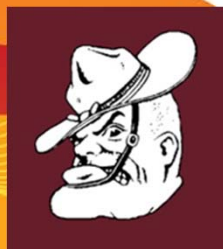


z/OS Extended Status and SPOOL Browse: User Experience (REVISITED)

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August 10, 2011
Session Number 9716



Acknowledgements

Thanks to **Richard Peurifoy** (TAMU), **David Jones** (IBM JES3) and **Tom Wasik** (IBM JES2) for their valuable contributions to this presentation.

About the Speaker

- Texas A&M University '87 - Computer Science
- 20+ years working with MVS technology
- 15+ years at SHARE
- 10 years volunteering in the JES3/EPS Project

- JES3 Committee Lead under MVS Core Technologies Project

About the Company

- **Texas A&M University** formed in 1876 as Texas' first public institution of higher learning
- 46,000 undergraduate and 8,500 graduate students
- 250 degree programs
- 10 colleges – 6th largest enrollment in nation.

- Two branch campuses (Galveston, Tx and Doha, Qatar) and overseas centers (Mexico, Costa Rica, and Italy)
- George Bush (Sr.) Presidential Library/School of Government

Our Environment

- IBM z10 BC
- z/OS v1.11, JES3 v1.11
- z/OS v1.12, JES3 v1.12 in test environment for this presentation
- Who are our customers?
 - Budget/Payroll System (BPP)
 - System-wide Financials (FAMIS) – 20+ universities and state agencies
 - 28,000 faculty and staff

The Condition

- A concurrent move to a new z/OS and JES is difficult!
- 13 JES local mods
 - 22 site-developed macros
 - 4 local DSP programs
 - 1 local FCT program
 - MUSAS functionality (Wylbur) - TSO too expensive at the time
 - JES3 USERMOD required to implement - IATGRPT

 - **We must clean this up! Let's start with DSPs!**

Local FCT

```
*-----*  
*          DEFINE LOCAL FCTS          *  
*-----*  
TIJPFCT  IATYFCD ECFMASK=FF,ECFADD=IATGRJR,R14=IATGRJR,  
          R15=IATGRJR,COND=80,DRVR=IATUMIJ,INISH=YES,  
          PRTY=6,SUCC=FSFCT,NAME=TAMUIJP,PREV=GRSRFCT
```

Local DSPs

```
-----*
*          DEFINE LOCAL DSP ENTRIES          *
*-----*
OPERDSP  IATYDSD  PRTY=1,XABLE=YES,MUCC=NO,DRVR=TAMDST7,NOREQ=1,
          REQ=(CNS3277),MAXCT=2
IOSCREEN IATYDSD  PRTY=1,XABLE=YES,MUCC=NO,DRVR=TAMIOSC,NOREQ=1,
          REQ=(CNS3277),MAXCT=2
JOB CARD  IATYDSD  PRTY=1,XABLE=YES,MUCC=NO,DRVR=TAMUTJC
WTJ       IATYDSD  PRTY=1,XABLE=YES,MUCC=NO,DRVR=TAMUTJB
* SPOOLCHK IATYDSD  PRTY=5,XABLE=YES,MAXCT=1,REENT=NO,DRVR=MSPOL
* JES3ARTS IATYDSD  PRTY=5,REENT=YES,XABLE=YES,NOREQ=1,
*          REQ=(JS3ARTS),DRVR=U110DJ
* SAG ENTIRE SYSTEM SERVER
UQJ3     IATYDSD  PRTY=10,XABLE=YES,DRVR=IATUQJ3
DMYDSP01 IATYDSD
DMYDSP02 IATYDSD
DMYDSP03 IATYDSD
```


Step One: Out with the Old... DSPs

- Two DSPs awaiting requirements to be fulfilled
- **Output Status** DSP for print operators
- **Job Status** DSP for NOC operators
- Programs written pre OS/390 2.4 (ie. JES consoles, etc.)
- Handful of user code handed down throughout the years
- Susceptible to IBM's changing whims (of control blocks)!

