

z/OS



IBM Ported Tools for z/OS: Supplementary Toolkit for z/OS Feature User's Guide and Reference

z/OS



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Note

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 39.

First Edition,

This edition applies to Version 1 Release 1 of IBM Ported Tools for z/OS (5655-M23) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this document

This document presents the information you need to set up and use IBM Ported Tools for z/OS: Supplementary Toolkit for z/OS Feature.

Who should use this document?

This document is for the system programmers who run a z/OS system with z/OS UNIX System Services (z/OS® UNIX®), and for their users who use IBM Ported Tools for z/OS: Supplementary Toolkit for z/OS Feature. On other open systems, some system programmer tasks may be done by an administrator.

This document assumes the readers are familiar with z/OS systems and with the information for z/OS and its accompanying products.

Where to find more information

Where necessary, this document references information in other documents about the elements and features of z/OS. For complete titles and order numbers for all z/OS documents, see *z/OS Information Roadmap*.

Direct your request for copies of any IBM publication to your IBM representative or to the IBM branch office serving your locality.

There is also a toll-free customer support number (1-800-879-2755) available Monday through Friday from 6:30 a.m. through 5:00 p.m. Mountain Time. You can use this number to:

- Order or inquire about IBM publications
- Resolve any software manufacturing or delivery concerns
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Softcopy publications

The z/OS library is available on the *z/OS Collection Kit*, SK2T-6700. This softcopy collection contains a set of z/OS and related unlicensed product documents. The CD-ROM collection includes the IBM® Library Reader™, a program that enables customers to read the softcopy documents.

Softcopy z/OS publications are available for web-browsing and PDF versions of the z/OS publications for viewing or printing using Adobe Acrobat Reader. Visit the z/OS library at <http://www.ibm.com/servers/eserver/zseries/zos/bkserv/>.

IBM Systems Center publications

IBM Systems Centers produce Redbooks that can be helpful in setting up and using z/OS. You can order these publications through normal channels, or you can view them with a Web browser. See the IBM Redbooks site at <http://www.ibm.com/redbooks>.

These documents have not been subjected to any formal review nor have they been checked for technical accuracy, but they represent current product understanding (at the time of their publication) and provide valuable information on a wide range of z/OS topics. You must order them separately.

Using LookAt to look up message explanations

LookAt is an online facility that lets you look up explanations for most of the IBM messages you encounter, as well as for some system abends and codes. Using LookAt to find information is faster than a conventional search because in most cases LookAt goes directly to the message explanation.

You can use LookAt from the following locations to find IBM message explanations for z/OS elements and features, z/VM[®], VSE/ESA[™], and Clusters for AIX[®] and Linux:

- The Internet. You can access IBM message explanations directly from the LookAt Web site at <http://www.ibm.com/eserver/zseries/zos/bkserv/lookat/>.
- Your z/OS TSO/E host system. You can install code on your z/OS or z/OS.e systems to access IBM message explanations, using LookAt from a TSO/E command line (for example, TSO/E prompt, ISPF, or z/OS UNIX System Services).
- Your Microsoft[®] Windows[®] workstation. You can install code to access IBM message explanations on the *z/OS Collection* (SK3T-4269), using LookAt from a Microsoft Windows command prompt (also known as the DOS command line).
- Your wireless handheld device. You can use the LookAt Mobile Edition with a handheld device that has wireless access and an Internet browser (for example, Internet Explorer for Pocket PCs, Blazer, or Eudora for Palm OS, or Opera for Linux handheld devices). Link to the LookAt Mobile Edition from the LookAt Web site.

You can obtain code to install LookAt on your host system or Microsoft Windows workstation from a disk on your *z/OS Collection* (SK3T-4269), or from the LookAt Web site (click **Download**, and select the platform, release, collection, and location that suit your needs). More information is available in the LOOKAT.ME files available during the download process.

Using IBM Health Checker for z/OS

IBM Health Checker for z/OS is a z/OS component that installations can use to gather information about their system environment and system parameters to help identify potential configuration problems before they impact availability or cause outages. Individual products, z/OS components, or ISV software can provide checks that take advantage of the IBM Health Checker for z/OS framework. This book may refer to checks or messages associated with this component.

For additional information about checks and about IBM Health Checker for z/OS, see *IBM Health Checker for z/OS: User's Guide*. z/OS V1R4, V1R5, and V1R6 users can obtain the IBM Health Checker for z/OS from the z/OS Downloads page at <http://http://www.ibm.com/servers/eserver/zseries/zos/downloads/>.

SDSF also provides functions to simplify the management of checks. See *z/OS SDSF Operation and Customization* for additional information.

Chapter 1. Introduction

IBM Ported Tools for z/OS: Supplementary Toolkit for z/OS Feature (Supplementary Toolkit for z/OS) is a packaged product, which contains a ported version of bzip2 (version 1.0.4). Supplementary Toolkit for z/OS has been tested and packaged for use on z/OS.

bzip2 is a freely available, high-quality data compressor. It compresses files using the Burrows-Wheeler block-sorting text compression algorithm and Huffman coding. It typically compresses files to within 10% to 15% of the best available techniques (the PPM family of statistical compressors), while being around twice as fast at compression and six times faster at decompression.

bzip2 provides four commands whose functions are described as follows:

bzip2 A block-sorting file compressor to compress files.

bunzip2

A block-sorting file compressor to decompress files.

bzcat This command decompresses files to stdout.

bzip2recover

This command recovers data from damaged bzip2 files.

This document is designed specifically for users of the Supplementary Toolkit for z/OS product. For more information on the IBM Ported Tools for z/OS product, go to the following site: http://www.ibm.com/servers/eserver/zseries/zos/unix/port_tools.html .

Chapter 2. Installing Supplementary Toolkit for z/OS

This chapter should be read before installing Supplementary Toolkit for z/OS. It consists of the following sections which provide pre-installation planning information and additional post-installation steps.

- **Pre-installation Planning.** This section provides information for file-system allocation and help on locating and relocating or removing previous versions of bzip2 that may reside on your system.
- **Post-installation setup.** This section provides required and optional post-installation steps such as providing symbolic links to Supplementary Toolkit for z/OS.

Pre-installation planning

The following sections provide you with information that will be helpful in planning to install Supplementary Toolkit for z/OS.

File-System Allocation

Supplementary Toolkit for z/OS installs into /usr/lpp/ported. The *Program Directory for IBM Ported Tools for z/OS* describes that an HFS or a zFS file-system of 825 tracks of 3390 DASD is required. This is approximately 1.4 MB (assuming 15 tracks/cyl and 737,280 bytes/cylinder for a 3390 device).

