Now Available in z/OS V2R2 JES3: OUTDISP

David Jones
IBM JES3 Development

August 12, 2015
Session 17599 at 4:30 – 5:30 PM

Trademarks

The following are trademarks of the International Business Machines Corporation in the United States and/or other countries.

IBM®
MVS
JES2
JES3
RACF®
z/OS®
zSeries®

* Registered trademarks of IBM Corporation

The following are trademarks or registered trademarks of other companies.

Java and all Java-related trademarks and logos are trademarks of Sun Microsystems, Inc., in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation.

UNIX is a registered trademark of The Open Group in the United States and other countries.

SET and Secure Electronic Transaction are trademarks owned by SET Secure Electronic Transaction LLC.

* All other products may be trademarks or registered trademarks of their respective companies.

Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

All customer examples cited or described in this presentation are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual customer configurations and conditions.

This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. Consult your local IBM business contact for information on the product or services available in your area.

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Prices subject to change without notice. Contact your IBM representative or Business Partner for the most current pricing in your geography.

OUTDISP support in JES3 V2R2

- JES3 supports the use of OUTDISP to manage sysout data sets.
  - On the JCL OUTPUT statement
  - On the JES3 initialization SYSOUT statement
  - With various JES3 commands
  - Within selected Subsystem Interfaces (SSIs)
  - For sysout data sets sent and received using Network Job Entry (NJE).

- Satisfies two of the "JES3 Top X SHARE" requirements.
  - SSJES397305: Support OUTDISP keyword on OUTPUT JCL statement
  - SSSHARE015053: Support for Conditional SYSOUT Processing

Usage

- **Output disposition for JES3 sysout is mostly optional.**
- JES3 sysout is currently created without an output disposition and will continue to be created without one.
  - Sysout will have no output disposition or disposition of 'none'
  - i.e. Nothing changes by default
- Sysout received via Network Job Entry (NJE) will always be assigned an output disposition.
  - Explain why later.

The output dispositions

- **HOLD** = Hold the output.
  - Output is not available to be processed until the disposition is changed to WRITE or KEEP. The output can be released for processing, such as with an SSI, which will change disposition to WRITE.

- **LEAVE** = Hold the output.
  - Output is not available to be processed until the disposition is changed to KEEP or WRITE. The output can be released for processing, such as with an SSI, which will change disposition to KEEP.

- **WRITE** = Process the output then purge it.

- **KEEP** = Process the output and then keep a copy of it on spool.
  - After processing, the disposition of the output becomes LEAVE.

- **PURGE** = Purge the output immediately.

Specifying output disposition

- Using OUTDISP parameter on the OUTPUT JCL statement.
  - Generates an output descriptor for the output characteristics specified on the OUTPUT JCL statement.
- Using OUTDISP parameter of the TSO/E OUTDES command.
  - Used to create an output description used by the TSO/E ALLOCATE command.
- Using OUTADD macro.
  - Used to create an output descriptor used with the DYNALLOC macro.
- Using OUTDISP parameter on JES3 SYSOUT initialization statement for a sysout class.

The OUTDISP parameter

- Used to specify the initial output disposition for sysout when created.
  - The initial output disposition is assigned when the sysout is processed by JES3 output service.

- The syntax is:

  OUTDISP=(*normal disposition*, *abnormal disposition*)

  - or -

  OUTDISP=*normal disposition*

  - The *normal disposition* subparameter specifies the disposition for the output if the job completes normally. If not specified, then the default is WRITE.
  - The *abnormal disposition* subparameter specifies the disposition for the output if the job does not complete successfully. If not specified, then the default is equivalent to *normal disposition*.

JCL examples

- //OUT1 OUTPUT OUTDISP=WRITE
  - – Normal and abnormal output dispositions are both WRITE.

- //OUT2 OUTPUT OUTDISP=(KEEP,PURGE)
  - – Normal output disposition is KEEP.
  - – Abnormal disposition is PURGE.

- //OUT3 OUTPUT OUTDISP=(,PURGE)
  - – Normal output disposition is WRITE.
  - – Abnormal disposition is PURGE.