The Old... TAMIOSC Screen

```
DEVICE      JOB    STATUS  LIMIT  FORMS      CARRIAGE  UCS
XEROX1     NO WTR  <30K  D100      8          PN
XEROX2     NO WTR  <30K  1100      8          PN
```

```
FORMS      CARRIAGE  UCS  DEST      LINES
D1DR       8         PN   XEROX     72
```

Step One: Out with the Old... Technique

TAMIOSC

Printer Status

- Search FCT chain for printer
- Obtain device status, WTR status, and job name, if applicable

Output Totals by FORMS

- Search OSE chain and build table

The Old... TAMDS77 Screen

```

SPPOOL= 52%  IN SYSTEM=3408  7 AUG 09.219  16:23:34 A

IDLE INITS: NRM-17 ADAS- 3 ADAM- 0 ADAL- 2 BPPS- 3 BPPM- 1 BPPL- 2
             FAMS- 3 FAMM- 1 FAML- 1 SIMS- 3 SIMM- 1 SIML- 4
NUMB  NAME      STEP  REGION CLASS  PRC      REL  HELD
56998 F12AFRPR  STEP01  128K ADAMCLAS A      0    14
57314 INFOPAC0  REPTPROC  OK  NRMCLASS A      0     0
                                     C/I
                                     ERROR
                                     DUP NAME
                                     SETUP
                                     ALLOCATION
                                     VOL UNAVL
                                     VOL MOUNT
                                     MAIN
                                     OUTPUT
                                     PURGE
                                     BACKLOG
                                     REL  HELD
                                     28     0
                                     886  2480
                                     0     0
                                     0     0

                                     DEVICE  JOB  STATUS  LMT  FORMS
                                     XEROX1   NO WTR  <30K  D100
                                     XEROX2   NO WTR  <30K  1100

```

Step One: Out with the Old... Technique

TAMDS77

Spool Status

- Search SPB chain for used and total tracks

Main Processor Status

- Search MPC chain

Device Status

- Search SUP chain

Queue Status

- Search JQE chain (IATXJQE) by priority

Active Initiators

- Search RSQ for Job number, Job name, Step, Region, etc.

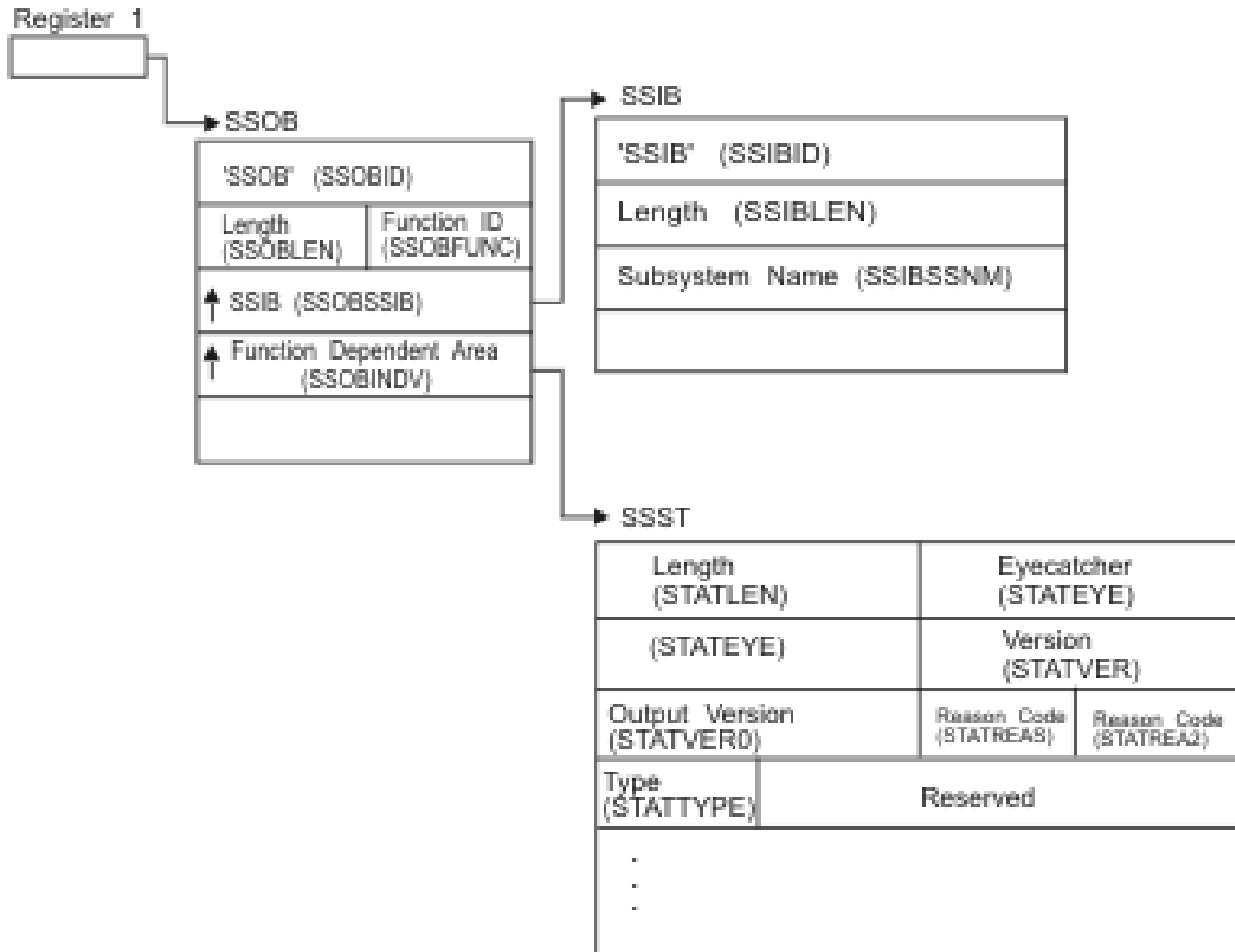
Extended Status (SSI 80)