Files and directory structure

Supplementary Toolkit for z/OS is installed into the following directories as follows:

```
/usr/lpp/ported           # Root directory for HPU files
/usr/lpp/ported/IBM      # SMP/E directory
/usr/lpp/ported/bin      # directory for executeables
/usr/lpp/ported/bin/base # directory for base versions of executeables
/usr/lpp/ported/man      # Man page parent
/usr/lpp/ported/man/C    # Man page for default locale (C)
/usr/lpp/ported/man/C/man1 # Man page directory
```

Along with the above directories, the following files are installed:

```
/usr/lpp/ported/IBM/HPUBZIP2 # bzip2, bunzip2, and bzcac
/usr/lpp/ported/IBM/HPUBZREC # bzip2recover
/usr/lpp/ported/IBM/HPUZA200 # man page
/usr/lpp/ported/IBM/HPULICEN # license file

/usr/lpp/ported/Ported_Tools_License.readme # link to HPULICEN

/usr/lpp/ported/man/C/man1/hpuza200.book # link to HPUZA200

/usr/lpp/ported/bin/base/bzip2-1.0.4 # link to HPUBZIP2
/usr/lpp/ported/bin/base/bunzip2-1.0.4 # link to HPUBZIP2
/usr/lpp/ported/bin/base/bzcac-1.0.4 # link to HPUBZIP2
/usr/lpp/ported/bin/base/bzip2recover-1.0.4 # link to HPUBZREC
```

The following symbolic links are automatically created by the installation process.

```
/usr/lpp/ported/bin/bzip2 # symlink -> base/bzip2-1.0.4
/usr/lpp/ported/bin/bunzip2 # symlink -> base/bunzip2-1.0.4
/usr/lpp/ported/bin/bzcac # symlink -> base/bzcac-1.0.4
/usr/lpp/ported/bin/bzip2recover # symlink -> base/bzip2recover-1.0.4
```

Migrating from previous versions of bzip2

Before installing Supplementary Toolkit for z/OS, you should check if a previous version of bzip2 acquired from another source has already been installed. Because these versions are not supported, you may wish to remove them. However, bzip2 can co-exist with previous versions, so if you choose to retain them, you will need to make sure that the location of the previous bzip2 utilities do not conflict.

Although Supplementary Toolkit for z/OS version of bzip2 is functionally equivalent to other available versions of bzip2 at the same level or earlier, bzip2 itself has occasionally introduced changes between versions which are not compatible with previous versions and so your user community may need access to the previous version until those version-related migration issues are resolved. Therefore, you should retain any previous versions until your user community has transitioned to Supplementary Toolkit for z/OS version of bzip2.

Supplementary Toolkit for z/OS bzip2 will be installed into directories in `/usr/lpp/ported`. This is a unique directory specific to Supplementary Toolkit for z/OS and so during the installation into these directories there should be no risk of conflict with other versions of bzip2.

It is customary, however, for the bzip2 executable or links to it, to be located in `/usr/bin`, and/or `/usr/local/bin` (and sometimes `/bin`). A symbolic link to bzip2 should be defined in one of these directories. This is the point at which a conflict with a previous version of bzip2 may occur. So, if you have a previous version, you will need to make sure to remove or rename these executables or symbolic links.

Tips for finding previous versions of bzip2

As stated in “Migrating from previous versions of bzip2,” the only conflict during the installation of Supplementary Toolkit for z/OS bzip2 and a previous version of bzip2 may be in the `/usr/bin/` or `/usr/local/bin/` directories where the executables are typically installed. So, this section will focus on providing tips for finding the executables.

- **Use the whence command.** If bzip2 is located in a directory which is defined in `$PATH`, then the whence command will indicate which directory it is in. From the UNIX command line, enter: `whence bzip2`
- **Check common directories.** Typically, the bzip2 module, or a link to it, is installed in one or more of the following directories:

```
/usr/bin
/usr/local/bin
/bin          (although not typical)
```

Do an `"ls -ld bzip2*"` in each of these directories.

- **Use the find command.** The find command is the most thorough method as it performs a search on all directories. However, it can take several minutes to run on systems with heavily populated file-systems. Also, to check all paths, it will most likely need to be run as a superuser. You may wish to restrict the find to system directories such as `/usr` or `/bin`. Examples:

```
find /usr -type f -name "bzip2*"
find /bin -type f -name "bzip2*"
```

If you run this command as a non-superuser, you may wish to redirect all error messages for directories you do not have access to to `/dev/null`. To do so, add `" 2> /dev/null"` to the end of the above find commands.

Removing or relocating previous versions of bzip2

If you have determined that you have a previous version of bzip2, you need to determine whether you should remove it or relocate it. It is advisable that you initially **relocate** previous versions-- rather than remove them-- until you are satisfied that your user community has no dependencies on them.

Some other considerations:

- bzip2 executables from previous versions which have been installed in the common locations should be relocated or removed to avoid conflict with executables provided with Supplementary Toolkit for z/OS. The complete list of these potential extensions follows (however, not all of these are supported in Supplementary Toolkit for z/OS):

```
bzip2          bzip2.*.*
```

Post-installation setup

This section describes the post-installation steps.

Adding symbolic link for man page

The Supplementary Toolkit for z/OS man page file is `hpuza200.book` and is located in the directory `/usr/lpp/ported/man/C/man1/`. In order to view this with the command `man bzip2`, the directory `/usr/lpp/ported/man/C` (without the `"/man1/"`) needs to be added to the default `MANPATH` environment variable defined in `/etc/profile`.

Alternately, you can create a symbolic link to `hpuza200.book` in the `/usr/man/C/man1/` directory which is typically defined as the default path of `MANPATH` in `/etc/profile`. To do this:

```
cd /usr/man/C/man1
ln -s /usr/lpp/ported/man/C/man1/hpuza200.book hpuza200.book
```

Adding symbolic link to bzip2 in /usr/bin

`bzip2` is typically installed into `/usr/bin` (and sometimes also `/usr/local/bin` or `/bin` although these are less often done). A symbolic link for `bzip2` can be created in `/usr/bin` which points to `/usr/lpp/ported/bin/bzip2`. For example:

```
cd /usr/bin
ln -s /usr/lpp/ported/bin/bzip2 bzip2
```

You may also wish to create a symbolic link in `/usr/local/bin` which is less typical than `/usr/bin` although reasonably common. It is not advisable to create a link in `/bin` although that can be found on some systems.

Enabling bzip2

You must enable the `bzip2` component of Supplementary Toolkit for z/OS before you use it. To enable `bzip2`, copy the contents of `HPUTIFA SAMPLIB` member to a new or active `IFAPRDxx` member in `SYS1.PARMLIB`. Then issue the `SET PROD` operator command to dynamically enable the `bzip2` function. The `HPUTIFA SAMPLIB` member is not active by default.

The content of the `HPUTIFA` file is provided below:

```
PRODUCT OWNER('IBM CORP')
      NAME('Ported Tools')
      ID(5655-M23)
      VERSION(*) RELEASE(*) MOD(*)
      FEATURENAME('bzip2 for z/OS')
      STATE(ENABLED)
```

To activate the IFAPRDxx member dynamically, use the z/OS SET system command:

```
SET PROD=xx
```

If you try to run bzip2 before you enable it, the following error message will appear:

```
IFA104I REGISTRATION HAS BEEN DENIED FOR
PRODUCT WITH OWNER=IBM CORP
NAME=Ported Tools
FEATURE=bzip2 for z/OS
VERSION=01.01.03 ID=5655-M23
HPU00078 bzip2 exited-- cannot be used until defined in enablement policy.
```

For more information on IFAPRDxx, see z/OS MVS Initialization and Tuning Reference.

