



z/VSE Operation

This presentation looks at the necessary basics of how to operate one of the z/VSE system used a Hursley.

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Bedtime Reading

- z/VSE Operation (manual numbers are dependent on the z/VSE release).
- z/VSE System Control Statements for JCL and z/VSE commands.
- VSE/POWER Administration and Operation for JECL and Power commands.
- Hints and Tips for z/VSE for some tricks.
- The whole z/VSE library:

<https://www.ibm.com/docs/en/zvse/6.2?topic=pdf-library>



Cheat Sheet of Commands

- D RDR,CDISP=* find out if/where my job is running
- D RDR,FREER what is running or waiting to run (also FREE)
- REPLID what replies are outstanding
- C jobname cancel job without a dump
- F xx cancel job in partition xx without a dump
- F xx,HOLD cancel and re-queue; R RDR,jobname to re-run
- CANCEL xx cancel partition xx with a dump
- MSG xx Allows you to interact with CICS, TCP/IP etc.
- D CRE what spool files are open?
- M xx,FEE,IMM spin off partition xx spool so it can be sent back now
- D BIGGEST show the biggest spool files
- D RDR | D LST what spool files are on the input | output queues
- L RDR,jobname delete jobname from the input queue
- L LST,jobname same for print files
- A LST,jobname,NODE=UKCPSG,USER=userid Route print file to your UKCPSG userid
- SIR SYSTEM tell me about the z/VSE system
- * CP cp_command enter any z/VM CP command e.g. * CP IPL 120



An Overview of how ISPF jobs are processed

- SUB → JES 2 NJE → NJE cloud → Z/VSE NJE → POWER RDR queue → class A = static partition BG.

```
//ADDISOND JOB MSGCLASS=A
/*XMIT WINVSEN.FILE DLM=++
*  ## JOB JNM=DELDUMP,CLASS=A
*  ## LST DEST=(WINMVS3,POILMIK),DISP=H,RBS=0
// JOB DELDUMP  DELETE DUMP CORRECTLY VIA INFOANA
. . .
/&
*  ## EOJ
++
```

- On job completion, print → POWER XMT queue → z/VSE NJE → NJE cloud → Z/OS NJE → JES2 held queue (the DEST says which node and userid and has DISP=H to target the hold queue).
- RBS=0 stops POWER segmenting the print output every 800 pages on the WINVSEx systems.



An Overview of how CMS jobs are processed

- CMS PUNCH → RSCS NJE → NJE cloud → POWER RDR queue → partition BG (class 0 is always BG).

```
* ££ JOB JNM=LIBR,CLASS=0
* ££ LST RBS=0,DEST=(UKCPST,POILMIK)
* ££ PUN DEST=(UKCPST,POILMIK)
// JOB LIBR
// EXEC LIBR
A S=PRD1.BASE
PUN DFH0CBDC.C
/*
/&
* ££ EOJ
```

- Print and punch files → POWER XMT queue → z/VSE NJE → NJE cloud → RSCS NJE → CMS virtual reader Class A – one file for the printed output and one file for the punched output



Simple CMS Submit EXECs for you to use

```
/* SUBT EXEC: Submit to WINVSET from FILELIST/FULIST/FLIST */
TRACE Off
ARG FN FT FM .                /* Must be F 80 */
'CP SPOOL PUN RSCS'
'CP TAG DEV PUN WINVME WINVSET'
'PUNCH' FN FT FM '(NOH'      /* You need the (NOHEADER option */
'CP SPOOL PUN OFF'

/* SUBT XEDIT: Use SUBT in XEDIT like using SUB in the ISPF editor */
TRACE Off
'CP SP PUN RSCS'
'CP TAG DEV PUN WINVSET JOB'
'EXT /LINE'                  /* Extract current line in line.1 */
'TOP'                        /* Must start at TOP */
'PIPE XEDIT | PUNCH'        /* Copy xedited file to punch */
': 'line.1                   /* Return to the original current line */
'CP SP PUN CLOSE'
'CP SP PUN OFF'
```



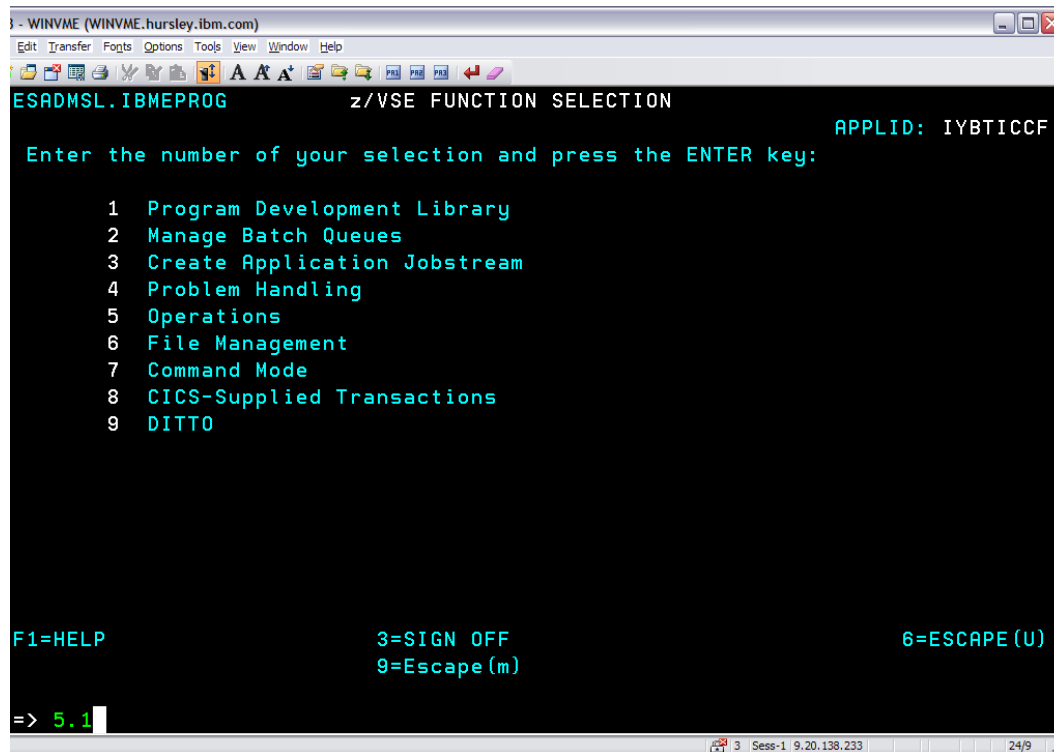
WINVSEx Class Standards

- Only use classes G and V for CICS. For batch, it is probably best to use the Dynamic Partition class C, Y, Z or S; they range in size from 4M (C) to 15MB (S) – see D DYNC output.
- Static partitions BG and F1 – F9 always have the fixed classes 0 and 1 – 9.

Class	Usage	Class	Usage	Class	Usage
A	BG	M	F6	Y	Dynamic
B	Do not use	N	F7	Z	Dynamic
C	Dynamic	O	Do not use	0	BG
D	Do not use	P	F8	1	Do not use
E	Do not use	Q	F9	2	Do not use
F	Do not use	R	Dynamic	3	Do not use
G	Dynamic	S	Dynamic	4	Do not use
H	F5	T	FA	5	F5
I	BG	U	Do not use	6	F6
J	Do not use	V	FA, Dynamic	7	F7
K	Do not use	W	Do not use	8	F8
L	Do not use	X	Do not use	9	F9

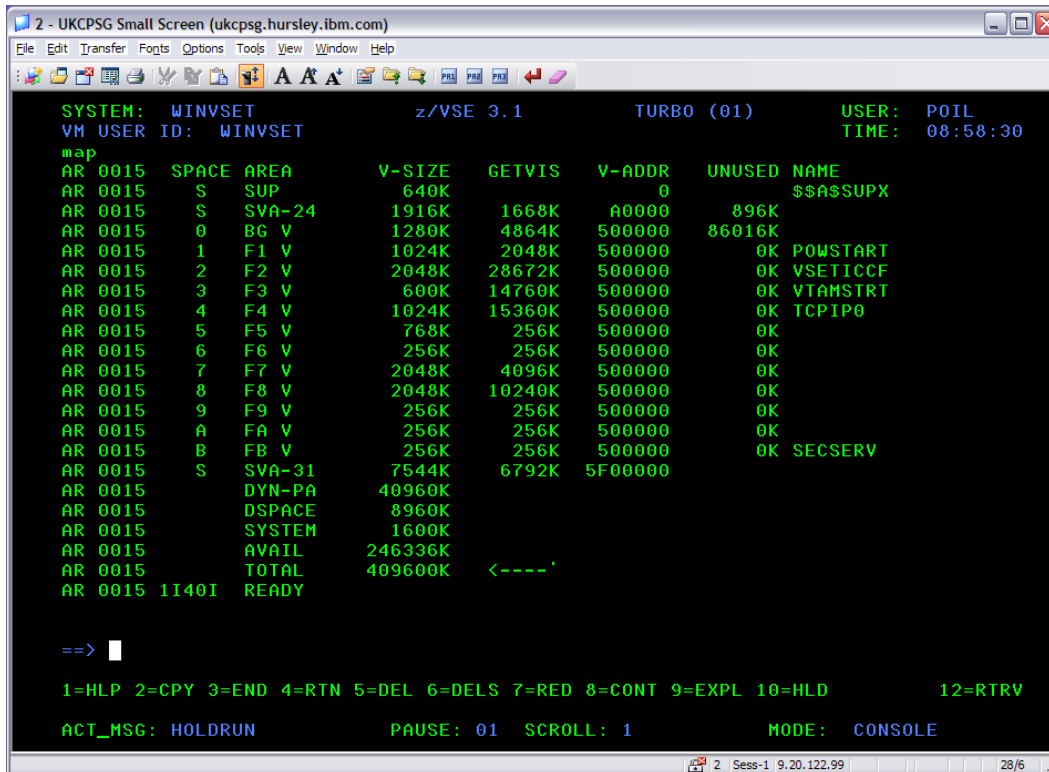
The Starting Point of operating . . .

