



VSE/POWER, all the news since z/VSE 4.2

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LiveVirtualClass 2012

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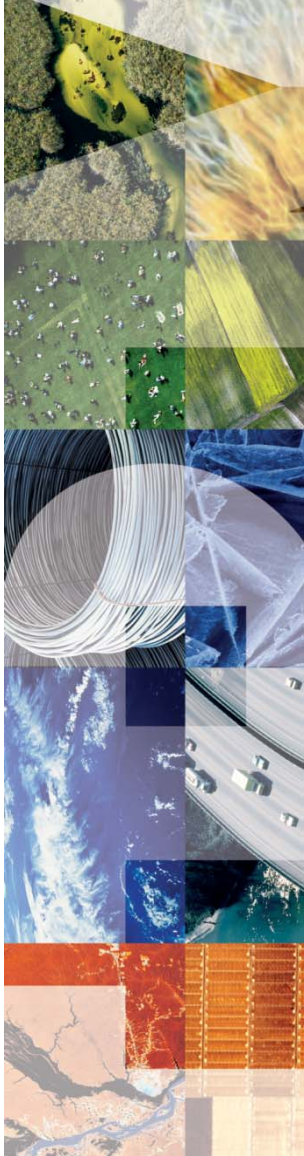
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Agenda



- VSE/POWER in z/VSE 4.2
 - Spool handling by Age
 - Report queue entry manipulation
 - Omit Forms (FNO) grouping
 - Make FCB phase name visible & alterable

- VSE/POWER in z/VSE 4.3
 - Overview of functional enhancements
 - Output Limitation Facility
 - OGM
 - PUNCH output redirection into AF library

- VSE/POWER in z/VSE 5.1 and 5.1.1
 - New TKN attribute
 - LST and PUN Duplicates by IPWSEGM macro call



VSE/POWER functional enhancements in previous releases

Presentation “[VSE/POWER What’s new since VSE/ESA V2.5](#)” covers enhancements and new functions from VSE/ESA 2.5 until z/VSE 4.1, e.g.

- Data File (1 or n extents) extension on warm start
- Queue File re-allocation / extension on warm start
- Node name change during warm start
- PNET TCP/IP & PNET SSL
- SAS exploited by IUI for browsing queue entries in creation
- POFFLOAD/ BACKUP/PICKUP/SAVE creates tape journal
- Enhanced PDISPLAY commands (D Q, D CRE, D DEL, D ALL, D TOTAL, D BIGGEST,...)
- New commands PSEGMENT and PVARY MSG



VSE/POWER in z/VSE 4.2 - Overview

z/VSE 4.2 – VSE/POWER Overview

- Release Information, Manuals and Migration
- Recommended Service Level
- Spool handling by Age
- Report queue entry manipulation
- Omit Form Number (FNO) grouping
- FCB phase name made visible & alterable



VSE/POWER in z/VSE 4.2 – Release Information, Manuals, APARs

VSE/POWER 8.2 Release Information and Manuals

- Identification of VSE/POWER 8.2
 - MSHP Component identification number 5686-CF8-03-01C
 - SUBSID NOTIFY call with X'080200'
 - Character string C'01C' in each phase
 - PDISPLAY STATUS and SIR output show “VSE/POWER 8.2.0” plus APAR Level
- New Manual
 - VSE/POWER Administration & Operation 8.2, SC33-8314-02

Recommended VSE/POWER service level

DY47363 / UD53817	Deadlock between TCP/IP and VSE/POWER stops spooling
DY47310 / UD53763 + UD53765	Duplicate \$SPLnnnn not handled correctly
DY47313 / UD53757	Signon problems between 2 PNET TCP/IP nodes
DY47260 / UD53702 + UD53701	1Q2CI names IPW\$\$CPF as failing phase erroneously.



VSE/POWER in z/VSE 4.2 – Spool Manipulation by Age & Reporting

Spool handling by Age

- New search operand CRAGE to select spool entries based on creation time
- E.g. PDISPLAY LST,CRAGE<=1200 shows LST output created in the last 12 hours

Report queue entry manipulation

- New messages to report queue entry manipulation
 - 1R9CI when a queue entry is processed by PALTER
 - 1R9DI when processed by PDELETE
 - 1R9EI when processed by PHOLD
 - 1R9FI when processed by PRELEASE
- Messages are deactivated per default
- PVARY MSG,msgid,CONS to report message on console and hardcopy file
- PVARY MSG,msgid,HCONLY to report messages on hardcopy file only
- PVARY MSG,msgid,IGN to stop reporting again