Message numbers

To enhance serviceability, IBM assigns a unique message number to each informational, warning and error message generated by bzip2. These message numbers are of the form HPUBxxxx where xxxx is a unique four digit number.

If your script or process needs to compare these messages against an expected message, the presence of the message number can cause the message to not match. For this reason, message numbering can be disabled by setting the `_BZIP2_NOMSGID` environment variable to 1 prior to running the script. For example:

```
export _BZIP2_NOMSGID=1
```

Chapter 3. bzip2 command reference

Name

bzip2, **bunzip2** - a block-sorting file compressor

bzcat - decompresses files to stdout

bzip2recover - recovers data from damaged bzip2 files

Synopsis

bzip2 [-cdfkqstzVL123456789] [filenames ...]

bunzip2 [-fkvsVL] [filenames ...]

bzcat [-s] [filenames ...]

bzip2recover filename

Description

bzip2 compresses files using the Burrows-Wheeler block sorting text compression algorithm, and Huffman coding. Compression is generally considerably better than that achieved by more conventional LZ77/LZ78-based compressors, and approaches the performance of the PPM family of statistical compressors.

The command-line options are deliberately very similar to those of GNU gzip, but they are not identical.

bzip2 expects a list of file names to accompany the command-line flags. Each file is replaced by a compressed version of itself, with the name `original_name.bz2`. Each compressed file has the same modification date, permissions, and, when possible, ownership as the corresponding original, so that these properties can be correctly restored at decompression time. File name handling is naive in the sense that there is no mechanism for preserving original file names, permissions, ownerships or dates in filesystems which lack these concepts, or have serious file name length restrictions, such as MS-DOS.

bzip2 and **bunzip2** will by default not overwrite existing files. If you want this to happen, specify the `-f` flag.

If no file names are specified, **bzip2** compresses from standard input to standard output. In this case, **bzip2** will decline to write compressed output to a terminal, as this would be entirely incomprehensible and therefore pointless.

bunzip2 (or **bzip2** `-d`) decompresses all specified files. Files which were not created by **bzip2** will be detected and ignored, and a warning issued. **bzip2** attempts to guess the filename for the decompressed file from that of the compressed file as follows:

- `filename.bz2` becomes `filename`
- `filename.bz` becomes `filename`
- `filename.tbz` becomes `filename.tar`

bzip2

- anyothername becomes anyothername.out

If the file does not end in one of the recognized endings, .bz2, .bz, .tbz2 or .tbz, **bzip2** complains that it cannot guess the name of the original file, and uses the original name with .out appended.

As with compression, supplying no filenames causes decompression from standard input to standard output.

bunzip2 will correctly decompress a file which is the concatenation of two or more compressed files. The result is the concatenation of the corresponding uncompressed files. Integrity testing (-t) of concatenated compressed files is also supported.

You can also compress or decompress files to the standard output by giving the -c flag. Multiple files may be compressed and decompressed like this. The resulting outputs are fed sequentially to stdout. Compression of multiple files in this manner generates a stream containing multiple compressed file representations.

bzcat (or **bzip2 -dc**) decompresses all specified files to the standard output.

bzip2 will read arguments from the environment variables BZIP2 and BZIP, in that order, and will process them before any arguments read from the command line. This gives a convenient way to supply default arguments.

Compression is always performed, even if the compressed file is slightly larger than the original. Files of less than about one hundred bytes tend to get larger, since the compression mechanism has a constant overhead in the region of 50 bytes. Random data (including the output of most file compressors) is coded at about 8.05 bits per byte, giving an expansion of around 0.5%.

As a self-check for your protection, **bzip2** uses 32-bit CRCs to make sure that the decompressed version of a file is identical to the original. This guards against corruption of the compressed data, and against undetected bugs in **bzip2** (hopefully very unlikely). The chances of data corruption going undetected is microscopic, about one chance in four billion for each file processed. Be aware, though, that the check occurs upon decompression, so it can only tell you that something is wrong. It can't help you recover the original uncompressed data. You can use **bzip2recover** to try to recover data from damaged files.

Return values: 0 for a normal exit, 1 for environmental problems (file not found, invalid flags, I/O errors, etc.), 2 to indicate a corrupt compressed file, 3 for an internal consistency error (for example, a bug) which caused **bzip2** to panic.

Options

bzip2 accepts the following command line switches:

-c --stdout

This option compresses or decompresses to standard output.

-d --decompress

This option forces decompression. bzip2, bunzip2 and bzcat are really the same program, and the decision about what actions to take is done on the basis of which name is used. This flag overrides that mechanism, and forces bzip2 to decompress.

-z --compress

This option is complementary to `-d`: forces compression, regardless of the invocation name..

-t --test

Check integrity of the specified file(s), but don't decompress them. This really performs a trial decompression and throws away the result.

-f --force`foo[=bar]`

This option forces an overwrite of output files. Normally, **bzip2** will not overwrite existing output files. Also forces **bzip2** to break hard links to files, which it otherwise would not do.

bzip2 normally declines to decompress files which do not have the correct magic header bytes. If forced (`-f`), however, it will pass such files through unmodified. This is how GNU gzip behaves.

-k --keep

This option keeps (does not delete) input files during compression or decompression.

-s --small

This option reduces memory usage, for compression, decompression and testing. Files are decompressed and tested using a modified algorithm which only requires 2.5 bytes per block byte. This means any file can be decompressed in 2300k of memory, albeit at about half the normal speed.

During compression, `-s` selects a block size of 200k, which limits memory use to around the same figure, at the expense of your compression ratio. In short, if your machine is low on memory (8 megabytes or less), use `-s` for everything.

-q --quiet

This option suppresses non-essential warning messages. Messages pertaining to I/O errors and other critical events will not be suppressed.

-v --verbose

This option shows the compression ratio for each file processed. Further, the `-v` option increases the verbosity level, spewing out lots of information which is primarily of interest for diagnostic purposes.

-L --license

This option displays the license terms and conditions.

-V --version

This option displays the software version.

-1 (or --fast) to -9 (or -best)

This option sets the block size to 100 k, 200 k, all the way to 900 k when compressing. This option has no effect when decompressing. The `--fast` and `--best` aliases are primarily for GNU gzip compatibility. In particular, `--fast` does not make things significantly faster. And `--best` merely selects the default behaviour..

`--` This option treats all subsequent arguments as file names, even if they start with a dash. This is so you can handle files with names beginning with a dash, for example: **bzip2** `-- -myfilename`.

--repetitive-fast, --repetitive-best

These flags are irrelevant in versions 0.9.5 and above.

Recovering Data From Damaged Files

bzip2 compresses files in blocks, usually 900k bytes long. Each block is handled independently. If a media or transmission error causes a multi-block .bz2 file to become damaged, it may be possible to recover data from the undamaged blocks in the file.

