, or choose the Expand Library Arcs option from the Filter menu. If one or both functions for the selected entry are not currently represented in the Function Call Tree, use either the Filter by Function Names... or Show Entire Call Tree options from the Filter menu to add the function boxes to the Tree.

---

**2537-0011 The selected function's source file name is not available.**

**Explanation:** Internal error. There is no source file name associated with the selected function, so no file can be opened.

**User Response:** If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0012 shmat() failed to attach a shared memory segment or a mapped file. errno = number.**

**Explanation:** An attempt to attach a shared memory segment or a mapped file was unsuccessful. This may be caused by a shortage of shared memory segments.

**User Response:** Use **ipcs -a** to check system's shared memory segment usage. If possible, remove any unused segments that belong to you by issuing the command **ipcrm -m**.

If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0013 Can't begin search because no search string was specified.**

**Explanation:** You are using either the Search By Function Name Dialog or the Filter By Function Names Dialog, and you clicked on the OK or Apply button without first entering a search string in the Enter function name: field.

**User Response:** Enter a text string in the Enter function name: field before clicking either the OK or Apply button to begin the search.

---

**2537-0014** The specified function was not found in your program.

**Explanation:** The function that you specified wasn't found for your program, so the filtering operation that you attempted was not performed.

**User Response:** Enter the name of a function used in the application that you are analyzing.

---

**2537-0015** This function is not in a cycle.

**Explanation:** The selected function is not in a function cycle, so the attempt to use Function Menu's All Functions on the Cycle option will not generate any result. A function cycle consists of at least two functions that call each other (e.g., Function\_A calls Function\_B, and vice versa). Keep in mind that recursive function calls are not considered to be a call cycle.

**User Response:** Make sure that the function you select is in a function cycle.

---

**2537-0016** Cannot find the function name *string* in the application. The option specified for this function is ignored.

**Explanation:** The function name specified with either the **-e**, **-E**, **-f**, or **-F** load option doesn't match any of the functions called in the application that you are trying to analyze. The option used with this function name was ignored, and has no effect on the display of the Function Call Tree.

**User Response:** Make sure the function name specified with any of these load options is for a function called in the application.

---

**2537-0017** There must be at least one space separating the runtime option *string* and its corresponding value.

**Explanation:** At least one space must be typed between an Xprofiler command-line option and its associated value. For example, **-e foo** or **-e foo** are acceptable formats, but **-efoo** is not. Any command-line options that were specified incorrectly are ignored.

**User Response:** Insert a space between any Xprofiler command-line option and its associated value.

---

**2537-0018** Only one instance of the *string* runtime option is allowed. All but the first instance of this option are ignored.

**Explanation:** The command-line option *string* can only be specified once. If this option is specified multiple times, only the first instance is used.

**User Response:** Make sure that this option is specified only once when starting Xprofiler.

---

**2537-0019** Error in the format of search string *string*.

**Explanation:** The text string specified in search string field did not follow the syntax definition for extended regular expressions.

**User Response:** Make sure the search string follows the syntax rules for extended regular expressions. To get syntax details for extended regular expressions, refer to information on the **ed** editor, as well the AIX functions **regcmp** and **regcomp**.

---

**2537-0020** Cannot open file *string* for writing. Check the file's specified path and access permissions.

**Explanation:** An attempt to write data to the file in the directory that you specified failed, due to the fact that the file cannot be opened for writing. This is because the path that you specified for the file contains an invalid directory name, or because the file doesn't have write permission.

**User Response:** Verify that the path you have specified is correct, and make sure you have write permission to the file.

---

---

**2537-0021 Error in the verifyFlag field of the SearchEngine class.**

**Explanation:** Internal error. This occurred in the SearchEngine class while verifying the input search string.

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

---

**2537-0022 The specified file *string* is not listed in the Included Function Files Dialog.**

**Explanation:** You typed the name of a file in the Selection field of the Included Functions Dialog which does not match any of the names listed in this dialog.

**User Response:** Make sure the file name that you specify is one of the names listed in the dialog. Instead of typing the name in the Selection field, you can simply click on a file name in the list above it to select it.

---

**2537-0023 You must first select or enter a file name.**

**Explanation:** You clicked on the OK or Apply button in the Included Functions Dialog before specifying the name of the file whose contents you wish to display.

**User Response:** Before clicking on the OK or Apply button, first specify the name of the file that you want displayed. To do this, you can either click on one of the files listed in this dialog, or type the name of a file in the Selection field.

---

**2537-0024 Cannot open file *string* for reading. Check for valid path and file specification and permissions.**

**Explanation:** An attempt to read data from the file in the directory that you specified was unsuccessful, due to the fact that the file cannot be opened for reading. This is because either the file name or a directory in the specified path is incorrect, or the file is missing read permission, or a directory in the path is missing execute permission.

**User Response:** Verify that both the file name and path are correct, and that all directories in the path have execute permission, and make sure you have read permission for the file.

---

**2537-0025 There is only one included function file associated with the selected function, and the included function file is same as the file currently displayed in Source Code Display Window.**

**Explanation:** An attempt was made to view a selected function's included function information. In this case, there is only one included function file associated with the selected function, and this file is the same as the file currently displayed in the Source Code Display Window, so no other code display window will be brought up.

**User Response:** None.

---

**2537-0026 An error occurred in locating a selected list item.**

**Explanation:** An internal error occurred while trying to locate a selected item in a listing.

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

---

**2537-0027 Line table information is not available in the object file.**

**Explanation:** A file's line table information is not available, and therefore no address can be mapped back to source statement.

**User Response:** Compile your application with the **-g** compile-time flag if you would like to see source statement profiling.

---

**2537-0029 Bad gmon.out file *string*. This file will be ignored.**

**Explanation:** An error was detected while processing a **gmon.out** file that you asked to be loaded. This error was either bad **gmon.out** header information, or a discrepancy between the file size listed in the header data and the actual size of the file. In either case, the file is not loaded. If there was more than one **gmon.out** file specified, all valid files will be loaded. If this was the only **gmon.out** file chosen for loading, nothing is loaded, and the main display appears empty.

**User Response:** Make sure that all files specified as **gmon.out** files are of that file format.

---

**2537-0030 No valid gmon.out files have been specified. Give at least one gmon.out file as input.**

**Explanation:** All of the files that you specified as **gmon.out** files were invalid. Therefore, no files were loaded, and nothing is displayed in the Xprofiler main window.

