

JES2 Project Opening & JES2 Latest Status

Session# **2652**

SHARE Technical Conference - Winter 1999

John Hutchinson - hutchjm@us.ibm.com

IBM Washington Systems Center, Gaithersburg, Maryland



JES2



JES2 Topics

1. JES2 Sessions at SHARE 92

2. Current JES2 Releases

3. Migration Topics

4. Recent JES2 Service

5. JES2 Publications

JES2



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JES2 Sessions at SHARE 92

| | | | |
|------|-------|------|--|
| Mon | 9:30 | 2652 | JES2 Project Opening & Latest Status |
| | 1:30 | 2654 | JES2 Product Update |
| | 3:00 | 2670 | SDSF Product Update |
| | 4:30 | 2762 | Managing SDSF Security with ISFManager |
| Tues | 8:00 | 2681 | RMDS Product Update and Directions |
| | 1:30 | 2674 | Hands-on Introduction to SDSF |
| Wed | 8:00 | 2675 | Hands-on SDSF Advanced Features |
| | 11:00 | 2676 | Hands-on SDSF for System Operators |
| | 1:30 | 2654 | JES2 Short Subjects |
| | 3:00 | 2656 | Abstract Res. Mgmt w/ Sched. Env. - User Exp |
| | 6:00 | 2660 | Mellon Mods Free-for-All |
| Thur | 8:00 | 2665 | Migrating JES2 Exits to OS/390 2.4 & Above |
| | 11:00 | 2664 | (E)JES/32-JES2/SDSF Meets Windows |
| | 1:30 | 2657 | JES2 Performance Topics |
| | 3:00 | 2659 | JES2 Q & A |
| | 4:30 | 2653 | JES2/SDSF/RMDS Requirements Working |
| | 10:30 | 2680 | JES2 Esprit de Corps |



Current JES2 Releases

Birthdays & Obituaries



| JES2 Rel.# | FMID | First Available | No Longer Available | End of Service | Y2K Ready |
|------------|---------|-----------------|---------------------|----------------|-----------|
| MVS/SP 4.2 | HJE4420 | 3/91 | 3/93 | 6/99 | no? |
| MVS/SP 4.3 | HJE4430 | 3/93 | 6/97 | 6/99 | no? |
| MVS/SP 5.1 | HJE5510 | 6/94 | 6/95 | | no? |
| MVS/SP 5.2 | HJE5520 | 6/95 | | | yes* |
| OS/390 R.1 | HJE6601 | 3/96 | 3/97 | | Yes |
| OS/390 R.3 | HJE6603 | 3/97 | 9/97 | | Yes |
| OS/390 R.4 | HJE6604 | 9/97 | 3/98 | | Yes |
| OS/390 R.5 | HJE6605 | 3/98 | 3/99 | | Yes |
| OS/390 R.7 | HJE6607 | 3/99 | | | Yes |

JES2/MVS Compatibility



| MVS BCP | JES2 MVS/SP 4.2.0 | JES2 MVS/SP 4.2.0 | JES2 MVS/SP 5.1.0 | JES2 MVS/SP 5.2.0 | JES2 OS/390 Rel.1 | JES2 OS/390 Rel.3 | JES2 OS/390 V.2 R.4 | JES2 OS/390 V.2 R.5 | JES2 OS/390 V.2 R.7 |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------------|---------------------|---------------------|---------------------|
| MVS/SP 4.2.0 | C | | | | | | | | |
| MVS/SP 4.3.0 | C | C | | | | | | | |
| MVS/SP 5.1.0 | C | C | MAS | | 7 levels of JES2 | | | | |
| MVS/SP 5.2.0 | C | C | MAS | MAS | | | | | |
| OS/390 Rel.1 | C | C | MAS | MAS | MAS | 7 levels of OS/390 | | | |
| OS/390 Rel.2 | C | C | MAS | MAS | MAS | n/n-4 levels of OS/390 JES2 | | | |
| OS/390 Rel.3 | C | C | MAS | MAS | MAS | MAS | | | |
| OS/390 V.2 R.4 | C | C | MAS | MAS | MAS | MAS | MAS | | |
| OS/390 V2. R.5 | C | C | MAS | MAS | MAS | MAS | MAS | MAS | |
| OS/390 V.2 R.7 | C | C | MAS | MAS | MAS | MAS | MAS | MAS | MAS |

'C' = This level of JES2 runs on that level of MVS (or OS/390)

'MAS' = All these Levels of JES2 & MVS can share spool with one another.