- I assume that you will be using the ICCF/IUI console. The path will depend on your primary menu, you may use 3.1 instead of 5.1.



```
WINVME (WINVME.hursley.ibm.com)
Edit Transfer Fonts Options Tools View Window Help
ESADMSL.IBMEPROG          z/VSE FUNCTION SELECTION          APPLID: IYBTICF
Enter the number of your selection and press the ENTER key:
1  Program Development Library
2  Manage Batch Queues
3  Create Application Jobstream
4  Problem Handling
5  Operations
6  File Management
7  Command Mode
8  CICS-Supplied Transactions
9  DITTO
F1=HELP                  3=SIGN OFF                6=ESCAPE (U)
                          9=Escape (m)
=> 5.1
```


Console Basics



```
2 - UKCPSG Small Screen (ukcpsg.hursley.ibm.com)
File Edit Transfer Fonts Options Tools View Window Help
SYSTEM: WINVSET           z/VSE 3.1           TURBO (01)       USER: POIL
VM USER ID: WINVSET      TIME: 08:58:30
map
AR 0015 SPACE AREA      V-SIZE  GETVIS   V-ADDR  UNUSED  NAME
AR 0015 S SUP           640K    1668K    A0000   896K    $$$SUPX
AR 0015 S SVA-24        1916K   1668K    A0000   896K
AR 0015 0 BG V          1280K   4864K    500000  86016K
AR 0015 1 F1 V          1024K   2048K    500000   0K    POWSTART
AR 0015 2 F2 V          2048K   28672K   500000   0K    VSETICCF
AR 0015 3 F3 V           600K   14760K   500000   0K    VTAMSTRT
AR 0015 4 F4 V          1024K   15360K   500000   0K    TCPIP0
AR 0015 5 F5 V           768K    256K    500000   0K
AR 0015 6 F6 V           256K    256K    500000   0K
AR 0015 7 F7 V          2048K   4096K    500000   0K
AR 0015 8 F8 V          2048K   10240K   500000   0K
AR 0015 9 F9 V           256K    256K    500000   0K
AR 0015 A FA V           256K    256K    500000   0K
AR 0015 B FB V           256K    256K    500000   0K    SECSERV
AR 0015 S SVA-31        7544K   6792K    5F00000
AR 0015 DYN-PA         40960K
AR 0015 DSPACE         8960K
AR 0015 SYSTEM         1600K
AR 0015 AVAIL          246336K
AR 0015 TOTAL          409600K  <----
AR 0015 1140I READY

==> █

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
```



Console Basics

- The top of the screen tells you about the z/VSE system, e.g. TURBO(1) says you are using 1 cpu.
- The console output you see is from the MAP command.
- Messages from programs have a standard format:
 - Partition id - in our case AR means the z/VSE operating system
 - Reply id - 0015 is the Attention Routine system task that handles commands
 - Message text
- ==> is the input area (2 lines)
- Function keys
- Console settings



Console Basics

- F1 Help
- F2 Copy line from cursor position to the console input area ==>
- F3/F4 Quit (on the real console F3 suspends it, and F4 disconnects it).
- F5/F6 Delete highlighted held line from the top of the screen - F5 is your console, F6 is all consoles.
- F7 Redisplay (scroll backwards).
- F8 Clear any "..MORE" or "..HOLD" state that stops the screen from scrolling.
- F9 Online message explain for the message number that the cursor is on or the message number typed in the console input area.
- F10 Toggle ACT_MSG setting – what to do with "action" messages on the screen, HOLDRUN is the default, use NOHOLD if the screen is overwhelmed.
- F12 Retrieve.
- %SET PAUSE n (0 – 99) to change "pause time before a new screen" .
- CLEAR to clear the screen.



Console Basics

- There is a System Console (user SYS), but only certain users have access to it via z/VM LOGON WINVSEx BY userid, you will normally have a User Console via ICCF/IUI, which may have reduced functionality for security.
- Because of the way that z/VSE handles the message display for multiple consoles, it is possible that you will not see recent messages and even replies that belong to other users.
- To make sure that you can see all of the current messages and outstanding replies, you must enter REDISPLAY mode, which is what we discuss next . . .



Redisplay Basics

- F7 to start scrolling the whole log.
- Type partition id (e.g. BG, F2, G1, G*) and press F7.
- Type 'string' (e.g. 'eoj') and press F7 to search for all occurrences of 'string' (a maximum of 15 characters).
- Type IPL and press F7 to get IPL messages.
- Type H and press F7 to see scrolled outstanding replies.
- In redisplay, use F7 and F8 to page, cursor scrolling like ISPF is also active.
- To enter a command in REDISPLAY mode, type it and *press F10*.
- To change the information shown on the right-hand side press F12 to cycle through the options.



Redisplay Basics

- You can change the filtering while in redisplay mode exactly as shown on the previous slide.
- Using the 'string' option only shows lines that contain the value.
- If you want to go back to somewhere that contains the string and then see everything from that point:
 - Page the filtered display until you find the line that you are interested in.
 - Position the cursor and use F8 to make it the current line (highlighted).
 - Type ALL and press F7 again to change the redisplay mode to 'everything' and you will then have the whole log visible again.



Background on Commands

- z/VSE commands are documented in System Control Statements.
- Attention Routine (AR) commands like REPLID are entered via the console.
- Job Control Commands (JCC) are entered via JCL.
- Some commands are both AR and JCC.
- Subsystems such as POWER and VTAM have hooks in the AR task so that their commands are entered directly e.g. D RDR and D NET,APPLS.
- Products such as CICS use MSG xx<,DATA=. . .> to allow command entry, this is like the z/OS MODIFY (F), and you can also use MSG jobname<,DATA=. . .>.
- Hung AR commands can be killed via command RC, but you may need to use CANCEL AR.



Outstanding Replies

- z/VSE may produce outstanding replies that need operator attention, e.g. try MSG F2, which will produce something like:

F2-0089 (highlighted to say it is outstanding)

- The reply ID is 89 and is related to the task ID, it is not an incrementing number like z/OS and can change when the job restarts. If you see a "+", it is important to reply quickly.
- Enter: 89 reply or just 89 as a "Null Reply" to end it.
- A common reason for an outstanding reply is due to JCL going wrong leaving Job Control (Initiator/Terminator) waiting for somebody to type in a suitable statement – use F xx ("xx" is the partition ID) then enter a null reply.
- Outstanding replies do not normally scroll off the screen, but may be owned by another user and can be invisible, either type H and press F7, or use command REPLID to find them.



Tell me about this z/VSE System

- Look at the top of the console or enter command SIR SYStem.

```
sir sys
AR 0015 CPUID   VM = 002D23B320640000          VSE = FF30041520640000
AR 0015 PROCESSOR = IBM 2064-116 83 (123B383) LPAR = WINVME      No. = 0013
AR 0015      CPUs = 0012 (Ded.=0000 Shr.=0012) Cap. = 75%
AR 0015 VM-SYSTEM = z/VM      5.3.0 (0703)  USERID = WINVSET  VMCF = ON
AR 0015      CPUs = 0002                               Cap. = 16%
AR 0015 PROC-MODE = ESA (64-BIT) IPL(120)      14:09:51      09/17/2008
AR 0015 SYSTEM   = z/VSE      3.1.3           11/20/2007
AR 0015          VSE/AF      7.1.0           DY46750      10/31/2007
AR 0015          VSE/POWER   7.1.0           DY46781      07/30/2007
AR 0015 IPL-PROC = £IPL£SA      JCL-PROC = ££JCL
AR 0015 SUPVR    = ££A£SUPX      TURBO-DISPATCHER (46) ACTIVE
AR 0015                                     HARDWARE COMPRESSION ENABLED
AR 0015 SEC. MGR. = BASIC        SECURITY = ONLINE and BATCH
AR 0015 1I40I  READY
```

- AUTOIPL also shows the IPL date and time e.g.

```
IPL'D FROM UNIT=120 AT DATE 07/10/2008,CLOCK 07:13:17 BY SYST-OPERATOR
```

Tell me about Static Partitions

- MAP shows sizes and usage:

AR	0015	SPACE	AREA	V-SIZE	GETVIS	V-ADDR	UNUSED	NAME	
AR	0015	S	SUP	640K		0		£££SUPX	
AR	0015	S	SVA-24	1916K	1668K	A0000	896K		
AR	0015	0	BG V	1280K	4864K	500000	86016K		← no active job
AR	0015	1	F1 V	1024K	2048K	500000	0K	POWSTART	← POWER is active
AR	0015	2	F2 V	2048K	28672K	500000	0K	VSETICCA	← ICCF/IUI
AR	0015	3	F3 V	600K	14760K	500000	0K	VTAMSTR1	← VTAM
AR	0015	4	F4 V	1024K	15360K	500000	0K	TCPIP0	← TCP/IP
AR	0015	5	F5 V	768K	256K	500000	0K		
AR	0015	6	F6 V	256K	256K	500000	0K		
AR	0015	7	F7 V	2048K	4096K	500000	0K		
AR	0015	8	F8 V	2048K	10240K	500000	0K		
AR	0015	9	F9 V	256K	256K	500000	0K		
AR	0015	A	FA V	256K	256K	500000	0K		
AR	0015	B	FB V	256K	256K	500000	0K	SECSERV	← Security Server
AR	0015	S	SVA-31	7544K	6792K	5F00000			

- The partition size (ALLOC) = V-SIZE + GETVIS.