VSE/POWER in z/VSE 4.2 – FNO grouping & FCB display

Omit Form Number Grouping

- New LST | PUN output with FNO specified is sorted in groups with same FNO
 - Useful to minimize form changes on old printers
 - No longer needed for modern printers where forms are created by overlays
- To group by priority and time only specify autostart statement
 - SET SORTFNOFF=abc... (abc specifies classes with FNO grouping disabled)

Make FCB phase name visible & alterable

- PDISPLAY with FULL=YES shows FCB-image phase for LST output
- New command operand CFCB= to select and manipulate list queue entries
 - E.g. PDISPLAY LST,CFCB=FCB1
- New PALTER operand FCB to change the name of the FCB-image phase
 - E.g. PALTER LST,CFCB=FCB1,FCB=NEWFCB

Note that the LST entry is not reformatted ! FCB is used at print time only!



VSE/POWER in z/VSE 4.3 - Overview

z/VSE 4.3 – VSE/POWER Overview

- Release Information, Manuals and Migration
- Recommended Service Level
- Functional Enhancements
 - TS7700 WORM tape
 - Restart PNET Passive TCP/IP Connection
 - Operator command improvements (CQNUM, CSYSID)
 - Display Date and Time of VSE/POWER Job Start
- Output Limitation Facility
- Punch Output redirection into VSE/AF Library Member
- OGM Support for SAS Interface (OGM = Output Generation Message)



VSE/POWER in z/VSE 4.3 - Release Information, Manuals, APARs

VSE/POWER 8.3 Release Information and Manuals

- Identification of VSE/POWER 8.3
 - MSHP Component identification number 5686-CF8-03-02C
 - SUBSID NOTIFY call with X'080300'
 - Character string C'02C' in each phase
 - PDISPLAY STATUS and SIR output show “VSE/POWER 8.3.0” plus APAR Level
- New Manuals
 - VSE/POWER Administration & Operation 8.3, SC33-8314-03
 - VSE/POWER Application Programming 8.3, SC34-2601-00

Recommended VSE/POWER service level

DY47326 / UD53832	Deadlock between TCP/IP and VSE/POWER stops spooling
DY47304 / UD53745 + UD53746	Duplicate \$SPLnnnn not handled correctly
DY47312 / UD53752 + UD53753	1Q2CI names IPW\$\$CPF as failing phase erroneously.



VSE/POWER in z/VSE 4.3 – Functional Enhancements

TS7700 logical WORM cartridges supported

- writing/reading tapes by POFFLOAD BACKUP/PICKUP/SAVE
- spooling output to tape by the DISP=T

Restart of passive TCP/IP connection enabled

Severe errors during initialization of passive TCP/IP connection may stop connection:

`1RTYI TCP/IP: NEW CONNECTION REQUESTS FROM REMOTE NODES CAN NO LONGER BE PROCESSED`

- PSTART TCPIP,PASSIVE enables restart of TCPIP interface
 - Reinitializes the passive connection without stopping and starting the TCP/IP interface again (and without closing and restarting all active connections).



VSE/POWER in z/VSE 4.3 – Operator Command Enhancements

CQNUM=nnnnn operand supported by PDISPLAY command (formats 1 and 2)

- indicates that unique queue entry with matching queue number is addressed. (max. nnnnn = 99999)
- queue number can be found in QNUM=nnnnn field within output of PDISPLAY with FULL=YES

```
d lst,pausebg,full=yes
```

```
1C39I COMMAND PASSED TO VSE/POWER
```

```
1R46I LIST QUEUE P D C S PAGES CC FORM BU
```

```
1R46I PAUSEBG 17626 3 D A 5 1 TO=(SYSA) FROM=(SYSA)
```

```
D=10/23/2012 DBGP=000001 L=00000052
```

```
QNUM=01832 T=11:52:34
```

```
1R46I PAUSEBG 17626 3 D A 115 1 TO=(SYSA) FROM=(SYSA)
```

```
D=10/23/2012 DBGP=000008 L=00006046
```

```
QNUM=01831 T=11:53:01
```

```
PDISPLAY LST,PAUSEBG,CQNUM=01831
```

- used by SAS applications to receive all parameters for a certain queue entry



VSE/POWER in z/VSE 4.3 – Operator Command Enhancements

CSYSID=N to address queue entries without specified SYSID

In earlier releases CSYSID=1|..|9 addressed queue entries of a specific system.