- *z/OS V1.12.0 MVS Using the Subsystem Interface (SA22-7642-10)*
- Detailed status information about jobs and SYSOUT in the JES queue
- The call is made in Problem State
- *Relatively* JES neutral (getting better)
- Six Request Types (STATTYPE)
 - STATTERS STATVRBO STATMEM
 - STATOUTT STATOUTV
 - STATDLST

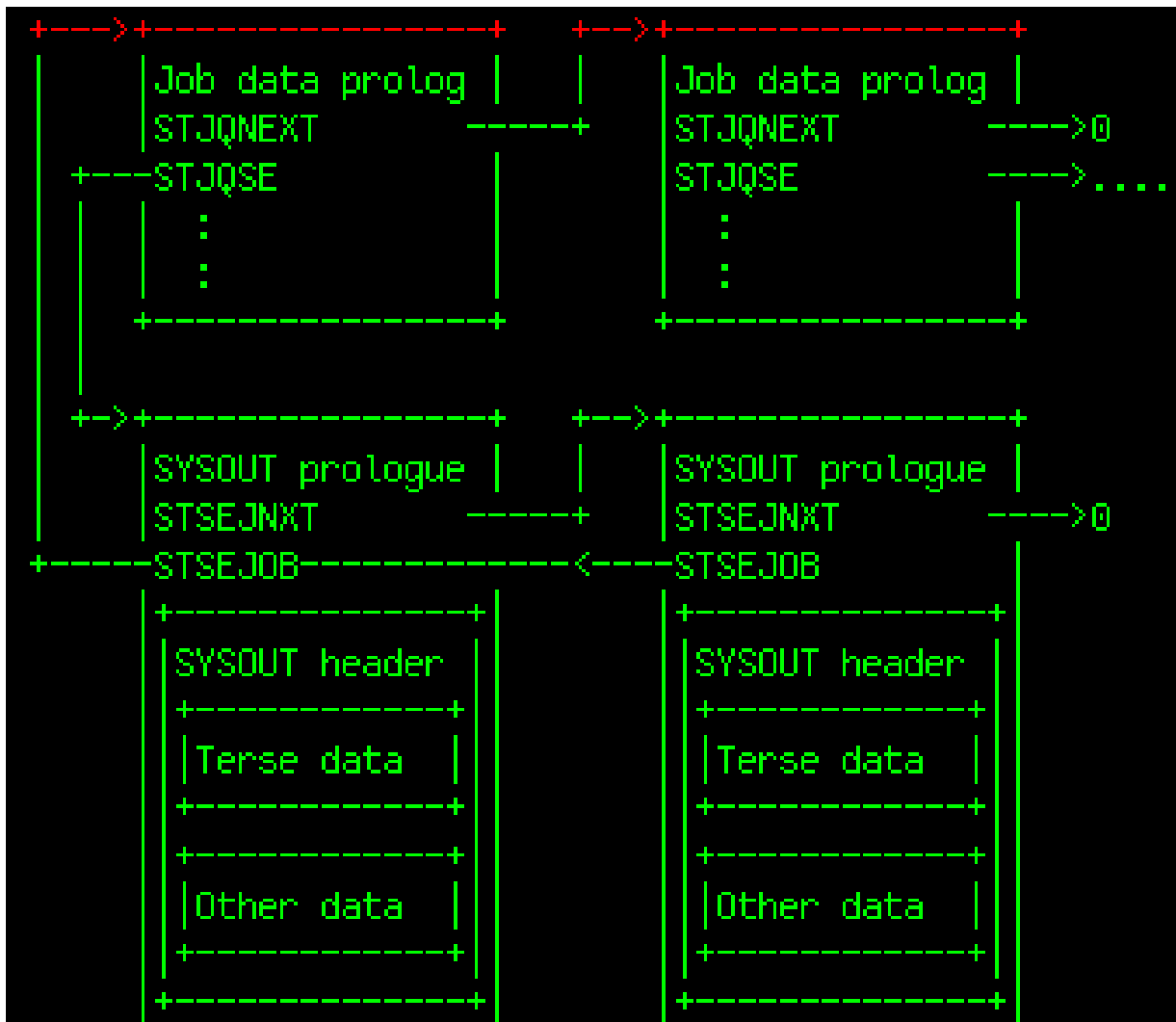
Extended Status (SSI 80)