**User Response:** When loading files in Xprofiler, give the name of at least one valid **gmon.out** file. If there are additional error messages below this one, try addressing the errors called out in those messages first, and then try to reload your **gmon.out** files.

---

**2537-0031 A severe error was detected, and file processing has stopped. Refer to the message window below this window for more details.**

**Explanation:** A function involving the symbol tables for your application failed to perform correctly while Xprofiler was trying to process your input files. Xprofiler will not proceed any further, and its main display will be empty. More details regarding the exact nature of the problem appears in a message window below the window for this message.

**User Response:** Check the second error message window for more details on the problem, and follow the User Response documented for that message.

---

**2537-0032 shmget() failed to allocate a shared memory segment. errno = number.**

**Explanation:** An attempt to allocate a shared memory segment was unsuccessful, possibly due to a shortage of shared memory segments.

**User Response:** Use **ipcs -a** to check system's shared memory segment usage. If possible, remove any unused segments that belong to you by issuing the command **ipcrm -m**.

If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0033 shmdt() failed to detach a shared memory segment. errno = number.**

**Explanation:** An attempt to detach a shared memory segment that was no longer needed was unsuccessful.

**User Response:** Exit and re-start Xprofiler. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0034 shmctl() failed to remove a shared memory segment identifier. errno = number.**

**Explanation:** An attempt to remove a shared memory segment identifier that was no longer needed was unsuccessful.

**User Response:** Exit and re-start Xprofiler. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0035 Failed to generate the selected function's corresponding binary code.**

**Explanation:** Xprofiler did not generate a selected function's corresponding binary code in Disassembler Code display. A preceding message may provide additional information that pinpoints the actual cause of the error.

**User Response:** Use the information provided in the preceding message to reveal the real cause of the problem. Correct the problem and then try again.

---

**2537-0036 Cannot open this report window because there is no function call count information available.**

**Explanation:** There is no function call count information available for the application you are analyzing. This is because none of the associated source files for this application have been compiled with the **-pg** flag. Therefore, the Function Call Summary window will not appear.

**User Response:** To view function call count information, you need to compile the source files containing the functions that you're interested in with the **-pg** flag.

---

---

**2537-0037 The gmon.out file count data in the Xprofiler internal table is incorrect.**

**Explanation:** Internal error. Xprofiler has an internal table that contains an entry for each **gmon.out** file that you specified to be loaded for the application you are analyzing. In addition, there is a record for this table that contains the number of **gmon.out** file entries. This record value does not match the number of actual table entries, and because of this, the Function Call Tree will not be displayed.

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

---

**2537-0038 The gmon.out file *string* contains more load unit sections than expected, and therefore will not be loaded.**

**Explanation:** You specified a **gmon.out** file to be loaded that contains more sections for load unit descriptions than there should be, according to the value in the header of this file. Your executable, and the libraries that contain the functions called in the program are considered to be load units. The format of the file that you specified is not considered by Xprofiler to be in the valid **gmon.out** format, and because of this the file was not loaded.

**User Response:** Check to be sure that this is a valid **gmon.out** file. If it is not, execute your program again to generate a valid **gmon.out** file.

---

**2537-0039 The number of load unit sections in the gmon.out file *string* is different from those of the previous files specified for loading at this time.**

**Explanation:** You specified multiple **gmon.out** files to be loaded. The file identified in the message contains a different number of sections for load unit descriptions than the other valid **gmon.out** file(s) specified before it on the command line or in the Selection field of the Load window. This file is considered to have been created from a different executable file, and therefore was not loaded.

**User Response:** When trying to load multiple **gmon.out** files, make sure that they all were created from the same executable.

---

**2537-0040 The library *string*, which was available when loading other gmon.out files, can no longer be found.**

**Explanation:** You specified multiple **gmon.out** files for loading, either on the command line when starting Xprofiler, or in the Selection field in the Load Files window. Every **gmon.out** file contains an entry for each of the libraries having a function that was called by the program you are analyzing. By the time one of the **gmon.out** files was being loaded by Xprofiler, one of these libraries could no longer be found. Perhaps some software was being updated on your system around the time you were loading, and the updates included a change to this library file.

**User Response:** Make sure the library file hasn't been removed, renamed, or moved to a different location. Then try to load your executable and **gmon.out** files again.

If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0041 A load unit address listed in the gmon.out file *string* q; doesn't match the address for the same load unit in those files that have already been loaded.**

**Explanation:** You specified multiple **gmon.out** files to be loaded. The address information contained in the file identified in the message for one of the load units is different from the address for the same load unit in the **gmon.out** files that have already been loaded. Because of this mismatch, the identified **gmon.out** file was considered to have been created from a different executable file, and therefore was not loaded.

**User Response:** When trying to load multiple **gmon.out** files, make sure that they all were created from the same executable.

---

---

**2537-0042** Number of CPU sampling data records in the `gmon.out` file *string* is greater than the value in the associated header.

**Explanation:** AIX error. The `gmon.out` file contains more records of CPU sampling data for one of the functions in your program than indicated by the value in the header data. Header data immediately precedes each set of CPU sampling records.

**User Response:** Execute your program again to generate a new `gmon.out` file, and try to load this new file with Xprofiler.

If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0044** Cannot read the header in the executable file *string* .

**Explanation:** Internal error. Xprofiler was unable to read the header data located at the beginning of the specified executable file.

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

---

**2537-0045** The file *string* does not contain a valid magic number, and therefore is not considered to be an executable file.

**Explanation:** The file that you attempted to load as an executable is not considered by Xprofiler to be a valid AIX executable file. This is because the magic number in the header at the beginning of this file is not the correct value for an AIX executable.

**User Response:** Specify the name of a valid AIX executable file in the Selection field in the Binary Executable File section of the Load Files window, or just before the `gmon.out` file name(s) on the command line.

---

**2537-0046** Missing the corresponding value for the *string* runtime option.

**Explanation:** You specified a valid Xprofiler runtime option, but didn't include a corresponding value that is required to accompany it.

**User Response:** Either specify a value in the corresponding field in the Command Line Options section of the Load Files window, or immediately after the runtime option on the command line.

---

**2537-0047** Invalid Xprofiler runtime option *-character*.

**Explanation:** The specified runtime option is not supported by Xprofiler, and therefore is ignored.

**User Response:** Refer to the accompanying message for valid Xprofiler options and correct syntax. If you want to reload the executable and `gmon.out` files using other valid options, you can either re-start Xprofiler with all desired options specified on the command line, or use the Load Files window for option specification.

