



Session: E44

VSE Hot Topics

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zSeries Expo

Nov. 1 - 5, 2004

Miami, FL



VSE/ESA Hot Topics

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Objectives

- Provide you with useful VSE tips you can take home and use
- Get you to share your tips with the rest of us

Note: The topics covered in this presentation assume no vendor products are being used, just a standard IBM VSE system



Automating VSE shutdown

- Use DTRIATTN and MSG commands

- Undocumented utility to send messages to other partitions

```
// EXEC DTRIATTN,PARM='command'
```

- MSG command supports jobname and DATA parameter

```
MSG CICSICCF,DATA='CEMT P SHUT I'
```

- Not all subsystems support MSG command with DATA parameter
 - CICS/VSE 2.3
 - TCP/IP for VSE/ESA prior to 1.5B



Automating VSE shutdown...

DTRIATTN Shutdown Job

```
* $$ JOB JNM=SHUTDOWN,DISP=L,CLASS=0
// JOB SHUTDOWN      SYSTEM SHUTDOWN
// PAUSE SYSTEM WILL BE SHUTDOWN, PRESS ENTER TO CONTINUE OR CANCEL
// EXEC DTRIATTN,PARM='MSG CICSICCF,DATA=CEMT P SHUT'
// EXEC IESWAIT,PARM='05'
// EXEC DTRIATTN,PARM='MSG CICS23'
// EXEC IESWAIT,PARM='05'
// EXEC DTRIATTN,PARM='45 CEMT P SHUT'
// EXEC IESWAIT,PARM='30'
// EXEC DTRIATTN,PARM='MSG TCPIP,DATA=SHUTDOWN'
// EXEC IESWAIT,PARM='30'
// EXEC DTRIATTN,PARM='Z NET,QUICK'
// EXEC IESWAIT,PARM='30'
// EXEC DTRIATTN,PARM='PEND'
/&
* $$ EOJ
```



Daylight Savings Time Change

- VSE provides for automatic Daylight Savings Time adjustments at IPL
 - SET ZONEDEF
 - SET ZONEBDY
- Add to IPL Proc
 - After ADD statements and before SVA
- At IPL time VSE determines date and adjusts time accordingly



Daylight Savings Time Change...

Setting Daylight Savings Time

```
SET ZONEDEF, ZONE=WEST/05/00, CDT
SET ZONEDEF, ZONE=WEST/06/00, CST
SET ZONEBDY, DATE=04/04/2004, CLOCK=02/00/00, CDT
SET ZONEBDY, DATE=10/31/2004, CLOCK=02/00/00, CST
SET ZONEBDY, DATE=04/03/2005, CLOCK=02/00/00, CDT
SET ZONEBDY, DATE=10/30/2005, CLOCK=02/00/00, CST
SET ZONEBDY, DATE=04/02/2006, CLOCK=02/00/00, CDT
SET ZONEBDY, DATE=10/29/2006, CLOCK=02/00/00, CST
SET ZONEBDY, DATE=04/01/2007, CLOCK=02/00/00, CDT
SET ZONEBDY, DATE=10/28/2007, CLOCK=02/00/00, CST
SET ZONEBDY, DATE=04/06/2008, CLOCK=02/00/00, CDT
SET ZONEBDY, DATE=10/26/2008, CLOCK=02/00/00, CST
```




Changing Partition Size

- ❑ Changing a static partition
 - PSTOP and UNBATCH the partition to VSE/POWER

```
p f5
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
F5 0001 1Q33I  STOPPED F5
F5-0005 1I00D  READY FOR COMMUNICATIONS.
5 unbatch
```

- Re-allocate the partition and define the default size

```
alloc f5=0m
AR 0015 1I40I  READY
alloc f5=2m
AR 0015 1I40I  READY
size f5=1M
AR 0015 1I40I  READY
```



Changing Partition Size...

- Changing a static partition...
 - PSTART the partition to VSE/POWER
 - You *must* know in advance the spool devices and class(es) to specify

```
s f5,h5
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
F1 0001 1R86I  PLEASE SPECIFY DEVICES TO BE SPOOLED
F1-0001 1R50D   F5 READER=
1 fec
F1-0001 1R50D   F5 PRINTERS=
1 fee
F1-0001 1R50D   F5 PUNCHES=
1 fed
F5-0005
```



Changing Partition Size...