The compressed representation of each block is delimited by a 48-bit pattern, which makes it possible to find the block boundaries with reasonable certainty. Each block also carries its own 32-bit CRC, so damaged blocks can be distinguished from undamaged ones.

bzip2recover is a simple program whose purpose is to search for blocks in .bz2 files, and write each block out into its own .bz2 file. You can then use **bzip2 -t** to test the integrity of the resulting files, and decompress those which are undamaged.

bzip2recover takes a single argument, the name of the damaged file, and writes a number of files `rec00001file.bz2`, `rec00002file.bz2`, for example, containing the extracted blocks. The output filenames are designed so that the use of wildcards in subsequent processing, for example, **bzip2 -dc rec*file.bz2 > recovered_data**, lists the files in the correct order.

bzip2recover should be of most use dealing with large .bz2 files, as these will contain many blocks. It is clearly futile to use it on damaged single-block files, since a damaged block cannot be recovered. If you wish to minimize any potential data loss through media or transmission errors, you might consider compressing with a smaller block size.

Chapter 4. bzip2 messages

HPUB0000 bucket sorting ...

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 4 or more times. It explains that bzip2 is currently performing bucket sorting on the file being compressed.

Example: H PUB0000 bucket sorting ...

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 4.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0001 main sort initialise ...

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 4 or more times. It explains that bzip2 is currently initializing the program for sorting the buckets of the file in compression.

Example: H PUB0001 main sort initialise ...

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 4.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0002 *data_num* work, *block_num* block, *ratio* *ratio_num*

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 3 or more times. It describes how much data has been compressed, how many blocks have been created and the compressed data's ratio.

data_num
The number of compressed data

block_num
The value of block of bzip2

ratio_num
The value of compression ratio

Example: H PUB0002 43973 work, 10223 block, ratio 4.30

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 3.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0003 too repetitive; using fallback sorting algorithm

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 2 or more times. The data in the compressed file is too repetitive. bzip2 will use an alternative fallback sorting algorithm which is better for repetitive data. The compression ratio of the fallback algorithm will be larger than the default compression ratio.

Example: H PUB0003 too repetitive; using fallback sorting algorithm

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 2.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0004 no data compressed.

Explanation: The file to be compressed does not contain any data; it has a file size of zero.

Example: H PUB0004 no data compressed.

System action: Displays the warning and continues processing any other files specified.

Operator response: No System Operator response is required.

User response: Confirm that the file to be compressed should not contain any data (it has a file size of zero).

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0005 *compress_ratio:1, bit_ratio bits/byte, saved_num% saved, in_bits_num in, out_bits_num out.*

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 1 or more times. It provides specific details

about the compression ratio.

compress_ratio

The value of input bits divided by output bits

bit_ratio

The value of output bytes divided by input bits

saved_num

The value of saved ratio

in_bits_num

The value of input bits

out_bits_num

The value of output bits

Example: H PUB0005 7.843:1, 1.020 bits/byte, 87.25% saved, 400 in, 51 out.

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. You can suppress the messages by not specifying the "-v" or "--verbose" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0006 *program_name: input_file_name:trailing garbage after EOF ignored*

Explanation: This message indicates that one or more bytes of data was found beyond the EOF ("end of file"). All data beyond the EOF will be ignored and not be decompressed.

program_name

One of bzip2 bunzip2 or bzcac

input_file_name

Input compressed file name

Example: H PUB0006 bzip2: /u/spring/bzt/dest_files/6.txt.bz2: trailing garbage after EOF ignored

System action: Displays the warning and continues processing the file.

Operator response: No System Operator response is required.

User response: You may wish to verify that the extra

data following the EOF is not a problem. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: W- A warning (bzip2 continues).

Automation: Not applicable.

HPUB0007 data integrity (CRC) error in data

Explanation: During a CRC (cyclic redundancy check) test, the bzip2 application has detected that data in the compressed file is corrupted. The file cannot be decompressed.

Example: HPUB0007 data integrity (CRC) error in data

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may wish to check whether the compressed file is corrupted. If it is, try using the bzip2recover program to recover data from the uncorrupted sections, and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0008 file ends unexpectedly

Explanation: The compressed file did not have the expected file end. The file may be corrupted.

Example: HPUB0008 file ends unexpectedly

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Use the bzip2recover program to attempt to recover data from undamaged sections of

corrupted files. If the file was transferred from another system, for example, using ftp or oput/oget, verify that it was transferred in binary or image mode.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0009 bad magic number (file not created by bzip2)

Explanation: bzip2 did not create the tested file.

Example: HPUB0009 bad magic number (file not created by bzip2)

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Verify that you are decompressing a file compressed by bzip2 and that the file is not corrupted. If it is, the bzip2recover program may be able to recover data from the uncorrupted sections. If the file was transferred from another system or file-system (for example, using ftp, or oget/oput), verify that it was transferred using binary or image mode.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0010 trailing garbage after EOF ignored

Explanation: This message indicates that one or more bytes of data was found beyond the EOF ("end of file"). All data beyond the EOF will be ignored and not be decompressed.

Example: HPUB0010 trailing garbage after EOF ignored

System action: Displays the warning and continues processing the file.

Operator response: No System Operator response is required.

User response: Verify that the extra data following the EOF is not a problem. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: W- A warning (bzip2 continues).

Automation: Not applicable.

HPUB0011 **It is possible that the compressed file(s) have become corrupted. You can use the -tvv option to test integrity of such files. You can use the `bzip2recover` program to attempt to recover data from undamaged sections of corrupted files.**

Explanation: The compressed file may be a corrupted file.

Example: HPUB0011 It is possible that the compressed file(s) have become corrupted. You can use the -tvv option to test integrity of such files. You can use the `bzip2recover` program to attempt to recover data from undamaged sections of corrupted files.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: The message explains how to test the damaged compressed file and how to get the undamaged sections of the corrupted compressed file. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0012 **Input file = *input_file_name*, output file = *output_file_name***

Explanation: This is an informational message only. The input file name and output file name is displayed.

input_file_name
Input file name

output_file_name
Output file name

Example: HPUB0012 Input file = /u/wellie/bzt/dest_files/11.txt.bz2, output file = /u/wellie/bzt/dest_files/11.txt

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0013 ***program_name*: Deleting output file *output_file_name*, if it exists.**

Explanation: The output file will be deleted if it had been already created.

program_name
One of bzip2 bunzip2 or bzcata

output_file_name
Output file name

Example: HPUB0013 bzip2: Deleting output file /u/wellie/bzt/dest_files/13.txt, if it exists.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: This message can be suppressed by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2
Module: Not applicable.
Routing code: Not applicable.
Descriptor code: W- A warning (bzip2 continues).
Automation: Not applicable.

HPUB0014 *program_name*: **WARNING: deletion of output file (apparently) failed.**

Explanation: bzip2 encountered a damaged compressed file but could not delete the output file, which had been already created.

program_name

One of bzip2 bunzip2 or bzcata

Example: HPUB0014 bzip2: WARNING: deletion of output file (apparently) failed.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: If the file still exists, you may wish to remove it manually.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0015 *program_name*: **WARNING: deletion of output file suppressed**

Explanation: During the compression of the input file, bzip2 detected that the input file no longer existed and could not complete the compression. The output file may not be correct, but bzip2 is not deleting in case it contains useful information.

program_name

One of bzip2 bunzip2 or bzcata

Example: HPUB0015 bzip2: WARNING: deletion of output file suppressed

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may wish to run an integrity

check against the output file using the bzip2 options "-tv".