Y2K Migration Planning



JES2 releases available next year:

- ▶ OS/390 Release 8, 9, or 10

JES2 levels compatible with the above:

- ▶ n-3 levels of OS/390 JES2 releases
- ▶ Special exception for OS/390 Release 1 & Release 7
- ▶ MVS/SP Version 5.1, 5.2

What level of JES2 are you freezing for Y2K?

- ▶ OS/390 Version 2 Rel. 4 or later? - Okay
- ▶ OS/390 Version 1 or 3? - May not share spool w/ Rel. 8+

JES2 Compatibility - levels of OS/390 :

| | <u>Rel. 1</u> | <u>Rel. 3</u> | <u>Rel. 4</u> | <u>Rel. 5</u> | <u>Rel. 7</u> | <u>Rel. 8+</u> |
|---------|---------------|---------------|---------------|---------------|---------------|----------------|
| R.1-7 : | N-4 | N-3 | N-2 | N-1 | N | |
| R.4-8+: | | | N-3 | N-2 | N-1 | N |

JES2 Migration APARs



to share spool with these levels of JES2

These levels of JES2 need these APARS

| | MVS/SP 5.1 JES2 | MVS/SP 5.2 JES2 | OS/390 R.1 JES2 | OS/390 R.3 JES2 | OS/390 R.4 JES2 | |
|--------------------|------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------|
| MVS/SP 5.2 JES2 | OW09285 OW08234 OW07244 | | | | | |
| OS/390 R.1 JES2 | APARs above and to the right | OW20011 OW16016 | | | | |
| OS/390 R.3 JES2 | APARs above and to the right | APARs above and to the right | OW20491 | | | |
| OS/390 R.4 JES2 | APARs above and to the right | APARs above and to the right | APARs above and to the right | OW26100 | | |
| OS/390 R.5 JES2 | APARs above and to the right | APARs above and to the right | APARs above and to the right | APARs above and to the right | OW29209 | |
| OS/390 R.7 JES2 | APARs above and to the right | APARs above and to the right | APARs above and to the right | APARs above and to the right | APARs above and to the right | OW 34853 |

Example: JES2 5.2 reqs OW20011, OW16016 & OW20491 to share with OS/390 R.3

Warning: These APARs are for short-term migration, not long-term coexistence.

JES2 Migration APARs



The following Levels of JES2 can all share spool and you can migrate between them without a Cold Start:

- ▶ MVS/SP JES2 V. 5.1 w/ APARs OW07244, OW08234, OW09285 & the APARs below
- ▶ MVS/SP JES2 V. 5.2 w/ APARs OW16016, OW20011 & below
- ▶ OS/390 JES2 R.1 w/ APAR OW20491 & below
- ▶ OS/390 JES2 R.3 w/ APAR OW26100 & below
- ▶ OS/390 JES2 V.2 R.4 w/ APAR OW29209 & below
- ▶ OS/390 JES2 V.2 R.5 w/ APAR OW34853 & below
- ▶ OS/390 JES2 V.2 R.7 w/ APAR OW37454 (& below)

Warning: These APARs are for short-term migration, not long-term coexistence.
- Minimize your Coexistence period to minimize your exposure ...



OS/390 JES2 Releases

OS/390 Release 1

- ▶ Spool Offload Enhancements

OS/390 Release 3

- ▶ SYSOUT Application Programming Interface (SAPI)

OS/390 Release 4

- ▶ Workload Manager Support for Batch Initiators
- ▶ Resource Affinity Scheduling
- ▶ Command Enhancements
- ▶ Constraint Relief: 32K Nodes, RMTs, Lines, PRTs, Unnnnn, +64K Jobs (OW20844)

OS/390 Release 5

- ▶ Open Print Server Support

OS/390 Release 7

- FiCon (Fibre Connection) Support

See 2654 "JES2 Product Update", Mon @ 1:30



JES2 V2R4 Migration Highlights

JES2 V2R4 Installation

- ▶ OS/390 V2R4 BCP, Sysplex, HLASM 1.2
- ▶ Install PSP Maintenance - **PUT 9811** or later!
- ▶ Warm Start, Share Spool w/ JES2 V.5 & up