Tell me about Dynamic Partitions

- D DYNC (PDISPLAY DYNC)

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1Q6AI ***** ACTIVE DYNAMIC CLASS TABLE DTR$DYNC.Z *****
F1 0001 1Q6AI CLS STATE ACT/MAX ALLOC SIZE SP-GETV PROFILE LUBS
F1 0001 1Q6AI C ENAB 0 9 4M 500K 128K STDPROF 50
F1 0001 1Q6AI Y ENAB 0 5 4M 1024K 128K STDPROF 50
F1 0001 1Q6AI Z ENAB 0 3 5M 1024K 128K STDPROF 50
F1 0001 1Q6AI S ENAB 0 8 15M 1024K 1024K STDPROF 50
F1 0001 1Q6AI G ENAB 1 6 40M 2048K 1024K STDPROF 50
F1 0001 1Q6AI R ENAB 0 2 10M 1024K 128K STDPROF 50
F1 0001 1Q6AI V ENAB 0 2 75M 2048K 1024K STDPROF 50
```

- CLS is the class
- ACTive/MAXimum should be obvious.
- ALLOC – SP-GETV is the actual partition size.
- SIZE is the default EXEC SIZE (ALLOC– SP-GETV – SIZE is the default GETVIS area size).



Tell me about the POWER spool

- D Q

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I  QUEUE FILE 007% FULL - 1761 FREE QUEUE RECORDS
F1 0001 1R49I  USED QUEUE RECORDS: 125, CRE-Q: 4, DEL-Q: 0
F1 0001 1R49I  RDR-Q: 40, LST-Q: 80, PUN-Q: 1, XMT-Q: 0
F1 0001 1R49I  QUEUE FILE EXTENT ON CKD-120, SYS001, 945, 15
F1 0001 1R49I  DATA FILE 010% FULL - 1515 FREE DBLK GROUPS
F1 0001 1R49I  CURRENT DBLK SIZE=07548, DBLK GROUP SIZE=00008
F1 0001 1R49I  DATA FILE EXTENT 1 ON CKD-121, SYS002, 6330, 1920
F1 0001 1R49I  NO ACCOUNTING SUPPORT
```

- The Queue File contains the 4 queues – RDR (input), LST (print output), PUN (punched card output) and XMT (NJE transmit) – typically one record per job per queue.
- CRE-Q and DEL-Q are sub-queues for jobs that are being created or deleted.
- The Data File contains the data; the DBLK GROUP is the allocation unit and each queue record uses one or more of them.



Which jobs are running?

- D RDR,CDISP=* (show me all jobs that have a current disposition of "*" - in execution), the standard ones in WINVSET are normally these ones, but the list may change:

```
d rdr,cdisp=*
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE   P D C S  CARDS B
F1 0001 1R46I  VSETICCA 25463 9 * 2      65  PART=F2 FROM=UKCPG (POILMIK)
F1 0001 1R46I  VTAMSTRT 25461 3 * 3      20  PART=F3 FROM=(WACK)
F1 0001 1R46I  TCPIP0   25462 9 * 4        9  PART=F4 FROM=WINVME (GHASLER)
F1 0001 1R46I  EXPL411 25474 3 * V        8  PART=V1 FROM=UKCPG (POILMIK)
```

Tell me more about Jobs that are Running

- D A,PART

```
F1 0001 1R48I  BG,FEC,A0I,      INACTIVE,
F1 0001 1R48I  F2,FEC,L2,  VSETICCA,23043,2
F1 0001 1R48I  F3,FEC,K3,  VTAMSTR1,23646,3
F1 0001 1R48I  F4,FEC,J4,  TCPIP0 ,24345,4
F1 0001 1R48I  F5,FEC,H5,      INACTIVE,
F1 0001 1R48I  F6,FEC,M6,      INACTIVE,
F1 0001 1R48I  F7,FEC,N7,      INACTIVE,
F1 0001 1R48I  F8,FEC,P8,      INACTIVE,
F1 0001 1R48I  F9,FEC,Q9,      INACTIVE,
F1 0001 1R48I  FA,FEC,TV,      INACTIVE,
F1 0001 1R48I  F3,FEE,,  VTAMSTR1,23646,A      21 LINES SPOOLED,QNUM=01884
F1 0001 1R48I  F2,FEE,,  VSETICCA,23043,A      2369 LINES SPOOLED,QNUM=01885
F1 0001 1R48I  F4,FEE,,  TCPIP0 ,24345,A      288 LINES SPOOLED,QNUM=01883
. . .
```

- F2's spooled reader is FEC, you can run jobs with class L or 2, job VSETICCA with job number 23043 is running, and its JOB card had CLASS=2
- F2's first spooled printer is FEE printing on CLASS=A, 2369 lines have been printed and the internal queue number is 1885.

What jobs are in a runnable state?

- D RDR,FREE shows jobs that are either in execution or that are in a runnable disposition of DISP=D or DISP=K - the "D" column; or D RDR,FREER ignores jobs like DUMPDEL that are waiting on a schedule.

```
d rdr,free
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE    P D C S  CARDS B
F1 0001 1R46I  VSENICCF 23436 3 * 2      62  PART=F2 FROM=WINVME (DCHRIST)
. . .
F1 0001 1R46I  COMSASMM 00074 3 D B      77  FROM=UKCPG (MASLENC)
. . .
F1 0001 1R46I  COMSTUP  05815 3 D B      55  FROM=UKCPG (BRENDAH)
F1 0001 1R46I  DUMPDEL  23591 3 K C        9  RUN=13:00,09/22
F1 0001 1R46I  DB2START 23438 3 * R        8  PART=R1 FROM=WINVME (GHASLER)
```

- The class B jobs are waiting for a class B partition to become available - it is a shame that no class B partitions are defined!
- DUMPDEL runs repeatedly through a POWER schedule as set in the * ££ JOB.



What about my CICS COMSZCCB job?

- D RDR,jobname

```
d rdr,comszccb
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE   P D C S  CARDS B
F1 0001 1R46I  COMSZCCB 25345 3 L G      187
F1 0001 1R46I  COMSZCCB 25156 3 L V      187
```

- It is not running, it is in a Leave (held) state, so POWER will not run it.
- Hmm, we also seem to have two of them!

What about my batch jobs?

```
d rdr, freer
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I READER QUEUE P D C S CARDS BU
F1 0001 1R46I VSETICCA 53702 3 * 2 64 PART=F2
. . .
F1 0001 1R46I COMSZCCA 30243 3 * V 114 PART=V1 FROM=UKCPG (POILMIK)
F1 0001 1R46I KE3 30593 3 D V 29 FROM=WINMVS3 (DANZ)
F1 0001 1R46I LISTDIR 30771 3 D V 7 FROM=WINMVS3 (DANZ)
d dync
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1Q6AI ***** ACTIVE DYNAMIC CLASS TABLE DTR$DYNC.Z *****
F1 0001 1Q6AI CLS STATE ACT/MAX ALLOC SIZE SP-GETV PROFILE LUBS
F1 0001 1Q6AI C ENAB 0 9 4M 500K 128K STDPROF 50
F1 0001 1Q6AI Y ENAB 0 5 5M 1024K 128K STDPROF 50
F1 0001 1Q6AI Z ENAB 0 3 6M 1024K 128K STDPROF 50
F1 0001 1Q6AI S ENAB 0 8 15M 1024K 1024K STDPROF 50
. . .
F1 0001 1Q6AI V SUSPEND 2 2 150M 4096K 1024K STDPROF 50
```

- KE3 and LISTDIR are runnable, but only two class V jobs will run at a time - don't use class V for batch, this class is there for CICS!



How do I run a job held on the RDR Queue?

- PRELEASE or R
- R RDR,jobname<,jobnumber>

```
d rdr,comszccb
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE   P D C S  CARDS B
F1 0001 1R46I  COMSZCCB 25345 3 L G      187
F1 0001 1R46I  COMSZCCB 25156 3 L V      187
```