- **CSYSID=N** in PALTER, PDELETE, PDISPLAY, PHOLD and PRELEASE commands address all queue entries with unspecified SYSID

```
d lst,pausebg,17626,csysid=1,full=yes
1C39I COMMAND PASSED TO VSE/POWER
1R46I LIST QUEUE P D C S PAGES CC FORM BU
1R46I PAUSEBG 17626 3 D A 1 1 TO=(SYSA) FROM=(SYSA)
D=07/13/2012 DBGP=000001 L=00000011
QNUM=01851 T=10:48:08
```

```
d lst,pausebg,17626,csysid=N,full=yes
1C39I COMMAND PASSED TO VSE/POWER
1R46I LIST QUEUE P D C S PAGES CC FORM BU
1R46I PAUSEBG 17626 3 D A 5 1 TO=(SYSA) FROM=(SYSA)
D=10/23/2012 DBGP=000001 L=00000052
QNUM=01832 T=11:52:34
1R46I PAUSEBG 17626 3 D A 115 1 TO=(SYSA) FROM=(SYSA)
D=10/23/2012 DBGP=000008 L=00006046
QNUM=01831 T=11:53:01
```



VSE/POWER in z/VSE 4.3 – Operator Command Enhancements

How to find the SYSID

pDisplay STATUS

```

1C39I COMMAND PASSED TO VSE/POWER
1R46I VSE/POWER 8.3.0 STATUS FOR POWERSHR ON 10/23/2012 TIME 12:10:50
      LAST QUEUE/DATA FILE COLD START      ON 02/16/2012
      PRESENT SESSION START (TURBO-DISP.-NP) ON 08/14/2012 TIME 14:24:20
      APPLIED SERVICE LEVEL >> DY47312 <<  OF 07/29/2011
1R46I NODE = POWER43S , SYSID = 1
1R46I QUEUE FILE IJQFILE
  
```

```

SYSTEM:  POWER43S-1          z/VSE 4.3          TURBO (01) USER: SYS
VM USER ID:POWER431                          TIME: 16:11:08
  
```

pDisplay RDR

```

1C39I COMMAND PASSED TO VSE/POWER
1R46I READER    QUEUE P D C S CARDS BU
1R46I PAUSEBG   00007 3 L 0          4 FROM=(SYSA)
1R46I PAUSEF1  00010 3 L 1          4 FROM=(SYSA)
1R46I CICS41S  00002 3 * 2 1      69 PART=F2 FROM=(SYSA)
1R46I CICSICCF 00003 3 L 2          71 FROM=(SYSA)
1R46I PAUSEF2  00011 3 L 2          4 FROM=(SYSA)
1R46I VTAM41S  00005 3 * 3 1      20 PART=F3 FROM=(SYSA)
  
```



VSE/POWER in z/VSE 4.3 – Operator Command Enhancements

New TIME operand for PDISPLAY A

- Introduced with APAR DY47124
- New **TIME** operand in PDISPLAY A,PART command provides the start date and time of job(s) running in specified partitions(s)
- To be specified as last operand together with PART, DPART or SPART operand
- To determine start of long running jobs when console log already wrapped

D A,PART,TIME

```

1C39I COMMAND PASSED TO VSE/POWER
1R48I  BG,FEC,A0I,          INACTIVE,
1R48I  F2,FEC,L2,  CICSICCF,00161,2  STARTED ON 02/28/2012 09:51:47
1R48I  F3,FEC,K3,  VTAMSTRT,00160,3  STARTED ON 02/28/2012 09:51:47
1R48I  F4,FEC,J4,          INACTIVE,
1R48I  F5,FEC,H5,          INACTIVE,
1R48I  F6,FEC,M6,          INACTIVE,
1R48I  F7,FEC,N7,  TCPIP00 ,00158,7  STARTED ON 02/28/2012 09:51:47

```



VSE/POWER in z/VSE 4.3 - Output Limitation Facility

Output Limitation Facility (WAVV200721)

New **RBF** operand (**R**ecords **B**efore **F**lush) cancels job(s), if their output exceeds specified amount of records.

Programs running as subsystem, e.g. CICS, VTAM, are not canceled.

- **SET RBF=nnnnnn**

- System value (recommended only for test system)
- Each job is flushed whose LST or PUN output exceeds nnnnnn records

- * \$\$ JOB ..., **RBF=nnnnnn**

- Overwrites SET RBF=nnnnnn for VSE/POWER Job
- Job is flushed if any LST or PUN output exceeds nnnnnn records

- * \$\$ LST ..., **RBF=nnnnnn** or * \$\$ PUN ..., **RBF=nnnnnn**

- Overwrites SET RBF=nnnnnn and * \$\$ JOB ...,RBF=nnnnnn
- Job is flushed if output for specified spooled device exceeds nnnnnn records

- **RBF=0** means that no limitation is applicable to the given output



VSE/POWER in z/VSE 4.3 - Output Limitation Facility

Output Limitation Facility (WAVV200721)