Storage & CPU Requirements

- ▶ Maximum Virtual Storage for Checkpoint
- ▶ Allow for Checkpoint Data Set Expansion (DASD, CF)
- ▶ More CPU cycles if from MVS/SP V.4 JES2

External changes - Job List Commands

Internal changes - Job Queue Services

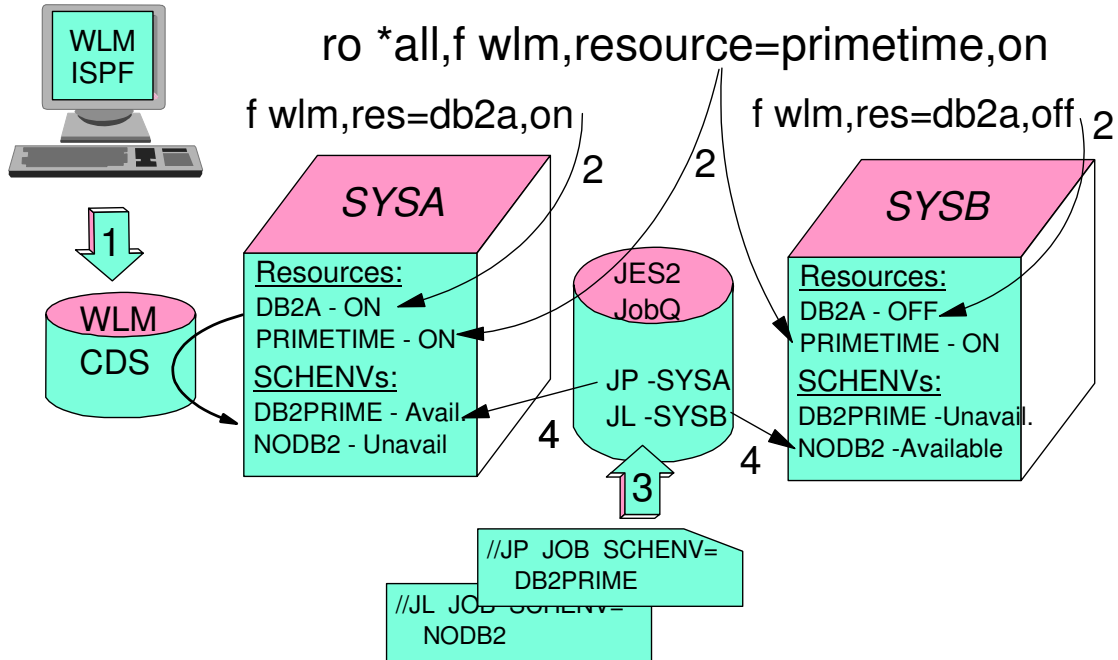
\$ACTIVATE for new functions

Implementing Resource Affinity Scheduling



0. **\$ACTIVATE JES2 (Rel.4 mode) w/required PTFs**
1. **WLM ISPF dialog to define:**
 - ▶ Resources - elements set ON or OFF by operations
 - ▶ Scheduling Environments - external used by jobs that are Available or Not based on Resource states
 - ▶ WLM Goal mode not required
2. **Turn Resources On or Off with 'f wlm' commands**
 - ▶ Use automation or programmable interface
3. **Specify SCHENV= on JOB card or in JCT via JES2 RDR exits 2, 3, 4, 20, or CNVT 6**
 - ▶ Member affinity set dynamically to systems with required scheduling environment available

Implementing Resource Affinity Scheduling





Implementing WLM Batch Initiators

- **Analyze Batch Job Mix**
 - ▶ Job Class Rules - How are they Assigned & Enforced
- **Analyze Initiator Structures**
 - ▶ Asymmetric Definitions
 - ▶ Special Limits by Class or by System
 - ▶ Changes by Operator Procedures or Automation
- **Goals must be adjusted for Q-Delays**
- **Response Time Goals - good for:**
 - ▶ High Frequency Jobs, Uniform Arrival Rate
 - ▶ Short-Running Jobs, Uniform Run Times
 - ▶ Jobs submitted with minimum Q time (job scheduler)
 - ▶ Minimal Resource Scheduling Requirements
- **Velocity Goals - good for:**
 - ▶ Long-Running Jobs, Different Run Times
 - ▶ Overnight Bulk Submissions



Implementing WLM Batch Inits (cont)