- R RDR,COMSZCCB<,25345>

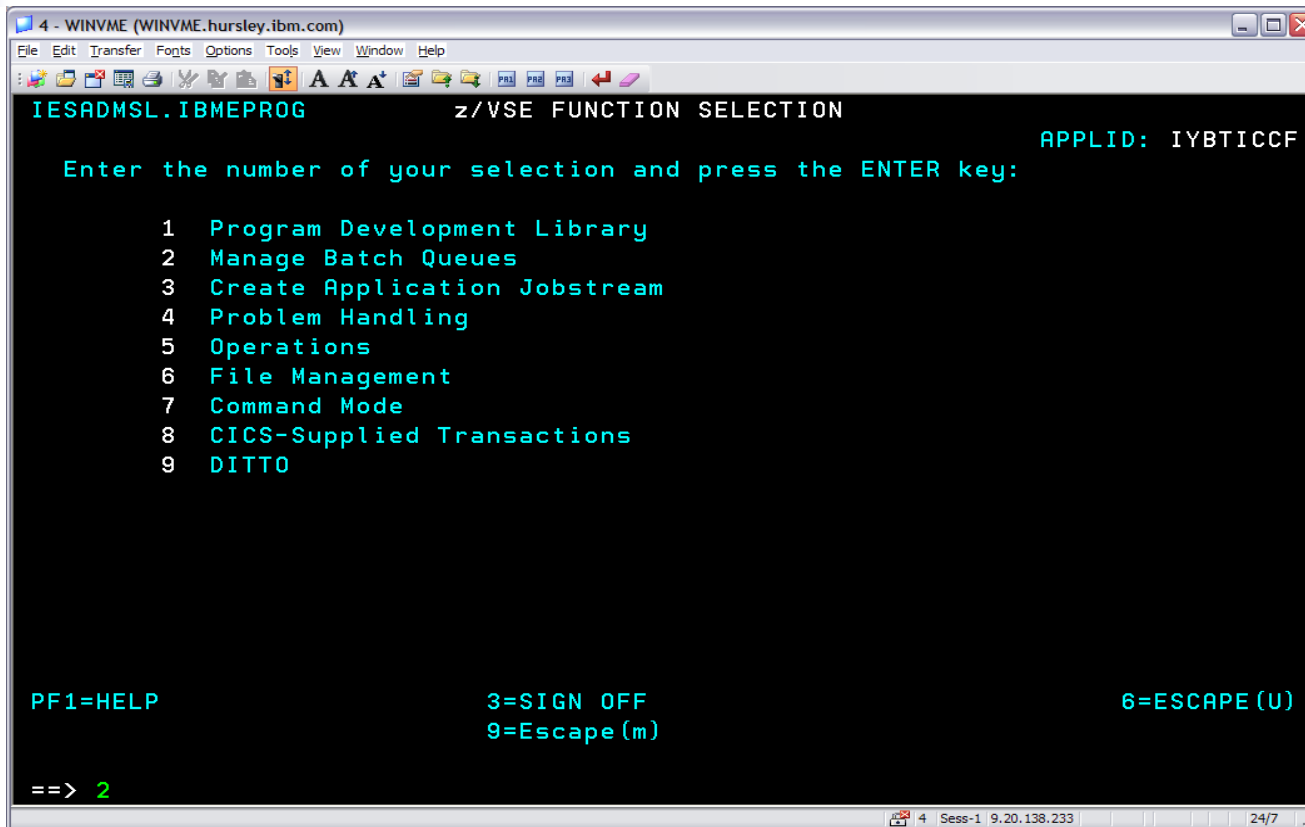
```
d rdr,comszccb
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE   P D C S  CARDS B
F1 0001 1R46I  COMSZCCB 25515 3 * G      187  PART=G2
F1 0001 1R46I  COMSZCCB 25156 3 L V      187
```



Can I look at open spool files using z/VSE?

- At the ISPF/CMS end you do not normally see the spool output for a job until either the POWER job ends, or POWER segments the output – by default this appears to be every 800 pages (use RBS=0 on the * ££ LST to stop this).
- You can use the ICCF <Operations> Manage Batch Queues, Queue 6 *but only if you specify FROM=xxxx on the original POWER * ££ JOB statement, where "xxxx" is your IUI userid unless you have authorisation to work with any job.*

Can I look at open spool files using z/VSE?



The screenshot shows a terminal window titled "4 - WINVME (WINVME.hursley.ibm.com)". The terminal displays the following text:

```
IESADMSL.IBMEPROG          z/VSE FUNCTION SELECTION          APPLID: IYBTICCF
Enter the number of your selection and press the ENTER key:

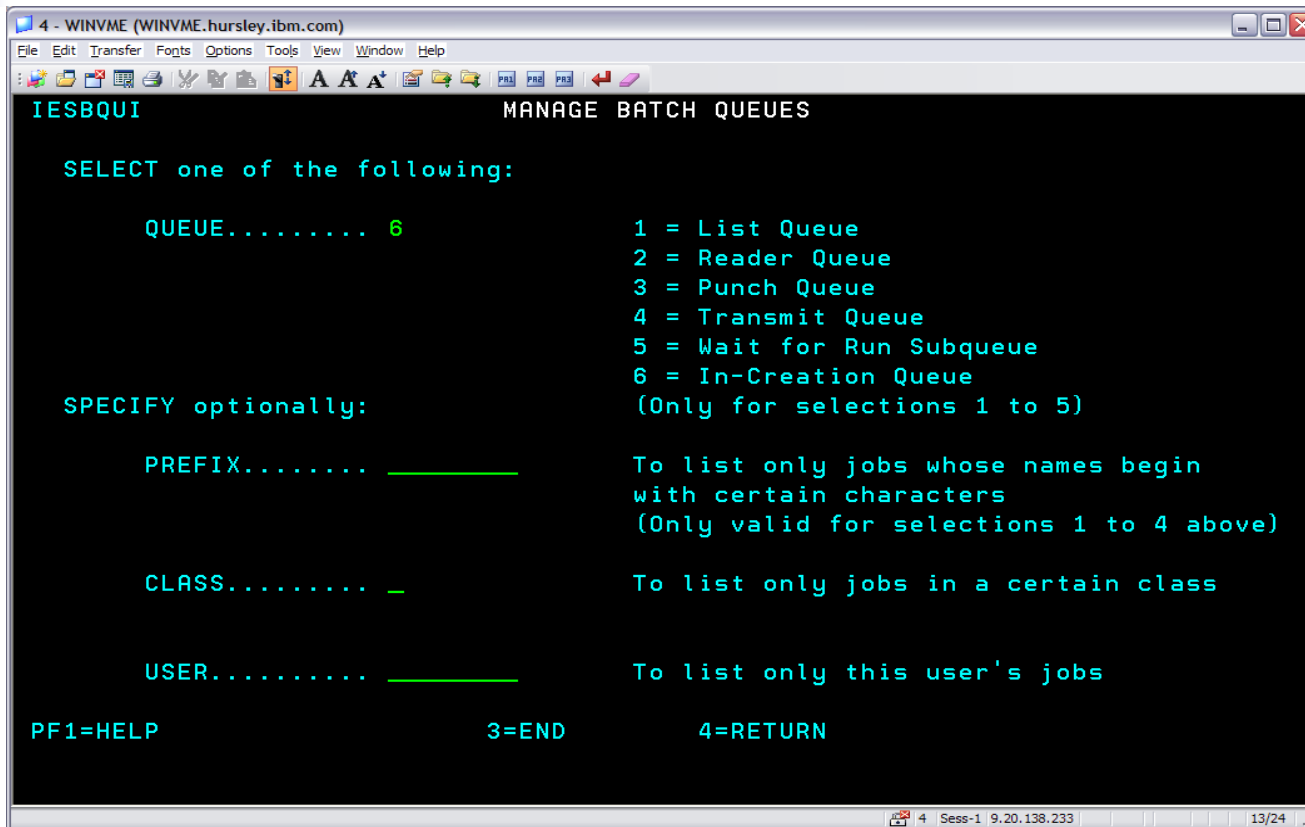
1  Program Development Library
2  Manage Batch Queues
3  Create Application Jobstream
4  Problem Handling
5  Operations
6  File Management
7  Command Mode
8  CICS-Supplied Transactions
9  DITTO

PF1=HELP          3=SIGN OFF          6=ESCAPE (U)
                  9=Escape (m)

==> 2
```

The terminal window includes a menu bar with "File", "Edit", "Transfer", "Fonts", "Options", "Tools", "View", "Window", and "Help". The status bar at the bottom shows "4 Sess-1 9.20.138.233" and "24/7".

Can I look at open spool files using z/VSE?



The screenshot shows a terminal window titled "4 - WINVME (WINVME.hursley.ibm.com)". The main display area contains the following text:

```
IESBQUI                                MANAGE BATCH QUEUES

SELECT one of the following:

  QUEUE..... 6                        1 = List Queue
                                       2 = Reader Queue
                                       3 = Punch Queue
                                       4 = Transmit Queue
                                       5 = Wait for Run Subqueue
                                       6 = In-Creation Queue
                                       (Only for selections 1 to 5)

SPECIFY optionally:

  PREFIX..... _____              To list only jobs whose names begin
                                       with certain characters
                                       (Only valid for selections 1 to 4 above)

  CLASS..... _                        To list only jobs in a certain class

  USER..... _____                To list only this user's jobs

PF1=HELP                                3=END                                4=RETURN
```

The terminal window also shows a standard menu bar with "File", "Edit", "Transfer", "Fonts", "Options", "Tools", "View", "Window", and "Help". At the bottom of the window, there is a status bar with "4 Sess-1 9.20.138.233" and "13/24".

