

## E16

**VSE/POWER What's new since VSE/ESA V2.5****Stephen Gracin****IBM System z Expo**September 17-21, 2007  
San Antonio, TX**What's New Since VSE 2.5**

- PNET TCP/IP
- SAS exploited by IUI for browsing queue entries
- DEL and CRE queue
- D ALL D TOTAL
- Data File ( 1 or n extents) extension on warm start
- NJE SSL
- 100,000 queue entries
- D BIGGEST
- Queue File Reallocation on warm start
- Node name change during warm start
- POFFLOAD/ BACKUP/PICKUP/SAVE tape journal
- 2 stage deletion
- D Q
- D STATUS – APAR level
- PSEGMENT
- P VARY MSG
- Queue entry manipulation by QNUM
- DY46375/390 D QUEUE , SORT=OLD/NEW,LIMIT=

## Extending Networking Capability

**Ground rule – When used TCPIP means CSI/TCPIP aka TCPIP For VSE**

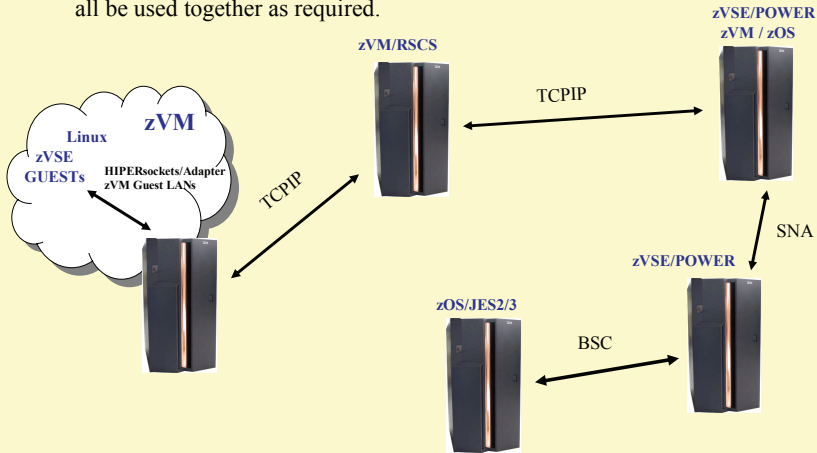
## Extending Networking Capability

VSE/POWER PNET supports NJE communications via TCP/IP

- Secure Sockets Layer ( SSL ) is available with TCP/IP for VSE to provide authentication and data security between TCP/IP nodes.
- PNET SSL requires addition definitions in the Network Definition Table ( NDT ) to enable SSL.

## NJE TCPIP SUPPORT

- A NJE link for a TCP node can be defined in the Network Definition Table. This support is added to existing BSC, VCTC and SNA capability and they can all be used together as required.



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## NJE TCPIP SUPPORT

### Example of a NJE TCP only NDT

```

*
* O W N ( O R L O C A L ) N O D E
*
PNZVSE PNODE NODE=ZVSE,
LOCAL=YES,
PORT=7777
SPACE
*
* T C P D I R E C T L Y L I N K E D R E M O T E N O D E , T R I G G E R S O W N N O D E T O C O M M U N I C A T E
*
* T O Z V S E 1 I S A T C P I P C O N N E C T I O N
PNODE NODE=ZVSE1,
LOCAL=NO,
IPHOSTAD=10.10.10.6 IP-ADDRESS
MAXBUF=(4,4) BUFFERS
AUTH=JOB, NODE AUTHORITY
PORT=7777 TCP/IP PORT NUMBER OF REMOTE NODE
SPACE
* T O Z V S E 2 I S A D I R E C T C O N N E C T I O N
PNODE NODE=ZVSE2,
LOCAL=NO,
IPHOSTAD=192.168.0.100 IP-ADDRESS, ALSO 'IPHOSTNM='
    
```

#### Local Node

This defines this system to  
PNET as ZVSE

#### Remote Nodes

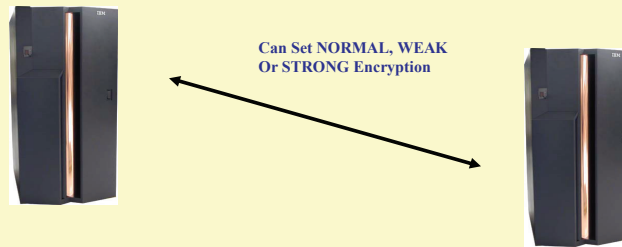
These define other PNET Nodes  
and how to get there from ZVSE

- The skeleton SKPWRNDT in ICCF Library 59 has entries for all the possible PNET connections. © Conference

## NJE Secure Socket Layer SUPPORT

### PNET SSL

An optional support that can be provided by TCPIP For VSE that allows for the encryption of data being transferred between systems by PNET/IP. When used all data such as Jobs , List , Punch data and control records that might contain passwords are encrypted



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## NJE Secure Socket Layer SUPPORT

### Keyman/VSE

A tool that can be downloaded from:

<http://www-03.ibm.com/servers/eserver/zseries/zvse/downloads/>

- create 512-bit and 1024-bit RSA key pairs
- create self-signed certificates for testing and learning purposes
- create PKCS#10 certificate requests
- sign certificate requests
- import and export certificates in Base64 text form
- read and write from and to the clipboard
- read and write PKCS#12 keyring files
- connect to multiple VSE systems
- catalog keys and certificates on VSE
- validate a VSE keyring
- show the member list in the VSE keyring library
- show the mappings of VSE client certificates to VSE user IDs
- create VSE client certificates and create/update their mapping to a VSE user ID

**Not really part of POWER but a handy tool.**

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## NJE Secure Socket Layer SUPPORT

### Keyman/VSE

This is a Java app and is based in the VSE Connector Client, install the Connector Client first.