- When RBF value is exceeded, internal **PFLUSH** partition, **HOLD** cancels job
 - Message 1Q5QI is displayed on console
 - Message 1Q5QI is appended to output exceeding limit
 - PFLUSH command suppresses dump

```
1Q47I  BG TESTRBF 52929 FROM POWER431 , TIME=14:11:03
// JOB TESTRBF
DATE 10/26/2012, CLOCK 14/11/03
1Q5QI  BG FLUSHED, RBF LIMIT 10 EXCEEDED FOR TESTRBF 52930 ON 01E
0V16I  REQUEST FROM VSE/POWER
0S00I  JOB TESTRBF  CANCELED
0S07I  PROBLEM PROGRAM  PSW = 071D1000 000FF8BA
1S78I  JOB TERMINATED DUE TO  CANCEL COMMAND
EOJ TESTRBF
DATE 10/26/2012, CLOCK 14/11/03, DURATION  00/00/00
```

- Additional output records can be spooled, e.g. LISTLOG messages
- Flushed Job is held in RDR queue with the DISP=H or L
- All output in creation is added with temporary DISP=X to avoid automatic processing



VSE/POWER in z/VSE 4.3 - OGM Support

Until z/VSE 4.2 VSE/POWER generates 2 types of notification for SAS (Spool Access Support) applications

- Job Generation Message (JGM) 1Q5HI:
Informs the SAS application that the submitted job has punched another job by DISP=I
- Job Completion Message (JCM) 1Q5DI:
Informs the SAS application that the submitted job has completed execution

With z/VSE 4.3 VSE/POWER adds a 3rd type of notification for SAS applications

- Output Generation Message (OGM) 1Q5RI:
Informs the SAS application that the submitted job has created a LST or PUN entry and passes all output attributes.

Message generation is requested for all 3 types at SAS job submission. Like existing 1Q5HI and 1Q5DI messages, the new 1Q5RI message is stored into the SAS messages queue in **fixed format**. All messages can be retrieved by the GCM (Get Completion Message) service.



VSE/POWER in z/VSE 4.3 - Enabling OGM

To enable OGM, SAS application set function byte SPLGFB1 when submitting a job

- To request messages of all types (JGM, JCM and OGM), specify option SPLGF1QX

```
PWRSPL TYPE=UPD ,SPL=OWNSPL ,REQ=PUT ,QUEUE=RDR  
MVI     SPLGFB1 ,SPLGF1QX
```

- To queue OGM only, specify option SPLGF1QO

```
PWRSPL TYPE=UPD ,SPL=OWNSPL ,REQ=PUT ,QUEUE=RDR  
MVI     SPLGFB1 ,SPLGF1QO
```

*Specify SPLGF1QP option to queue Job Completion and Output Generation messages or
Specify SPLGF1QQ option to queue Job Completion and Job Generation messages*

- OGM has the following features:
 - It can be queued in the user queue(default), common queue or both (same as for JCM and JGM)
 - For segmented output it is issued for every segment
 - If output duplication is active then it is issued for every duplicate
 - 'OGM queuing' characteristic is inherited for child jobs created as punch output with the DISP=I



VSE/POWER in z/VSE 4.3 - Retrieving OGM

To retrieve OGMs, specify new options in SPLGSRB of the SPL for the GCM service

- To retrieve all OGM for application, specify the following SPL and update it as shown:

```
PWRSPL TYPE=UPD,SPL=OWNSPL,REQ=GCM,USERID=userid  
MVI    SPLGSRB,SPLGSROG
```

- To retrieve all messages for a specific job, specify the following SPL and update it as shown:

```
PWRSPL TYPE=UPD,SPL=OWNSPL,REQ=GCM,JOBN=jnam,JNUM=jnum,USER=userid  
MVI    SPLGSRB,x'00'
```

- The following selection criteria for retrieving messages can be defined
 - Retrieve all messages
 - Retrieve all messages produced by the job with specified name
 - Retrieve all messages produced by the job with specified name + number

 - Retrieve either all JCM or all JGM or all OGM
 - Retrieve either all JCM or all JGM or all OGM produced by the job with specified name
 - Retrieve either all JCM or all JGM or all OGM produced by the job with specified name + number



VSE/POWER in z/VSE 4.3 - OGM Benefits and workflow

Without OGMs, it's difficult to handle all outputs generated by a job

- Job attributes are inherited to output, but can be overwritten by LST | PUN statement
 - Each output may have a different job name, job number, user information, ...
 - No common attributes may exist !