SYSOUT initialization statement examples

- SYSOUT,CLASS=1,TYPE=PRINT,OUTDISP=WRITE,
  - Normal and abnormal output dispositions are both WRITE.
- SYSOUT,CLASS=2,TYPE=PRINT,OUTDISP=(KEEP,PURGE)
  - Normal output disposition is KEEP.
  - Abnormal disposition is PURGE.
- SYSOUT,CLASS=3,TYPE=PRINT,OUTDISP=(,PURGE)
  - Normal output disposition is WRITE.
  - Abnormal disposition is PURGE.
- SYSOUT,CLASS=4,HOLD=EXTWTR,OUTDISP=(KEEP,LEAVE)
  - Sysout class will be held for an external writer.
  - Normal output disposition is KEEP.
  - Abnormal disposition is LEAVE.

Resolving conflicts

- //OUT4 OUTPUT OUTDISP=(HOLD,LEAVE)
  //MYOUT DD SYSOUT=*,OUTPUT=(*.OUT4),HOLD=NO
  - Output disposition will be WRITE or KEEP due to HOLD=NO.

- SYSOUT,CLASS=5,HOLD=TSO,OUTDISP=WRITE
  - Normal and abnormal output dispositions are both WRITE.
  - HOLD=TSO ignored when OUTDISP is specified.

- OUTDISP on // OUTPUT JCL statement overrides OUTDISP from the SYSOUT class.

JES3 handling of output disposition

- No changes to existing behavior when output disposition is not used.
  - OUTDISP is None.
  - There is no default output disposition.
- OUTDISP of WRITE is similar to existing behavior when no output disposition is used.
- OUTDISP of HOLD is similar to existing behavior when HOLD=TSO is used.
- OUTDISP of KEEP, LEAVE, and PURGE provide new capability.

Sysout not held for external writer

- JES3 handling of OUTDISP for sysout that is <u>not</u> held for an external writer.

OUTDISP	None (current)	WRITE	KEEP	HOLD	LEAVE
Available on	Q=WTR	Q=WTR	Q=WTR	Q=HOLD	Q=HOLD
Initially available for TSO/OUTPUT	NO	NO	NO	YES	YES
Available for printer/writer processing	YES	YES	YES	NO Can be released	NO Can be released
After processing or released	Purged	Purged	Moves to LEAVE on Q=HOLD	Released to WRITE on Q=WTR	Released to KEEP on Q=WTR

Sysout held for external writer

- JES3 handling of OUTDISP for sysout that is held for an external writer – always on Q=HOLD:
  - HOLD=EXTWTR in the SYSOUT class statement
  - Writer name specified on DD or OUTPUT JCL statement

OUTDISP	None (current)	WRITE	KEEP	HOLD	LEAVE
Available on	Q=HOLD	Q=HOLD	Q=HOLD	Q=HOLD	Q=HOLD
Initially available for TSO/OUTPUT	NO	NO	NO	YES	YES
Available for PSO/SAPI processing	YES	YES	YES	NO(1) Can be released	NO(1) Can be released
After processing or released	Purged or moves to Q=WTR	Purged	Moves to LEAVE on Q=HOLD	Released to WRITE on Q=HOLD	Released to KEEP on Q=HOLD

(1) SAPI flags can be used to select HOLD/LEAVE

JES3 *INQUIRY,U command

- OUTDISP= parameter added
  - H|HOLD or K|KEEP or L|LEAVE or W|WRITE or N|NONE or ?
  - Displays the output disposition of selected data sets in the output queue (?), or displays information about data sets with the specified output disposition.

```
*i,u,j=18,outdisp=?
IAT8131 JOB OUTDISPA (JOB00018), T=PRT, L=106, PG=0, SR=106,
IAT8131 JOB OUTDISPA (JOB00018), BY=20420, OUTDISP=NONE.
IAT8131 JOB OUTDISPA (JOB00018), T=PRT, L=7, PG=0, SR=7, BY=8168,
IAT8131 JOB OUTDISPA (JOB00018), OUTDISP=WRITE.
IAT8131 JOB OUTDISPA (JOB00018), T=PRT, L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPA (JOB00018), OUTDISP=KEEP.
IAT8119 NUMBER OF JOBS FOUND : 1

*i,u,j=18,outdisp=?,q=hold
IAT8131 JOB OUTDISPA (JOB00018), L=3, PG=0, SR=3, BY=4084,
IAT8131 JOB OUTDISPA (JOB00018), OUTDISP=HOLD.
IAT8131 JOB OUTDISPA (JOB00018), L=3, PG=0, SR=3, BY=4084,
IAT8131 JOB OUTDISPA (JOB00018), OUTDISP=LEAVE.
IAT8119 NUMBER OF JOBS FOUND : 1
```