1

2

3

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## NJE SSL SUPPORT

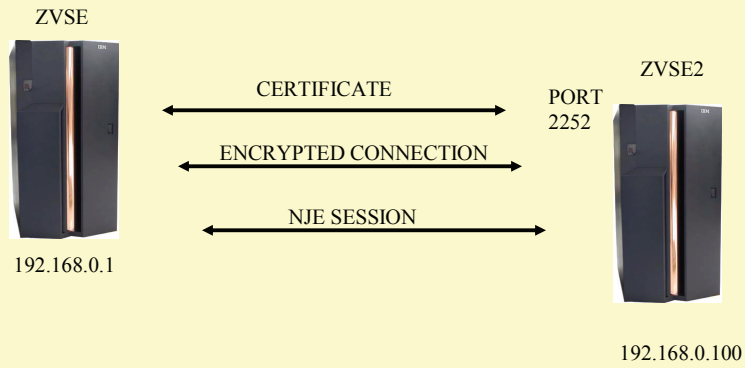
### Example of a NJE TCP SSL entry

```
PNODE NODE=ZVSE2, *
LOCAL=NO, *
ISHOSTAD=192 168 0 100 DECIMAL IP-ADDRESS *
AUTH=JOB, NODE AUTHORITY, SEE --V152-- *
BUFSIZE=4096, TRANSMIT BUFFER SIZE, SEE --V153-- *
MAXBUF=(2,2), BUFFERS PER RCV/TSM, SEE --V154-- *
SPORT=2252, TCP/IP SSL PORT NUMBER OF REMOTE NODE*
ENCRYPT=WEAK, ENCRYPTION LEVEL, SEE --V158-- *
DNAME=ZVSE NAME OF KEY MEMBER
SPACE
```

\* This PNODE example is from skeleton file SKPWRNDT in ICCF Lib 59.

## NJE SSL SUPPORT

At a High Level Here's What Happens ...



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## Node Name Change – Warm Start

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## Node Name Change

During a warm start the NJE local node name can be changed.

```
d pnet
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1RB7I ***** NDT NAME = PNZVSE *****
F1 0001 1RB7I NODE   ROUTE1  ROUTE2  AUTH BSIZE APPLID/IPADDR IPPORT SPORT
F1 0001 1RB7I ZVSE   ----- LOCAL -----      ZVSE      7777 2252
```

Changed the local node from ZVSE to LOCZVSE in the existing NDT and reassembled, shutdown and repl.

```
F1 0001 //JOB POWSTART
      DATE 12/07/2005, CLOCK 20/38/21
F1 0001 1RE5I NETWORK DEFINITION TABLE PNZVSE FOUND WITH NEW LOCAL NODE NAME
      LOCZVSE
F1-0001 1RE6D CONFIRM CHANGE OF LOCAL NODE NAME FROM ZVSE TO LOCZVSE BY
      'YES', ELSE 'NO'
1 YES
```

Continued 

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## Node Name Change

```
F1 0001 1RB4I PLOAD NETWORK DEFINITION TABLE PNZVSE LOADED
F1 0095 1RT7I TCP/IP: INTERFACE STARTING, SOCKET CALL INITAPI ISSUED
F1 0001 1RTMI TCP/IP SUBTASK ATTACHED
F1 0001 1QB7I FULL QUEUE FILE RECOVERY IN PROGRESS
F1 0001 1QB8I QUEUE FILE RECOVERY COMPLETED
F1 0001 1RECI STATUS REPORT $LSTNNNN BEING CREATED DUE TO NODE NAME CHANGE
F1 0001 1Q8GI STATUS REPORT DISPLAYED IN LIST ENTRY $LST0346
F1 0001 1RE7I CHANGE OF LOCAL NODE NAME FROM ZVSE TO LOCZVSE IN PROGRESS
F1 0001 1RE7I CHANGE OF LOCAL NODE NAME FROM ZVSE TO LOCZVSE COMPLETED
```

Very quickly the NJE node name was changed without having  
To Cold start and an internal **D ALL,LST** command created a status  
Report for reference.

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## The Queues

## The Queues

### Significant Changes

Since Power 6.7 there are 100,000 QUEUE records available ( 99,998 usable ) an increase from 32768 ( 32766 usable ). The maximum job number of 65,535 remains unchanged.

### New Queues

- **CRE** Queue holds QUEUE entries that are “In Creation” they are currently in the process of being spooled to one of the queues as displayed by the **D A** command but not yet visible on the RDR, LST, or PUN queue.
- **DEL** Queue holds QUEUE entries that are marked to be deleted as soon as possible.



## The Queues

### New

- Browsing of Queue Entries via SAS has been exploited by the IUI for improved performance and concurrent browse access for up to 255 active browsers.
- **B-Column** and **MACC** count seen with (FULL=YES) for => 1 depending upon how many active browsers there are.

```
d1stfull=yes
AR 0015 1C39 COMMAND PASSED TO VSE/POWER
F1 0001 1R46 LST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46 SVASCI 00566 3 H A 4 1 *TO=(GRAC) FROM=(GRAC)
F1 0001 D=03/07/2006 DBGP=000001 L=00000016
F1 0001 MACC=002 QNUM=01879 T=21:24:11
```

SVASCI is being Browsed by  
Two Users

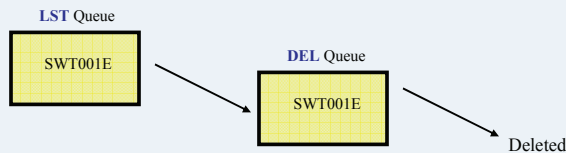
- Browse “in creation” entries in CRE queue
- Browse DISP=\* entries that are in execution.