With OGM a Job Scheduler application can control all aspects of a job

1. Submit a job and request messages of all types (JCM, JGM and OGM) to be generated
2. Submit a GCM request for Job Completion Message
 - Note, that when JCM is returned, all JGM and OGM are generated and can be retrieved
3. If applicable, submit a request for Job Generation Message
4. Submit a request for Output Generation Message
5. Analyse retrieved OGMs and extract information about generated outputs
6. Handle **all** generated outputs

OGM is exploited by the VSE Connector



VSE/POWER in z/VSE 4.3 - OGM Storage Considerations & Rules

The message queues for JCM, JGM and OGM reside in VSE/POWER partition getvis 24-bit. Each message has fixed format and requires 104 byte of storage.

- Default size for user message queue has been increased from 20 to 50
- Maximum size for user message queue has been increased from 99 to 255
 - Specified in [AUTOSTART statement SET JCMQ=nnn](#)
- The common message queue is 8 times the size of the user queue
 - Default size of common queue is increased to 400
 - Maximum size of common queue is increased to 2040

Additional Rules for OGM support

- OGM is queued in message queue of job submitter and/or common message queue and can not be sent to another destination
- In GCM request only one type (or all types) of messages can be specified for retrieving
- OGM is not issued for new job generated by punch output with DISP=I (but JGM will be created if selected)
- The message is not generated for output spooled on the tape



VSE/POWER in z/VSE 4.3 – PUNCH output into AF Library

Output spooled to a punch device can now be catalogued by VSE/POWER as a VSE/AF library member to be retrieved later on by an * \$\$ SLI statement.

New format 3 of * \$\$ PUN JECL defines redirection of punch output to VSE/AF library member
*** \$\$ PUN MEM=membername.membertype,S=library.sublib,PUN=cuu,REPLACE=NO|YES**

- Each spooled PUNCH device can be redirected independently
- The output is not placed in PUN queue but spooled into specified VSE/AF library member
- Re-direction is ended by new * \$\$ PUN for same device or by * \$\$ EOJ
- The spooling job requires the appropriate access right to create or replace a member
- Re-direction is shown in PDISPLAY CRE and PDISPLAY A output
- Any segmentation attempts are rejected with message 1R9BI

For more details of specification see [VSE/POWER Administration and Operation](#)



VSE/POWER in z/VSE 4.3 – PUNCH output into AF Library

Example of PDISPLAY CRE and PDISPLAY A output

D CRE,PART,F5

1C39I COMMAND PASSED TO VSE/POWER

1R4BI	CREATE	QUEUE	C	I	LINE	BUDBGP	QNUM	TASK	OWNER
1R4BI	PUNCH02	00316	A	L	11	000001	01790	F5 FEE	JOB=PUNCH02
1R4BI	PUNCH02	00316	A	P	28	PRD2.CONFIG		F5 FED	JOB=PUNCH02

D A

1C39I COMMAND PASSED TO VSE/POWER

...

1R48I	F5,FEC,H5,	PUNCH02	,00316,H
1R48I	F6,FEC,M6,	INACTIVE,	
1R48I	F7,FEC,N7,	TCPIP00	,00304,7

...

1R48I	F3,FEE,,	VTAMSTRT,00302,A	21	LINE	SPOOLED,QNUM=01803
1R48I	F2,FEE,,	CICSICCF,00303,A	2104	LINE	SPOOLED,QNUM=01799
1R48I	F7,FEE,,	TCPIP00 ,00304,A	1502	LINE	SPOOLED,QNUM=01797
1R48I	F5,FEE,,	PUNCH02 ,00316,A	11	LINE	SPOOLED,QNUM=01790
1R48I	F5,FED,,	PUNCH02 ,00316,A	28	CARD	TO PRD2.CONFIG
1R48I	RDR,00C,A,				



VSE/POWER in z/VSE 4.3 – PUNCH output into AF Library

Using PUNCH output re-direction for compile jobs with pre-compile steps

```

* $$ JOB JNM=COMPILE,DISP=D,CLASS=A
* $$ PUN MEM=PRECOMP1.C,S=PRD2.TEST,PUN=FED,REPLACE=YES <= redir. PUN output to lib. member
// JOB COMPILE TRANSLATE PROGRAM CSOURCE
// ON $CANCEL OR $ABEND GOTO ENDJ2
// OPTION NOLIST,NODUMP,DECK
// EXEC DFHEDP1$,SIZE=512K
* $$ SLI ICCF=(CSOURCE),LIB=(0019)
/*
* $$ PUN PUN=FED <= close library member & switch PUN back
// LIBDEF *,SEARCH=(PRD2.SCEEBASE,PRD2.DBASE)
// LIBDEF PHASE,CATALOG=PRD2.TEST
// OPTION ERRS,SXREF,SYM,CATAL,NODECK
    PHASE CSOURCE,*
    INCLUDE DFHELII
// EXEC EDCCOMP,SIZE=EDCCOMP,PARM='NATLANG(ENU)/LONGNAME'
* $$ SLI MEM=PRECOMP1.C,S=PRD2.TEST <= include created library member
/*
// EXEC EDCPRLK,SIZE=EDCPRLK,PARM='NATLANG(ENU)/UPCASE'
/*
// EXEC LNKEDT,SIZE=256K
/*
/. ENDJ2
// EXEC LIBR,PARM='A S=PRD2.TEST;DEL PRECOMP1.C;END' <= delete created library member
/&
* $$ EOJ