- Changing a static partition...
 - Assign system logical units in the partition

```
5 assgn syslst, fee
F5-0005
5 assgn syspch, fed
F5-0005
5 assgn sysrdr, fec
F5-0005
```

- Re-establish your standard assignments, etc.

```
5 // exec proc=$$jcl
F5 0005 // JOB STARTF5
          DATE 08/12/2002, CLOCK 21/30/01
F5 0005 1N90I  EOP WAS FORCED BY EOJ
F5 0005 EOJ STARTF5
          DATE 08/12/2002, CLOCK 21/30/04, DURATION 00/00/02
F5 0001 1Q34I  F5 WAITING FOR WORK
```



Changing Partition Size...

- Automating the process for a static partition
 - Also known as "planning ahead"!

```
* $$ JOB JNM=ALLOCF5,DISP=H,CLASS=6
// JOB ALLOCF5      ALLOC F5 PARTITION TO 2 MB - RUNS IN F6
// EXEC DTRIATTN,PARM='P F5'
// EXEC DTRIATTN,PARM='5 UNBATCH'
// EXEC DTRIATTN,PARM='ALLOC F5=0K'
// EXEC DTRIATTN,PARM='ALLOC F5=2M'
// EXEC DTRIATTN,PARM='SIZE F5=1M'
// EXEC DTRIATTN,PARM='S F5,H5'
// EXEC DTRIATTN,PARM='1 FEC'
// EXEC DTRIATTN,PARM='1 FEE'
// EXEC DTRIATTN,PARM='1 FED'
// EXEC DTRIATTN,PARM='5 ASSGN SYSLST,FEE'
// EXEC DTRIATTN,PARM='5 ASSGN SYSPCH,FED'
// EXEC DTRIATTN,PARM='5 ASSGN SYSRDR,FEC'
// EXEC DTRIATTN,PARM='5 // EXEC PROC=$$JCL'
/&
* $$ EOJ
```



Changing Partition Size...

- ❑ Changing a dynamic partition
 - Update Dynamic Class Table with new data
 - ❑ DTR\$DYNC.Z or user-specified suffix
 - ❑ Need to change Dynamic GETVIS value also?
 - Load updated table

```
pload dync  
pload dync,id=x
```

- Next time job is scheduled in dynamic class it will be allocated to new size
 - ❑ Assuming virtual storage is available for new allocation and IPL SYS PASIZE is large enough!



VSE/POWER

- Little known Autostart SET commands
 - SET CONFIRM=power-command
 - Purpose: Prevent processing of "accidental" commands
 - Could be *very* useful for PEND
 - 1QZ3D PROCESS 'power-command'? CONFIRM WITH 'YES', ELSE 'NO'



VSE/POWER...

- Little known Autostart SET commands...
 - SET 1R33D=FLUSH|IGNORE
 - Problem: Incorrect JECL requires operator intervention
 - 1R33D CORRECT FULL STATEMENT task-id
 - *Full* JECL statement must be entered on console
 - FLUSH - job with incorrect JECL flushed
 - Job given DISP=H|L in rdr queue
 - IGNORE - incorrect JECL ignored
 - Job executes as if JECL statement not present
 - Not sure this is a good option



VSE/POWER...

- Little known Autostart SET commands...
 - SET NORUN=YES,DYN1=PAUSE
 - Purpose: Prevents active jobs from running following a system failure
 - Active jobs set to DISP=X during startup
 - Use D RDR,CDISP=X to see affected jobs
 - // PAUSE automatically issued for any static with job set to DISP=X and another job dispatchable
 - Dynamic partition support added with DY46031
 - * \$\$ JOB NORUN=IGN ignores SET NORUN=YES
 - May be useful for VTAM, CICS, TCP/IP, and ???



VSE/POWER...

- Little known Autostart SET commands...
 - SET LONGCMD=power-command
 - Problem: Short forms of VSE/POWER commands are sometimes too easy to enter by mistake
 - L RDR,ALL
 - If SET LONGCMD=PDELETE is used then L will not be accepted
 - Multiple SET LONGCMDS can be used
 - But watch out for short form commands from
 - DTRIATTN job steps
 - User SVC 30 programs
 - Vendor products



VSE/POWER...