- **Poor Candidates for WLM Initiator Management**
 - ▶ Low Frequency Jobs
 - ▶ Bulk Submission
 - ▶ Critical "Batch Window" Jobs
 - ▶ Jobs to be run Immediately
 - ▶ Unique Scheduling Requirements (Tape, Critical Batch, ...)
- **A Service Class shouldn't have JES2 & WLM initiators**
- **JES over-initiation will beat WLM inits**
- **WLM needn't be in Goal mode on all members (test)**
- **Poly-JES Considerations:**
 - ▶ Poly-JES sharing spool with primary will not be given WLM inits
 - ▶ Poly-JES with separate spool will be assigned WLM inits

See 2657 "JES2 Performance Topics" - Thu. 1:30

JES2 Service Information

- Maintenance for Prior JES2 Releases included with more current version's maint.
- HiPer APARs (Hi Impact, or Pervasive) listed below are out of date - see PSP buckets
 - ▶ Latest information is never in printed form
- APARs of Interest

1stH98 HiPer APARs



| PSP 1998 | APAR # | Description | Applicable Releases |
|----------|---------|---|---------------------|
| 1/02 | OW30393 | ABEND \$Q12 w/ \$DOGJQE FETCHNEXT | R4, R5 |
| 1/12 | OW30966 | After OW30006 Jobs Hung in Conv. | R4, R5 |
| 1/28 | OW30717 | ABEND878 SP231 w/SAPI CBx | R3, R4, R5 |
| 2/04 | OW30965 | ABEND0C4 in HASCSIRQ w/ SSI 54 | R3, R4, R5 |
| 2/04 | OW28469 | ABEND \$Q01 with Exits | R4, R5 |
| 2/05 | OW29682 | After \$ACTIVATE, Jobs hung Conversion | R4, R5 |
| 2/16 | OW30490 | ABEND 0C4/GW3 HASPNUC \$RETNWORK/\$GETWORK | R4, R5 |
| 2/19 | OW31453 | ABEND 0C4 HASPCKPT +3276 | R3, R4, R5 |
| 2/19 | OW30773 | ABEND 878 SQA CSA exhausted after SDSF SE command | 4.2.0 |
| 3/04 | OW30825 | High CPU w/WLM Inits & many duplicate jobnames | R4, R5 |
| 3/05 | OW31992 | ABENDs after OW30490 | R4, R5 |
| 4/14 | OW31581 | Multiple allocations of Spool space - incorrect TGrp Rec. | 5.2 - R5 |
| 4/20 | OW32152 | \$OJOBQ deletes all output in held classes w/ bad delimiter | R4, R5 |
| 5/20 | OW32534 | Hi CPU for \$POJOBQ, \$TOJOBQ, \$DOJOBQ, \$PQ, & \$OQ | R4, R5 |
| 5/28 | OW33050 | Jobs/STCs fail w/JCL error after OW31581 fix applied | R4, R5 |
| 5/29 | OW31772 | ABEND 0C4 in HASPJQS \$QADD | R4, R5 |
| 5/29 | OW31771 | \$HASP473 errors creating Cell Pool w/many printers defined | 5.2 - R5 |
| 5/29 | OW31575 | ABEND 0C4 in HASX05C with \$AQ,C= (no class) command | R4, R5 |
| 6/01 | OW33121 | \$K20 after \$ACTIVATE in DUAL Checkpoint Mode | R3, R4, R5 |
| 6/10 | OW33600 | Error \$BR4 after call to \$DOGBERT in HASPCKPT | R4, R5 |
| 6/12 | OW33384 | WLM Inits - BERT locked with duplicate jobnames | R4, R5 |
| 6/25 | OW33187 | \$CF1 RC1C Catastrophic with CKPT1 & CKPT2 on CF | R3, R4, R5 |
| | | | |
| | | | |