---

**2537-0048** Usage: `xprofiler [program] [-b] [-h] [-s] [-z] [-a path(s)] [-c file] [-L pathname] [[-e function]...] [[-E function]...] [[-f function]...] [[-F function]...] [-disp_max number_of_functions] [[gmon.out]...]`

**Explanation:** A listing of the supported Xprofiler runtime options and the proper command syntax.

**User Response:** None.

---

**2537-0049** Failed to obtain file information about *string*.

**Explanation:** Failed to obtain information about the specified directory. This is because either the specified path contains a non-existent directory, or one of the parent directories in the path does not have execute permission.

**User Response:** Verify that all directory names in the specified path are valid. If they are, then check to be sure that all directories in the path have execute permission.

---

---

**2537-0050 Failed to access current working directory.**

**Explanation:** Either the current working directory, or one of its parent directories does not have execute permission, or one of the parent directories is missing read permission. Xprofiler uses the current working directory to fill the Filter and Selection fields of the Load Files window with a default path when they are empty. If one of the directories in this path is missing execute permission, you will not be able to load any files from the current working directory, or any of its subdirectories.

**User Response:** Make sure you have proper access permissions to the current working directory and all parent directories, if you wish to load files that are located here. You may load files from other directories by using the Filter or Selection fields in the Load Files window, providing you specify a path in which all directories have both execute and read permission.

---

**2537-0051 You are missing either read or execute permission for the lowest directory in the path *string*.**

**Explanation:** You attempted to load a file from a directory that is missing either read or execute permission. If the directory is missing execute permission, you will be unable to load any files from the directory, even though you can see them listed in the dialog. If read permission is missing from the directory, you will be able to load files located there, but once you move out of that directory in the dialog, you won't be able to go back in.

**User Response:** Verify that you have both read and execute permission on the lowest directory in the specified path.

---

**2537-0052 Could not find head of cycle during function cycle analysis phase.**

**Explanation:** Internal error. While loading your executable and **gmon.out** files, Xprofiler analyzes these files to determine whether there are any function cycles. During this process, Xprofiler was unable to re-locate the first function listed for a particular cycle.

**User Response:** Try reloading your files again. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0053 An error occurred during the final stage of function cycle analysis.**

**Explanation:** Internal error. After first determining all function cycles during a phase in the load process, Xprofiler is now unable to re-locate the first function in one of these cycles during the final stage of this phase.

**User Response:** Try reloading your files again. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0054 NarcCorrelate() had a negative return value.**

**Explanation:** Internal error. The Function Call Tree was unable to be reconstructed by the NARC library, because the node and arc data that this library uses has either been overwritten, or placed in the wrong shared memory location, by Xprofiler.

**User Response:** Exit and re-start Xprofiler, and try to display the Function Call Tree again. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0057 Spaces are not allowed in the function name search string.**

**Explanation:** The Search By Function Name Dialog does not permit embedded spaces within the function name search string. Any spaces at the beginning or end of the string are ignored.

**User Response:** Remove any spaces that are imbedded within the search string, and then click on either the OK or Apply button to start the search.

---

**2537-0058 A function address listed in the **gmon.out** file *string* doesn't map to the corresponding function for the specified executable file. This **gmon.out** file will not be loaded.**

**Explanation:** Xprofiler was unable to map a function back to the appropriate library file using the address listed for this function in the **gmon.out** file. Therefore, this **gmon.out** file will not be loaded. One possible reason for this problem is that the **gmon.out** file was not created by the executable file that you specified. Another possibility is that

the library file associated with the function has changed since the **gmon.out** file was generated.

**User Response:** First, verify that this **gmon.out** file was generated by the specified executable, and if not, load it with the correct executable file. If the associated library has changed since this **gmon.out** file was created, re-compile your program, and then execute it to generate a valid **gmon.out** file.

---

**2537-0059 An attempt was made to access an invalid address.**

**Explanation:** Internal error. While reading a **gmon.out** file, Xprofiler either reached the end of the file and tried to read past it, or the **gmon.out** file contains a record with a pointer that points to NULL. In either case, the problem should have been detected during an earlier stage of file processing, instead of being encountered at this time.

**User Response:** Try reloading your files again. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0060 The name of the a.out file (*string*) does not match the name of the executable (*string*) recorded in gmon.out file(s). The name *string* will be used.**

**Explanation:** The a.out file name specified on the command line or in the Load File Dialog does not match the executable name recorded in the **gmon.out** file(s) that you are loading with this file. One possible explanation is that the executable file was renamed after being executed to generate the **gmon.out** file(s) that you specified. The name of the executable that you used for loading will appear in the main display and in all appropriate report windows during the current Xprofiler session.

**User Response:** Make sure the two executable names both refer to the same binary executable file. If not, the results may be unpredictable.

---

**2537-0061 An attempt to access call count information in the gmon.out file, *string*, failed.**

**Explanation:** Internal error. Xprofiler was unable to access the call count data in this **gmon.out** file. This problem should have been detected during an earlier stage of file processing, instead of being encountered at this time. All CPU sampling data in this file will be included in the information in the main display and all report windows, but the call count data will not. If this is the only **gmon.out** file being loaded, the exclusion of this call count data will also affect the placement of function boxes in the Function Call Tree, and cause the arcs between these boxes NOT to be drawn.

**User Response:** Try reloading your files again. If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2537-0062 Xprofiler was unable to resolve *number* out of *number* samples. This is usually caused by the use of dynamically loaded modules, either by the application or by system libraries. These unresolvable addresses will be ignored.**

**Explanation:** While processing function call count information, Xprofiler was unable to map a function back to the appropriate library file using the address listed for this function in the **gmon.out** file. Therefore, some of the call count information was lost, and the information displayed in the main window and some of the report windows will be incomplete. Currently, if a module is dynamically loaded there is no record of it after program termination and at the start of Xprofiler. Thus, Xprofiler receives addresses, but not the information from which they came. Another possible reason for this problem is that the **gmon.out** file was not created by the executable file that you specified. A third possibility is that the library file associated with the function has changed since the **gmon.out** file was generated.

**User Response:** First, make sure the target does not explicitly call **dlopen** and is not run in user space (which could cause an implicit call to **dlopen**). Second, verify that this **gmon.out** file was generated by the specified executable, and if not, load it with the correct executable file. If the associated library has changed since this **gmon.out** file was created, re-compile your program, and then execute it to generate a valid **gmon.out** file.