JES3 *MODIFY,U command

- OUTDISP= parameter added
  - H|HOLD or K|KEEP or L|LEAVE or W|WRITE or N|NONE
  - Selects data sets with the specified output disposition.
- NOUTDISP= parameter added
  - H|HOLD or K|KEEP or L|LEAVE or W|WRITE or P|PURGE
  - Modifies the output disposition of selected data sets.
- Example of changing sysout with LEAVE to KEEP so that it will be processed/printed:

```
*f,u,j=18,q=hold,outdisp=leave,noutdisp=keep
IAT8122 CHANGED JOB OUTDISPA (JOB00018)
IAT8119 NUMBER OF JOBS MODIFIED : 1
```

Process SYSOUT Data Sets Call (PSO) SSI 1

- In general, the PSO interface is stabilized and changes are limited to those that are necessary to maintain existing behavior.
  - IBM recommends that users utilize the more robust SSI79 SAPI interface for processing sysout. Therefore, any updates due to output disposition should not adversely affect existing behavior.
  - PSO is used for TSO OUTPUT command.

- To maintain complete compatibility with existing behavior, output disposition is ignored for sysout selection, delete requests (SSSODELC), and release requests (SSSORLSE).
  - Only change is that a release request may result in an update of the output disposition.

- See the appendix for more details.

SYSOUT Application Program Interface (SAPI) SSI 79

- The SAPI has been updated with the addition of output disposition.
  - Updates are based upon existing support provided by JES2 so that applications will obtain similar behavior with JES3.

- Data set selection flags within input field SSS2SEL1 & SSS2SEL6 are used to determine from which queue the data sets are selected for GET processing.
  - Data set selection has been updated based upon the current output disposition of the data set.

- Data set return flags within output field SSS2RET5 indicate on which queue the returned data set resides.
  - Flags returned have been updated to reflect the current output disposition of the returned data set.

SYSOUT Application Program Interface (*continued*)

- SAPI disposition flags within input field SSS2DSP1 are an indication from the user as to what is to be done with the data set that is being PUT.

    - The final disposition of the data set is now based upon the SAPI disposition specified by the user and the current output disposition of the data set.

- Existing behavior of all flags is maintained for sysout data sets which do not have an output disposition (i.e. data sets created with an output disposition of none).

SYSOUT Application Program Interface (*continued*)

- Table showing SAPI PUT disposition and the resulting output disposition transition:

Initial SYSOUT data set output disposition	SAPI PUT disposition in SSS2DSP1		
	SSS2DKPE off (Dispose)	SSS2DKPE+ SSS2DHLD (Hold)	SSS2DKPE+ SSS2DRLS (Release)
KEEP	LEAVE	LEAVE	KEEP
LEAVE	PURGE	LEAVE	KEEP
WRITE	PURGE	HOLD	WRITE
HOLD	PURGE	HOLD	WRITE

- See the appendix for more detail.

Extended Status Function Call
SSI 80

- JES3 will return the output disposition (STSTDISP) for sysout data sets that have an output disposition.

- Existing JES3 handling of sysout data set filters in STATSSL1 is unchanged (i.e. not affected by output disposition).

- JES3 added support for all sysout data set filters in STATSSL3.

  - Includes selection of data sets based upon output disposition.

- See the appendix for more detail.

Sysout via Network Job Entry (NJE)

- JES3 added support for flags in the networking data set header which specify output disposition:
  - NDHGF1HD was only flag used to identify held sysout.
  - NDHGF2HB & NDHGF2HA are now also used.
  - See *z/OS Network Job Entry (NJE) Formats and Protocols* for flag descriptions.
- Flags are set for outgoing networked sysout data sets that have an output disposition.
- Flags are used to establish the output disposition of incoming networked sysout data sets.
  - Note that OUTDISP will always set for incoming NJE sysout.
- Flag and OUTDISP settings are compatible with JES2.