```



VSE/POWER in z/VSE 5.1 - Overview

z/VSE 5.1 POWER Overview

- Release Information, Manuals and Migration
- Recommended Service Level
- New TKN attribute for jobs and spooled output
- Duplicate output entries created by IPWSEGM macro



VSE/POWER in z/VSE 5.1 - Release Information, Manuals, APARs

VSE/POWER 9.1 Release Information, Manual and Migration

- z/VSE 5.1 contains VSE/POWER 9.1 (part of VSE/Central Functions 9.1)
- Identification of VSE/POWER 9.1
 - MSHP Component identification number 5686-CF9-03-51C
 - SUBSID NOTIFY call with X'090100'
 - Character string C'51C' in each phase
 - PDISPLAY STATUS and SIR show "VSE/POWER 9.1.0" plus APAR Level
- New Manuals
 - VSE/POWER Administration & Operation 9.1, SC34-2625-00
 - VSE/POWER Application Programming 9.1, SC34-2642-00

Recommended VSE/POWER service level

DY47383 UD53834	Fixes *PE* UD53825. After install of UD53825 POFFLOAD function may terminate VSE/POWER with 1Q2CI CC=20
DY47302 UD53760 UD53762	New Function: Duplicate by IPWSEGM
DY47327 UD53825	Deadlock between TCP/IP and VSE/POWER stops spooling
	* DO NOT INSTALL (PE) * Please install DY47383



VSE/POWER in z/VSE 5.1 – TKN attribute for job and output

Common attribute to address all outputs spooled by a job as an entity (MR012710448)

- Before z/VSE 5.1, job attributes are inherited to spooled output **but** can be overwritten
 - No common attribute to address all spooled outputs of a job
- New **TKN** attribute defined for each VSE/POWER job
 - **Explicitly** by new *\$\$ JOB operand **TKN=hhhhhhh** (80000000 to FFFFFFFF)
 - * \$\$ JOB JNM=MYJOB,CLASS=C,DISP=K,TKN=94A89182
 - Else **Implicitly** in range 00000001 to 7FFFFFFF (incremented for each new job)
 - Inherited from job to all spooled LST and PUN output and **unalterable**
- Unique implicit define in Shared Spooling environment using single source in queue file
- Last implicit defined TKN value shown in PDISPLAY STATUS

d status

```
1C39I COMMAND PASSED TO VSE/POWER
1R46I VSE/POWER 9.1.0 STATUS FOR POWERSLB ON 10/25/2012 TIME 13:00:23
      LAST QUEUE/DATA FILE COLD START      ON 12/08/2011
      PRESENT SESSION START (TURBO-DISP.-NP) ON 10/25/2012 TIME 13:00:19
      APPLIED SERVICE LEVEL  >> DY47302 <<  OF 04/12/2012
1R46I  NODE = POWER511 , SYSID = 1 , MRTKN = 000340DB
```



VSE/POWER in z/VSE 5.1 – TKN attribute for job and output

Display of TKN value

- Shown in job start message 1Q47I

```
1Q47I  BG PAUSEBG 65267 FROM POWER511(SYSA),TIME=20:33:33,TKN=00000009
```

- Shown in PDISPLAY queue,....,FULL=YES

```
d rdr,pausebg,full=yes
```

```
1C39I COMMAND PASSED TO VSE/POWER
```

```
1R46I READER QUEUE P D C S CARDS BU
```

```
1R46I PAUSEBG 65267 3 * 0 4 PART=BG FROM=(SYSA)
```

```
D=07/01/2012 DBGP=000001 ORGDP=K
```

```
QNUM=00008 T=11:53:48 TKN=00000009
```

```
d cre,part,bg
```

```
1C39I COMMAND PASSED TO VSE/POWER
```

```
1R4BI CREATE QUEUE C I LINES BUDBGP QNUM TASK OWNER
```

```
1R4BI PAUSEBG 65267 A P 37 000001 01858 BG FED JOB=PAUSEBG
```

```
TKN=00000009
```

```
1R4BI PAUSEBG 65267 A L 49 000001 01859 BG FEE JOB=PAUSEBG
```

```
TKN=00000009
```