---

**2537-0063 The second non-comment line in the specified configuration file *string* does not start with PROG=.**

**Explanation:** The second non-comment line in an Xprofiler configuration file must start with the string **PROG=**; otherwise, it is considered a syntax error.

**User Response:** Make sure the second non-comment line in the specified configuration file begins with the string **PROG=**, starting in column 1.

---

**2537-0064 Cannot find a match for following function(s) in the program that is currently in display:** *string*

**Explanation:** A function name in the specified configuration file cannot find a match in the program that is currently in display.

**User Response:** Make sure the function name is specified properly and the function does exist in the program currently in display.

---

**2537-0065 The following string(s) in the specified configuration file are not recognized configuration keywords:** *string*

**Explanation:** A keyword used in the specified configuration file is not a recognized configuration keyword.

**User Response:** Make sure the keyword is supported by the Xprofiler configuration file.

---

**2537-0066 The following string(s) in the specified configuration file do not follow configuration file syntax key=value:** *string*

**Explanation:** The string in the specified configuration file does not follow configuration file syntax *key=value*, where *key* is a configuration keyword such as PROG or FUNC and *value* is the keyword's corresponding value, such as *program-name* or *function-name*.

**User Response:** Make sure every non-comment string in the configuration file has the correct syntax.

---

**2537-0067 No value is given in the Slider Value field.**

**Explanation:** You are using either the Filter By CPU Time Dialog or the Filter By Call Counts Dialog, and you clicked on the OK or Apply button without first entering an integer value in the Slider Value field.

**User Response:** Enter a non-negative integer in the Slider Value field before clicking either the OK or Apply button to begin the search.

---

**2537-0068 Cannot convert the string in the Slider Value field to an integer.**

**Explanation:** You are using either the Filter By CPU Time Dialog or the Filter By Call Counts Dialog, and you entered a string in the Slider Value field that cannot be converted to an integer.

**User Response:** Enter a non-negative integer in the Slider Value field before clicking either the OK or Apply button to begin the search.

---

**2537-0069 You must first select or enter a configuration file name.**

**Explanation:** You tried to use the Load Configuration option without specifying the name of the file whose contents you want to load.

**User Response:** To use the Load Configuration option, first specify the name of the configuration file that you want loaded. To do this, you can either click on one of the files listed in this dialog, or type the name of a file in the Selection field.

---

**2537-0070 The first line in the specified configuration file *string* does not start with VERS=.**

**Explanation:** The first non-comment line in an Xprofiler configuration file must start with the string **VERS=**; otherwise, it is considered a syntax error.

**User Response:** Make sure the first non-comment line in the specified configuration file begins with the string **VERS=**, starting in column 1.

---

---

**2537-0071** The configuration file *string* was created by a different version of Xprofiler.

**Explanation:** The version number in the specified configuration file does not match Xprofiler's version number. In this release, there is no harm caused by this mismatch, but just be aware of this. The version number of Xprofiler is shown on stderr when Xprofiler is first brought up. In the configuration file, the version number of Xprofiler is recorded on the **VERS=** line.

**User Response:** In this release, there is no harm caused by this mis-match, but just be aware of this situation.

---

**2537-0073** The specified file *string* is in an un-recognized format, the file can not be processed further.

**Explanation:** The specified file is not in a recognized format; the file can not be processed further.

**User Response:** Make sure that all files used in Xprofiler are in a supported file format.



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## Chapter 6. PE Benchmark messages

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**2554-002** internal error from *file:line-number*

**Explanation:** An internal error was found at the specified line number.

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

---

**2554-003** syntax error, near *location*

**Explanation:** A syntax error was found near the location of the command.

**User Response:** Correct the input command and retry.

---

**2554-004** duplicate keyword *keyword found*

**Explanation:** The command keyword was repeated more than once.

**User Response:** Correct the error and retry.

---

**2554-005** connect command has both *all* and *task/group* qualifier

**Explanation:** Both the *all* and *task* group qualifiers are present with the **connect** command.

**User Response:** Remove either the *all* or the *task* qualifier.

---

**2554-006** The task does not exist, is in an inappropriate state, or does not contain the data requested.

**Explanation:** 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.

**User Response:** Try a different task, different data, or both.

---

**2554-007** group name *group-name* is not a defined group

**Explanation:** The specified group name is not defined.

**User Response:** Use **show groups** to find all of the defined groups.

---

**2554-008** group name *group-name* is empty

**Explanation:** The specified group name is empty.

**User Response:** Enter some tasks into the specified group.

---

**2554-009** cannot find the default group or the default group is empty

**Explanation:** The default group could not be found, or the default group is empty.

**User Response:** If the application is not connected, connect to it. Run the **show group** command to see the tasks.

---

**2554-010** session needs to connect or load before running the command

**Explanation:** The session is not connected to any application.

**User Response:** Correct the error and retry.

---

---

**2554-011 AisStatus failure code *code***

**Explanation:** The dynamic probe class library (DPCL) returned an AisStatus error code.

**User Response:** For information about AisStatus error codes, see the *DPCL Class Reference* at: <http://oss.software.ibm.com/developerworks/opensource/dpcl/>

---

**2554-012 Cannot modify predefined group name *group-name***

**Explanation:** The group name is a predefined name. Tasks cannot be added or removed.

**User Response:** Use the **connect** or **disconnect** command to add or remove tasks in the connected group.

---

**2554-013 The target application has completed or has been killed on its own.**

**Explanation:** The target application has either completed or has been stopped using **<Ctrl-C>**. Also, the target application may have been destroyed in some other manner, external to the tool.

**User Response:** You must load or connect to a new target application before doing any more work.

---

**2554-014 The command failed to allocate enough memory for its use.**

**Explanation:** The current command failed to allocate memory.

**User Response:** Check the system memory usage and page space.

---

**2554-015 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.

---

**2554-021 session is already connected to an application**

**Explanation:** The session is already connected to an application.

**User Response:** Correct the error and retry.

---

**2554-022 cannot disconnect task *task-number***

**Explanation:** The task cannot be disconnected.

**User Response:** Check the task number; the task must be connected or suspended.

---

**2554-023 pid *pid* specified is not valid**

**Explanation:** The process ID is not valid.

**User Response:** Double check the process ID.

---

**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.

---

**2554-031** `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.

---

**2554-043** `The user closed STDIN already`

**Explanation:** The user has closed STDIN.

**User Response:** The user cannot close STDIN if more input is expected.

---

**2554-051** `No file_spec was provided.`

**Explanation:** No **file\_spec** was specified for a command that requires it.

**User Response:** Type **file *regexp***, where *regexp* is a regular expression such as: \*;.

---

---

**2554-052** session loaded with *tool-name* already

**Explanation:** The session loaded a tool.

**User Response:** Use a separate session.

---

**2554-053** tool name *string* is not a valid tool name

**Explanation:** The string specified is not a valid tool name.

**User Response:** Use **show tools** to find all the defined tools.

If you continue to get this error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

