IBM Education Assistance for z/OS V2R2

Item: Release Coexistence/Toleration
Element/Component: JES2

Material current as of May 2015

Agenda

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- Overview
- Usage & Invocation
- Migration & Coexistence Considerations
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Trademarks

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

Presentation Objectives

- Summarize the toleration and coexistence consideration
  - Highlight changes in this release
  - Summarize impacts to exits
  - Compatibility APARs that are required

Overview

- Problem Statement / Need Addressed
  - New releases may require changes to exits for new processing
    - Most related to exploiting new functions
- Solution
  - This presentation summarizes the changes that may be needed
- Benefit / Value
  - One stop for migration to the new release

Usage & Invocation - $ACTIVATE

- This release dropped support for the z2 level of JES2
  - Must migrate to z11 mode prior to warm starting z/OS 2.2 JES2
  - Updates for z11 mode in prior release presentations
- This release introduces a new $ACTIVATE level to JES2
  - Some functions and changes limited to new level
  - New level activates new functions that could impact exits
  - Consider $ACTIVATING to new level once z/OS 2.2 installed on all members
    - Eventually z11 mode will be dropped
- New level should not have impact on exits
  - New functions available with level may but not the $ACTIVATE

Usage & Invocation - $SETUP Queue

- The $SETUP queue in JES2 has existed for decades
- JES2 has not actually queued jobs to the $SETUP queue
- In this release $SETUP queue is used for
  - Logging job for a JOBGROUP
  - Jobs within a job group that have not had their dependencies met
  - Concurrent execution jobs that are waiting to get into execution
- $SETUP can be considered a queue between conversion and execution
  - Except for logging jobs that go from input to setup to output
- Some jobs can move from setup to execution and back to setup queue
  - Concurrent jobs that have unmatched affinity
  - Concurrent jobs that WLM is delaying execution

Usage & Invocation – New JOBID format (G0nnnnnn)

- Logging jobs associated with job groups have a new JOBID format
  - They start with a G instead of a J, S, or T
  - For example G0000123
- Commands that work with JOBIDs are impacted
  - JQ or JOBQ only impacts J, S, and T type jobs
  - No syntax that implies ALL job types
- $PJQ(*),AGE=4 does NOT impact logging jobs
  - $PG(*),AGE=4 is needed for G jobs
  - Same for $PO and other commands
- Internally, looks like a batch job with an extra bit on

```
JQEFLAG3 DS    BL1                SOME MORE JOB QUEUE FLAGS
JQE3JOB  EQU   B'00000011'          BATCH JOB TYPE (WHEN BITS ZERO)
JQE3STC  EQU   B'00000001'          STC JOB TYPE
JQE3TSU  EQU   B'00000010'          TSU JOB TYPE
JQE3DFJG EQU   B'00100000'          Job represents a JOBGROUP that is being
                                     defined z/2.2 ckpt mode & above
```

Usage & Invocation – JES2 JCL processing changes

- JES2 JCL/JECL parsing was updated to deal with longer statements
  - CONCURRENT for example is greater than 8 characters
  - This JCL is NOT passed to MVS converter
    - Thus allowing longer statements and keywords
- Exits 2, 4, 52, and 54 have new 12 byte fields in the $XPL
  - Traditional 8 byte fields still exist and have first 8 bytes
- $STMTTAB KEYWORD= was also expanded to 12 bytes
  - Though there are no long keywords in this release
- New “job type” can be processed by exits 2, 4, 52, and 54
  - JOBGROUP functions like a job in these exits
  - JCL in a job group is unique to JOBGROUP processing
  - Exits will see new JCL and need to act accordingly
  - Bits JQE (JQE3DFJG), JCT (JCT6DFJG) and JRW (JRW1GROP)

Usage & Invocation – JES3 JECL changes

- If activated JES3 JECL can be recognized by JES2 parsing
  - Treats things like //*MAIN as JECL
  - Passed to exits 4 and 54 as JECL with statement name MAIN
  - Operands can be processed by exit
- Can control processing on a job by job basis
  - Exit 2 and 52 can turn on or off
    - JES2 JECL parsing
    - JES3 JECL parsing
    - Both/neither
  - Currently only select keywords on //*MAIN processed

Usage & Invocation – Other Exit Implications

- Concurrent execution:
  - Places multiple jobs in execution at the same time
  - Path to execution is round about:
    - One job in set is “master” job, not predictable which one
    - Master job placed on execution queue when ALL jobs have had their dependencies satisfied
    - When master job gets to head of queue, WLM called to see where set should execute
      - Master job returns to SETUP queue
    - WLM selects jobs by number (similar to $SJ)
      - Jobs move to execution queue when selected
  - Exits cannot reject one job of concurrent set
    - Limits what exits like 32 (job select) can do
    - Can also impact exit 49 processing
  - Exit 51 may see different order of processing
    - Setup → Exec → Setup → Exec - for master job

Usage & Invocation – ENFs

- Setup queue changes introduce new ENF 70s
  - Jobs move on and off SETUP queue
    - ENF70_Q_VOLWT phase equate
- ENF 78 not impacted
  - Issued once job moves beyond execution
    - Can never go back

Migration & Coexistence Considerations

- Migrating from JES2 z/OS V1R13 or z/OS V2R1
  - Must $ACTIVATE to z11 mode prior to starting JES2 z/OS V2R2
  - APAR OA41740 needed on z/OS V1R13, or z/OS V2R1 member to coexist in MAS with z/OS V2R2
  - APAR is required for fall back as well
    - Some new data structures created by z/OS V2R2 JES2 will result in problems for prior releases if OA41740 is not installed.
  - SMP/E FIXCAT for z/OS V2.2 coexistence should be used, as these APARs are identified with the proper FIXCAT.

Presentation Summary

- Summarize the toleration and coexistence consideration
  - Highlight changes in this release
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  - Compatibility APARs that are required

Appendix

- Publications
  - *z/OS V2R2.0 JES Application Programming* – SA32-0987
  - *z/OS V2R2.0 JES2 Commands* – SA32-0990
  - *z/OS V2R2.0 JES2 Initialization and Tuning Guide* – SA32-0991
  - *z/OS V2R2.0 JES2 Initialization and Tuning Reference* – SA32-0992
  - *z/OS V2R2.0 JES2 Installation Exits* – SA32-0995
  - *z/OS V2R2.0 JES2 Macros* – SA32-0996
  - *z/OS V2R2.0 JES2 Messages* – SA32-0989
  - *z/OS V2R2.0 MVS JCL Reference* - SA23-1385
  - *z/OS V2R2.0 MVS Using the Subsystem Interface* – SA38-0679