- Same TKN value for output when job released multiple times, e.g. CICS, VTAM, TCPIP
- PNET and POFFLOAD preserve existing TKN values



VSE/POWER in z/VSE 5.1 – TKN attribute for job and output

Selecting jobs & output by TKN attribute

- New **CTKN=hhhhhhhh** operand for queue manipulation commands
 - e.g. PALTER LST,PAUSEBG,CTKN=00000009,CLASS=R,DISP=H
- Selects all spool entries with specified TKN value
- New queue selection **ALL** to address all entries in all physical queues (R|L|P|X)
 - Available for PALTER, PDELETE, PDISPLAY, PHOLD, PRELEASE
 - Must be followed by CTKN=hhhhhhhh
 - **No further selection** operands allowed to **force entity**

```
phold all,ctkn=00000009
```

```
1C39I COMMAND PASSED TO VSE/POWER
```

```
1R88I OK : 2 ENTRIES PROCESSED BY PHOLD ALL,CTKN=00000009
```

```
palter all,ctkn=0000001a,disp=h
```

```
1C39I COMMAND PASSED TO VSE/POWER
```

```
1R88I OK : 1 ENTRY PROCESSED BY PALTER ALL,CTKN=0000001A,DISP=H
```



VSE/POWER in z/VSE 5.1 – TKN attribute for job and output

Special usage of CTKN operand for JCL PWR command

- JCL PWR submits PRELEASE and PHOLD commands to VSE/POWER using SAS
- // PWR PHOLD|PRELEASE command with **CTKN=POWERJOB** for RDR or LST or PUN
 - VSE/POWER replaces POWERJOB with TKN value of active job
 - Holds and releases only queue entries already available
- // PWR PHOLD|PRELEASE **ALL,CTKN=POWERJOB**
 - Holds and releases all output **available** and **in creation**
 - Useful to prevent job output being printed / punched when job fails, e.g.

```

* $$ JOB JNM=ACNTJOB,CLASS=C,DISP=D           <= implicite TKN
* $$ LST JNM=OUTPUT1,LST=00E,CLASS=W,DISP=D,UINF='USER INFORMATION'
* $$ LST JNM=ACCOUNT1,LST=FEE,CLASS=Z,DISP=D
* $$ PUN JNM=CHECKS,PUN=FED,DEST=(OTHERNOD,PUNCH01)
// JOB ACNTJOB
// ON $ABEND GOTO ERR01                       for abnormal termination go to ERR01
// EXEC PGM1
// GOTO $EOJ
/. ERR01
// PWR PHOLD ALL,CTKN=POWERJOB                hold all output with same TKN as job
/&
* $$ EOJ

```



VSE/POWER in z/VSE 5.1 – Duplicate LST & PUN by IPWSEGM

DY47302: Duplicates for LST and PUN Output by IPWSEGM Macro (MR0920106734)

VSE/POWER processes output according to class, disposition, priority and other attributes, which are stored in the queue record. Output duplication allows multiple VSE/POWER tasks to access a single image of spooled data by duplicating the queue record with a different set of attributes. Since z/VSE 4.1 * \$\$ LSTDUP and * \$\$ PUNDUP JECL statements or PCOPY operator command can be used to create duplicate output.

- DY47302 introduces **program-driven output duplication via IPWSEGM**
 - Programs spooling output can request duplication for **the next output segment** using new operand **DUP=YES** for * \$\$ LST and * \$\$ PUN statements supplied by IPWSEGM

DY47302: Access to VSE/POWER Job Attribute TKN

- TKN can now be extracted from MAPPOWJB DSECT using **GETFLD FIELD=POWJOB**
- TKN can now be extracted from IPW\$MXD DSECT when IPWSEGM call completed



VSE/POWER in z/VSE 5.1 – Duplicate LST & PUN by IPWSEGM

To generate LST or PUN output with one or more duplicates using IPWSEGM for program-driven segmentation, do the following:

1. Specify duplicates of the **first output segment** (if any) in job JECL (LSTDUP and/or PUNDUP)
2. Specify duplicates of **next segment** in * \$\$ LST or * \$\$ PUN supplied by IPWSEGM macro call from job

KEEP=NO in IPWSEGM will drop all duplicate definitions made for the previous segment. Specifying KEEP=YES will keep duplicate definitions and can either be replaced by defining new duplicates or explicitly cleared by DUP=NO.