---

**2554-054** Tool *tool-name* failed to load

**Explanation:** The tool specified in the *tool-name* field did not load.

**User Response:** Report the failure to the owner of the tool.

---

**2554-055** Tool *tool-name* failed to initialize.

**Explanation:** The tool specified in the *tool-name* field did not initialize properly.

**User Response:** Report the failure to the owner of the tool.

---

**2554-060** The file id *string* provided is invalid.

**Explanation:** The file ID specified does not exist.

**User Response:** Enter a different file ID. Use the **file** command to find a list of valid file ID.

---

**2554-061** The function id *string* provided is invalid.

**Explanation:** The function ID specified does not exist.

**User Response:** Enter a different function ID. Use the **function** command to find a list of valid function ids.

---

**2554-062** End of File

**Explanation:** The end of the file was reached.

**User Response:** State an earlier line.

---

**2554-063** file *string* was not found.

**Explanation:** The file specified was not found.

**User Response:** State a different file name.

---

**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.

---

**2554-077**    **File *file-name* failed to write**

**Explanation:** The file specified cannot be written to.

**User Response:** Check to see if the file system has sufficient disk space 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 mpmcmd 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 **mpmcmd** clause.

---

**2554-082**    **load failed.**

**Explanation:** PE Benchmark 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 mpmcmd clause.**

**Explanation:** You cannot specify both the **exec** clause and the **mpmcmd** clause with the **load** command.

**User Response:** Try **load** again; this time with only an **exec** clause or an **mpmcmd** clause.

---

**2554-084**    **mpmcmd clause also requires poe keyword.**

**Explanation:** The **load mpmcmd** 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.

---

**2554-207**    **Invalid probe path:** *string*.

**Explanation:** The path assigned using the **trace set path** or **profile set path** command is incorrect for a given task.

**User Response:** 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.

---

---

**2554-208 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.

---

**2554-221 Invalid keyword *string* found in trace help command.**

**Explanation:** Incorrect help keyword.

**User Response:** Check the input text.

---

**2554-231 event *string* is unknown to the command.**

**Explanation:** The event name specified is unknown to this command. No events are set.

**User Response:** Provide a valid event name.

---

**2554-232 bufsize specified size *K* is outside the valid range *minimum-size K — maximum-size K*.**

**Explanation:** The size specified is incorrect.

**User Response:** Provide a valid size.

---

**2554-233 logsize specified size *M* is outside the valid range *minimum-size M — maximum-size M*.**

**Explanation:** The size specified is incorrect.

**User Response:** Provide a valid size.

---

**2554-234 Path *string* is invalid.**

**Explanation:** The path specified is incorrect.

**User Response:** Provide a valid path.

---

**2554-241 No functions were found to meet any of the expressions provided.**

**Explanation:** 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.

**User Response:** 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.

---

**2554-242 Invalid mpiname *string* found in the command**

**Explanation:** The list of MPI names is not valid.

**User Response:** Run the **trace show probetypes** command to see the list of valid MPI names.

---

**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.

---

---

**2554-251** 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.

---

**2554-261** 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.

---

**2554-262** 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.

---

**2554-263** 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.

---

---

**2554-301 Path name not set**

**Explanation:** The path name is not set.

**User Response:** Set the path name.

---

**2554-302 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.

---

**2554-303 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.

---

**2554-321 Invalid keyword *string* found in profile help command.**

**Explanation:** A non-valid help keyword was found.

**User Response:** Check the input text.

---

**2554-326 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.

---

**2554-341 ProfId or ProfName is not valid in this cpu type**

**Explanation:** The ProfId or ProfName used in this **add** command is not valid.

**User Response:** Make sure the tasks do not have mixed cpu type.

---

**2554-342 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.

---

**2554-343 ProfId has been specified, Only one option is allowed**

**Explanation:** Only one ProfId/Option pair is allowed in the command.

**User Response:** Remove the duplicates.

---

**2554-344 Some functions are profiled in the probe id *probe-number*, duplication is not allowed**

**Explanation:** Some of the functions are profiled in the previous command. Duplication is not allowed

**User Response:** Use the **show probes** command to examine the command in question.

---

**2554-345 Task *task-ID* has different probe type specified.**

**Explanation:** The task ID had been used before with a different probe type. Only one probe type can be used in a profile session.

**User Response:** The user needs to plan ahead on what profile type to monitor, and use that type across the profiling session.

---

---

**2554-346** There is no function in the specified file and function combination.

**Explanation:** The specified file and function combination generates an empty result.

**User Response:** Use the **function** command to verify the function list.

---

**2554-347** Too many files/functions in the add command.

**Explanation:** The number of functions that can be added in a single **add** command is 200.

**User Response:** Separate the command in two.

---

**2554-348** Name *string* is unknown to the command.

**Explanation:** The event name specified is unknown to the **add** command.

**User Response:** Type the correct name.

---

**2554-349** At least one task *task-ID* does not have PMAPI installed.

**Explanation:** The host that runs the specified task ID does not have PMAPI installed and cannot collect the hardware counter event information.

**User Response:** Install the PMAPI on the node.

---

**2554-351** No previous added profile to be removed

**Explanation:** There is no previous added profile to be removed.

**User Response:** Issue the **add** command before the **remove** command.

---

**2554-352** The range started from *number* is too big.

**Explanation:** The range specified is outside the boundary of the added profile.

**User Response:** Issue **show probes** to see the list of profiles.

---

## Chapter 7. Unified Trace Environment (UTE) messages

---

**2554-900**    *number record(s) excluded due to invalid field(s).*

**Explanation:** One or more records were excluded because they did not contain one or more fields 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**    *number record(s) were excluded from table `table_name` due to invalid field(s).*

**Explanation:** One or more records were excluded from `table_name` (and were therefore not processed) because the record (or records) did not contain one or more expected fields, or, one or more fields 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 `file_name: system_error_message`.**

**Explanation:** An attempt to open a file failed.

**User Response:** Use the correct file name.

---

**2554-903**    **Program option `option_identifier option_value` is invalid.**

**Explanation:** A program option value is not valid.

**User Response:** Correct the option value.

---

**2554-904**    **Field `field_name` in record type `record_type_name (record_type_index)` could not be mapped to a bin in table `table_name`.**

**Explanation:** A field that was going 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_name (record_type_index)` could not be used as a table index.**

**Explanation:** A field that was going to be used as a table index is neither an unsigned integer field nor a signed field with a non-negative value.