Sysout sent via NJE

- JES3 flag settings for outgoing networked sysout data sets.
  - First two rows are compatable with current behavior.
  - Note that None and WRITE have the same flag settings.

Outgoing OUTDISP	Flag NDHGF1HD	Flag NDHGF2HB	Flag NDHGF2HA
None	0	0	0
None w/ HOLD=TSO	1	0	0
WRITE	0	0	0
HOLD	1	1	0
KEEP	1	0	1
LEAVE	1	1	1

Sysout received via NJE

- JES3 setting of initial output disposition for incoming networked sysout data sets.
  - First two rows are compatable with current behavior.
  - No means of determining if first row was None or WRITE.
  - This is why an output disposition is always set.

Flag NDHGF1HD	Flag NDHGF2HB	Flag NDHGF2HA	Assigned OUTDISP
0	0	0	WRITE
1	0	0	HOLD
1 or 0	1	0	HOLD
1 or 0	0	1	KEEP
1 or 0	1	1	LEAVE

JES3 installation exits

- Output disposition is maintained in the data set entries of the Output Service Element (OSE).
  - Available to installation exits which provide a pointer to the OSE.
- Two exits provide OSE data via a parameter list mapped by IATYSSX:
  - IATUX58 = Modify Security Information Before JES3 Security Processing
  - IATUX59 = Modify Security Information After JES3 Security Processing
  - Exits are used for PSO and SAPI processing.
  - IATYSSX has been updated to include the output disposition of the sysout data set.

Coexistence

- Complete JES3 OUTDISP support is available only with the JES3 global main and any CIFSSes at the V2R2 level.
  - OUTDISP related parameters are ignored or invalid at previous levels.
- JES3 release toleration APAR OA43563 is required for systems in the JESplex which are at JES3 V2R1 or V1R13.
  - Tolerates the OUTDISP parameter on the SYSOUT statement in the JES3 initialization stream.

Complete your session evaluations online at www.SHARE.org/Orlando-Eval

8/12/2015

Documents updated

- JES3 documents updated:
  - z/OS V2R2 JES3 Commands (SA32-1008-01)
  - z/OS V2R2 JES3 Initialization and Tuning Guide (SA32-1003-01)
  - z/OS V2R2 JES3 Initialization and Tuning Reference (SA32-1005-01)
  - z/OS V2R2 JES3 Messages (SA32-1007-01)

- MVS documents updated:
  - z/OS V2R2 MVS Authorized Assembler Services Guide (SA23-1371-02)
  - z/OS V2R2 MVS JCL Reference (SA23-1385-02)
  - z/OS V2R2 MVS JCL User's Guide (SA23-1386-01)
  - z/OS V2R2 MVS Using the Subsystem Interface (SA38-0679-02)
  - V2R2 Network Job Entry (NJE) Formats and Protocols (SA32-0988-01)

Example 1
Sysout for a printer

```
//OUTDISPA JOB    MSGCLASS=A,MSGLEVEL=(1,1)
//OUTL      OUTPUT OUTDISP=LEAVE
//OUTP      OUTPUT OUTDISP=PURGE,JESDS=ALL
//STEP0001 EXEC PGM=IEBGENER
//SYSPRINT DD    SYSOUT=(,),OUTPUT=(*.OUTL)
//SYSIN     DD    DUMMY
//SYSUT2    DD    SYSOUT=(,),OUTPUT=(*.OUTL),HOLD=NO
//SYSUT1    DD    *
  OUTDISPA STEP0001 TEXT LINE
/*
>>> JES sysout data sets are purged (JESMSGLG, JESJCL, JESYSMSG)

*i,u,j=21,dd=?,outdisp=?
IAT8131 JOB OUTDISPA (JOB00021), T=PRT, L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPA (JOB00021), COPIES=1, OUTDISP=KEEP,
IAT8131 JOB OUTDISPA (JOB00021), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPA (JOB00021), DSN=IBMUSER.OUTDISPA.JOB00021.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1

*i,u,j=21,dd=?,outdisp=?,q=hold
IAT8131 JOB OUTDISPA (JOB00021), L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPA (JOB00021), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPA (JOB00021), DD=.STEP0001.SYSPRINT(1),
IAT8131 JOB OUTDISPA (JOB00021), DSN=IBMUSER.OUTDISPA.JOB00021.D000000A.?.
IAT8119 NUMBER OF JOBS FOUND : 1
```