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0016 *program_name1*: **WARNING: some files have not been processed:**
program_name2: *number_of_file_name*
specified on command line,
number_of_not_process **not processed yet.**

Explanation: bzip2 did not process all of the specified files.

program_name1

One of bzip2 bunzip2 or bzcata

program_name2

One of bzip2 bunzip2 or bzcata

number_of_file_name

Number of specified files

number_of_not_process

Number of files not processed

Example: HPUB0016 bzip2: WARNING: some files have not been processed: bzip2: 2 specified on command line, 1 not processed yet.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure that all the input files are regular or compressed files and can be processed independently. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0017 *program_name:* **PANIC -- internal consistency error: message Please follow local procedures for reporting problems to IBM**

Explanation: Internal consistency error.

program_name

One of bzip2 bunzip2 or bzcac

message

Error information

Example: H PUB0017 bzip2: PANIC -- internal consistency error: Please follow local procedures for reporting problems to IBM

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: This is an internal error. Follow local procedures for reporting problems to IBM.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0018 *program_name:* **Data integrity error when decompressing.**

Explanation: bzip2 has detected that data in the compressed file is corrupted. The file cannot be decompressed.

program_name

One of bzip2 bunzip2 or bzcac

Example: H PUB0018 bzip2: Data integrity error when decompressing.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check whether the compressed file is corrupted. If it is, try using the bzip2recover program to recover data from the uncorrupted sections, and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0019 *program_name:* **Compressed file ends unexpectedly; perhaps it is corrupted? *Possible* reason follows.**

Explanation: There will be another message that immediately follows this message that provides more information.

program_name

One of bzip2 bunzip2 or bzcac

Example: H PUB0019 bzip2: Compressed file ends unexpectedly; perhaps it is corrupted? *Possible* reason follows.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may want to also view the message description for this message that followed for more information on this problem. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0020 *program_name:* **I/O or other error, bailing out. Possible reason follows.**

Explanation: bzip2 is terminating immediately ("bailing out"). There will be another message that immediately follows this message that provides more information.

program_name

One of bzip2 bunzip2 or bzcac

Example: H PUB0020 bzip2: I/O or other error, bailing out. Possible reason follows.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may want to also view the message description for the message that follows for more information on this problem.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0021 *program_name*: **Control-C or similar caught, quitting.**

Explanation: bzip2 encountered a signal and immediately stopped processing.

program_name

One of bzip2 bunzip2 or bzip2

Example: HPUB0021 bzip2: Control-C or similar caught, quitting.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Do not enter Control-C while bzip2 is executing unless you want to stop the program.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0022 *program_name* : **Caught a SIGSEGV or SIGBUS whilst compressing. Possible causes are (most likely first): (1) This computer has unreliable memory or cache hardware (a surprisingly common problem; try a different machine.) (2) A bug in the compiler used to create this executable (unlikely, if you didn't compile bzip2 yourself.) (3) A real bug in bzip2 -- I hope this should never be the case. The user's manual, Section 4.3, has more info on (1) and (2). If you suspect this is a bug in bzip2, or are unsure about (1)\n or (2), please follow local procedures to report it to IBM. Section 4.3 of the user's manual describes the info a useful bug report should have.**

Explanation: bzip2 encountered a signal and ended immediately while compressing.

program_name

One of bzip2 bunzip2 or bzip2

Example: HPUB0022 bzip2: Caught a SIGSEGV or SIGBUS whilst compressing. Possible causes are (most likely first): (1) This computer has unreliable memory or cache hardware (a surprisingly common problem; try a different machine.) (2) A bug in the compiler used to create this executable (unlikely, if you didn't compile bzip2 yourself.) (3) A real bug in bzip2 -- I hope this should never be the case. The user's manual, Section 4.3, has more info on (1) and (2). If you suspect this is a bug in bzip2, or are unsure about (1) or (2), please follow local procedures to report it to IBM. Section 4.3 of the user's manual describes the info a useful bug report should have.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: The message provides suggestions for possible actions. You may wish to check the system and the compressed or decompressed file and try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0023 *program_name* : Caught a SIGSEGV or SIGBUS whilst decompressing. Possible causes are (most likely first): (1) The compressed data is corrupted, and bzip2's usual checks failed to detect this. Try `bzip2 -tvv my_file.bz2`. (2) This computer has unreliable memory or cache hardware (a surprisingly common problem; try a different machine.) (3) A bug in the compiler used to create this executable (unlikely, if you didn't compile bzip2 yourself.) (4) A real bug in bzip2 -- I hope this should never be the case. The user's manual, Section 4.3, has more info on (2) and (3). If you suspect this is a bug in bzip2, or are unsure about (2) or (3), follow local procedures to report this to IBM. Section 4.3 of the user's manual describes the info a useful bug report should have.

Explanation: bzip2 encountered a SEGV or BUS signal and quit immediately while decompressing. This message originates from the bzip2 open source code and contains some information that is not accurate in the z/OS Unix environment. Specifically, the reference to Section 4.3 in the user's manual is not correct and should be ignored. This message will be corrected in future releases.

program_name
One of bzip2 bunzip2 or bzcac

Example: HPUB0023 bzip2: Caught a SIGSEGV or SIGBUS whilst decompressing. Possible causes are (most likely first): (1) The compressed data is corrupted, and bzip2's usual checks failed to detect this. Try `bzip2 -tvv my_file.bz2`. (2) This computer has unreliable memory or cache hardware (a surprisingly common problem; try a different machine.) (3) A bug in the compiler used to create this executable (unlikely, if you didn't compile bzip2 yourself.) (4) A real bug in bzip2 -- I hope this should never be the case. The user's manual, Section 4.3, has more info on (2) and (3). If you suspect this is a bug in bzip2, or are unsure about (2) or (3), follow local procedures to report this to IBM. Section 4.3 of the user's manual describes the info a useful bug report should have.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: The message provides suggestions for possible actions. You may wish to check the system and the compressed or decompressed file and try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0024 *program_name*: couldn't allocate enough memory

Explanation: bzip2 could not allocate enough memory.

program_name
One of bzip2 bunzip2 or bzcac

Example: HPUB0024 bzip2: couldn't allocate enough memory

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure that the system has enough memory and try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0026 bzip2: file name '*file_name*' is suspiciously (more than 1024 chars) long. Try using a reasonable file name instead. Sorry! :-)

Explanation: bzip2 encountered a file name that was too long.

file_name
Input file name

Example: HPUB0026 bzip2: file name `'/u/spring/bzt/dest_files/1000_char_filename'` is suspiciously (more than 1024 chars) long. Try using a reasonable file name instead. Sorry! :-)

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make the file name shorter.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0027 *program_name:* **Internal error, function_name() failed with return code=return_code, errno=error_no error_info.**

