z/OS 3.2 IBM Education Assistant

Solution Name: z/OS UNIX File System Health Checker

Solution Element(s): z/OS UNIX System Services

July 2025

Agenda

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Trademarks

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

Objectives

- Describe the new z/OS UNIX health check

  - o Describe what is verified by the check

  - o Describe the configuration options

Overview

- ## Who (Audience)
  - z/OS UNIX administrators

- ## What (Solution)
  - New USS_ENVIRONMENT health check as part of IBM Health Checker for z/OS

- ## Wow (Benefit / Value, Need Addressed)
  - A properly configured z/OS UNIX environment requires multiple directories with specific file systems mounted on some of those directories. Missing directories can lead to mount failures during IPL, missing binaries, scripts, commands etc. This new health check will detect these problems prior to them causing bigger issues.

Usage & Invocation (1)

- Start IBM Health Checker for z/OS

    o The check will automatically run once IBM Health Checker for z/OS and z/OS UNIX have initialized

Usage & Invocation (2)

- Environment verification for SYSPLEX(YES) Only
  - Sysplex root file system contains only directories and symlinks as defined in z/OS UNIX Planning.

  - All extraneous files will be flagged and recommended to be moved to the /global directory. Overrides can be configured using the ROOT_ALLOW_LIST parameter.

  - The current list of directories and symlinks allowed in the root are the following (and must exist):

/dev	/usr	/u
/tmp	/lib	/proc
/var	/opt	/dsfs
/etc	/samples	
/bin	/global	

  - Verify that the version root and system root mount point directories match known versions and systems in the sysplex.

Usage & Invocation (3)

- Environment verification for SYSPLEX(YES) Only

  - There is an alternate root (ALTROOT) setup and mounted

    - Also verifies that the alternate root has the same contents as the current root

    - You can use the bpxwmigf command to populate a new alternate root

Usage & Invocation (4)

- Environment verification for both SYSPLEX(YES) & SYSPLEX(NO)
  - Verify the following mountpoints exist with the following attributes if applicable:
    - /dev (TFS)
    - /tmp (Permissions 1777)
    - /var
    - /etc (Read-Only)
    - /global (Sysplex only)
    - /var/run

  - /dev/fd is a directory and /dev/fdX files are all character special files as well as anything under /dev/fd/ are all character special files

  - Verify /usr/bin/env exists

Usage & Invocation (5)

- ROOT_ALLOW_LIST=(list of files or directories)

  - A list names of files or directories within the root directory you wish for this check to ignore when searching the sysplex root for extraneous files or directories.

  - An example of this parameter might be ROOT_ALLOW_LIST=(file1,file2,dir1)

  - The list of names should be just the name of the file or directory (i.e., no slashes)

  - Each name is limited to 64 characters

  - A maximum of 31 names can be specified

Interactions & Dependencies

- Software Dependencies
  - None

- Hardware Dependencies
  - None

- Exploiters
  - None

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Plex must be at the new z/OS level: No

- List any toleration/coexistence APARs/PTFs.
  - None

- List anything that doesn't work the same anymore.
  - Check USS_HFS_DETECTED has been removed.

Installation & Configuration

- HZSPRMxx

  - ADDREPLACE POLICY[(policyname)] [STATEMENT(name)] UPDATE
    CHECK(IBMUSS,USS_ENVIRONMENT)
    SEVERITY(LOW)
    INTERVAL(24:00)
    PARM('ROOT_ALLOW_LIST=(file1,file2,dir1)')
    DATE('date_of_the_change')
    REASON('Your reason for making the update.')

Summary

- The USS_ENVIRONMENT check validates the z/OS UNIX is properly configured.

Appendix

- Publication references
  - z/OS 3.2 UNIX System Services Planning
  - z/OS 3.2 IBM Health Checker for z/OS User's Guide
  - z/OS 3.2 UNIX System Services Command Reference