Example 1
Sysout for a printer (*continued*)

```
tso output outdispa(job00021) keep
>>>> Contents of SYSPRINT is displayed then it is released

*i,u,j=21,dd=?,outdisp=?
IAT8131 JOB OUTDISPA (JOB00021), T=PRT, L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPA (JOB00021), COPIES=1, OUTDISP=KEEP,
IAT8131 JOB OUTDISPA (JOB00021), DD=.STEP0001.SYSPRINT(1),
IAT8131 JOB OUTDISPA (JOB00021), DSN=IBMUSER.OUTDISPA.JOB00021.D000000A.?.
IAT8131 JOB OUTDISPA (JOB00021), T=PRT, L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPA (JOB00021), COPIES=1, OUTDISP=KEEP,
IAT8131 JOB OUTDISPA (JOB00021), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPA (JOB00021), DSN=IBMUSER.OUTDISPA.JOB00021.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1

*s,002
IAT7001 JOB OUTDISPA (JOB00021) IS ON WRITER PRT002(0002),RECORDS=5
>>> No IAT7450 message that JOB00021 was purged

*i,u,j=21,dd=?,outdisp=?,q=hold
IAT8131 JOB OUTDISPA (JOB00021), L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPA (JOB00021), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPA (JOB00021), DD=.STEP0001.SYSPRINT(1),
IAT8131 JOB OUTDISPA (JOB00021), DSN=IBMUSER.OUTDISPA.JOB00021.D000000A.?.
IAT8131 JOB OUTDISPA (JOB00021), L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPA (JOB00021), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPA (JOB00021), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPA (JOB00021), DSN=IBMUSER.OUTDISPA.JOB00021.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1
```

Example 2
Sysout for an external writer

```
//OUTDISPX JOB    MSGCLASS=A,MSGLEVEL=(1,1)
//OUTL      OUTPUT OUTDISP=LEAVE,WRITER=EXW
//OUTP      OUTPUT OUTDISP=PURGE,JESDS=ALL
//STEP0001 EXEC PGM=IEBGENER
//SYSPRINT DD    SYSOUT=(,),OUTPUT=(*.OUTL)
//SYSIN    DD    DUMMY
//SYSUT2   DD    SYSOUT=(,),OUTPUT=(*.OUTL),HOLD=NO
//SYSUT1   DD    *
  OUTDISPX STEP0001 TEXT LINE
/*

*i,u,j=22,dd=?,outdisp=?
IAT8121 NO OUTPUT FOR SELECTED OPTIONS, JOB NOT FOUND

*i,u,j=22,dd=?,outdisp=?,q=hold,w=?
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSPRINT(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000A.?.
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=KEEP,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1
```

Example 2
Sysout for an external writer (*continued*)

>>> External writer using SAPI processed SYSUT2 (but not SYSPRINT)
>>> with SAPI PUT dispositions SSSS2DKPE (Keep) and SSS2DHLD (Hold)

```
*i,u,j=22,dd=?,outdisp=?,q=hold,w=?
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSPRINT(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000A.?.
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1

*f,u,j=22,q=hold,DD=.STEP0001.SYSPRINT,noutdisp=write
IAT8122 CHANGED JOB OUTDISPX (JOB00022) DATA SET=.STEP0001.SYSPRINT
IAT8118 NUMBER OF DATA SETS MODIFIED : 1

*f,u,j=22,q=hold,DD=.STEP0001.SYSUT2,noutdisp=keep
IAT8122 CHANGED JOB OUTDISPX (JOB00022) DATA SET=.STEP0001.SYSUT2
IAT8118 NUMBER OF DATA SETS MODIFIED : 1
```