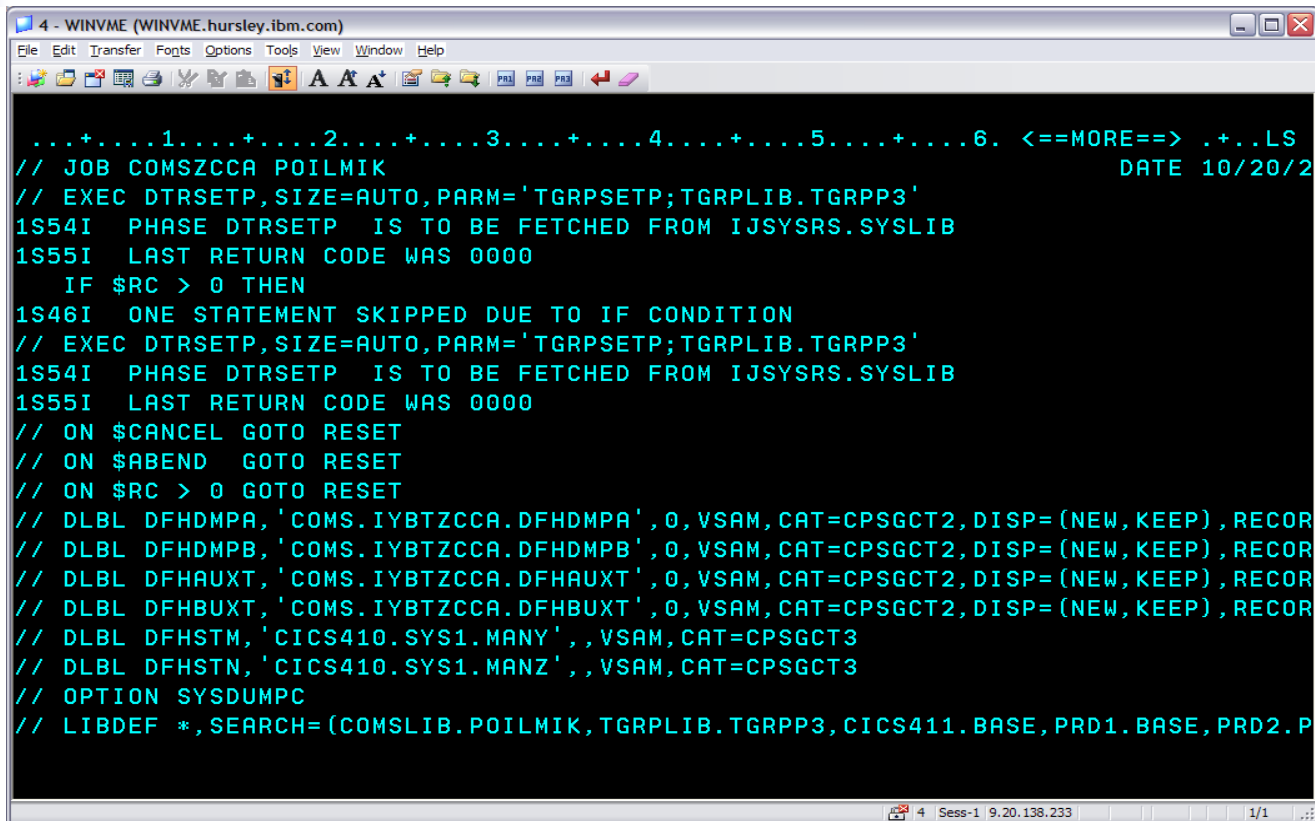
Can I look at open spool files using z/VSE?

```
4 - WINVME (WINVME.hursley.ibm.com)
File Edit Transfer Fonts Options Tools View Window Help
IESBQUC IN-CREATION QUEUE Page 1 of 1
OPTIONS: 1 = DISPLAY 8 = SEGMENT 9 = SEGMENT IMMEDIATE
OPT JOBNAME NUMBER SFX CLASS LINES ID PART DEV ORIGINATOR FROM
- VTAMSTRT 25461 A 21 L F3 FEE VTAMSTRT WINVME.DCHRIST
- TAPESRVR 25474 A 5 L R1 FEE TAPESRVR .SYSA
1 COMSZCCA 25527 A 130 L G1 FEE COMSZCCA .POIL
VSETICCF 25463 A 2418 L F2 FEE VSETICCF WINVME.GHASLER
- TCPIPO 25462 A 287 L F4 FEE TCPIPO WINVME.GHASLER

PF1=HELP 2=REFRESH 3=END 4=RETURN

LOCATE JOBNAME ==> _____
```

Can I look at open spool files using z/VSE?



```
4 - WINVME (WINVME.hursley.ibm.com)
File Edit Transfer Fonts Options Tools View Window Help
...+...1...+...2...+...3...+...4...+...5...+...6. <==MORE==> .+..LS
// JOB COMSZCCA POILMIK                                     DATE 10/20/2
// EXEC DTRSETP,SIZE=AUTO,PARM='TGRPSETP;TGRPLIB.TGRPP3'
1S54I PHASE DTRSETP IS TO BE FETCHED FROM IJSYSRS.SYSLIB
1S55I LAST RETURN CODE WAS 0000
      IF $RC > 0 THEN
1S46I ONE STATEMENT SKIPPED DUE TO IF CONDITION
// EXEC DTRSETP,SIZE=AUTO,PARM='TGRPSETP;TGRPLIB.TGRPP3'
1S54I PHASE DTRSETP IS TO BE FETCHED FROM IJSYSRS.SYSLIB
1S55I LAST RETURN CODE WAS 0000
// ON $CANCEL GOTO RESET
// ON $ABEND GOTO RESET
// ON $RC > 0 GOTO RESET
// DLBL DFHDMPA, 'COMS.IYBTZCCA.DFHDMPA', 0, VSAM, CAT=CPSGCT2, DISP=(NEW,KEEP), RECOR
// DLBL DFHDMPB, 'COMS.IYBTZCCA.DFHDMPB', 0, VSAM, CAT=CPSGCT2, DISP=(NEW,KEEP), RECOR
// DLBL DFHAUXT, 'COMS.IYBTZCCA.DFHAUXT', 0, VSAM, CAT=CPSGCT2, DISP=(NEW,KEEP), RECOR
// DLBL DFHBUXT, 'COMS.IYBTZCCA.DFHBUXT', 0, VSAM, CAT=CPSGCT2, DISP=(NEW,KEEP), RECOR
// DLBL DFHSTM, 'CICS410.SYS1.MANY', , VSAM, CAT=CPSGCT3
// DLBL DFHSTN, 'CICS410.SYS1.MANZ', , VSAM, CAT=CPSGCT3
// OPTION SYSDUMPC
// LIBDEF *,SEARCH=(COMSLIB.POILMIK,TGRPLIB.TGRPP3,CICS411.BASE,PRD1.BASE,PRD2.P
```



How do I kill running jobs?

- PFLUSH xx or F xx ("xx" is the partition) to cancel the POWER job (* ££ JOB to * ££ EOJ) without a dump; F xx,HOLD will ensure that a copy of the job remains on the RDR queue so that it can be released (R RDR,jobname) to run again.
- C jobname (PCANCEL) is like F.
- CANCEL xx<,NODUMP><,FORCE> only cancels the current z/VSE job (// JOB to /&) - a BOS CICS job is two jobs, CICS itself and one to print CICS datasets.

```
CANCEL F2
```

```
AR+0015 1I55D CANCEL VSE/ICCF ? REPLY YES OR NO
```

```
15 no
```

- Also CANCEL jobname<,NODUMP><,FORCE>, but beware "AR 0015 1I4XI THE GIVEN ID IS NON-UNIQUE"
- Outstanding replies may need to be cleared.



What is on the queues?

- PDISPLAY or D
- D RDR<,selection_criteria>
- D LST<,selection_criteria>
- D PUN<,selection_criteria>
- D XMT<,selection_criteria>
- See POWER Administration for all possible selection criteria e.g.
ALL, jobname, jobname*, class or jobname,jobnumber
- Add ,FULL=YES to get extended information.



What is on the queues?

```
d rdr,pausebg
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE  P D C S  CARDS B
F1 0001 1R46I  PAUSEBG  25259 3 L 0          4  FROM=WINVME (DCHRIST)
d rdr,pausebg,full=yes
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  READER QUEUE  P D C S  CARDS B
F1 0001 1R46I  PAUSEBG  25259 3 L 0          4  FROM=WINVME (DCHRIST)
F1 0001          D=06/21/2004 DBGP=000001
F1 0001          QNUM=00022 T=14:57:45
```

- PAUSEBG, job number 25259, RDR queue priority 3, disposition Leave, class 0, sysid (shared spooling) null, contains 4 cards and came from userid DCHRIST on WINVME.
- Additionally, it was submitted on 21st June 2004 at 14:57:45, it occupies 1 DBLKGP on the Data File and the internal POWER queue file number is 22.



What is on the queues?

```
d lst,DTRFSU4C,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    DTRFSU4C 22544 9 D A        385   1        TO=(SYSA) FROM=(SYSA)
F1 0001          D=05/14/2008 DBGP=000013 L=00021798
F1 0001          QNUM=01776 T=23:20:11
```

- DTRFSU4C, job number 25544, LST queue priority 9, disposition Delete (can be processed), class A, sysid (shared spooling) null, contains 385 pages and belongs to userid SYSA on ICCF.
- Additionally, it was queued on 14th May 2008 at 23:20:11, it occupies 13 DBLKGP's on the Data File, has 21798 print lines and the internal POWER queue file number is 1776.
- It is going nowhere as no local printer prints class A.
- To send the output somewhere via NJE, you would have to PALTER the node and user e.g. A LST,DTRFSU4C,NODE=UKCPSG,USER=POILMIK.



How do I delete from the queues?

- PDELETE or L (Lose!)
- L RDR<,selection_criteria>
- L LST<,selection_criteria>
- L PUN<,selection_criteria>
- L XMT<,selection_criteria>
- Selection_criteria is similar to D.
- e.g. L RDR,COMSZCCB,25156 to delete the second COMSZCCB (the class V) job.



How do I change entries on the queues?

- PALTER or A
- A queue,jobname<,job number>,action<,action,.. .>
- The action values are often the same as the JCL operands, but not always.
- e.g. A LST,PAUSEBG,CLASS=Z,DISP=L
but A LST,PAUSEBG,NODE=UKCPSG,USER=POILMIK
- A queue,Cxxxx=value<,Cxxxx=value,.. .>,action<,action,.. .>
- e.g. A LST,CCLASS=A,CDISP=D,CLASS=Z,DISP=L - change all print jobs that have a current class of A and a current disposition of D to class Z with a disposition of L.
- See POWER Administration for all possibilities.



Who is using all the spool?