- Little known Autostart SET commands...
 - SET AUTONAME=FLUSH|HOLD
 - Purpose: Prevent jobs without valid * \$\$ JOB or // JOB from automatically running
 - Jobs automatically named AUTONAME in rdr queue
 - Without this option jobs set to DISP=D and CLASS=A
 - FLUSH - delete job from rdr queue
 - HOLD - put job in rdr queue with DISP=H
 - 1Q3HI JOB AUTONAME jobnum
{FLUSHED|HELD} DUE TO 'SET AUTONAME',
TASK task,cuu



VSE/POWER...

- Manage queue entries by USER or UINF
 - Valid for PALTER, PDELETE, PDISPLAY, PHOLD, and PRELEASE commands

```
d lst,cjm55,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 CJM55 00725 3 D A 1 1 TO=(JUST) FROM=(JUST)
F1 0001 D=08/10/2002 U='ABCD ' DBGP=000001 L=00000002
F1 0001 QNUM=00808
d lst,cuinf=abcd
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R46I LIST QUEUE P D C S PAGES CC FORM B
F1 0001 1R46I CJM55 00725 3 D A 1 1 TO=(JUST) FROM=(JUST)
l lst,cuinf=abcd
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R88I OK : 1 ENTRY PROCESSED BY L LST,CUINF=ABCD
```



VSE/POWER...

- Manage large spool entries
 - CPAGE and CCARD parameters
 - PDISPLAY LST,CPAGES>nnnnn
 - PDISPLAY PUN,CCARD>nnnnn
 - Displays RDR,LST,PUN or XMT entries with lines or cards greater than nnnnn
 - Equal (=) and less than (<) criteria also valid
 - Valid for PALTER, PDELETE, PHOLD, and PRELEASE commands



VSE/POWER...

- Manage large spool entries...
 - PDISPLAY BIGGEST,LIMIT=nn(,LST)
 - Displays up to nn of the largest spool entries
 - All queues
 - LST option sends display output to LST queue
 - LST output jobname \$BIGnnnn



VSE/POWER...

- **Reallocate Queue file**
 - Normally requires cold start and reformat
 - Can be reallocated during warm start
 - Controlled by STDLABEL and DTRPOWR changes
 - Change current IJQFILE DLBL to IJQFOLD
 - Change current IJQFILE EXTENT to SYS034
 - Add new DLBL and EXTENT SYS001 for IJQFILE
 - Change ASSGN for SYS001 to SYS034
 - Add ASSGN for SYS001 to volume for new EXTENT
 - Next warm start of POWER reallocates queue file
 - Operator messages to confirm reallocation



Read-Only DASD Volumes

- How do you share DASD volumes today?
 - ADD cuu,dev-type,SHR with Lock File?
 - Supported, data integrity
 - Potentially lots of I/Os
 - ADD cuu,dev-type with some kind of manual controls?
 - No support or data integrity
 - Significant potential for error!



Read-Only DASD Volumes...

- How about read-only access built into VSE?
 - Support is in your system right now

```
ADD cuu,dev-type,READ
```

```
ADD 254,ECKD,READ
```

- Not documented

```
volume 254
```

```
AR 0015 CUU CODE DEV.-TYP VOLID USAGE SHARED STATUS CAPACITY
AR 0015 254 6E 3390-3 RWHWRK UNUSED READ ONLY 1113 CYL
AR 0015 1I40I READY
```




Read-Only DASD Volumes...

- Prefixes MODE SET to each CCW string to inhibit writes
 - Example: IUI dialog to add VSAM space to existing catalog on read-only 3390

```
F2 0014 0P18I C COMM REJCT SYS252=254
      CCSW=0DD0CE39500E00008C CCB=CE396A SK=000080000000
      SNS= 80000000 C6000C01 00000021 00001704 02008B4D 43160F04
          000000E2 0001A302
```

- X'0D' is write key and data



Undocumented Commands

- List all commands with SIR COMMAND
 - "Documented" - in official IBM SRLs
 - System Control Statements, Diagnostic Tools, etc.
 - "Undocumented"
 - Some are "semi-documented" in Hints and Tips for VSE/ESA document on IBM VSE web site
<http://www-1.ibm.com/servers/eserver/zseries/os/vse/>
- "Undocumented additional function" in some "documented" commands



Undocumented Commands...