**User Response:** Change the table definition to use an unsigned field.

---

**2554-906**    *number interval(s) excluded due to missing begin record.*

**Explanation:** One or more intervals were excluded from the statistics because the input files contained an end record for the interval (or intervals), but they (the input files) did not contain a begin record for the interval (or intervals).

**User Response:** Run the program on files that contain all interval records.

---

**2554-907**    *number continuation record(s) excluded due to wrong event type.*

**Explanation:** One or more continuation records were excluded from the statistics because the input files contained one or more continuation records with an event type that did not match the event type at the top of the state stack.

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

---

---

**2554-908** *number interval(s) excluded due to missing end record.*

**Explanation:** One or more intervals were excluded from the statistics because the input files contained a begin record for the interval (or intervals), but they (the input files) did not contain an end record for the interval (or intervals).

**User Response:** Run the program on files that contain all interval records.

---

**2554-909** **Output format *output\_format\_name* does not support tables with *number* dimensions.**

**Explanation:** The output tables have more dimensions than the output format supports, where *number* is the maximum number of dimensions used by the tables.

**User Response:** Specify a different output format.

---

**2554-910** *reason on line number near string.*

**Explanation:** The statistics table specification could not be parsed, where:

- *reason* is the reason that the parser failed. Typically, the reason is "syntax error". This is controlled by **yacc**.
- *number* is the number of the line that was being parsed when the error was detected.
- *string* is the string of characters that was being parsed when the error was detected.

**User Response:** Correct the table specifications.

---

**2554-911** *construct on line number is not supported.*

**Explanation:** The statistics table specification contains a feature that is not supported, where *number* is the number of the line that was being parsed when the error was detected.

**User Response:** Correct the table specifications.

---

**2554-912** **utestats:** *system\_error\_message*

**Explanation:** A system library routine returned an error code.

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

---

**2554-913** *profile\_file\_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 *field\_name* is not in record type *record\_type\_name* (*record\_type\_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 specified type.

**User Response:** Specify the correct profile file as a command argument or correct the field name.

---

**2554-915** **Line number *number* contains unterminated string *string*.**

**Explanation:** The statistics table specification contains a quoted string that was not ended before the end of the line, where *number* is the number of the line in the source file that contains the string.

**User Response:** Correct the table specifications.

---

---

**2554-916** Usage: utestats [-?] [-o *out\_file*] [-B *n*] *input\_file* ... -? Display this message -o *out\_file* Output file (default: stdout) -B Number of time bins in predefined overview table (default: *number*) *input\_file* ... UTE interval files to generate statistics from

**Explanation:** The command line contained either a non-valid option flag or the option flag that triggers the usage message, where: *number* is the default number of time bins.

**User Response:** Correct the command line options.

---

**2554-917** Field *field\_name* in record type *record\_type\_name* (*record\_type\_index*) is a vector.

**Explanation:** A field that was going to be used to aggregate statistics on is a vector field.

**User Response:** Change the table definition to use a scalar field.

---

**2554-918** Field *field\_name* in record type *record\_type\_name* (*record\_type\_index*) is a vector; it cannot be used as an index.

**Explanation:** A field that was going to be used as a table index is a vector field.

**User Response:** Change the table definition to use a scalar field.

---

**2554-919** Missing argument for '-o' option

**Explanation:** You used the -o option without an accompanying file name argument.

**User Response:** Supply a filename for the -o option.

---



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# Glossary

## A

**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<sup>®</sup> operating system. AIX is particularly suited to support technical computing applications, including high-function graphics and floating-point computations.

**AIXwindows<sup>®</sup> Environment/6000.** A graphical user interface (GUI) for the IBM @server pSeries and IBM RS/6000 systems. 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.** See *application programming interface*.

**application.** The use to which a data processing system is put; for example, topayroll application, an airline reservation application.

**application programming interface.** A set of programming functions and routines that provide access between the Application layer of the OSI seven-layer model and applications that want to use the network. It is a software interface.

**argument.** A parameter passed between a calling program and a called program or subprogram.

**attribute.** A named property of an entity.

## 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.

**broadcast operation.** 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.

**call arc.** The representation of a call between two functions within the Xprofiler function call tree. It appears as a solid line between the two functions. The arrowhead indicates the direction of the call; the function it points to is the one that receives the call. The function making the call is known as the *caller*, while the function receiving the call is known as the *callee*.

**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.

**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.

**condition.** 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 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' data and operation.

**distributed shell (dsh).** A PSSP command that lets you issue commands to a group of hosts in parallel. See *IBM Parallel System Support Programs for AIX: Command and Technical Reference* for details.

**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.

**FDI.** See *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.

**fileset.** 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 call tree.** A graphical representation of all the functions and calls within an application, which appears in the Xprofiler main window. The functions are represented by green, solid-filled rectangles called function boxes. The size and shape of each function box indicates its CPU usage. Calls between functions are represented by blue arrows, called call arcs, drawn between the function boxes. See also *call arcs*.

**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  $i+1$ st iteration, Jacobi-Seidel uses only values calculated in the  $i$ th iteration. Gauss-Seidel uses a mixture of values calculated in the  $i$ th and  $i+1$ st 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.** See *Graphical user interface*.

## H

**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.

## I

**IBM Parallel Environment for AIX (PE).** A licensed program that provides an execution and development

environment for parallel C, C++, and FORTRAN programs. PE 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 an IBM @server pSeries or 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*.

**IBM Parallel System Support Programs for AIX (PSSP).** A comprehensive suite of applications that is used to manage an RS/6000 SP system as a full-function parallel-processing system. PSSP provides a single point of control for administrative tasks and helps increase productivity by letting administrators view, monitor, and control how the system operates.

**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*.

**Jumpshot.** A public domain tool, developed at Argonne National Laboratory, for visualizing program performance. Jumpshot reads files in a scalable log file format, called SLOG. The PE Benchmarking toolset provides the **slogmerge** utility to enable you to convert UTE files into the SLOG format.

## 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

**LAPI.** See *low-level communication API*.

**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 Format* 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*.

**low-level communication API (LAPI).** A low-level (low overhead) message-passing protocol that uses a one-sided, active-message-style interface to transfer messages between processes. LAPI is an IBM proprietary interface that exploits the SP Switch adapters.

