

IBM Education Assistant (IEA) for z/OS V2R3

z/OS USS Shell & Utilities : S&U grep enhancement

Agenda

- **Trademarks**
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- **Usage & Invocation**
- **Interactions & Dependencies**
- **Migration & Coexistence Considerations**
- **Installation**
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Trademarks

- **See URL <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.**
- **Additional Trademarks:**
 - **None**

Session Objectives

- **Introduce the features and benefits of the new z/OS UNIX grep command.**

Overview

- **Problem Statement**

- The z/OS grep command needs to support the functionalities which are the same as the -A/-B/-C options of GNU grep command. The -A/-B/-C options of GNU grep command is used to print lines of context after(-A), before(-B), after and before(-C) matching lines.

- **Solution**

- Enhance grep command to support print lines of context after or/and before matching lines. Since the '-B' of z/OS grep command has been used, the '-P' option will be used to print leading lines.

- **Benefit / Value**

- z/OS S&U grep users can display more lines before/after the matching lines.

Usage & Invocation

- **grep command**

The following options are added for grep command:

- A num Print num lines of trailing context after matching lines.
- P num Print num lines of leading context before matching lines.
- C num Print num lines of leading and trailing output context.
- S string When -A, -P or -C are in use, prints string instead of "--" between groups of lines.
- N When -A, -P or -C are in use, does not print a separator between groups of lines.

- **Example:**

Print n lines after and before(-C) matching lines:

```
# grep -C 2 -n matching test.txt
```

1-non-matched line

2-non-matched line

3:matching line

4-non-matched line

5-non-matched line

--

9-non-matched line

10-non-matched line

11:matching line

12-non-matched line

13-non-matched line

Interactions & Dependencies

- **None.**

Migration & Coexistence Considerations

- **None.**

Installation

- **None.**

Session Summary

- **Enhancements of grep command to allow users to print lines before or/and after matching lines.**

Appendix

Publications:

- GNU Grep: <http://www.gnu.org/software/grep/>
- z/OS USS Command Reference grep:
http://www.ibm.com/support/knowledgecenter/SSLTBW_2.2.0/com.ibm.zos.v2r2.bpxa500/grep.htm?lang=en

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z/OS USS Shell & Utilities : S&U logger enhancement

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Session Objectives

- **Introduce the features and benefits of the new z/OS UNIX logger command.**

Overview

- **Problem Statement**

- The z/OS logger command used to support only 126 length message due to the usage of single line WTO(Write To Operator). When a long message was specified, it will be truncated to 126 character length and print catalog message FSUMF426 (logger: the formatted log message is truncated) with a non-zero return.

- **Solution**

- The logger command will call __console2() service in order to support to write long message to console. The previous routine which invokes single line WTO will no long be used.

- **Benefit / Value**

- z/OS V2R3 S&U users would use logger command to send long length messages to console.

Overview

- **Problem Statement**

- z/OS logger command needs to send the messages to syslogd daemon like other Linux platform so that this information can easily be sent to a remote log collection device.

- **Solution**

Two options will be added as the following:

- -S option is added to indicate the log will be sent to syslogd
 - -P option is added to specify the facility and level for the log

- **Benefit / Value**

- z/OS V2R3 S&U users would use logger command to send messages to syslogd daemon.

Usage & Invocation

- **logger command**

- Write messages to console log:
 - By default, logger saves the message in the console log. If the invoker does not have appropriate privileges, a message ID (BPXM023I) and the invoker's login name are prefixed to the specified message text.
 - The routing codes specified by “-d” option are 1 to 128 for privileged users and 1 to 28 for unprivileged users.
 - Allowable descriptor codes specified by “-p” option are 1 to 13.

Note: An invoker is deemed to have appropriate privileges if the BPX.CONSOLE resource in the FACILITY class is defined and the invoker is permitted to that resource, or if the invoker is running with an effective UID of 0.

Usage & Invocation

- **logger command**

- Send message to syslogd daemon:

- -S Logs the message to an implementation-specific logging facility which loads it in an appropriate system log.
 - The logger will not send to console if this option is taking effects.
 - -P facility.level | number

Logs the message with the specified priority. Default is “user.notice”. Possible facility and level are:

facility: user, local[0-7]

level : emerg, alert, crit, err, warning, notice, info, debug

Number should be 0 to 7 representing “emerg, alert, crit, err, warning, notice, info, debug” separately and facility is user.

- Example:

- If you have the following line in the config file for syslogd:
user.info /tmp/syslogd/user.info
 - Then you issue:
logger -P user.info -S A message
 - The log “A message” will be in the “/tmp/syslogd/user.info”.

Interactions & Dependencies

- **None.**

Migration & Coexistence Considerations

- **None.**

Installation

- **None.**

Session Summary

- **Enhancements of logger command to allow users to write long messages and send messages to syslogd.**

Appendix

Publications:

- z/OS UNIX System Services Command Reference - “logger – log messages”
- MVS Programming: Assembler Services Reference - “WTO- Write to operator”
- z/OS XL C/C++ Runtime Library Reference - “openlog(), syslog() and closelog()”
- z/OS XL C/C++ Runtime Library Reference - “__console2()”
- z/OS XL C/C++ Runtime Library Reference - “__console()”

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z/OS USS Shell & Utilities : S&U pax enhancement

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Session Objectives

- **Introduce the features and benefits of the new z/OS UNIX pax command.**

Overview

- **Problem Statement / Need Addressed:**

The GNU TAR format archive, which contains long path/link names, could not normally be untared in a z/OS USS environment, producing the following warning:

```
> pax -vf spark-1.3.1-bin-hadoop2.6.tar
FSUM7449 ./.@LongLink: Unknown file type field value `L'
----- 1 TCP    DEPTD60    102 Dec 31 1969 ./.@LongLink
...
```

- **Solution:**

Enable pax/tar to read (pax) or read-and-write (tar) a GNU TAR format archive containing long pathname and/or long linkname.

- **Benefits:**

With this support, customers can read/write the archive in GNU TAR format. This support was rolled back to z/OS V2R1 and V2R2.

Usage & Invocation

tar command:

By default, in read and list mode, **tar** command will automatically recognize the GNU TAR format containing long pathname and/or long linkname.

- Added option:
 - -G option: new option to indicate the **tar** command will create the archive in GNU TAR format. By default, the maximum length of a pathname/linkname in the created GNU TAR format archive is 100 characters.
- Existing options changed:
 - -X option: If used with -G, **tar** command will create the archive in GNU TAR format and allow it to contain long pathname and/or long linkname.
 - -O option: If using -O option in read or list mode, **tar** command will not read/list the long pathname/linkname in GNU TAR format archives.

Usage & Invocation

pax command:

By default, in read and list mode, **pax** command will automatically recognize the GNU TAR format containing long pathname and/or long linkname.

- Existing option changed:
 - -o noext: This option will not allow the **pax** command to extract or list a long pathname and/or long linkname in a GNU TAR format archive.

Interactions & Dependencies

- **None.**

Migration & Coexistence Considerations

- **None.**

Installation

- **None.**

Session Summary

- **An enhancement of pax/tar commands to allow users to write/read GNU TAR format archive.**

Appendix

- **z/OS UNIX System Services Command Reference**
- **Website References:**
 - GNU tar http://www.delorie.com/gnu/docs/tar/tar_114.html