## The Queues

### Two Stage Deletion

Two Stage Deletion, jobs to be deleted are no longer processed immediately but Placed on the **DE**letion queue. The **DEL** queue holds the jobs until they are deleted by a POWER low priority task, this is a *significant performance benefit* as tasks no longer stop and wait for a queue entry to be deleted.

```
pdelete lst,swt001e
```

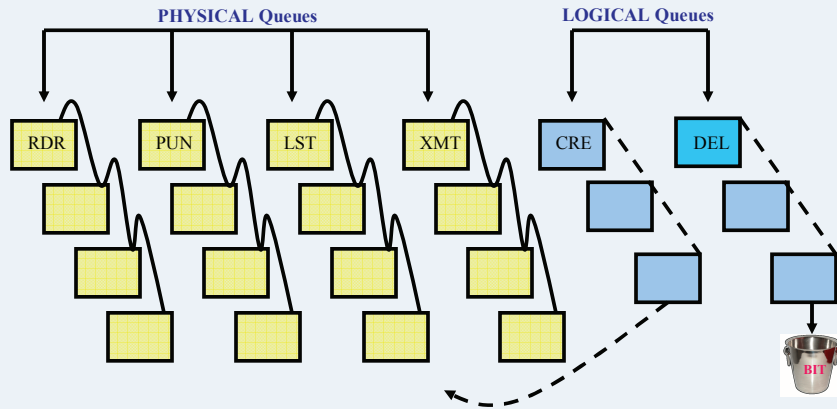


The deleted LST job SWT001E will be added to the DEL queue and eventually be deleted by a POWER Internal Task.

# The Queues

## VSE/POWER - Two Additional Queues

An in **CRE**ation Entry Goes To Another Queue, the **DEL**etion Queue Entry Will Go Away When The Last Browser Is Finished.



# Commands

## Commands

To display the Queue File characteristics.

### D Q

```
d q
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I QUEUE FILE 001% FULL - 3775 FREE QUEUE RECORDS
F1 0001 1R49I USED QUEUE RECORDS: 31, CRE-Q: 4, DEL-Q: 0
F1 0001 1R49I RDR-Q: 21, LST-Q: 6, PUN-Q: 0, XMT-Q: 0
F1 0001 1R49I QUEUE FILE EXTENT ON CKD-807, SYS001, 16680, 30
F1 0001 1R49I DATA FILE 002% FULL - 1646 FREE DBLK GROUPS
F1 0001 1R49I CURRENT DBLK SIZE=07548, DBLK GROUP SIZE=00008
F1 0001 1R49I DATA FILE EXTENT 1 ON CKD-807, SYS002, 6330, 1920
F1 0001 1R49I ACCOUNT FILE 3 % FULL
F1 0001 1R49I ACCOUNT FILE EXTENT ON CKD-807, SYS000, 8250, 90
```

**D Q** shows all the Queues, total capacity, used capacity, Queue and Data File physical locations.

## Commands

To Display by DBLK GPs consumed the biggest Queue entries.

### D BIGGEST

```
d biggest
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R4BI 16 BIGGEST SORTED C I CARD/LINE DBGP QNUM SUF PAGES QUE
F1 0001 1R4BI 01 LIBR1 00713 0 L 2435 0000004 01860 47 LST
F1 0001 1R4BI 02 LIBALL 00725 0 L 3096 0000004 01862 58 LST
F1 0001 1R4BI 03 TOVSE27 00670 A L 2437 0000004 01881 48 LST
F1 0001 1R4BI 04 TOVSE27 00673 A L 2437 0000004 01886 48 LST
F1 0001 1R4BI 05 CICSICCF 00664 2 R 71 0000001 00001 RDR
F1 0001 1R4BI 06 STARTVCS 00667 R R 8 0000001 00002 RDR
F1 0001 1R4BI 07 TAPESRVR 00338 R R 7 0000001 00003 RDR
F1 0001 1R4BI 08 LIBR2 00717 0 L 251 0000001 00004 6 LST
F1 0001 1R4BI 09 CEL$OPT$ 00006 C R 41 0000001 00005 RDR
F1 0001 1R4BI 10 CEEWARC 00665 C R 46 0000001 00006 RDR
```

↓  
Continues to 16 Entries

## Commands

Command with Queue Number ( *qnum* ) operand, example PDELETE with current *qnum* to remove one LST queue entry as there maybe be many entries with the same Job name and number.

**First Use PDISPLAY LST,FULL=YES to get QNUM this is NOT the job number.**

```
d l st,swt*,full=yes
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I LIST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46I SWTA00 00520 3 D A 3 1 TO=(GRAC) FROM=(GRAC)
F1 0001 D=02/28/2006 DBGP=000001 L=00000009
F1 0001 QNUM=01825 T=19.00.41
F1 0001 1R46I SWTA00 00520 3 D A 3 1 TO=(GRAC) FROM=(GRAC)
F1 0001 D=02/28/2006 DBGP=000001 L=00000009
F1 0001 QNUM=01886 T=19.00.44
F1 0001 1R46I SWTA00 00520 3 D A 3 1 TO=(GRAC) FROM=(GRAC)
F1 0001 D=02/28/2006 DBGP=000001 L=00000009
F1 0001 QNUM=01835 T=19.00.45
I l st,swt*,qnum=1886
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R88I OK: 1 ENTRY PROCESSED BY L LST,SWT*,QNUM=1886
```

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## Commands

```
d l st
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I LIST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46I LIBR1 00713 3 D 0 47 1 FROM=(GRAC)
F1 0001 1R46I LIBR2 00717 3 D 0 6 1 FROM=(GRAC)
F1 0001 1R46I LIBR3 00721 3 D 0 3 1 FROM=(GRAC)
F1 0001 1R46I LIBALL 00725 3 D 0 58 1 FROM=(GRAC)
F1 0001 1R46I $STA0732 00732 9 H A 2 1
```