## 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 client interface (MPCI).** The primary interface to the point-to-point message-passing protocols that support the SP Switch and the SP Switch2.

**message passing interface (MPI).** An industry-standard message-passing protocol that typically uses a two-sided send-receive model to transfer messages between processes.

**MIMD.** See *multiple instruction stream, multiple data stream*.

**MPCI.** See *message passing client interface*.

**MPMD.** See *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.** See *message passing interface*.

**multiple instruction stream, multiple data stream (MIMD).** A parallel programming model in which different processors perform different instructions on different sets of data.

## N

**netCDF file.** See *network Common Data Form (netCDF) file*.

**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 Common Data Form (netCDF) file.** A file using the netCDF format developed at the Unidata Program Center — a program funded by the National Science Foundation (NSF). In the PE Benchmark toolset, the PVT reads netCDF files containing hardware and operating system profiles output by the PCT.

**Network Information Services (NIS).** 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.

## O

**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*.

## P

**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*.

**Parallel Environment.** See *IBM Parallel Environment for AIX*.

**parallelism.** The degree to which parts of a program may be concurrently executed.

**parallelize.** To convert a serial program for parallel execution.

**Parallel System Support Programs.** See *IBM Parallel System Support Programs for AIX*.

**parallel operating environment (POE).** An execution environment that smooths the differences between serial and parallel execution. POE lets you submit and manage parallel jobs.

**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).

**PCT.** See *Performance Collection Tool*.

**pdbx.** PE's parallel, symbolic command-line debugging facility. **pdbx** is based on the **dbx** debugger and has a similar interface.

**PE.** See *IBM Parallel Environment for AIX*.

**PE Benchmark.** A suite of applications and utilities that you can use to analyze the performance of programs run within IBM Parallel Environment for AIX. The PE Benchmarker toolset consists of the Performance Collection Tool (PCT), the Profile Visualization Tool (PVT), and a set of Unified Trace Environment (UTE) utilities.

**Performance Collection Tool (PCT).** Part of the PE Benchmarker toolset, this tool enables you to collect either MPI and user event data or hardware and operating system profiles for one or more application processes. Because it is built on dynamic instrumentation technology, the PCT enables you to insert instrumentation probes into a target application while the target application is running.

**performance monitor.** A utility that displays how effectively a system is being used by programs.

**PID.** See *process identifier*.

**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.

**POE.** See *parallel operating environment*.

**pool.** Groups of nodes on an SP that are known to LoadLeveler, and are identified by a pool name or number.

**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.

**process identifier (PID).** An integer used by the Unix kernel to uniquely identify a process. PIDs are returned by the **fork system** call and can be passed to **wait()** or **kill()** to perform actions on the given process.

**prof.** A utility that produces an execution profile of an application or program. **prof** is useful for identifying which routines use the most CPU time.

**Profile Visualization Tool (PVT).** Part of the PE Benchmarker toolset, this tool reads the hardware or operating system profiles output by the PCT in netCDF format. The PVT enables you to summarize the collected information in reports.

**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.

**PSSP.** See *IBM Parallel System Support Programs for AIX*.

**pthread.** A thread that conforms to the POSIX Threads Programming Model.

**PVT.** See *Profile Visualization Tool*.

## R

**reduced instruction set computer (RISC).** 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.

**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.

**Report.** In Xprofiler, a tabular listing of performance data that is derived from the **gmon.out** files of an application. Xprofiler generates five types of reports. Each type of report presents different statistical information for an application.

**RISC.** See *reduced instruction set computer*.

**RS/6000 SP.** A scalable parallel system arranged in various physical configurations that provides a high-powered computing environment.

## S

**segmentation fault.** A system-detected error, usually caused by referencing a 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.

**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.

**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.

**SLOG file.** A file using the scalable log file format. The Jumpshot tool from Argonne National Laboratory reads files of this format. The **slogmerge** utility of the PE Benchmarking toolset converts UTE files into the SLOG file format.

**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.** See *RS/6000 SP*.

**SPMD.** See *single program, multiple data*.

**SP Switch.** The high-performance message-passing network of the IBM RS/6000 SP system that connects all processor nodes.

**standard error (STDERR).** (1) An output file intended to be used for error messages for C programs. (2) In many workstation-based operating systems, the output stream to which error messages or diagnostic messages are sent.

**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.

**STDERR.** See *standard error*.

**STDIN.** See *standard input*.

**STDOUT.** See *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.

## T

**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

**Unified Trace Environment (UTE).** An environment that is used to generate, analyze, and visualize trace events for applications running on IBM RS/6000 SP systems.

**unrolling loops.** See *loop unrolling*.

**US.** See *user space*.

**user.** (1) A person who requires the services of a computing system. (2) Any person or any thing 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.

**UTE.** See *Unified Trace Environment*.

**UTE interval files.** A Unified Trace Environment file that is distinct from an AIX trace file by the inclusion of interval information. While an AIX trace file has a time stamp indicating the point in time when an event occurred, UTE interval files also determine how long an event lasts before encountering the next event. Because they include this duration information, UTE interval files are easier to visualize than traditional AIX event trace files.

**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.

**Xprofiler.** An AIX tool that is used to analyze the performance of both serial and parallel applications, via a graphical user interface. Xprofiler provides quick access to the profiled data, so that the functions that are the most CPU-intensive can be easily identified.

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## Bibliography

This bibliography helps you find product documentation related to the RS/6000 SP hardware and software products.

You can find most of the IBM product information for RS/6000 SP products on the World Wide Web. Formats for both viewing and downloading are available.

PE documentation is shipped with the PE licensed program in a variety of formats and can be installed on your system. See “Accessing PE documentation online” and “Parallel Environment (PE) publications” on page 174 for more information.

This bibliography also contains a list of non-IBM publications that discuss parallel computing and other topics related to the RS/6000 SP.

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## Information formats

Documentation supporting RS/6000 SP software licensed programs is no longer available from IBM in hardcopy format. However, you can view, search, and print documentation in the following ways:

- On the World Wide Web
- Online (on the product media and via the SP Resource Center)

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## Finding documentation on the World Wide Web

Most of the RS/6000 SP hardware and software books are available from the IBM Web site at:

<http://www.ibm.com/servers/eserver/pseries>

The serial and parallel programs that you find in the *IBM Parallel Environment for AIX: Hitchhiker's Guide* are also available from this Web site, in the same location as the PE online library.