For each duplicate include DUP=YES followed by at least one of the allowed duplicate operands

	KEEP=YES	KEEP=NO
DUP=YES	New duplicate(s)	New duplicate(s)
DUP=NO	No duplicate	Error \$MX0CDNI
No DUP specified	As defined in LSTDUP / PUNDUP	No duplicate

For more details see [VSE/POWER Application Programming](#)



VSE/POWER in z/VSE 5.1 – Duplicate LST & PUN by IPWSEGM

Example how to specify the JECL for duplicate LST output

```
* $$ JOB ...
* $$ LST JNM=LMAST1ST,CLASS=B,DISP=K,LST=FEE,           C
* $$ LSTDUP JNM=LDUPA1ST,                               C
* $$ CLASS=C,                                           C
* $$ LSTDUP JNM=LDUPB1ST,TDISP=L,DEST=OTHERNOD
// MY JOB
// EXEC MYAPPL
/ &
* $$ EOJ ...
```

MYAPPL issues IPWSEGM macro call with KEEP=NO and

```
* $$ LST JNM=LMAST2ND,CLASS=B,DISP=K,LST=FEE,DUP=YES,JNM=LDUPA2ND,
CLASS=C,DUP=YES,JNM=LDUPB2ND,TDISP=L,DEST=OTHERNOD,DUP=YES,JNM=LDUPC
```

When job starts, output spooled for device FEE creates queue entry LMAST1ST.

IPWSEGM call adds LMAST1ST and duplicate LDUPA1ST to LST and duplicate LDUPB1ST to XMT and starts the next segment LMAST2ND.

When job ends, LMAST2ND and duplicates LDUPA2ND and LDUPC are added to LST queue, duplicate LDUPB2ND is added to XMT queue.



VSE/POWER in Hints and Tips for z/VSE 5.1

New [Hints and Tips for z/VSE 5.1](#) on z/VSE homepage

- New article „VSE/POWER Handling Spool Space Shortage”

Describes VSE/POWER spool Space usage and how to handle spool space shortage indicated by messages

- 1QF4A NO FREE QUEUE RECORD AVAILABLE FOR *task, cuu*
- 1Q38A NO DASD SPACE AVAILABLE FOR *task, cuu*

- Article „VSE/POWER Storage Management“

Describes VSE/POWER memory usage and how to handle memory constraints indicated by messages

- 1Q59I *task, cuu* WAITING FOR REAL/PFIXED STORAGE
- 1Q85I *task, cuu* WAITING FOR GETVIS-24 STORAGE, *xxx* BYTES



z/VSE Requirements

The screenshot shows the IBM website interface for z/VSE. At the top, there is a navigation bar with the IBM logo, a search box, and a 'United States [change]' dropdown. Below this is a main navigation menu with links for Home, Solutions, Services, Products, Support & downloads, and My IBM. A secondary navigation bar includes 'Welcome [IBM Sign in] [Register]'.

The main content area is titled 'Contact z/VSE' and includes a breadcrumb trail: 'IBM Systems > Mainframe servers > Operating systems > z/VSE >'. Below the title are two buttons: 'Send questions or comments' and 'Submit a requirement', with the latter circled in blue. A section titled 'Send us your requirement' contains a paragraph: 'If you think that a function or feature is missing in VSE, VSE related products, or on this web page, please fill out the form to submit your requirement.'

A note states: 'The fields indicated with an asterisk (*) are required to complete this transaction; other fields are optional. If you do not want to provide us with the required information, please use the "Back" button on your browser to return to the previous page, or close the window or browser session that is displaying this page.'

The form fields are:

- Salutation: *** with a dropdown menu showing 'Mr.'
- First name: *** with an empty text input field.
- Last name: *** with an empty text input field.

On the left side, a vertical navigation menu lists various categories, with 'Contact z/VSE' circled in blue. On the right side, there are three informational boxes: 'We're here to help' with an 'E-mail us' link, 'Stay informed' with a link to get news about z/VSE through Twitter, and 'Need help?' with links to 'Contact IBM' and 'IBM System z frequently asked questions'.



Many Thanks to Sergey Grimaylo, Yuri Adrov and Stev Glodowski.

Спасибо
Russian

धन्यवाद
Hindi

Bedankt
Nederlands

Thank You
English

شكراً
Arabic

Merci
French

Obrigado
Brazilian Portuguese

Gracias!
Spanish

多谢
Simplified Chinese

Danke
German

多謝
Traditional Chinese

ありがとうございました
Japanese

감사합니다

Thank You

Questions

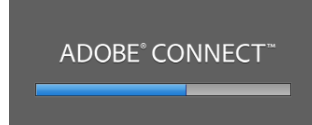


Please forward your questions or remarks to

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