Jobs currently displayed  
On the LST Queue

### D DEL

```
d del
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R4BI DELETION QUEUE P D C I LINES B
F1 0001 1R4BI TOVSE27 00663 3 D A L 2437 * TO=(GRAC) FROM=(GRAC)
F1 0001 D=10/31/2005 DBGP=000004
F1 0001 MACC=001 QNUM=01886
```

TOVSE27R has been Deleted from  
the LST queue while being browsed  
it is put on the DEL queue

### D CRE

```
d cre
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R4BI CREATE QUEUE C I LINES B DBGP QNUM TASK OWNER
F1 0001 1R4BI CICSICCF 00664 A L 270 000001 01871 F2 FEE JOB=CICSICCF
F1 0001 1R4BI TCPPIP00 00666 A L 176 000001 01876 F7 FEE JOB=TCPIP00
F1 0001 1R4BI VTAMSTRT 00663 A L 21 000001 01879 F3 FEE JOB=VTAMSTRT
F1 0001 1R4BI STARTVCS 00667 A L 6 000001 01883 R1 FEE JOB=STARTVCS
```

Jobs currently being  
Spooled not complete

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## Commands

**D ALL** - Displays all the Queue Entries that are in the *Physical Queues*. These are the RDR, PUN, LST, and XMT Queues where the Queue entries are linked together this command does not show what is in the CRE and DEL queues.

**D TOTAL** - Displays all the *Physical Queue* Entries as well as the CRE and DEL *Logical Queues*.


## Commands

### PSEGMENT

```
d are
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R4BI CREATE QUEUE CI LINES B DBGP QNUM TASK OWNER
F1 0001 1R4BI QCSI CCF 00664 A L 333 000001 01871 F2 FEE JOB=CICSI CCF
F1 0001 1R4BI TCPI P00 00666 A L 176 000001 01876 F7 FEE JOB=TCPI P00
F1 0001 1R4BI VTAMSTRT 00663 A L 21 000001 01879 F3 FEE JOB=VTAMSTRT
F1 0001 1R4BI STARTVCS 00667 A L 6 000001 01883 R1 FEE JOB=STARTVCS
```

```
psegment f7,fee imm
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R8BI OK
F7 0001 1053I OUTPUT SEGMENTED FOR TCPI P00 00666 001 F7, FEE
```

Job TCPIP00 has spooled 176 lines to the CRE Queue but they can not be printed, deleted or transmitted, **but can be Browsed**. The PSEGMENT command can be used to segment the listing up to this point to the LST Queue.

Continued 

## Commands

### PSEGMENT

*d cre*

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R4BI CREATE QUEUE CI LINES B DBGP QNUM TASK OWNER
F1 0001 1R4BI CI CSI CCF 00664 A L 333 000001 01871 F2 FEE JOB=CI CSI CCF
F1 0001 1R4BI VTAMSTRT 00663 A L 21 000001 01879 F3 FEE JOB=VTAMSTRT
F1 0001 1R4BI STARTVCS 00667 A L 6 000001 01883 R1 FEE JOB=STARTVCS
F1 0001 1R4BI TCPI P00 00666 A L 0 000001 01886 F7 FEE JOB=TCPI P00
```

The CRE Queue entry is now 0 and  
The **d lst** shows the entry as the first  
Segment, S=001 this entry can be  
Browsed, Printed, Altered, Deleted.

*d lst*

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I LST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46I LBR1 00713 3 D O 47 1 FROM=(GRAC)
F1 0001 1R46I LBR2 00717 3 D O 6 1 FROM=(GRAC)
F1 0001 1R46I LBR3 00721 3 D O 3 1 FROM=(GRAC)
F1 0001 1R46I LBALL 00725 3 D O 58 1 FROM=(GRAC)
F1 0001 1R46I TOVSE27 00670 3 D A 48 1 TO=(GRAC) FROM=(GRAC)
F1 0001 1R46I TCPI P00 00666 3 D A 3 1 S=001 TO=(SYSA)
FROM=(SYSA)
F1 0001 1R46I $STA0732 00732 9 H A 2 1
```

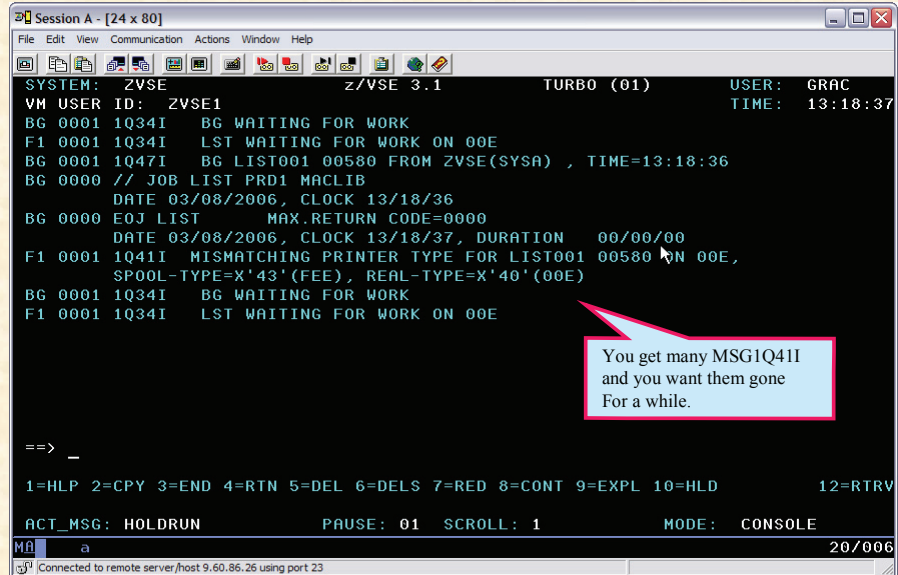
## Commands

### PVARY MSG

- Are there times you do not want to see certain messages, like maybe when testing?
- Don't want to flood the console with numerous informational yet expected messages running your normal workload.
- But you want a record of all the messages.
- PVARY MSG can provide this function.