- D BIGGEST<,LIMIT=nn>

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R4BI 016 BIGGEST SORTED C I CARD/LINE      DBGP  QNUM  SUF      PAGES  QUE
F1 0001 1R4BI 001 DTRFSU4C 22544 A L      21798 0000013 01776      385 LST
F1 0001 1R4BI 002 DTRSTFSU 22361 A L      3374 0000007 01798      65 LST
F1 0001 1R4BI 003 DTRSTFSU 22352 A L      3376 0000007 01804      65 LST
F1 0001 1R4BI 004 DMPACD24 03583 A L      3284 0000006 01810      73 LST
F1 0001 1R4BI 005 VSETICCA 23043 A L      2373 0000005 01763      40 CRE
F1 0001 1R4BI 006 CICSICCF 22454 A L      2316 0000004 01781      42 LST
F1 0001 1R4BI 007 CICSBSX  01593 A L      2126 0000004 01786      41 LST
F1 0001 1R4BI 008 DMPANA22 03577 A L      729  0000002 01817      16 LST
. . .
```

- LIMIT=10 is the default, which limits the output to the 10 biggest files.
- I=L says it for the LST queue (R=RDR, P=PUN).
- CRE says it is being created and so is not visible to POWER commands like L.

How do I cope with the spool filling up?

BG 0001 1Q47I BG INFOANA 25248 FROM WINMVS3(XXXXXXXX) , TIME=14/48/10,

. . .

BG 0001 1QF0I DATA FILE 090% FULL - QUEUE FILE 008% FULL

F1 0001 1Q38A NO DASD SPACE AVAILABLE FOR BG,FEE

← VERY BAD NEWS

status bg

AR 0015 M21 BG DMPANA2 57 WAITING FOR VSE/POWER SPOOLING

AR 0015 TCB=00059620 TIB=00052580 SAV=00500000

AR 0015 SCB=0004FA04 PCB=000517C0 COM=000005D0

AR 0015 1I40I READY

d biggest

AR 0015 1C39I COMMAND PASSED TO VSE/POWER

F1 0001 1R4BI 016 BIGGEST SORTED C I CARD/LINE DBGP QNUM SUF PAGES QUE

F1 0001 1R4BI 001 DMPANA2 25248 A L 701733 0001471 01744 12995 CRE ← cannot delete

. . .

m bg,fee,imm

AR 0015 1C39I COMMAND PASSED TO VSE/POWER

F1 0001 1R88I OK

BG 0001 1QF0I DATA FILE 099% FULL - QUEUE FILE 008% FULL

BG 0001 1Q53I OUTPUT SEGMENTED FOR DMPANA2 25248 001 BG,FEE

- M BG,FEE,IMM closes the current spool output allows NJE to start sending it, when it is sent, the spool space will be reclaimed and allow BG to continue.



How do I cope with the spool filling up?

d a

AR 0015 1C39I COMMAND PASSED TO VSE/POWER

F1 0001 1R48I SAS,00004, SAS=SYSTCP00,

F1 0001 1R48I SAS,00005, SAS=SYSTCQ00,

F1 0001 1R48I SAS,00006, SAS=SYSTCR00,

F1 0001 1R48I C-RV ,622, AWAITING NODE=WINVME

F1 0001 1R48I O-TR1,622,*, DMPANA2 ,25248 ,A LEFT=00444301 OF 00702206

NODE=WINVME

. . .

F1 0001 1RA0I OUTPUT DMPANA2 25248 TRANSMITTED TO WINVME FOR UKCPG O-TR1

status bg

AR 0015 M21 BG DMPANA2 83 READY TO RUN

AR 0015 TCB=00059620 TIB=00052580 SAV=00500000

AR 0015 SCB=0004FA04 PCB=000517C0 COM=000005D0

AR 0015 1I40I READY

. . .

d cre (display spool files being created)

AR 0015 1C39I COMMAND PASSED TO VSE/POWER

F1 0001 1R4BI CREATE QUEUE C I LINES B DBGP QNUM TASK OWNER

F1 0001 1R4BI DMPANA2 25248 A L 506386 001067 01744 BG FEE JOB=DMPANA2

S=002

. . .



How do I cope with the spool filling up?

d q

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R49I  QUEUE FILE 008% FULL - 1729 FREE QUEUE RECORDS
F1 0001 1R49I  USED QUEUE RECORDS: 157, CRE-Q: 4, DEL-Q: 0
F1 0001 1R49I  RDR-Q: 33, LST-Q: 116, PUN-Q: 3, XMT-Q: 1
F1 0001 1R49I  QUEUE FILE EXTENT ON CKD-120, SYS001, 945, 15
F1 0001 1R49I  DATA FILE 077% FULL - 382 FREE DBLK GROUPS
```

. . .

f bg **← DO NOT CANCEL IT WITH A DUMP IN CASE THE DUMP IS SPOOLED**

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
BG 0000 0V16I REQUEST FROM VSE/POWER
BG 0000 0S00I JOB DMPANA2  CANCELED
BG 0000 0S07I PROBLEM PROGRAM  PSW = 071D1000 000EB18E
BG 0000 0S09I AN IDUMP MACRO WAS ISSUED
BG 0000 BLN9042I INFO/ANALYSIS ABNORMAL TERMINATION DUMP IN PROGRESS
BG 0000 0S09I AN IDUMP MACRO WAS ISSUED
BG 0000 1S78I  JOB TERMINATED DUE TO  CANCEL COMMAND
BG 0000 EOJ DMPANA2
          DATE 10/10/2008, CLOCK 14/58/36, DURATION  00/10/26
BG 0001 1Q34I  BG WAITING FOR WORK
```

What about POWER Networking (NJE)?

```
d pnet,all
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1RB7I ***** NDT NAME = PNODET *****
F1 0001 1RB7I NODE      ROUTE1  ROUTE2  AUTH BSIZE APPLID/IPADDR  IPPORT SPORT
F1 0001 1RB7I WINVSET  ----- LOCAL -----          IYBTPNET          175 2252
F1 0001 1RB7I WINVME   B/C LINK          NET  1112          ← a direct link
F1 0001 1RB7I UKCPSG   WINVME          NET                  ← indirect link via WINVME
F1 0001 1RB7I WINVMB   WINVME          NET                  ← indirect link via WINVME
d a,pnet
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R48I  C-RV ,622,    AWAITING    NODE=WINVME
F1 0001 1R48I  J-RV1,622,,   TGRVMOSD,37894,A  RCVD=00040904  NODE=WINVME ← large job coming in
p pnet,winvme          ← don't do this!
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1RB0I  NODE WINVME SIGNED-OFF ON LINK 622, RC=0000, TIME= 8:46:06
F1 0001 1R03I  TRANSM 00014, TIMEOUTS 00000, ERRORS 00000
s pnet,winvme,,622    ← how to restart the link
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1RB3I  NODE WINVME SIGNED-ON ON LINK 622, BSIZE=01112, TIME= 8:46:17
F1 0001 FROM WINVME: DMTNCR905I SIGNON OF LINK WINVSET COMPLETE, BUFFER SIZE=1112
```

- Direct BSC/CTC link to WINVME (RSCS), indirect to UKCPSG and WINVMB.



What about POWER Networking (NJE)?

- You can flush output being sent via PNET e.g.

d a

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
```

```
F1 0001 1R48I SAS,00004, SAS=SYSTCP00,
```

```
F1 0001 1R48I SAS,00005, SAS=SYSTCQ00,
```

```
F1 0001 1R48I SAS,00006, SAS=SYSTCR00,
```

```
F1 0001 1R48I C-RV ,622, AWAITING NODE=WINVME
```

```
F1 0001 1R48I O-TR1,622,*, DMPANA2 ,25248,A LEFT=00444301 OF 00702206
```

```
NODE=WINVME
```

f pnet,winvme,tr1,out

```
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
```

```
F1 0001 1R49I TRANSMISSION OF OUTPUT DMPANA2 25249 FOR NODE WINVME CANCELED,  
RC=0006 O-TR1
```



Useful TCP/IP Commands

- Use MSG Fx/jobname to get a TCP/IP prompt to enter the command.
- Q VERS to get fix and version information

```
80 q vers
```

```
F4 0077 IPN253I << TCP/IP Version Information >>
```

```
F4 0077 IPN233I IBM Application Pack enabled by product key
```

```
F4 0077 IPN230I IBM APAR PQ87041 (SP E) has been applied. Status is GA
```

```
F4 0077 IPN115I Fixes applied: 101, 102, 103, 104, 106, 107, 109, 110, 111,  
112, 113
```

```
. . .
```

```
F4 0077 IPN115I Fixes applied: 248, 250, 251, 252, 253, 254, 255, 256, 257,  
259, 261
```

```
F4 0077 IPN115I Fixes applied: 263, 301, 302, 303, 304, 305, 501, 502, 503
```

```
F4 0077 IPN115I Fixes applied: IPNACONT at ZP15E117, IPNTYTCP at ZP15E122
```

```
F4 0077 IPN111I ASOCKET 01.05 E 10/10/06 11.25
```

```
F4 0077 IPN111I CLIENTD 01.05 E 10/10/06 11.25
```

```
. . .
```



