IBM Education Assistance

Solution (Epic) Name: 231324 JES2 64-bit checkpoint sharing

Agenda

- Trademarks

- Session Objectives

- Overview

- Usage & Invocation

- Interactions & Dependencies

- Migration & Coexistence Considerations

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Trademarks

- See url http://www.ibm.com/legal/copytrade.shtml for a list of trademarks.

- Additional Trademarks:
  - None

Session Objectives

- Discuss 64 bit storage utilization changes in JES2

- Review data areas affected and any potential impacts

Overview

- Who (Audience)
  - Any customer that uses JES2
- What (Solution)
  - Reduce usage of 31 bit storage and exploit 64 bit storage
- Wow (Benefit / Value, Need Addressed)
  - Reduced 31 bit private storage usage in the JES2 address space

Usage & Invocation

- A number of changes have been and are being made to address 31 bit storage constraints with JES2
  - RSM (real storage manager component of the BCP) has moved data areas related to virtual storage sharing (IARVSERV share requests) out of common storage and into 64 bit storage
    - JES2 used IARVSERV to manage CKPT versions used by products like SDSF
  - JES2 is changing to use a new feature in IARVSERV to share pages in 64 bit storage
    - This allows CKPT versions to be moved out of data spaces to 64 bit storage
  - JES2 will also use this new feature to move the instorage track group map (TGM) from 31 to 64 bit private in the JES2 address space
    - Needed the service to make the TGM available to the live CKPT version
    - Will free up approximately 33M of JES2 private storage

Usage & Invocation

- 64 bit CKPT versions
  - Versions moving from 26 data spaces to 64 bit private storage
  - Allows for better management of storage
  - Access through the IAZDSERV is now using 64 bit address plus an ALET
    - Had been 31 bit address and an ALET
  - Very few external users of IAZDSERV left (mostly internal code)
    - Vendors warned change was coming years ago
  - No support planned to provide a 31 bit version
    - Plan B is possible but will be expensive from a performance perspective
- Most customers do not care since CKPT data is accessed via SSIs
  - Use of CKPT versions outside of IBM code is strongly discouraged

Usage & Invocation

- JES2 private storage data areas moving to 64 bit storage
  - JES2 has a private storage problem
    - Typical JES2 address space uses 865M of virtual storage
  - Majority of private storage used for CKPT data
    - I/O area for CKPT moved to 64 bit storage in z/OS 2.2
  - Solution is to move CKPT data to 64 bit storage
  - However, this can impact exits
    - For example moving JQEs, JOEs, etc. to 64 bit storage
  - Carefully selecting areas to move to minimize impact
    - Track group map first in z/OS 2.4 to test the waters
    - Only saves about 33M of private storage (about 3%)
  - Next areas being considered
    - BERTs, JQX, JOX, ZJCs
    - All normally accessed via $DOGxxxx services

Interactions & Dependencies

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

- Software Dependencies
  - Products and exits used IAZDSERV data area
    - None have been identified to us at this time
- Hardware Dependencies
  - None
- Exploiters
  - None

Migration & Coexistence Considerations

- Applications using IAZDSERV to access a CKPT version must use 64 bit addresses

- From JES2 z/OS 2.2 or z/OS 2.3
  - APAR OA53860 needed on z/OS 2.2 or z/OS 2.3 member to coexist in a MAS with z/OS 2.4
  - APAR OA53860 is also highly recommended for fall back
  - Some new data structures created by z/OS 2.4 JES2 may result in problems if OA53860 is not installed.

Installation

- None

Session Summary

- JES2 is now using 64 bit storage for CKPT versions and the spool track group map (TGM)

- Future releases will be moving additional areas to 64 bit storage

Appendix

- Publications
  - z/OS V2R4.0 JES Application Programming – SA32-0987-40
  - z/OS V2R4.0 JES2 Commands – SA32-0990-40
  - Z/OS V2R4.0 JES2 Diagnosis - GA32-0993-40
  - z/OS V2R4.0 JES2 Initialization and Tuning Guide – SA32-0991-40
  - z/OS V2R4.0 JES2 Initialization and Tuning Reference – SA32-0992-40
  - z/OS V2R4.0 JES2 Installation Exits – SA32-0995-40
  - z/OS V2R4.0 JES2 Macros – SA32-0996-40
  - z/OS V2R4.0 JES2 Messages – SA32-0989-40
  - z/OS V2R4.0 MVS JCL Reference - SA23-1385-40
  - z/OS V2R4.0 MVS Using the Subsystem Interface – SA38-0679-40