Explanation: The function "fldata()" encountered an error when checking the input file. This message is an internal error. The "error_info" will provide additional information about the cause of this error

program_name
One of bzip2 bunzip2 bzip2recover

function_name
The function name: fldata

return_code
The return code of the function

error_no
The system error number

error_info
The system error information

Example: HPUB0027 bzip2: Internal error, fldata() failed with return code=1, errno=111 Permission denied.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: This is an internal error. Follow local procedures for reporting problems to IBM.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0028 *program_name:* **Can't open input file input_file_name: error_info.**

Explanation: The input file did not exist. The "error_info" will provide additional information about the cause of this error.

program_name
One of bzip2 bunzip2 bzip2recover

input_file_name
Input file name

error_info
Error information

Example: HPUB0028 bzip2: Can't open input file non_exist_file: No such file or directory.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Refer to the additional message for more information on why the expected file or directory does not exist.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0029 *program_name:* **Input file input_file_name already has suffix_name suffix.**

Explanation: The input file had .bz2, .bz, .tbz2 and .tbz suffix.

program_name
One of bzip2 bunzip2 or bzip2

input_file_name
Input file name

suffix_name
A bzip2 file suffix

Example: HPUB0029 bzip2: Input file /u/wellie/bzt/dest_files/29.txt.bz2 already has .bz2 suffix.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check that the input files do not have

the bzip2 file suffix. If it has, copy the input file to another file name without the bzip2 suffix or rename the file, and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0030 *program_name:* **Input file *directory_name* is a directory.**

Explanation: The input file is a directory but a file is required.

program_name
One of bzip2 bunzip2 or bzcata

directory_name
Directory name

Example: HPUB0030 bzip2: Input file /u/spring/bzt/dest_files is a directory.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure the input file is a file, not a directory.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0031 *program_name:* **Input file *input_file_name* is not a normal file.**

Explanation: The input file is not a regular (normal) file; it is a block special or character special or socket file, etc. bzip2 can only compress regular files.

program_name
One of bzip2 bunzip2 or bzcata

input_file_name
Input file name

Example: HPUB0031 bzip2: Input file /dev/null is not a normal file.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: The command "ls -l *filename* can be used to determine the type of file. If the first character in the output of that is a dash ("-"), then the file is a regular file. You may wish to make sure the input file is a regular file and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0032 *program_name:* **Output file *output_file_name* already exists.**

Explanation: The output file which bzip2 wants to create already exists

program_name
One of bzip2 bunzip2 or bzcata

output_file_name
Output file name

Example: HPUB0032 bzip2: Output file /u/spring/bzt/dest_files/32.txt.bz2 already exists.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Either make sure that the output files do not exist, or use the "-f" or "--force" options to overwrite them.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0033 *program_name:* **Input file**
input_file_name **has link_num other**
link(s).

Explanation: The input file has one or more linked files.

program_name

One of bzip2 bunzip2 or bzcac

input_file_name

Input file name

link_num

Number of linked files

Example: HPUB0033 bzip2: Input file
/u/spring/bzt/dest_files/33.txt has 1 other link.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Either make sure that the input file does not have a linked file, or use the "-f" or "--force" options to compress or decompress it.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0034 *program_name:* **I won't write**
compressed data to a terminal.

Explanation: This message indicates that bzip2 cannot print compressed data to a terminal.

program_name

One of bzip2 bunzip2 or bzcac

Example: HPUB0034 bzip2: I won't write compressed data to a terminal.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may wish to write the compressed data to a file.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0035 *program_name:* **For help, type:**
program_name **--help'.**

Explanation: This is an informational message. It explains how bzip2 gets the help information.

program_name

One of bzip2 bunzip2 or bzcac

Example: HPUB0035 bzip2: For help, type: `bzip2 --help'.

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: To find the correct usage, you could issue bzip2 with either the "-h" or "--help" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: W- A warning (bzip2 continues).

Automation: Not applicable.

HPUB0036 *program_name:* **Can't create output file**
output_file_name: **err_info.**

Explanation: bzip2 cannot create the output file.

program_name

One of bzip2 bunzip2 or bzcac

output_file_name

Output file name

err_info

Error information

Example: HPUB0036 bzip2: Can't create output file
/u/wellie/bzt/dest_files/36.txt.bz2: File exists.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check if the output file should be created. Or make sure that the output file does not exist. If it exists, you could use the "-f" or "--force" options to overwrite it.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0037 *program_name:* **Can't guess original name for *input_file_name* -- using *output_file_name***

Explanation: bzip2 could not figure out what the original file name was because the compressed file did not have the correct suffix, such as ".bz2".

program_name
One of bzip2 bunzip2 or bzcata

input_file_name
Input file name

output_file_name
Output file name

Example: HPUB0037 bzip2: Can't guess original name for /u/wellie/bzt/dest_files/37.txt -- using /u/wellie/bzt/dest_files/37.txt.out

System action: Displays the warning and continues processing the file.

Operator response: No System Operator response is required.

User response: Change the compressed file name to a regular bzip2 file name and then try again, or pay attention to the output file name. You can suppress this message by specifying "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0038 *program_name:* **I won't read compressed data from a terminal.**

Explanation: The data cannot be decompressed because bzip2 cannot read the compressed data from a terminal.

program_name
One of bzip2 bunzip2 or bzcata

Example: HPUB0038 bzip2: I won't read compressed data from a terminal.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may wish to use an input file instead of data from a terminal.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0039 **done**

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 1 or more times. It indicates bzip2 successfully decompressed a file.

Example: HPUB0039 done

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required. You can suppress this message by not specifying the "-v" or "--verbose" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0040 not a bzip2 file.

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 1 or more times. It indicates the compressed file was not created by bzip2 and could not be decompressed.

Example: HPUB0040 not a bzip2 file.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure that the compressed file is a bzip2 file. You can suppress this message by not specifying the "-v" or "--verbose" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0041 *program_name: input_file_name* is not a bzip2 file.

Explanation: This message indicates the compressed file was not created by bzip2 and could not be decompressed.

program_name

One of bzip2 bunzip2 or bzcata

input_file_name

Input file name

Example: HPUB0041 bzip2: /u/wellie/bzt/dest_files/41.txt.bz2 is not a bzip2 file.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure that the compressed file is a bzip2 file.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0042 ok

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 1 or more times. It indicates the tested file is a bzip2 file.

Example: HPUB0042 ok

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. You can suppress this message by not specifying the "-v" or "--verbose" option.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0043 *program_name: The input file "file_name"* is an MVS file and not supported.

Explanation: bzip2 cannot compress, decompress or recover an MVS file.

program_name

One of bzip2 bunzip2 bzcata or bzip2recover

file_name

Input MVS file name

Example: HPUB0043 bzip2: The input file "'/RRLIN.BZIP2.FCT.PDSE(MEM1)'" is an MVS file and not supported.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure that the input file is not an MVS file.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0045 *program_name: option_name is redundant in versions 0.9.5 and above*

Explanation: "--repetitive-fast" and "--repetitive-best" are obsolete flags. They were occasionally useful in versions earlier than 0.9.5 (which has an improved sorting algorithm) for providing some control over the algorithm. They are ignored now.

program_name
One of bzip2 bunzip2 or bzcac

option_name
bzip2 old option name

Example: HPUB0045 bzip2: --repetitive-fast is redundant in versions 0.9.5 and above.