2ndH-98 HiPer APARs

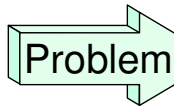

 JES2

| PSP 1998 | APAR # | Description | Applicable Releases |
|----------|---------|--|---------------------|
| 7/14 | OW31480 | \$Q14 Error after \$R or \$GR during Warmstart | R4, R5 |
| 7/14 | OW32920 | Mechanism to Undo \$ACTIVATE | R4, R5 |
| 7/24 | OW34229 | HASX05C incorrect Command trans after OW29813 | R4, R5 |
| 7/24 | OW33985 | ABEND0C4 in HASPSERV processing SAPID | R3 - R5 |
| 7/29 | OW34004 | ABEND0C4 RC04 in HASPXEQ, after \$HASP483 | R4, R5 |
| 7/31 | OW24472 | ABEND0C4 in HASPSNA during RJE termination | 5.2 - R4 |
| 8/05 | OW34417 | ABENDDC5 after UW50181, JES2 does not initialize | R3 |
| 8/05 | OW34502 | \$HASP095 CODE=\$BR3 after \$TCKPTSPACE,BURTNUM=nn | R4, R5 |
| 8/06 | OW33634 | JES2 Lock-out Checkpoint holds hardware reserve | 5.2 - R5 |
| 8/06 | OW33545 | ABEND200 RC114 in \$EXCP in HASPRTAM | 5.2 - R5 |
| 8/31 | OW34227 | ABENDA78 RC18 in HASPCKPT during ckpt dialog | R3 - R5 |
| 9/21 | OW34473 | ABEND0C4 in HASPCFQU | 5.1 - R5 |
| 9/21 | OW33935 | ABEND0C9 in IRATXSTP @ 'X'D0' | R4, R5 |
| 9/23 | OW34298 | ABEND\$GW2 RCC RC12 after Queue rebuild | 5.2 - R5 |
| 9/25 | OW34634 | Copy Count Compatibility for NJE | 4.2 - R5 |
| 9/28 | OW34830 | \$HASP095 RC \$Q12 after init abend | R4, R5 |
| 10/09 | OW32320 | Sysplex IPL caused by console operator inaction | 5.1 - R5 |
| 10/14 | OW34946 | \$HASP095 \$19 after \$TOJOBQ'SYSLOG',ALL,D=LOCAL | R4, R5 |
| 10/21 | OW34503 | High CPU Usage by NET.JT | 5.1 - R5 |
| 11/12 | OW31452 | BURTNUM Shortage problems (wait in Init'n) | R4, R5 |
| 11/20 | OW35266 | \$HASP361 - JNT overlaid - Cold Start to recover | R3 - R7 |
| 12/04 | OW35796 | YSOOUT not selected on SAPI restart | R3 - R7 |
| 12/29 | OW36200 | \$Q12 after JES2 hot start under XEQ PCE | R4 - R7 |

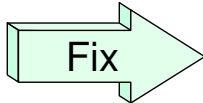
Check IBMLink, or IBM Service for the latest information



OW29813 - Access to \$JQEs



- ▶ **\$DOGJQE** confusion - when to use it?
 - ▶ JQE confusion - what kind is it?
 - Real JQE
 - Read-Mode JQA
 - Update-Mode JQA

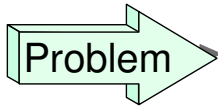


- ▶ **\$DOGJQE** allows all 3 flavors JQE/JQA
- ▶ **\$DOGJQE** Macro usage documented
- ▶ Re-assemble all **\$DOGJQE** macros
- ▶ Re-code access to JQEs with **\$DOGJQE**
- ▶ ThruPut Manager Changes Required

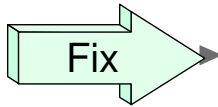
- ▶ OS/390 R4/5 on 9807



OW32920 - Un-\$ACTIVATE



- \$ACTIVATE could not be reversed**
 - Cold start with a prior release required



- New JES2 start option 'UNACTivate' allows return to pre-Rel.4 mode**
 - Cold-start
 - All-member Warm-start
 - All-member Hot-start
- ▶ **NEW MSGS:**
 - \$HASP445 Unactivate Failed ...
 - ◆ \$HASP895 \$ACTIVATE will FAIL/SUCCEED if issued ...(response to \$D ACTIVATE)
- ▶ **OS/390 R4/5 - 9807**

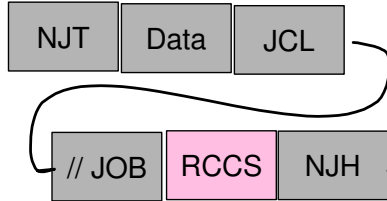
OW31889 - Non-standard SYSIN - the Saga Continues - OW32040



Problem → NJE SYSIN data not RECFM=F, LRECL=80 creates NJE Record Change Characteristics Section (RCCS)

Sending Nodes

```
JES2 5.2
w/OW10527
no/OW16674
or
JES2 R.1
no/OW16673
or
JES2
R3,R4,R5
```



**\$HASP110 Illegal Job Card
at Receiving Node**

Fix → Apply OW13643, and OW32040 at receiving node, or use new Exit to suppress RCCS at sending node

OW31889, OW32040 (cont'd)

- Exit point for NJE RCCS Headers



New exit point (\$EXIT 70) temporary fix

- ▶ Called at transmitting node just before RCCS header is sent
- ▶ Sample HASX70A provided to suppress RCCS
- ▶ See APAR/PTF cover letter for details

Changed to \$EXIT 46 call in future releases

- ▶ Sample HASX46A changed to do the same.