## Commands

### PVARY MSG



The screenshot shows a terminal window titled "Session A - [24 x 80]". The window displays a series of system messages (BG and F1) from the Z/VSE 3.1 system. A callout box with a pink border and a white background points to a message "F1 0001 1Q41I MISMATCHING PRINTER TYPE FOR LIST001 00580 00E, SPOOL-TYPE=X'43'(FEE), REAL-TYPE=X'40'(00E)". The callout box contains the text: "You get many MSG1Q41I and you want them gone For a while." Below the messages, there is a command prompt "==" and a list of function keys: "1=HLP 2=CPY 3=END 4=RTN 5=DEL 6=DELS 7=RED 8=CONT 9=EXPL 10=HLD 12=RTRV". At the bottom, it shows "ACT\_MSG: HOLDRUN PAUSE: 01 SCROLL: 1 MODE: CONSOLE" and a status bar with "MA a" and "20/006".

```
SYSTEM: ZVSE Z/VSE 3.1 TURBO (01) USER: GRAC
VM USER ID: ZVSE1 TIME: 13:18:37
BG 0001 1Q34I BG WAITING FOR WORK
F1 0001 1Q34I LST WAITING FOR WORK ON 00E
BG 0001 1Q47I BG LIST001 00580 FROM ZVSE(SYSA) , TIME=13:18:36
BG 0000 // JOB LIST PRD1 MACLIB
DATE 03/08/2006, CLOCK 13/18/36
BG 0000 EOJ LIST MAX.RETURN CODE=0000
DATE 03/08/2006, CLOCK 13/18/37, DURATION 00/00/00
F1 0001 1Q41I MISMATCHING PRINTER TYPE FOR LIST001 00580 00E,
SPOOL-TYPE=X'43'(FEE), REAL-TYPE=X'40'(00E)
BG 0001 1Q34I BG WAITING FOR WORK
F1 0001 1Q34I LST WAITING FOR WORK ON 00E

==> _

1=HLP 2=CPY 3=END 4=RTN 5=DEL 6=DELS 7=RED 8=CONT 9=EXPL 10=HLD 12=RTRV
ACT_MSG: HOLDRUN PAUSE: 01 SCROLL: 1 MODE: CONSOLE
MA a 20/006
Connected to remote server/host 9.60.86.26 using port 23
```

## Commands

### PVARY MSG

For example you get many MSG1Q41I that are expected and you want to shut them off temporarily

***pvary msg,1q41i,nocons*** - MSG1Q41I will no longer be displayed at the console

***pvary msg,alldisab,show*** - Show which messages that are disabled for display

***pvary msg,alldisab,cons*** - re-enable all disabled messages to display at the console  
individual messages can be selected instead of ***alldisab***

**NOTE: All disabled messages will still show in the hardcopy file only  
the console display is changed.**



## Commands

PVARY MSG

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
[Icons]
SYSTEM: ZVSE z/VSE 3.1 TURBO (01) USER: GRAC
VM USER ID: ZVSE1 TIME: 14:54:58
pvaru msg,1q41i,nocons
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1Q8HI MESSAGE 1Q41I BEEN ENABLED, NOW DISABLED FOR CONSOLE
BG 0001 1Q47I BG LIST001 00582 FROM ZVSE(SYSA) , TIME=14:53:16
BG 0000 // JOB LIST PRD1 MACLIB
DATE 03/08/2006, CLOCK 14/53/16
BG 0000 E0J LIST MAX.RETURN CODE=0000
DATE 03/08/2006, CLOCK 14/53/16, DURATION 00/00/00
BG 0001 1Q34I BG WAITING FOR WORK
F1 0001 1Q34I LST WAITING FOR WORK ON 00E
pvaru msg,alldisab,show
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1Q8HI MESSAGE 1Q41I IS DISABLED
pvaru msg,alldisab,cons
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1Q8HI MESSAGE 1Q41I BEEN DISABLED, NOW ENABLED FOR CONSOLE

==>
1=HLP 2=CPY 3=END 4=RTN 5=DEL 6=DELS 7=RED 8=CONT 9=EXPL 10=HLD 12=RTRV
ACT_MSG: HOLDRUN PAUSE: 01 SCROLL: 1 MODE: CONSOLE
MA a 20/006
[Icons] Connected to remote server/host 9.60.86.26 using port 23
```

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## Commands

### D STATUS