Example 2
Sysout for an external writer (*continued*)

```
*i,u,j=22,dd=?,outdisp=?,q=hold,w=?
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=4, PG=0, SR=4, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=WRITE,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSPRINT(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000A.?.
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=KEEP,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1

>>> External writer using SAPI processes SYSUT2 and SYSPRINT
>>> with SAPI PUT disposition SSSS2DKPE off (Dispose)

*i,u,j=22,dd=?,outdisp=?,q=hold,w=?
IAT8131 JOB OUTDISPX (JOB00022), W=EXW, L=1, PG=0, SR=1, BY=4084,
IAT8131 JOB OUTDISPX (JOB00022), COPIES=1, OUTDISP=LEAVE,
IAT8131 JOB OUTDISPX (JOB00022), DD=.STEP0001.SYSUT2(1),
IAT8131 JOB OUTDISPX (JOB00022), DSN=IBMUSER.OUTDISPX.JOB00022.D000000B.?.
IAT8119 NUMBER OF JOBS FOUND : 1
```

Thank You!

Session 17599

Appendix:
Process SYSOUT Data Sets Call (PSO) – SSI 1

- No changes made to sysout selection based upon output disposition.
  - Output disposition is ignored for sysout selection to maintain complete compatibility with existing behavior.
- No changes made handling the delete request (SSSODELC) for sysout data sets selected from Q=WTR and Q=HOLD.
  - Output disposition is ignored for delete requests to maintain existing behavior.
- A release request (SSSORLSE) is honored only for sysout on Q=HOLD and can result in sysout being moved to Q=WTR.
  - Users can also change the sysout's destination when on Q=HOLD which can result in the sysout being moved to Q=WTR, Q=BDT, or Q=TCP.
  - Output disposition is ignored when sysout is moved from Q=HOLD to maintain existing behavior.
  - The only change made will be to update the sysout output disposition when sysout is moved from Q=HOLD to Q=WTR.
    - For example an output disposition of LEAVE will be updated to KEEP.

- Data set selection flags are updated:
  - Selection flags within input field SSS2SEL1 are used to determine from which queue the data sets are selected for GET processing.
  - SSS2SHLD = select "hold for TSO" output (JES3)
    - JES3 selects data sets on Q=HOLD which are held for TSO.
    - No changes. Output disposition is ignored for selecting data sets.
  - SSS2SXWH = select "hold for XWTR" output (JES3)
    - JES3 selects data sets on Q=HOLD which are held for an external writer with output disposition of WRITE, KEEP, or none.
    - Also see new flag SSS2SHL2.
  - SSS2SHOL = select from the hold queue
    - Guarantees that any held data sets are selected by setting both flags SSS2SHLD and SSS2SXWH.
    - Will implicitly include new flag SSS2SHL2.

Appendix:
SYSOUT Application Program Interface (SAPI) – SSI 79

- Data set selection flags (continued):
  - SSS2SWTR = select from the writer queue (JES3)
    - JES3 selects data sets on Q=WTR with output disposition of WRITE, KEEP, or none.
  - SSS2SAWT = select all output
    - JES3 selects all data sets regardless of queue and output disposition.
  - SSS2SHL2 = select "HOLD/LEAVE" output (JES3)
    - This is a new flag that is defined in SSS2SEL6.
    - JES3 selects data sets on Q=HOLD with output disposition of HOLD or LEAVE (i.e. override the HOLD/LEAVE output disposition).
    - When used with SSS2SWTR, JES3 then selects data sets on Q=HOLD which are held for an external writer with any output disposition.
    - SSSS2HL2 is ignored for SSS2SHLD and SSS2SAWT.

Appendix:
SYSOUT Application Program Interface (SAPI) – SSI 79

- Data set return flags are updated:
  - Flags within output field SSS2RET5 indicate on which queue the returned data set resides.
  - SSS2RHLV = data set on "hold for TSO" queue (JES3)
    - JES3 returns this flag when the data set is on Q=HOLD and is held for TSO.
    - No changes. Output disposition does not affect this return flag.
  - SSS2RXWH = data set on "hold for XWTR" queue (JES3)
    - JES3 returns this flag when the data set is on Q=HOLD and is not held for TSO.
    - Flag is not set if output disposition is HOLD or LEAVE (i.e. data set not available for processing).
    - Also see new flag SSS2RHL2.