OW31889 - JES2 R3 - R5 - PUT 9805

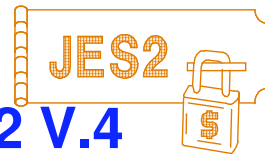
OW32040 - JES2 5.1 - R7 - PUT 9812

JES2 Performance APARs



Recent Performance Problems (since PUT 9601):

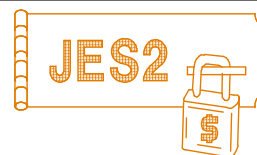
- OW16967** - 100% Spool Utilization (PUT9601)
- OW19592** - Jobs hang in conversion after hot start (PUT9604)
- OW22485** - RSM IARVSERV High CPU Utiliz'n PUT9610)
- OW27691** - /*XMIT XBM HASPRDR degrad'n (PUT9707)
- OW27818** - ENQ SYSZJES2 waiting for spool not rel.CKPT
- high RTAM CPU (PUT9709)
- OW30595** - RAMAC Spool Perf. @ Purge (PUT9804)
- OW30825** - Hi CPU w/WLM Inits, dup.jobnames (PUT9803)
- OW32534** - Hi CPU \$POJQ, \$TOJQ,... \$PQ,\$OQ (PUT9804)
- OW34503** - Hi CPU by NET.JT transmitters (PUT 9810)



Translating Commands - JES2 V.4

Sample Exit HASX05C used to translate pre-Release 4 command syntax to the new syntax in JES2 V.2 R.4

- Use HASX05C for migration purposes only
- Don't use it as a permanent excuse for not learning the new command syntaxes.
- Apply recent (9811) PTFs for HASX05C



APPENDIX

JES2 Documentation

- OS/390 JES2 Library
- Softcopy Books (BookManager)
- OS/390 Web Sites
- JES-related Books

JES2 OS/390 Release Highlights

- OS/390 Release 1
- OS/390 Release 3
- OS/390 Version 2 Release 4
- OS/390 Version 2 Release 5
- OS/390 Version 2 Release 7



OS/390 V2R5 JES2 LIBRARY

| | |
|-----------|--|
| GC28-1794 | JES2 Introduction * |
| GC28-1797 | JES2 Migration Notebook |
| SC28-1791 | JES2 Initialization & Tuning Guide |
| SC28-1792 | JES2 Initialization & Tuning Reference |
| GC28-1796 | JES2 Messages |
| GC28-1790 | JES2 Commands |
| GX22-0041 | JES2 Commands Summary |
| SC28-1793 | JES2 Installation Exits |
| SC28-1795 | JES2 Macros |
| LY28-1086 | JES2 Diagnosis |
| LY28-1096 | JES2 Data Areas, V.1 \$A - \$E * |
| LY28-1097 | JES2 Data Areas, V.2 \$F - \$O * |
| LY28-1098 | JES2 Data Areas, V.3 \$P - \$X * |

★ SoftCopy only (CD-ROM)

- ▶ All JES2 books are unlicensed
- ▶ JES2 Command Syntax in RR-track format



OS/390 JES2 Softcopy Books

- **OS/390 Online Collection**
 - ◆ CD-ROMs(6): SK2T-6700 (Unlicensed only)
 - ◆ Available on Tape (Optional, No-Charge)
 - **Licensed OS/390 Books**
 - ◆ OS/390 V.1 CD-ROM: LK2T-6702
 - ◆ OS/390 V.2 CD-ROM: LK2T-2499
 - ◆ <http://www.s390.ibm.com/products/softcopy>
 - **S/390 Rainbow Books Collection**
 - ◆ CD-ROM: SK2T-2177
 - ◆ 370+ Systems Center Technical Bulletins
 - ◆ RedBooks (ITSC), Orange (WSC), Yellow (NS)
- ▶ All Updated Quarterly