```
d status
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I VSE/POWER 7.1.0 STATUS FOR ZVSE ON 02/28/2006 TIME 15/50/51
F1 0001 LAST QUEUE/DATA FILE COLD START ON 11/02/2005
F1 0001 PRESENT SESSI ON START (TURBO-DI SP-NP) ON 02/09/2006 TIME 16/23/31
F1 0001 APPLIED SERVICE LEVEL >> DY46462 << OF 10/11/2005
F1 0001 1R46I NODE = ZVSE , SYSD --
F1 0001 1R46I QUEUE FILE IJQFILE
F1 0001 TOTAL NUMBER OF TRACKS 15 TRACKS
F1 0001 TOTAL NUMBER OF QUEUE RECORDS 1886 RECORDS
F1 0001 FREE QUEUE RECORDS (INCL 10 FOR CUSHI ON) 1847 RECORDS
```

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## Function APARs

### New Function

Event Scheduling - parameter *DUEFRQ=* can be used with DUEDAY parameter of the \* \$\$ JOB card to schedule a job more than once a day. The *DUETIME=* parameter schedules a job in 24 hour format ( HHMM ). APAR DY46248.

Execution Disposition – when using parameter DISP=I a second parameter *EDISP=* can now be specified to place the job in the reader as DISP *D/H/K/L*. See APAR DY46367.

Dynamic Partitions – default output class can be set by *SET DYNOUTC=* See APAR DY46324.

PALTER disposition – Of a job that is DISP=\* in execution. If you make changes to a long running job like CICSICCF you can submit the new job to the RDR, change the DISP of the running job to D and it will be deleted at EOJ.

## Function APARs

### New Function

\* \$\$ LST & PUN – card continuation is allowed in a SLI book.

Warm Start – release migration of spool files supported during the FSU process. POWER during a warm start will accept existing QUEUE and DATA files.

## Warmstart Queue And Data File Extensions

## Warmstart Queue And Data File Extensions

- POWER now allows for the Extension of the Queue and Data file during a Warm Start. The QUEUE and/or DATA File can be extended at warm start with the advantage of not having to POFFLOAD the Queue and Data file then perform a Cold start, which is time consuming.
- The DATA File will have one Label ( IJDFILE ) but can support up to 32 EXTENTS. The QUEUE File can have one EXTENT but will have two Labels ( IJQFILE IJQFOLD ) temporarily, while the old Queue file is relocated to the new EXTENT.

## Extending The Queue File

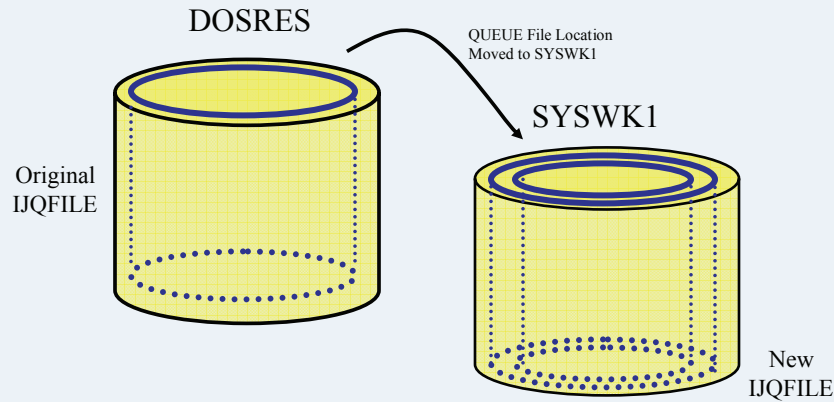
**Before Extending**

**DQ**

```

AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I QUEUE FILE 002% FULL - 1855 FREE QUEUE RECORDS
F1 0001 1R49I USED QUEUE RECORDS: 31, CRE-Q: 5, DEL-Q: 0
F1 0001 1R49I RDR-Q: 22, LST-Q: 2, PUN-Q: 0, XMT-Q: 2
F1 0001 1R49I QUEUE FILE EXTENT ON CKD-806, SYS001, 945, 15
    
```

## Extending The Queue File



In this example we will increase the original QUEUE file from 1 cylinder on DOSRES to 2 cylinders on SYSWK1  
*The Existing Used Queue Records Are Moved To The New Extents.*

## Extending The Queue File

POWER detects the additional LABEL during the warm start and processes the new LABEL, DTRPOWR.PROC was updated

•Section of STDLABEL.PROC with the original QUEUE file IJQFILE

```
./ POWER QUEUE FILE =====  
//DLBL IJQFILE,'VSE POWER. QUEUE. FILE',99/366,DA  
//EXTENT SYS001,DOSRES,1,0,945,15
```

•Section of STDLABEL.PROC with the new QUEUE file location IJQFOLD

```
./ POWER QUEUE FILE =====  
//DLBL IJQFOLD,'VSE POWER. QUEUE. FILE',99/366,DA  
//EXTENT SYS034,DOSRES,1,0,945,15  
//DLBL IJQFILE,'VSE POWER. QUEUE. FILE',99/366,DA  
//EXTENT SYS001,SYSWK1,1,0,1112,30
```

•DTRPOWR.PROC

```
CATALOG DTRPOWR.PROC EOD=YY DATA=YES REPLACE=YES  
//ASSGN SYS000,DISK,VOL=SYSWK1,SHR POWER ACCOUNT FILE  
//ASSGN SYS001,DISK,VOL=SYSWK1,SHR POWER QUEUE FILE NEW  
//ASSGN SYS002,DISK,VOL=SYSWK1,SHR POWER DATA FILE 1  
//ASSGN SYS034,DISK,VOL=DOSRES,SHR POWER QUEUE FILE OLD
```

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## Extending The Queue File