Useful TCP/IP Commands

■ Q ACTIVE

```
80 q active
```

```
F4 0077 IPN253I << TCP/IP Telnet Daemons >>
```

```
F4 0077 TEL920I ID: LU103 (Active)
```

```
F4 0077 TEL921I Terminal: TELNLU03 Target: IYBTICCF
```

```
F4 0077 TEL922I Port: 23 Match IP: 0.0.0.0
```

```
F4 0077 TEL925I Session: 9.146.211.24, IYBTICCF, D4B32785
```

```
F4 0077 IPN369I No FTP Daemons currently active.
```

```
F4 0077 IPN253I << TCP/IP ACTIVE LINKS >>
```

```
F4 0077 IPN440I ID: OSA Type: 802.5 Adapter: 0
```

```
F4 0077 IPN438I MTU: 1500 IP Address: 9.20.101.109
```

our IP address

```
F4 0077 IPN350I Current Status: Active
```

```
F4 0077 IPN437I ID: OSA Type: 3172 Dev: (051A,051B)
```

```
F4 0077 IPN438I MTU: 1500 IP Address: 9.20.101.109
```

```
F4 0077 IPN439I Driver: IPNL3172
```

```
F4 0077 IPN442I AutoRestart: Off Delay: 600 Limit: 50
```

```
F4 0077 IPN350I Current Status: Active
```

```
F4 0077 IPN253I << TCP/IP Active CAF Daemons >>. . .
```



Useful TCP/IP Commands

- PING

```
80 ping 9.146.211.24
F4 0077 0055: TCP915I PINGING 009.146.211.024
F4 0077 0055: TCP910I PING 1 was successful, milliseconds: 00031.
F4 0077 0055: TCP910I PING 2 was successful, milliseconds: 00030.
F4 0077 0055: TCP910I PING 3 was successful, milliseconds: 00111.
F4 0077 0055: TCP910I PING 4 was successful, milliseconds: 00040.
F4 0077 0055: TCP910I PING 5 was successful, milliseconds: 00088.
F4 0077 0055: TCP910I PING Complete
```

- This was my PC



Useful TCP/IP Commands

- TRACERT

```
80 tracert 9.20.101.110
F4 0077 004E: TCP915I Tracing route to 009.020.101.110
F4 0077 004E: TCP910I Hop: 009.020.101.001 at milliseconds: 00002.
F4 0077 004E: TCP910I
F4 0077 004E: TCP910I Hop: 009.020.101.110 at milliseconds: 00675.
F4 0077 004E: TCP910I
F4 0077 004E: TCP910I TRACERT was successful.
F4 0077 004E: TCP910I Ready:
```

- This is to WINVSEE

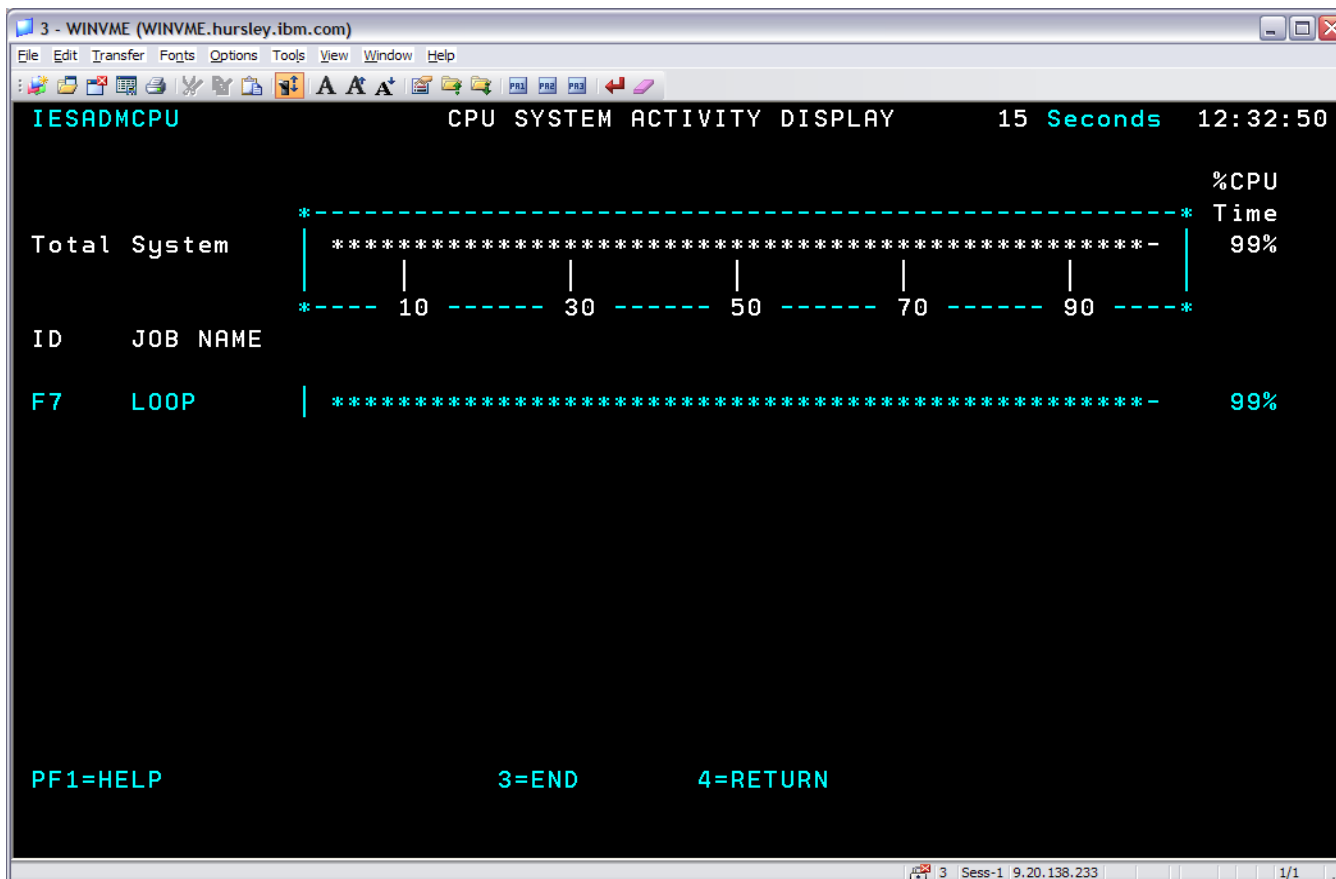
What is happening within z/VSE?

- IUI System Activity – Operations, Display System Activity (or System Status)

```
2 - UKCPSG Small Screen (ukcpsg.hursley.ibm.com)
File Edit Transfer Fonts Options Tools View Window Help
IESADMDA          DISPLAY SYSTEM ACTIVITY          15 Seconds 12:22:23
*--- SYSTEM (CPUs: 1 / 0 ) ---* *----- CICS : IYBTICCF -----*
| CPU       : 99%  I/O/Sec: 1  | | No. Tasks: 667  Per Second : *  |
| Pages In  : 0    Per Sec: *  | | Dispatchable: 0   Suspended  : 3  |
| Pages Out : 0    Per Sec: *  | | Curr. Active: 4   MXT reached: 0  |
*-----* *-----*
Priority: V,R,G,S,Z,Y,C,BG,FA,F9,F8,F6,F5,F7,F2,F4,FB,F3,F1

ID S JOB NAME      PHASE NAME      ELAPSED      CPU TIME      OVERHEAD      %CPU      I/O
F1 1 POWSTART      POWER7         653:08:52    118.70        36.50          812,495
F3 3 VTAMSTRT      ISTINCVT       653:08:44    420.58        137.09         1,340,998
FB B SECSERV       BSTPSTS        653:08:53          .32          .11           873
F4 4 TCPIPO       IPNET          653:08:41     76.01         24.80          1,226
F2 2 VSETICCF      DFHSIP         653:08:41    562.03        183.04         37,445
F7 7 LOOP         LOOP           00:04:14     248.93         .06           99%         43
F5 5 <=WAITING FOR WORK=>
F6 6 <=WAITING FOR WORK=>
F8 8 <=WAITING FOR WORK=>
F9 9 <=WAITING FOR WORK=>
FA A <=WAITING FOR WORK=>
BG 0 <=====WAITING=====>
PF1=HELP          2=PART.BAL.     3=END           4=RETURN        5=DYN.PART      6=CPU
```


What is happening within z/VSE?





What is happening within z/VSE?

- STATUS <xx | jobname | SYS>
- Why will BG not start? Try killing LOOP in F7 it is using all the cpu time, BG is lower in PRTY and we only have one cpu here!

```
status bg
```

```
AR 0015 M21 BG NO NAME 83 READY TO RUN ← running or waiting for a cpu
AR 0015 TCB=00059620 TIB=00052580 SAV=00500000
AR 0015 SCB=0004FA04 PCB=000517C0 COM=000005D0
AR 0015 1I40I READY
```

```
prty
```

```
AR 0015 PRTY V,R,G,S,Z,Y,C,BG,FA,F9,F8,F6,F5,F7,F2,F4,FB,F3,F1
AR 0015
AR 0015 1I40I READY
```

```
status f7
```

```
AR 0015 M28 F7 LOOP 83 READY TO RUN
AR 0015 TCB=0005AE80 TIB=00052800 SAV=00500000
AR 0015 SCB=0004FDA0 PCB=00050E60 COM=00003898
AR 0015 1I40I READY
```

- You can stop and restart F7 by SUSPEND F7 then RESUME F7



What is happening within z/VSE?

- Why are my dynamic class C batch jobs not running?

```
status
. . .
AR 0015 S6F      -G2      82 WAITING FOR I/O, OR ECB POSTING
AR 0015 S6E      -G2      82 WAITING FOR I/O, OR ECB POSTING
AR 0015 M2E G2           82 WAITING FOR I/O, OR ECB POSTING
AR 0015 M2F C1           82 WAITING FOR OPERATORS RESPONSE
AR 0015 M30 C2           82 WAITING FOR OPERATORS RESPONSE
AR 0015 1I40I  READY
status c1
AR 0015 M2F C1 XPCCMAP  82 WAITING FOR OPERATORS RESPONSE
AR 0015      TCB=003772E8 TIB=00377268 SAV=00520000
AR 0015      SCB=00377000 PCB=00377088 COM=003774F0
AR 0015 1I40I  READY
```

- Looks like the replies were scrolled off the console, du-oh!