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This is an informational message and does not indicate an error. To avoid this message, do not specify the "--repetitive-fast" and "--repetitive-best" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0046 *program_name: Bad flag `bad_option`*

Explanation: bzip2 encountered an incorrect option.

program_name
One of bzip2 bunzip2 or bzcac

bad_option
The invalid option

Example: HPUB0046 bzip2: Bad flag `M`

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Issue bzip2 with the "-h" or "--help" options to get the correct bzip2 options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: W- A warning (bzip2 continues).

Automation: Not applicable.

HPUB0047 *program_name: -c and -t cannot be used together.*

Explanation: You cannot specify the "-c" and "-t" options together.

program_name
One of bzip2 bunzip2 or bzcac

Example: HPUB0047 bzip2: -c and -t cannot be used together.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may use only one of the options. If the program name is "bzcac", you never use "-t" or "--test" options because bzcac has the "-c" option by default.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0048 **You can use the `bzip2recover` program to attempt to recover data from undamaged sections of corrupted files.**

Explanation: The input file is corrupted. bzip2 can not decompress it.

Example: HPUB0048 You can use the `bzip2recover` program to attempt to recover data from undamaged sections of corrupted files.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Use the bzip2recover program to attempt to recover data from undamaged sections of the corrupted file. You can suppress this message by specifying the "-q" or "--quiet" options.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0049 internal error

Explanation: This message will always be followed by another message(s). It indicates that the following message(s) are an internal error.

Example: HPUB0049 internal error: bzip2 HPUB0012 Input file =/u/wellie/bzt/dest_files/11.txt.bz2, output file = /u/wellie/bzt/dest_files/11.txt. HPUB0011 It is possible that the compressed file(s) have become corrupted. You can use the -tvv option to test integrity of such files. You can use the `bzip2recover` program to attempt to recover data from undamaged sections of corrupted files.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: This is an internal error. Follow local procedures for reporting problems to IBM.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0050 *program_name*: I/O error reading *input_file_name*, possible reason follows.

Explanation: The program was unable to read the input file. There will be another message that immediately follows this message that provides more information.

program_name
bzip2recover

input_file_name
Input file name

Example: HPUB0050 bzip2recover: I/O error reading `/u/wellie/bzt/dest_files/50.txt.bz2', possible reason follows.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: View the message description of the following message for more information on this problem.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0051 *program_name*: malloc failed on request for *byte_num*: bytes.

Explanation: bzip2recover cannot allocate memory.

program_name
bzip2recover

byte_num
Number of bytes

Example: HPUB0051 bzip2recover: malloc failed on request for 1000 bytes.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Contact your system administrator to review the memory allocation of your system. If your system has sufficient memory, please report this problem to IBM using your normal procedures.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0052 *program_name: 'input_file_name'*
**appears to contain more than
block_num blocks**

Explanation: The input file has too many blocks; bzip2recover cannot handle a file that contains more than 50000 blocks.

program_name
bzip2recover

input_file_name
Input file name

block_num
Number of bzip2 compressed blocks

Example: HPUB0052 bzip2recover:
'/u/wellie/bzt/dest_files/52.txt.tmp.bz2' appears to contain more than 50000 blocks

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: If possible, you may wish to reduce the size of the source file.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0053 **bzip2recover 1.0.4: extracts blocks
from damaged .bz2 files.**

Explanation: This is an informational message which is displayed when bzip2recover is issued.

Example: HPUB0053 bzip2recover 1.0.4: extracts blocks from damaged .bz2 files.

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0054 *program_name1: usage is
'program_name2 damaged_file_name'.*

Explanation: This is an informational message. It is displayed when bzip2recover is not invoked correctly.

program_name1
bzip2recover

program_name2
bzip2recover

Example: HPUB0054 bzip2recover: usage is
'bzip2recover damaged_file_name'.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Invoke the bzip2recover program as shown in the message.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0055 **restrictions on size of recovered file:
512 MB**

Explanation: This message indicates the current system configuration.

Example: HPUB0055 restrictions on size of recovered file: 512 MB

System action: bzip2recover immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0056 `sizeof(MaybeUInt64) is not 4 or 8 -- configuration error.`

Explanation: This message indicates that the system is not configured correctly.

Example: HPUB0056 `sizeof(MaybeUInt64) is not 4 or 8 -- configuration error.`

System action: bzip2recover immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check whether the current system configuration is correct and reconfigure it.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0057 `program_name: supplied filename is suspiciously (>= char_num chars) long. Bye!`

Explanation: This message indicates that the name of the input file is too long.

program_name
bzip2recover

char_num
Length of input file name

Example: HPUB0057 bzip2recover: supplied filename is suspiciously (>= 1980 chars) long. Bye!

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: You may wish to shorten the length of the input file name. It should be less than 1980 characters.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0058 `program_name: can't read`input_file_name`

Explanation: The bzip2recover program cannot read the input file name.

program_name
bzip2recover

input_file_name
Input file name

Example: HPUB0058 bzip2recover: can't read `non_exist_file'

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Make sure that the input file exists and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0059 *program_name:* **searching for block boundaries ...**

Explanation: It explains that bzip2recover is currently performing searching for block boundaries on the compressed file being recovered.

program_name
bzip2recover

Example: H PUB0059 bzip2recover: searching for block boundaries ...

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This is an informational message. No action is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0060 **block** *block_num* **runs from**

Explanation: This message indicates the current block of the recovered file runs from byte A to byte B, but the current block is incomplete and could not be recovered.

block_num
The current block number

byte_begin
The first byte number of the current block

byte_end
The last byte number of the current block

Example: H PUB0060 block 1 runs from 80 to 2584 (incomplete)

System action: Displays the warning and continues processing the file.

Operator response: No System Operator response is required.

User response: No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: W- A warning (bzip2 continues).

Automation: Not applicable.

HPUB0061 **block** *block_num* **runs from**

Explanation: This is an informational message which is displayed. It indicates the current block of the recovered file runs from byte A to byte B.

block_num
The current block number

byte_begin
The first byte number of the current block

byte_end
The last byte number of the current block

Example: H PUB0061 block 1 runs from 80 to 210

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0062 *program_name:* **sorry, I couldn't find any block boundaries.**

Explanation: bzip2recover could not find any block boundaries in the input file. All of blocks in the input file may be corrupted.

program_name
bzip2recover

Example: H PUB0062 bzip2recover: sorry, I couldn't find any block boundaries.

System action: bzip2recover immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check whether the input file was created by bzip2.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0063 *program_name*: **splitting into blocks**

Explanation: This is an informational message indicating that bzip2recover is beginning the action of attempting to split the input data into blocks.

program_name
bzip2recover

Example: HPUB0063 bzip2recover: splitting into blocks

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0064 **bzip2recover: can't open**
input_file_name

Explanation: The input file name cannot be read by bzip2recover.

input_file_name
input file name

Example: HPUB0064 bzip2recover: can't open
'cannot_open_file'

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check that the input file exists and also check that you have the appropriate permission to access the file, and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0065 **writing block** *block_num* to
output_file_name ...