- Numerous combinations of filters
- Returned info from multiple calls will chain together without intermediate STATMEM
- Four types of Data Elements returned
 - SJQE - Job Queue Element (chained from IAZSSST)
 - SJVE - Job Queue Verbose Element (chained from SJQE)
 - SOUT - SYSOUT Element (chained from SJQE)
 - SSVE - SYSOUT Verbose Element (chained from SOUT and SJQE)

Environment for SSI 80 Call



Return for SSI 80 Call - STATOUTT



JES Properties (SSI 82)

- *z/OS V1.12.0 MVS Using the Subsystem Interface (SA22-7642-10)*
- Obtain information about JES managed structures (SPOOL, initiators, job classes, etc.)
- The call is made in Problem State
- *Relatively* JES neutral
- Request Types (SSJPFREQ)
 - SSJPSPOD SSJPSPRS
 - SSJPITOD SSJPITRS
 - SSJPJCOD SSJPJCRS

Step Two: In with the New... Technique

TAMIOSC

Device Status

- Need SSI 83 - Available in z/OS 1.12

Output Totals by FORMS – SSI 80

- STATTYPE=STATOUTT
- STATSEL3=STATSNHL (non held jobs)
- STATSSL1=STATSSDS & STATSEDES='XEROX'
- STATSSL1=STATSSNH (non-SYSOUT held)
- Search STATJQ and STATSETR chain and build totals table

Step Two: In With The New... Technique

TAMDS77

Spool Status

- SSI 82

Main Processor Status

- Not sure this is available

Device Status

- Need SSI 83 - Available in z/OS 1.12

Queue Status

- Not sure this is available

Active Initiators

- SSI 82

What We Learned

- We need to get more current before we can continue
- What we were able work with is powerful and versatile
- Example program in the SSI manual is a good starting point
 - Might clean up the CALL section....
- STATPERF (IAZSSST) isn't set for JES3!
 - Can't measure the cost of running the SSI
- Job Owner vs Job Submitter?

Where Do We Go From Here?

- Get to JES3 V1.12 or better!
- Look forward to newer and enhanced SSIs
- Continue with JES mod elimination
 - Rewrite with SPOOL BROWSE and new SSIs to eliminate FCT
 - Rewrite other DSPs

Questions?

Thanks for stopping by...

Need SSI 83 - [Available in z/OS 1.12](#)