```
F1 0001 //JOB POWSTART  
DATE 11/11/2005 CLOCK 16/38/12  
F1 0001 4601I NO FORMAT 1 LABEL FOUND IJQFILE SYS001=807 SYSWK1  
F1 0001 10E1I RE-ALLOCATION PROCESS STARTED FOR VSE/POWER QUEUE FILE  
F1 0001 10E3I IJQFOLD: //EXTENT SYS034,DOSRES,1,000,945,15  
F1 0001 10E3I IJQFILE: //EXTENT SYS001,SYSWK1,1,000,1112,30  
F1-0001 10E3D CONFIRM QUEUE FILE RE-ALLOCATION FROM IJQFOLD TO IJQFILE BY  
'YES' ELSE 'NO'  
1 yes  
F1 0001 10E4I VERIFYING LOCATION OF NEW QUEUE FILE IJQFILE BY OPEN FOR  
'IJQTEST'  
F1 0001 10E5I LOCATION OF NEW QUEUE FILE IJQFILE VERIFIED SUCCESSFULLY  
F1 0001 10E6A RE-ALLOCATION FOR IJQFILE COMPLETED, 1920 FREE QUEUE RECORDS  
ADDED
```

After the Queue files location and size has been successfully altered then remove the statements for the old Queue definitions from STDLABEL and DTRPOWR proc.

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## Extending The Queue File

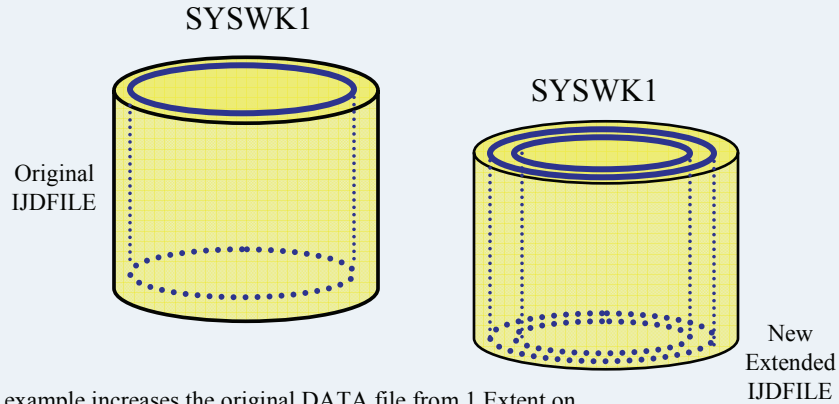
After Extending

DQ

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I QUEUE FILE 001% FULL - 3775 FREE QUEUE RECORDS
F1 0001 1R49I USED QUEUE RECORDS: 31, CRE-Q: 5, DEL-Q: 0
F1 0001 1R49I RDR-Q: 22, LST-Q: 2, PUN-Q: 0, XMT-Q: 2
F1 0001 1R49I QUEUE FILE EXTENT ON CKD-807, SYS001, 1112, 30
```

## Warmstart Data File Extension

## DATA File Example



This example increases the original DATA file from 1 Extent on SYSWK1 to 2 Extents on SYSWK1.  
*When the data file is extended the already existing extent(s) will remain in their positions.*

## Extending The Data File

### Before Extending

D Q

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I QUEUE FILE 001% FULL - 3775 FREE QUEUE RECORDS
F1 0001 1R49I USED QUEUE RECORDS: 31, CRE-Q: 5, DEL-Q: 0
F1 0001 1R49I RDR-Q: 22, LST-Q: 2, PUN-Q: 0, XMT-Q: 2
F1 0001 1R49I QUEUE FILE EXTENT ON CKD-807, SYS001, 1112, 30
F1 0001 1R49I DATA FILE 007% FULL - 1564 FREE DBLK GROUPS
F1 0001 1R49I CURRENT DBLK SIZE=07548, DBLK GROUP SIZE=00008
F1 0001 1R49I DATA FILE EXTENT 1 ON CKD-807, SYS001, 6330, 1920
```

## Extending The Data File

*POWER will see the additional EXTENT during the warm start and process the new EXTENT*

*•Section of STDLABEL PROC Original definition*

```
// POWER DATA FILE LABEL AND EXTENTS =====  
// DLBL IJDFILE,'VSE.POWER.DATA.FILE',99/366,DA  
// EXTENT SYS002,SYSWK1,1,0,6330,1920
```

*•Section of STDLABEL PROC with new Extent*

```
// POWER DATA FILE LABEL AND EXTENTS =====  
// DLBL IJDFILE,'VSE.POWER.DATA.FILE',99/366,DA  
// EXTENT SYS002,SYSWK1,1,0,6330,1920  
// EXTENT SYS002,SYSWK1,1,1,16680,300
```

## Extending The Data File

*POWER will see the additional EXTENT during the warm start and process the new EXTENT*

```
4814 F1 0001 //JOB POWSTART  
      DATE 09/12/2005, CLOCK 13/47/00  
F1 0001 1QD7A  1 ADDITIONAL EXTENT(S) FOUND FOR EXTENSION OF EXISTING DATA  
FILE WITH 1 EXTENT(S)  
F1 0001 1QD2I  EXISTING DATA FILE EXTENT NO. 1 FOUND IN IJDFILE DLBL/EXTENT  
              (// EXTENT SYS002,SYSWK1,1,000,6330,1920)  
F1-0001 1QD2D  DATA FILE EXTENT NO. 2 -FOR FORMATTING REPLY 'YES' ELSE 'NO'  
              (// EXTENT SYS002,SYSWK1,1,001,16680,300)  
1 YES  
F1 0001 1QD4I  VERIFYING LOCATION OF ADDITIONAL DATA FILE EXTENT(S) BY OP  
              FOR 'IJDTST'  
F1 0001 1QD5I  LOCATION OF ADDITIONAL DATA FILE EXTENT(S) VERIFIED  
              SUCCESSFULLY
```

## Extending The Data File

### After Extending

D Q

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I QUEUE FILE 001% FULL - 3775 FREE QUEUE RECORDS
F1 0001 1R49I USED QUEUE RECORDS: 31, CRE-Q: 5, DEL-Q: 0
F1 0001 1R49I RDR-Q: 22, LST-Q: 2, PUN-Q: 0, XMT-Q: 2
F1 0001 1R49I QUEUE FILE EXTENT ON CKD-806, SYS001, 945, 15
F1 0001 1R49I DATA FILE 002% FULL - 1906 FREE DBLK GROUPS
F1 0001 1R49I CURRENT DBLK SIZE=07548, DBLK GROUP SIZE=00008
F1 0001 1R49I DATA FILE EXTENT 1 ON CKD-807, SYS002, 6330, 1920
F1 0001 1R49I DATA FILE EXTENT 2 ON CKD-807, SYS002, 16680, 300
```