Appendix:
SYSOUT Application Program Interface (SAPI) – SSI 79

- Data set return flags (continued):
  - SSS2RHOL = data set on one of the held queues
    - Defined as including both SSS2RHLV and SSS2RXWH.
    - Updated to include new flag SSS2RHL2.
  - SSS2RWTR = data set on "writer" queue (JES3)
    - JES3 returns this flag when the data set is on Q=WTR.
    - No changes. Output disposition can be WRITE, KEEP, or none.
  - SSS2RHL2 = data set on hold queue with HOLD/LEAVE output disposition (JES3)
    - This is a new flag that will be defined in SSS2RET5.
    - JES3 returns this flag when the data set is on Q=HOLD, is not held for TSO, and has an output disposition of HOLD or LEAVE.

Appendix:
SYSOUT Application Program Interface (SAPI) – SSI 79

- SAPI disposition flag handling is updated:
  - Flags in SSS2DSP1 are an indication from the user as to what is to be done with the data set that is being PUT.
  - The final disposition of the data set is based upon the SAPI disposition specified by the user and the current output disposition of the data set.
  - SSS2DKPE = keep the data set
    - When SSS2DKPE is on, the data set is kept and flag SSS2DHLD or SSS2DRLS affects the final disposition of the data set.
    - When SSS2DKPE is off, JES3 deletes the data set except when the data set output disposition is KEEP.
    - When the data set output disposition is KEEP, then JES3 places the data set on Q=HOLD with output disposition of LEAVE.

Appendix:
SYSOUT Application Program Interface (SAPI) – SSI 79

- SAPI disposition flags (continued):
  - SSS2DHLD = hold the data set
    - JES3 places the data set on Q=HOLD and updates the output disposition:
      - Output dispositions of HOLD, LEAVE or none are unchanged.
      - WRITE is changed to HOLD, KEEP is changed to LEAVE.
  - SSS2DRLS = release the data set
    - JES3 updates the output disposition:
      - Output dispositions of WRITE, KEEP or none are unchanged.
      - HOLD is changed to WRITE, LEAVE is changed to KEEP.
    - JES3 places the data set on Q=WTR except for data sets which are held for external writer and have an output disposition.
      - Held for TSO or held for external writer flags are cleared.
    - Data sets held for external writer which have an output disposition will remain on Q=HOLD.
      - Held for TSO flag is cleared.

Appendix:
Extended Status Function Call – SSI 80

- JES3 will return the output disposition (STSTDISP) for sysout data sets.
  - When the sysout data set has no output disposition, then no flag is set.
  - STSTDHLD = OUTDISP=HOLD
  - STSTDLVE = OUTDISP=LEAVE
  - STSTDWRT = OUTDISP=WRITE
  - STSTDKEP = OUTDISP=KEEP

- Existing JES3 handling of sysout data set filters in STATSSL1 is unchanged:
  - STATSSNH = JES3 will select any sysout on Q=WTR.
    - Sysout may have output disposition of WRITE, KEEP, or none.
  - STATSSHL = JES3 will select any sysout on Q=HOLD.
    - Sysout may have any output disposition or none.

Appendix:
Extended Status Function Call – SSI 80

- JES3 added support for sysout data set filters in STATSSL3:
  - STATSWRT = JES3 will select sysout with output disposition of WRITE or sysout on Q=WTR with no output disposition.
  - STATSHOL = JES3 will select sysout with output disposition of HOLD or sysout on Q=HOLD with no output disposition.
  - STATSKEP = JES3 will select sysout with output disposition of KEEP.
  - STATSLVE = JES3 will select sysout with output disposition of LEAVE.
  - STATSSNJ = JES3 will select all NJE sysout, regardless off output disposition, when STATSSNJ is set along with STATSWRT.
  - STATSSLC = JES3 will select sysout with a destination of the home node, "LOCAL", or "ANYLOCAL".
  - STATSSNT = JES3 will not select sysout with a destination of the home node, "LOCAL", or "ANYLOCAL".