Other JES2-Related Documents

- ▶ NJE Formats & Protocols, SC23-0070-3 *
- ▶ VSE to OS/390 Migration Notebook, SG24-2043 *
- ▶ OS/390 R.4 Implementation, SG24-2089 *
- ▶ OS/390 R.5 Implementation, SG24-5151 *
- ▶ JES2 MAS in Sysplex Environment, GG66-3263
- ▶ MVS Parallel Sysplex Config. Cookbk, SG24-4706
- ▶ MVS/ESA JES2 V.5 Implementation, GG24-4583
- ▶ DFW & Dual Copy - JES2 Spool & Ckpt, GG66-3230
- ▶ NJE with JES2 and Other Systems, GG22-9339-1
- ▶ SDSF/RACF 1.9.2 Conversion, GG24-4085
- ▶ MVS/ESA JES2 Exit Coding, GG24-4127



OS/390 WEB Sites

- **OS/390 home page**
 - ◆ <http://www.s390.ibm.com/os390>
- **Washington System Center**
 - ◆ <http://www.ibm.com/support/techdocs> (Flashes)
- **IBM Education (US)**
 - ◆ <http://www.training.ibm.com/usedu>
- **UNIX Services**
 - ◆ <http://www.ibm.com/products/oe/>
- **IBM Year 2000 Product Readiness**
 - ◆ <http://www.yr2k.raleigh.ibm.com/>
 - ◆ + <http://www.ibm.com/year2000/> ...
- **Redbooks**
 - ◆ <http://www.redbooks.ibm.com>
 - ◆ More ...See WSC Flash 9744.C



OS/390 JES2 Release 1

- **Spool Offload Enhancements**
 - Multiple offloaders select same Job
 - Which OFFn devices can Offload a Job
 - Skip to next Job Header (damaged tape)
 - 4-digit dates (YR2K)
- **Operations Enhancements**
 - Record Counts on NJE Transmitters
 - Work-Selection Wild-Card Chars on attributes for Printers,Punches, and Offload devices
 - Time-Stamps for Multi-Day Job Logs
 - NJE TRACE IDs 21-24 activated with \$T NODE or \$T LNE, TR=Y



OS/390 JES2 Release 3

- ▶ **SYSOUT App. Pgmng Interface (Improved PSO)**
 - Multiple concurrent requests
 - Improved Performance
 - PUT/GET, COUNT, or BULK MODIFY requests
 - SYSOUT dataset Selection (wildcards)
 - Extract all characteristics + SWBs
 - Common JES2/JES3 Interface
 - See 2691 "Exploiting the JES SAPI" (Tue. 3:00)
- ▶ **Identify SSI (54) Enhancements**
 - SAPI support & SYSOUT Class Disposition
- ▶ **TSO Generic Resource Support**
 - Req'd for Reconnection to same system in sysplex (SSI 80)
- ▶ **Sample FSS (as a model or for testing)**
 - ◆ USING THE FUNCTIONAL SUBSYSTEM INTERFACE (SC28-1911-1) has source module names.
 - ◆ See source modules for documentation.



OS/390 JES2 Ver. 2 Release 4

- **Workload Manager Support**
 - ◆ Resource Affinity Scheduling
 - ◆ Control of Batch Initiators
 - **Command Enhancements**
 - ◆ Job list & other commands through \$SCAN
 - ◆ Powerful filtering capabilities
 - ◆ (Some old command syntaxes invalid)
 - **Constraint Relief**
 - ◆ Max. Node, RMT, Line, PRT, Unnn now 32K
 - ◆ Max. LOGON(nnn) 999 - \$ADD LOGON(nnn)
 - ◆ Parallel SNA NJE sessions
 - ◆ Max. Job numbers 64K (OW20844)
 - ◆ Dynamic Checkpoint (OW20844)
- ▶ See 2654 "JES2 Product Update", Mon @ 9:30



OS/390 JES2 Ver.2 Release 5

- **Open Print Server Support**
 - ▶ Interfaces to help client view and control print requests
 - ▶ Allow client access to their SYSOUT on JES spool
 - ▶ New interfaces for DYNALLOC SAPI, Extended Status
 - ▶ ENF for unsolicited status notification
 - ▶ SSI 54 indicates presence of this function