Undocumented

ATTN	DOIO	ECHO	EZAAPI	IXFP
LOCATE	LOCK	MODE	NOAVR	NOASSGN
PFKEY	REIPL	RESUME	SHOW	SHUT
SIMTAPE	SIM3540	SIR	SL	STACK
SUSPEND	TAPE	TESTMON	TIME	Q...
#CP				

Additional Function

VOLUME



STACK Command Update

- Review
 - Used to
 - Create customized console commands
 - Disable or replace existing console commands
 - "Semi-documented" in VSE/ESA Hints and Tips
 - Can make your life much easier
 - Or more difficult!



STACK Command Update...

Command Syntax

```
STACK  
STACK CLEAR  
→ STACKP CLEAR  
STACK CLEAR=name  
→ STACKP CLEAR=name  
STACK SHOW  
STACK SHOW=name  
→ STACKP name | command [ | command] [ | ...] ...
```



STACK Command Update...

- Changes over time
 - Originally STACK with no parameters deleted entire stack
 - With APAR DY45629 acts like STACK SHOW
 - Originally stack buffer was lost at IPL
 - With APAR DY45629 stack preserved across IPLs
 - On CKD/ECKD only
 - New SLEEP command - SL nnn
 - Provides delay between execution of commands
 - APAR DY45452



STACK Command Update...

- New: STACKP to preserve stack over IPL
 - Introduced with APAR DY45700
 - Documented in Hints and Tips (July 2002) as PSTACK
 - Shown as STACKP by SIR COMMAND
 - Commands entered with STACK now *not* saved across IPL
 - Doesn't seem to work correctly on 2.6.0 GA level!
- Up to 10 variables can be used
 - &0 through &9



STACK Command Update...

Example

```
stack task|msg f2,data=cent i tas
AR 0015 1I40I  READY
stack prty|* priority command has been disabled
AR 0015 1I40I  READY
task
AR 0015 1I40I  READY
AR 0015 MSG F2,DATA=CEMT I TAS ←
AR 0015 1I40I  READY
F2 0120
      Tas(0000023) Tra(CXPB)           Sus Tas Pri( 001 )
      Sta(S ) Use(DBDCCICS) Rec(X'B8116B39A24FCA80') Hty(OPEN_ANY)
      Tas(0000025) Tra(IESO)           Sus Tas Pri( 020 )
      Sta(S ) Use(CICSUSER) Rec(X'B8116B399B259980') Hty(EKCWAIT )
.
.
.
prty
AR 0015 1I40I  READY
AR 0015 * PRIORITY COMMAND HAS BEEN DISABLED ←
```




STACK Command Update...

Example

```
stack gv|time|getvis sva|getvis f2
AR 0015 1I40I  READY
gv
AR 0015 1I40I  READY
AR 0015 TIME           ←
AR 0015 TIME IS: 15:35:54 (DST)          DATE 08/12/2002  MONDAY
AR 0015 GETVIS SVA     ←
AR 0015 GETVIS USAGE   SVA-24          SVA-ANY          SVA-24          SVA-ANY
AR 0015  AREA SIZE:    1,824K          8,976K
AR 0015  USED AREA:    1,180K          3,012K MAX. EVER USED:    1,204K          3,040K
AR 0015  FREE AREA:    644K           5,964K LARGEST FREE:      644K           5,320K
AR 0015 1I40I  READY
AR 0015 GETVIS F2      ←
AR 0015 GETVIS USAGE   F2-24          F2-ANY          F2-24          F2-ANY
AR 0015  AREA SIZE:    11,260K         51,196K
AR 0015  USED AREA:    8,712K          37,140K MAX. EVER USED:    11,260K         39,868K
AR 0015  FREE AREA:    2,548K          14,056K LARGEST FREE:      2,528K          13,964K
AR 0015 1I40I  READY
```



STACK Command Update...

Example

```
stack gv|time|getvis &0,&1
AR 0015 1I40I  READY
gv f7
AR 0015 1I40I  READY
AR 0015  TIME
AR 0015  TIME IS: 15:44:29 (DST)          DATE 08/12/2002  MONDAY
AR 0015  GETVIS F7
AR 0015  GETVIS USAGE      F7-24      F7-ANY          F7-24      F7-ANY
AR 0015  AREA SIZE:      10,640K      12,688K
AR 0015  USED AREA:      3,348K      5,396K MAX. EVER USED:      10,640K      12,688K
AR 0015  FREE AREA:      7,292K      7,292K LARGEST FREE:      7,104K      7,104K
AR 0015 1I40I  READY
```



STACK Command Update...