Explanation: This is an informational message which indicates that bzip2recover is writing a block of data to the output file.

block_num
The block number

output_file_name
Output file name

Example: HPUB0065 writing block 1 to
'/u/spring/bzt/dest_files/rec0000165.txt.bz2'...

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0066 *program_name*: **can't write**
output_file_name

Explanation: bzip2recover cannot create the output file.

program_name
bzip2recover

output_file_name
Output file name

Example: HPUB0066 bzip2recover: can't write
'/u/wellie/bzt/dest_files/rec0000.bz2'

System action: bzip2recover cannot create the output file.

Operator response: No System Operator response is required.

User response: Check the input file, the current directory, and the system and then try again.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0067 bzip2recover: finished

Explanation: bzip2recover extracted all the blocks from the input file.

Example: HPUB0067 bzip2recover: finished

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0068 bzip2/libbzip2: internal error number *error_num*. This is a bug in bzip2/libbzip2, *program_name*. Please follow local procedures for reporting problems to IBM.

Explanation: An internal error occurred.

error_num
Error number

program_name
One of bzip2 bunzip2 or bzcac

Example: HPUB0068 bzip2/libbzip2: internal error number 1007. This is a bug in bzip2/libbzip2, bzip2. Please follow local procedures for reporting problems to IBM.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check the system and follow local procedures for reporting problems to IBM.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0069 * A special note about internal error number 1007 *** Experience suggests that a common cause of i.e. 1007 is unreliable memory or other hardware. The 1007 assertion just happens to cross-check the results of huge numbers of memory reads/writes, and so acts (unintendedly) as a stress test of your memory system. Try the following: try compressing the file again, possibly monitoring progress in detail with the -vv flag. * If the error cannot be reproduced, and/or happens at different points in compression, you may have a flaky memory system. * If the error can be repeatably reproduced, this is a bug in bzip2, and should be reported. Please follow local procedures for reporting problems to IBM.**

Explanation: An Internal error occurred.

Example: HPUB0069 *** A special note about internal error number 1007 *** Experience suggests that a common cause of i.e. 1007 is unreliable memory or other hardware. The 1007 assertion just happens to cross-check the results of huge numbers of memory reads/writes, and so acts (unintendedly) as a stress test of your memory system. Try the following: try compressing the file again, possibly monitoring progress

in detail with the -vv flag. * If the error cannot be reproduced, and/or happens at different points in compression, you may have a flaky memory system.* If the error can be repeatably reproduced, this is a bug in bzip2, and should be reported. Please follow local procedures for reporting problems to IBM.

System action: bzip2 immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: Check the system and follow local procedures for reporting problems to IBM.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

HPUB0070 {*hex_value1*, *hex_value2*}

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 3 or more times. It indicates what the stored and calculated CRC values of the current block are, while the input file is decompressed.

hex_value1

Value in hexadecimal of stored block CRC

hex_value2

Value in hexadecimal of calculated block CRC

Example: HPUB0070 {0xbafa99a5, 0xbafa99a5}

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 3.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0071 combined CRCs: stored = *hex_value1*, computed = *hex_value2*

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 3 or more times. It indicates what the stored and calculated CRC values of all the blocks are, while the input file is decompressed.

hexvalue1

Value in hexadecimal of stored combined CRC

hexvalue2

Value in hexadecimal of calculated combined CRC

Example: HPUB0071 combined CRCs: stored = 0xbafa99a5, computed = 0xbafa99a5

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 3.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0072 *block_num* in block, *mtf* after MTF & 1-2 coding, *in_used*+2 syms in use

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 3 or more times.

block_num

The block number

mtf Value of coding the MTF

in_used

Value of map of bytes used in block

Example: HPUB0072 665 in block, 415 after MTF & 1-2 coding, 63+2 syms in use

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 3.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0073 **block** *block_num*: **crc** = *hex_value1*,
combined CRC = *hexvalue2*, **size** =
size_value

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 2 or more times.

block_num
The block number

hex_value1
Value in hexadecimal of the current block CRC

hex_value2
Value in hexadecimal of the combined block CRC

size_value
Value of the current block size

Example: HPUB0073 block 1: crc = 0x6804ac83, combined CRC = 0x6804ac83, size = 665

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 2.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0074 **final combined CRC** = 0x*hex_value*

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 2 or more times. It indicates what the final value of CRC is while the input file is compressed.

hex_value
Value of final combined CRC

Example: HPUB0074 final combined CRC = 0x6804ac83

System action: Displays the message and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 2.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

HPUB0075

Explanation:

Example:

System action:

Operator response: No System Operator response is required.

User response:

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code:

Automation: Not applicable.

HPUB0076 rt+rld

Explanation: This is an informational message which is displayed when the "-v" or "--verbose" option is specified 2 or more times.

Example: HPUB0076 rt+rld

System action: Displays the warning and continues processing the file.

Operator response: No System Operator response is required.

User response: This does not indicate an error. To suppress this informational message, reduce the number of "-v" or "--verbose" options to less than 2.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: N- An informational notice. Could be an error or could be normal behavior.

Automation: Not applicable.

**HPUB0077 restrictions on size of recovered file:
None**

Explanation: This message indicates the current system configuration.

Example: HPUB0077 restrictions on size of recovered file: None

System action: bzip2recover immediately stops processing and exits.

Operator response: No System Operator response is required.

User response: This does not indicate an error. No user response is required.

System programmer response: No System Programmer response is required.

Problem determination: No additional information.

Source: bzip2

Module: Not applicable.

Routing code: Not applicable.

Descriptor code: F- A fatal error (bzip2 exits immediately).

Automation: Not applicable.

Appendix A. Code pages

There are two code pages that are commonly used when porting applications to z/OS UNIX: IBM-1047 and ISO-8859. For a graphic of the IBM-1047 page, see <http://www.ibm.com/servers/eserver/zseries/zos/unix/images/hpezafg1.gif>. For a graphic of the ISO-8859 page, see <http://www.ibm.com/servers/eserver/zseries/zos/unix/images/hpezafg2.gif>.

Appendix B. Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. The major accessibility features in z/OS enable users to:

- Use assistive technologies such as screen readers and screen magnifier software
- Operate specific or equivalent features using only the keyboard
- Customize display attributes such as color, contrast, and font size

Using assistive technologies

Assistive technology products, such as screen readers, function with the user interfaces found in z/OS. Consult the assistive technology documentation for specific information when using such products to access z/OS interfaces.

Keyboard navigation of the user interface

Users can access z/OS user interfaces using TSO/E or ISPF. Refer to *z/OS TSO/E Primer*, *z/OS TSO/E User's Guide*, and *z/OS ISPF User's Guide Vol I* for information about accessing TSO/E and ISPF interfaces. These guides describe how to use TSO/E and ISPF, including the use of keyboard shortcuts or function keys (PF keys). Each guide includes the default settings for the PF keys and explains how to modify their functions.

z/OS information

z/OS information is accessible using screen readers with the BookServer/Library Server versions of z/OS books in the Internet library at:

<http://www.ibm.com/servers/eserver/zseries/zos/bkserv/>

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z/OS

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