What is happening within z/VSE?

- Why are my dynamic class C batch jobs not running?

```
status c1
```

```
AR 0015 M2E C1 COMS1AXC 82 WAITING FOR OPERATORS RESPONSE
```

```
AR 0015 TCB=0035E2E8 TIB=0035E268 SAV=00520000
```

```
AR 0015 SCB=0035E000 PCB=0035E088 COM=0035E4F0
```

```
AR 0015 1I40I READY
```

```
status c2
```

```
AR 0015 M2F C2 COMS1AXC 8E WAITING FOR LOCKED RESOURCE          USED BY C1
```

```
AR 0015 TCB=003602E8 TIB=00360268 SAV=00520000
```

```
AR 0015 SCB=00360000 PCB=00360088 COM=003604F0
```

```
AR 0015 1I40I READY
```

- C1 is holding up C2, reply to C1 and maybe the problem will go away.



Bouncing a Subsystem

- If a subsystem stops working, try restarting it - enter the shutdown command for the subsystem, wait for the job to end then release it again:
- ICCF – MSG F2,DATA=CEMT P SHUT and then R RDR,VSExICcz
- TCP/IP – MSG F4,DATA=SHUTDOWN and then R RDR,TCPIP0
- DB2 – MSG R1,DATA=SHUTDOWN or DATA=SQLEND and then R RDR,DB2START
- VTAM – Z NET,QUICK and then R RDR,VTAMSTRT
- Please don't try to bounce POWER, it does not come back up again easily, it needs a lot of manual console activity that even I would not like to have to remember how to do – this is a re-IPL job.



z/VSE Shutdown

- ICCF – MSG F2,DATA=CEMT P SHUT
- CICS – MSG xx,DATA=CEMT P SHUT
- TCP/IP – MSG F4,DATA=SHUTDOWN
- DB2 – MSG R1,DATA=SHUTDOWN or DATA=SQLEND
- VTAM – Z NET,QUICK
- POWER – PEND
- * CP LOGOFF if you want to log it off as well.
- And if you forget to do a proper shutdown? It sorts itself out when the re-IPL happens as all the jobs are restarted one way or another.



How do I IPL z/VSE?

- LOGON WINVSEx BY userid **using a TN3270 Model 2** (but only if you have VM authorisation to do this).
- If you see a CP READ or a RUNNING state, it is usually still running, use #CP DISC to drop the console, #CP LOGOFF to logoff; otherwise B to clear any CP READ, then press ENTER to get the console active again.
- You will see a VM READ if you have just logged on from scratch and have IPL'd CMS, so press ENTER, then sit back and just watch it all happen before your very eyes!
- F4 to disconnect the console when you are fed up with watching it.
- Instead of logoff/logon you can use command REIPL:

```
reipl
AR 0015 1IXXD RE-IPL FROM CUU=120? REPLY YES OR NO
15 yes
```



How do I handle a Disabled Loop or Wait?

- LOGON WINVSEx BY userid to access the real z/VSE console, which also happens to be the Virtual Machine's console.
- Depending on the CP RUN setting you may or may not see a CP READ; if you are at the real system console and it is locked, do a LOGON WINVSEx BY userid HERE to get a CP READ.
- Enter SET RUN OFF to effect a system STOP.
- Enter CPU ALL CMD D PSWG to see the current PSWs so that you know what is happening; the output below from a running system shows both cpus in disabled + key 0 + running + supervisor state:

```
00: PSW = 04040000 80000000 00000000 0002B7DA
```

```
01: PSW = 04040000 00000000 00000000 00017F3E
```

- This shows a hard wait:

```
01: PSW = 00020000 00000000 00000000 00001000
```




How do I handle a Disabled Loop or Wait?

- This will trace a loop to the console:

SPOOL CON START RSCS

spool the console

TAG DEV CON UKCPSG userid

say who is to receive it

TERM MORE 1 0

MORE... lasts 1 second

CPU ALL D PSWG ALL

get cpu overall status now

CPU ALL TRACE BRANCH RUN CMD D GG

branch trace with registers

B

Let it run for a while

#CP CPU ALL TRACE END ALL

get CP READ again

CPU ALL D T0.1000

display first 4K

SP CON CLOSE

close spooled console

STORE STATUS

save machine status

IPL cuu

IPL sadump disk

- See "zVSE Operation Sample branch trace . . .".txt files



How do I handle a Disabled Loop or Wait?

- This will trace a loop to the default printer at address 000E:

SPOOL P START RSCS

spool the printer

TAG DEV P UKCPSG userid

say who is to receive it

SPOOL CON RSCS

TAG DEV CON UKCPSG userid

CPU ALL D PSWG ALL

get cpu overall status now

CPU ALL TRACE BRANCH PRT RUN

branch trace

B

Let it run for just one second

#CP CPU ALL TRACE END ALL

get CP READ again

CPU ALL D T0.1000

display first 4K

SP CON CLOSE

close spooled console

SP P CLOSE

close spooled printer

STORE STATUS

IPL cuu

IPL sadump disk



How do I handle a Disabled Loop or Wait?

- For a hard wait:

SPOOL CON START RSCS

TAG DEV CON UKCPSG userid

CPU ALL D PSWG ALL

CPU ALL D T0.1000

SP CON CLOSE

STORE STATUS

IPL cuu

spool the console

say who is to receive it

get cpu overall status now

display first 4K

close spooled console

IPL sadump disk

How do I handle a Disabled Loop or Wait?

- z/VSE will display this on the z/VSE console (not on the z/VM console so it is not spooled) for a brief amount of time when it is in a hard wait:

```
SYSTEM ENTERED HARD WAIT <=== PROGRAM-CHECK IN SUPERVISOR
00000000 00000FFF 00000000 00000000 00000000          TID=0020 RID=0000
          wait code
00000080 00000420 00001202 0002000B 00020001 813F6000 00000000 00000000 00000000
000000A0 02000000 00000000 00000000 00FF6000 00000000 00000000 00000009 00000000
00000130 07170000 00000000 00000000 000159C8 07053000 00000000 00000000 0000FBA8
00000150 04040000 80000000 00000000 000159CA 00000000 00000000 00000000 00000000
          Program Check old PSW
00000170 07170000 00000000 00000000 000159C8 00000000 00000000 00000000 00000000
00000190 00000000 00000000 00000000 00000000
00001280 00000000 A000FD70 00000000 00000000 00000000 000159C8 00000000 00010080
000012A0 00000000 00000010 00000000 0006D1D0 00000000 000159C8 00000000 00000000
000012C0 00000000 000635D0 00000000 00000010 00000000 0006A668 00000000 00014BC0
000012E0 00000000 0003E2C4 00000000 0003DC62 00000000 00014BC0 00000000 0002000B
000159C0 F1F161F0 F761F2F6 00000000 47000000 47000000 47000000 92140243 41F00018
          Bad code!
000159E0 58D00940 0CED5860 027C58FF 60280B0F 00015A9C 00015A14 000168D4 8000F780
```



O & S

- Stop and start a second cpu (number 1)

`SYSDEF TD,STOP=1`

`SYSDEF TD,START=1`

- WINVSEE has 3 cpus!



O & S

- Many I/O errors on the spool, a POWER cold start will be needed:

```
F1 0014 0P45I P WR INHIBIT SYS002=121
      CCSW=05C0CF9B380E401D7C CCB=505AE0 SK=000001C30002
      SNS= 10020000 06FFFF00 00000000 00000004 E5015F9C 125D0F00
            000040E2 0001C302
```

```
F1 0014 0P45I P WR INHIBIT SYS003=1FF
      CCSW=05C0D4CA380E401D7C CCB=5079E0 SK=000000110004
      SNS= 10020000 06FFFF00 00000000 00000004 E5015F9C 125D0F00
            000040E2 00001104
```

. . .

D STATUS

. . .

F1 0001	1R46I	DATA FILE	IJDFILE	2 EXTENTS
F1 0001		TOTAL NUMBER OF TRACKS		9920 TRACKS
F1 0001		TOTAL NUMBER OF DBLK-GROUPS		6944 GROUPS
F1 0001		FREE DBLK-GROUPS (INCL. 20 FOR CUSHION)		5564 GROUPS
F1 0001		USED DBLK-GROUPS		1380 GROUPS
F1 0001		DBLK-GROUPS IN DELETION		0 GROUPS
F1 0001		DBLK-GROUPS LOST DUE TO I/O OR LOGIC ERROR		248 GROUPS ←

. . .



O & S

- Running SDAID (only one SDAID job at a time, and best to use just one cpu):

```
* ## JOB JNM=SDAIDMP,CLASS=0
* ## LST CLASS=X,RBS=0,DEST=(UKCPST,POILMIK)
// JOB SDAIDMP
// ID USER=USERCMD,PWD=OPEN
* CP SP 01E RSCS
* CP TAG DEV 01E UKCPST POILMIK
// EXEC SDAID
OUTDEV P=01E
TRACE INST=* AR=G1 PHASE=DFHETS OFFSET=0:* -
  OUTPUT=(GREG DUMP REG=F:10 DUMP PTR=C:68 DMP=0:10)
/*
/&
* ## EOJ
```

- Use STARTSD (or STRTSD) to start it, then start CICS; use STOPSD to turn it off temporarily before any next STARTSD; use ENDS to remove the SDAID traces.
- Use e.g. * CP SP 01E CLOSE whenever you want to close the VM print file.



Q & A

- Any questions?