Example

```

stack dp|d t|sl 1|d q|sl 1|d a|sl 1|d status
AR 0015 1I40I  READY
dp
AR 0015 1I40I  READY
AR 0015 D T      ←
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
AR 0015 SL 1    ←
F1 0001 1R46I  TIME IS 15:52:52, DATE IS 08/12/2002
F1 0001 1R46I  019 PAGES FIXED, 029 CURRENT TASKS
AR 0015 1I40I  READY
AR 0015 D Q      ←
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
AR 0015 SL 1    ←
F1 0001 1R49I  QUEUE FILE 014% FULL - 740 FREE QUEUE RECORDS
F1 0001 1R49I  QUEUE FILE EXTENT ON CKD-250, SYS001, 945, 7
.
AR 0015 1I40I  READY
AR 0015 D A      ←
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
AR 0015 SL 1    ←
F1 0001 1R48I  SAS,00007, SAS=SYSTCP00,
F1 0001 1R48I  SAS,00008, SAS=SYSTCQ00,
.
AR 0015 1I40I  READY
AR 0015 D STATUS ←
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
F1 0001 1R46I  VSE/POWER 6.6.0 STATUS FOR IPWPOWER ON 08/12/2002 TIME 15/52/55
.

```



STACK Command Update...

Example

```
stack cjm1|time|cjm2
AR 0015 1I40I  READY
stack cjm2|pdelete lst,vtam*
AR 0015 1I40I  READY
cjm1
AR 0015 1I40I  READY
AR 0015 TIME           ←
AR 0015 TIME IS: 16:13:16 (DST)          DATE 08/12/2002  MONDAY
AR 0015 CJM2           ←
AR 0015 1I40I  READY
AR 0015 PDELETE LST,VTAM* ←
AR 0015 1C39I  COMMAND PASSED TO VSE/POWER
F1 0001 1R88I  OK : 1 ENTRY PROCESSED BY PDELETE LST,VTAM*
```



STACK Command Update...

Example

```
stack show
AR 0015 TASK|MSG F2,DATA=CEMT I TAS
AR 0015 GV|TIME|GETVIS &0
AR 0015 DP|D T|SL 1|D Q|SL 1|D A|SL 1|D STATUS
AR 0015 CJM1|TIME|CJM2
AR 0015 CJM2|PDELETE LST,VTAM*
AR 0015 1I40I  READY
stack clear=dp
AR 0015 1I40I  READY
stack clear=cjml
AR 0015 1I40I  READY
stack show
AR 0015 TASK|MSG F2,DATA=CEMT I TAS
AR 0015 GV|TIME|GETVIS &0
AR 0015 CJM2|PDELETE LST,VTAM*
AR 0015 1I40I  READY
stack clear
AR 0015 1I40I  READY
stack show
AR 0015 1I40I  READY
```



STACK Command Update...

- Additional information
 - Maximum of 32 entries in buffer
 - Maximum command length 126 characters
 - Can put in BG ASI procedure to automate
 - But STACK command itself not accepted during ASI
 - DTRIATTN
 - PARM limited to 72 bytes
 - SVC 30 program
 - Sample in Hints and Tips document



STACK Command Update...

- Additional information...
 - STACK STACK|* to disable the STACK command
 - Keep the operators from changing your stuff?
 - Better be the last STACK command you enter!
 - STACK buffer written on DOSRES Cyl 0 Head 0 Record 4
 - Record key is STACK.DATA.BUFFER



REIPL Command

- Causes VSE to re-IPL
 - Uses same IPL/JCL procs
 - Should quiesce the system first!
- AR command

```
REIPL [cuu] [NOPROMPT]
```




REIPL Command...

- APAR DY45452
 - Volser or cuu
 - LOADP now accepted
 - If omitted, existing LOADP used
 - Reset with LOADP=.....
 - If NOPROMPT used it must be last operand

```
REIPL DOSRES , LOADP= . . P , NOPROMPT
```



Now Its Your Turn

**Anybody got anything
they want to contribute?**