You can view a book, download a Portable Document Format (PDF) version of it, or download the sample programs from the *IBM Parallel Environment for AIX: Hitchhiker's Guide*.

At the time this manual was published, the Web address of the *RS/6000 SP Product Documentation Library* page was:

[http://www.rs6000.ibm.com/resource/aix\\_resource/sp\\_books](http://www.rs6000.ibm.com/resource/aix_resource/sp_books)

However, the structure of the IBM Web site may change over time.

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## Accessing PE documentation online

On the same medium as the PE product code, IBM ships PE man pages, HTML files, and PDF files. To use the PE online documentation, you must first install these filesets:

- **ppe.html**
- **ppe.man**
- **ppe.pdf**

To view the PE HTML publications, you need access to an HTML document browser such as Netscape. The HTML files and an index that links to them are installed in the `/usr/lpp/ppe.html` directory. Once the HTML files are installed, you can also view them from the RS/6000 SP Resource Center.

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 at:

**<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.

If you have installed the SP Resource Center on your SP system, you can access it by entering this command:

```
/usr/lpp/spp/bin/resource_center
```

If you have the SP Resource Center on CD-ROM, see the **readme.txt** file for information about how to run it.

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## RS/6000 SP publications

### SP planning publications

The following publications are related to this book only if you run parallel programs on the IBM RS/6000 SP. These books are not related if you use a network cluster that is made up of IBM @server pSeries processors, IBM RS/6000 processors, or both.

- *IBM RS/6000 SP: Planning, Volume 1, Hardware and Physical Environment*, GA22-7280
- *IBM RS/6000 SP: Planning, Volume 2, Control Workstation and Software Environment*, GA22-7281

### SP software publications

#### GPFS publications

- *IBM General Parallel File System for AIX: Administration and Programming Reference*, SA22-7452
- *IBM General Parallel File System for AIX: Concepts, Planning, and Installation Guide*, GA22-7453
- *IBM General Parallel File System for AIX: Data Management API Guide*, GA22-7435
- *IBM General Parallel File System for AIX: Problem Determination Guide*, GA22-7434

#### LoadLeveler publications

- *IBM LoadLeveler for AIX 5L: Diagnosis and Messages Guide*, GA22-7277
- *IBM LoadLeveler for AIX 5L: Using and Administering*, SA22-7311

#### Parallel Environment (PE) publications

- *IBM Parallel Environment for AIX: Hitchhiker's Guide*, SA22-7424
- *IBM Parallel Environment for AIX: Installation*, GA22-7418

- *IBM Parallel Environment for AIX: Messages*, GA22-7419
- *IBM Parallel Environment for AIX: MPI Programming Guide*, SA22-7422
- *IBM Parallel Environment for AIX: MPI Subroutine Reference*, SA22-7423
- *IBM Parallel Environment for AIX: Operation and Use, Volume 1*, SA22-7425
- *IBM Parallel Environment for AIX: Operation and Use, Volume 2*, SA22-7426

### **PSSP publications**

The following publications are related to this book only if you run parallel programs on the IBM RS/6000 SP. These books are not related if you use a network cluster that is made up of IBM @server pSeries processors, IBM RS/6000 processors, or both.

- *IBM Parallel System Support Programs for AIX: Administration Guide*, SA22-7348
- *IBM Parallel System Support Programs for AIX: Command and Technical Reference*, SA22-7351
- *IBM Parallel System Support Programs for AIX: Diagnosis Guide*, GA22-7350
- *IBM Parallel System Support Programs for AIX: Installation and Migration Guide*, GA22-7347
- *IBM Parallel System Support Programs for AIX: Messages Reference*, GA22-7352
- *IBM Parallel System Support Programs for AIX: Planning, Volume 2*, GA22-7281
- *IBM Parallel System Support Programs for AIX: Managing Shared Disks*, SA22-7349

### **RS/6000 Cluster Technology (RSCT) publications**

- *IBM RS/6000 Cluster Technology: Event Management Programming Guide and Reference*, SA22-7354
- *IBM RS/6000 Cluster Technology: Group Services Programming Guide and Reference*, SA22-7355
- *IBM RS/6000 Cluster Technology: First Failure Data Capture Programming Guide and Reference*, SA22-7454

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## **AIX publications**

You can find links to the latest AIX publications on the IBM Web site at:

<http://www.ibm.com/servers/aix/library/techpubs.html>

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## **DCE publications**

You can view a DCE book or download a PDF version of it from the IBM Web site at:

<http://www.ibm.com/software/network/dce/library>

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## **Red books**

IBM's International Technical Support Organization (ITSO) has published a number of redbooks related to the RS/6000 SP. For a current list, see the IBM Web site at:

<http://www.ibm.com/redbooks>

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## Non-IBM publications

Here are some non-IBM publications that you might find helpful.

- Almasi, G. and A. Gottlieb. *Highly Parallel Computing*, Benjamin-Cummings Publishing Company, Inc., 1989.
- Bergmark, D., and M. Pottle. *Optimization and Parallelization of a Commodity Trade Model for the SP1*. Cornell Theory Center, Cornell University, June 1994.
- Foster, I. *Designing and Building Parallel Programs*, Addison-Wesley, 1995.
- Gropp, William, Ewing Lusk, and Anthony Skjellum. *Using MPI*, The MIT Press, 1994.

As an alternative, you can use SR28-5757 to order this book through your IBM representative or IBM branch office serving your locality.

- Koelbel, Charles H., David B. Loveman, Robert S. Schreiber, Guy L. Steele Jr., and Mary E. Zosel. *The High Performance FORTRAN Handbook*, The MIT Press, 1993.
- Message Passing Interface Forum, *MPI: A Message-Passing Interface Standard, Version 1.1*, University of Tennessee, Knoxville, Tennessee, June 6, 1995.
- Message Passing Interface Forum, *MPI-2: Extensions to the Message-Passing Interface, Version 2.0*, University of Tennessee, Knoxville, Tennessee, July 18, 1997.
- Pfister, Gregory, F. *In Search of Clusters*, Prentice Hall, 1998.
- Snir, M., Steve W. Otto, Steven Huss-Lederman, David W. Walker, and Jack Dongarra. *MPI: The Complete Reference* The MIT Press, 1996.
- Spiegel, Murray R. *Vector Analysis* McGraw-Hill, 1959.

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For more information about the Message Passing Interface Forum and the MPI standards documents, see:

<http://www.mpi-forum.org>

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Messages  
Version 3 Release 2

Publication No. GA22-7419-01

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