## Function APARs

*DY46375 D queue, SORT=OLD|NEW, LIMIT=*

```
D LST,SORT=OLD
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I FOR 'D LST,.,LIMIT=016,SORT=OLD' COLLECTED 011 OF 00011 ENTRIES
F1 0001 1R46I LIST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46I CEEWARC 00311 3 D A 2 1 D=11/15/2005 T=14:04:57
F1 0001 1R46I PAUSEF5 00016 3 D A 664 1 D=11/15/2005 T=14:12:24
F1 0001 1R46I STARTVCS 00312 3 D A 2 1 D=11/23/2005 T=16:38:42
F1 0001 1R46I CEEWARC 00322 3 D A 2 1 D=11/23/2005 T=16:38:45
F1 0001 1R46I SVEBCDIC 00323 3 D A 2 1 D=12/02/2005 T=13:36:15
F1 0001 1R46I CEEWARC 00334 3 D A 2 1 D=12/07/2005 T=14:00:57
```

```
D LST,SORT=OLD,LIMIT=3
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I FOR 'D LST,.,LIMIT=003,SORT=OLD' COLLECTED 003 OF 00011 ENTRIES
F1 0001 1R46I LIST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46I CEEWARC 00311 3 D A 2 1 D=11/15/2005 T=14:04:57
F1 0001 1R46I TVTAPE 00317 3 D A 4 1 D=11/15/2005 T=14:10:11
F1 0001 1R46I TVTAPE 00318 3 D A 4 1 D=11/15/2005 T=14:11:01
```



## POFFLOAD

## POFFLOAD TAPE Journal

### POFFLOAD - BACKUP / PICKUP / SAVE

For these POFFLOAD functions the default is for POWER to produce a journal while writing spool entries to tape. The journal will have the creation date and time of the tape and information about every spool entry that was written. When the POFFLOAD function completes the journal is written to the POWER as a LST queue entry.

The documented tape inventory eliminates the need to later mount tapes to identify what they contain.



## POFFLOAD TAPE Journal

```
o backup,rdr;581,*,*
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1Q2AI OFFLOADING BACKUP SUCCESSFULLY COMPLETED ON 581, JOURNAL LST
ENTRY $OFJ0341 CREATED
```

### \$OFJ0341 LISTING

```
1R4CI          POFFLOAD JOURNAL BEGIN
1R4CI
1R4CI JOURNAL LST ID=$OFJ0341 00341
1R4CI INPUT COMMAND=BACKUP, RDR, 581,*,*
1R4CI TAPE VOL1 LABEL=
1R4CI (NONE)
1R4CI TAPE HDR1 LABEL=
1R4CI (NONE)
1R4CI
1R4CI DATE BEGIN=12/07/05 TIME BEGIN=15:16:43 TIME NOW=15:16:50 VOL=000
1R4TI READER QUEUE P D C S CARDS-----
1R4TI PRTDUMPA 00021 3 L O 7 FROM=(SYSA)
      D=11/02/2005 DBGP=000001
1R4TI PRTDUMPB 00022 3 L O 7 FROM=(SYSA)
      D=11/02/2005 DBGP=000001
1R4TI PAUSEBG 00009 3 L O 4 FROM=(SYSA)
      D=11/02/2005 DBGP=000001
1R4TI PAUSEF1 00012 3 L 1 4 FROM=(SYSA)
      D=11/02/2005 DBGP=000001
1R4TI QCSI CCF 00333 3 K 2 71 FROM=(SYSA)
```

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## Poffload Upward or Downward

It would be helpful for VSE/POWER 7.1 in zVSE 3.1 to Read Queue entries for an older VSE/POWER and Write .....

- Different Data Block (DBLK) and Dblock Group (DBLKGP) sizes are not of concern to the user, the difference in Queue Record size is a concern the Queue record length was a problem up to 6.4. With zVSE the POFFLOAD command has removed the problem.

*POFFLOAD LOAD/SELECT* – Can read tapes from any previous release of POWER the Queue record is understood.

*POFFLOAD BACKUP/PICKUP/SAVE* – Works for a POWER target of 6.4 and greater.

*POFFLOAD BACKUP:xx* – Works for a POWER target of 6.3 and lower!

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## Poffload Pickup

Generally POFFLOAD PICKUP does Not lock the queue file.

### Example

```
poffload pickup61,1st,E01
```

This POFFLOAD command tells zVSE/POWER to backup all queue entries in a format compatible with [POWER 6.1 in VSE/ESA 2.1](#) the queue record will be the correct length.

## POWER 8.1

## Automatic Deletion of SPOOL Entries - JECL

### LST & PUN Card Operands

EXPDAYS = nnn

EXPHRS = hh

Expiration **DAYS** and **HOURS**. Time before a Job is automatically deleted from the Queue if DAYS and HOURS are both specified the times are added together.

## Automatic Deletion – Command Options

### Command Operands

CEXPDAYS = nnn

CEXPHRS = hh

EXPDAYS = nnn

EXPHRS = hh

PALTER, PDELETE, PDISPLAY, PHOLD, POFFLOAD SELECT, PRELEASE

## Duplication/Copying Spool Entries

### PCOPY

```
_PCOPY LST ....  
      PUN ...  
      XMT  
      DEL
```

Make copies of LST or PUN Entries

## Tape Spooling

### POFFLOAD APPEND

Only for 3592 Tape Device. The new Spool entries are *Appended* to the End of a previous Offload command output.

## JECL

### Duplicate LST PUN Job Output

\* \$\$ LSTDUP

\* \$\$ PUNDUP

You can duplicate and change some of the output parameters of a Job currently being spooled.

### REFERENCES

<http://www-03.ibm.com/servers/eserver/zseries/zvse/>

<http://www-03.ibm.com/servers/eserver/zseries/zvse/downloads/>

