IBM Education Assistance for z/OS V2R2

Item: Step Completion Code
Element/Component: JES2

Material current as of May 2015

Agenda

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Trademarks

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

Presentation Objectives

- In this session we will introduce the enhancements to JES2 that provide completion code information for individual job steps
  - New JES2 spool data set intended for program access
  - Optionally includes SMF records for a job
  - Can be sent over NJE with the job's output

Overview

- Problem Statement / Need Addressed
  - A single completion code is provided for each job (influenced by JOBRC). Customers require more details concerning the execution of a job. Specifically, they would like information on the results of the execution of each step of a job.
  - Information should be in control block format vs human readable.
- Solution
  - JES2 was updated to create a new spool data set, named EVENTLOG, that will contain information about each step in a job and the completion code for that step.
- Benefit / Value
  - Provides customers with the granular step information they need to fully evaluate the execution of their jobs.

Usage & Invocation

- The new JES2 spool data set EVENTLOG is allocated automatically for batch jobs, started tasks and TSO users

- EVENTLOG contains machine readable records
  - Not intended to be human readable
  - EVENTLOG is non-printable, non-spinnable
  - Not SYSOUT, cannot be accessed by SAPI/PSO/FSS
  - Viewed via spool data set browse

Usage & Invocation

- EVENTLOG will contain key SMF Type 30 subtype records
  - Subtype 1. Job start or start of other work unit.
  - Subtype 4. Step Total.
  - Subtype 5. Job termination or termination of other work unit.

- The user controls writing SMF records to EVENTLOG by using the SUP_EVENTLOG_SMF keyword on the JOBDEF command
  - Default is SUP_EVENTLOG_SMF=NO, indicating SMF records are not suppressed.
  - $T JOBDEF,SUP_EVENTLOG_SMF=YES will keep SMF records from being written to EVENTLOG
  - The value of SUP_EVENTLOG_SMF is captured at the time the job enters the system and effects the job's EVENTLOG for the life of the job

Usage & Invocation

- SMF Type 30 subtype 4 records will cause a STEPDATA record to be written to EVENTLOG
  - Contains key data values from the SMF Type 30 subtype 4 record
  - Contains the eyecatcher “STEPDATA”
  - STEPDATA records are ALWAYS written
    - Even if SUP_EVENTLOG_SMF=YES
    - Even if SMF is not active or SMF Type 30 records are suppressed
- STEPDATA records are mapped by the IAZLGSTP macro
  - Similar to data presented to IEFACTRT and sample exit IEEACTRT
- STEPDATA records are used by SDSF to implement the new JS panel

Usage & Invocation

- Records are written to denote the job has restarted
  - Contains the eyecatcher “RESTART”
  - RESTART records are ALWAYS written
- RESTART records indicate when a job ends and is requeued for execution with an additional eyecatcher
  - “JOB TERMINATED/RE-ENQUEUED”
- RESTART records indicate when a job restarts execution with a different additional eyecatcher
  - “JOB RESTARTED”
- RESTART records are mapped by the IAZLGSRST macro

Usage & Invocation

- EVENTLOG records can be read using SPOOL Data Set Browse
- Read all EVENTLOG records using the fully qualified data set name
  - *userid.jobname.jobID*.D0000008.EVENTLOG
- Or, use the logical data set name
  - *userid.jobname.jobID*.EVENTLOG
- Use other logical data set names to see specific record types
  - *userid.jobname.jobID*.EVENTLOG.STEPDATA reads only STEPDATA records
  - *userid.jobname.jobID*.EVENTLOG.SMF reads only SMF records
  - *userid.jobname.jobID*.EVENTLOG.SMFSTEP reads only SMF Type 30 subtype 4 records
  - *userid.jobname.jobID*.EVENTLOG.RESTART reads only RESTART records

Usage & Invocation

- EVENTLOG data set is eligible for transmitting/receiving via NJE
- New feature bit NCCINOS in the NCCIFEAT bytes exchanged in the initial signon record
  - NCCINOS indicates this NJE node supports transmitting and receiving non-printable SYSOUT data sets ... EVENTLOG is one of these
  - If both ends of the NJE connection support the NCCINOS feature, then EVENTLOG data sets can be transmitted/received on the connection
  - If NCCINOS is not a feature of the connection and the job is sent/received on that connection the EVENTLOG data set will be lost

Interactions & Dependencies

- No software or hardware dependencies
- Exploiters
  - SDSF
  - z/OSMF

Migration & Coexistence Considerations

- From JES2 z/OS V1R13 or z/OS V2R1
  - APAR OA41740 needed on z/OS V1R13, or z/OS V2R1 member to coexist in MAS with z/OS V2R2
  - APAR also highly recommended for fall back as well
    - Some new data structures created by z/OS V2R2 JES2 may result in problems if OA41740 is not installed.

Presentation Summary

- JES2 now allows users to know more detailed information concerning the execution of their job steps thru the records recorded in the EVENTLOG data set
  - JES2 spool data set intended for program access
  - Optionally includes SMF records for a job
  - Can be sent over NJE with the job's output

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