VSE/ESA Hot Topics

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Objectives

- Provide you with useful 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/ESA system

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SIR Command

- AR command SIR
- Produces a System Information Report on the console
- Well known, but undocumented

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SIR Command Output

```
sir
AR 0015 CPUID     = 0000000174900000
AR 0015 PROC-MODE = ESA            IPL(250)    14:05:40      03/20/2003
AR 0015 SYSTEM    = VSE/ESA        2.6.0 GA                  10/29/2001
AR 0015           VSE/AF           6.6.0       GA-LEVEL      10/15/2001
AR 0015           VSE/POWER        6.6.0       DY-BASE       09/19/2001
AR 0015 IPL-PROC  = $IPLESA        JCL-PROC  = $$JCL
AR 0015 SUPVR     = $$A$SUPX       TURBO-DISPATCHER (30) ACTIVE
AR 0015                            HARDWARE COMPRESSION ENABLED
AR 0015 SEC. MGR. = BASIC          SECURITY  = ONLINE
AR 0015 CPU-ADDR. = 0000(IPL)   ACTIVE
AR 0015   ACTIVE  = 0011:17:05.774   WAIT = 0695:09:07.051
```

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SIR Command Output

```
AR 0015   PARALLEL= 0004:27:50.744   SPIN = 0000:00:00.000
AR 0015 CPU timings MEASUREMENT INTERVAL    0790:55:01.332
AR 0015 TASKS ATT.= 00047          HIGH-MARK = 00053    MAX = 00180
AR 0015 DYN.PARTS = 00002          HIGH-MARK = 00003    MAX = 00032
AR 0015
AR 0015 COPY-BLKS = 00003          HIGH-MARK = 00043    MAX = 01500
AR 0015 CHANQ USED= 00009          HIGH-MARK = 00013    MAX = 00223
AR 0015 LBL.-SEGM.= 00010          HIGH-MARK = 00011    MAX = 00717
AR 0015 PGIN  TOT.= 0000000001     EXP.AVRGE.= 0000000000/SEC
AR 0015 PGOUT TOT.= 0000000000
AR 0015       UNC.= 0000000000     EXP.AVRGE.= 0000000000/SEC
AR 0015       PRE = 0000000000     EXP.AVRGE.= 0000000000/SEC
AR 0015 LOCKS EXT.= 0000000540     LOCKS INT.= 0000002727
AR 0015      FAIL = 0000000040          FAIL = 0000000000
AR 0015 LOCK I/O  = 0000000000     LOCK WRITE= 0000000000
AR 0015 1I40I  READY
```

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SIR COMMAND

- What else will it do?
- Actually, quite a bit.
- Find out with the command SIR ?

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SIR Help

```
sir ?
AR 0015      SIR COMMAND HELP
AR 0015  SIR    (<RESET|SYS>)         RESET/DISPLAY SYSTEM INFO
AR 0015  SIR    SMF((,VSE)=<ON|OFF|cuu>) SUBSYSTEM MEASUREMENT DATA
AR 0015  SIR    MON(=<<id|ON(,NOSYM)>|OFF>(option)) MONITORING DATA
AR 0015  SIR    MIH(=<nnnnnn|ON|OFF>)  DISPLAY/CHANGE MIH SETTING
AR 0015  SIR  CHPID(=chpid)           DISPLAY CHPID INFORMATION
AR 0015  SIR VENDOR                 DISPLAY VENDOR PRODUCT INF
AR 0015  SIR CRWMSG(=<ON|OFF>)        DSPLY/CHANGE CRW MSG-REPORTING
```

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SIR COMMAND

- SIR SYS displays current counters and SIR RESET resets them
- SIR SMF, when on displays I/O statistics
- SIR MON when activated produces SVC statistics
- SIR MIH displays current setting for MIH
  If can be used to set it ON or OFF and to change the interval.

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SIR COMMAND

- SIR CHPID sounds useful but I haven't tested it (no CHPIDs)
- SIR VENDOR lists vendor products (including IBM) which are registered and any exits in use
- SIR CRWMSG enables or disables channel reporting messages

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SIR Command

- So the SIR command actually allows access to quite a bit of performance related information.
- But before you start depending on it, reflect that SIR is somewhat undocumented and therefore subject to change

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Changing Partition Size

- Changing a static partition
  - PSTOP the partition to VSE/POWER
    pstop f5
    AR 0015 1C39I COMMAND PASSED TO VSE/POWER
    F5 0001 1Q33I STOPPED F5
    F5-0005 1I00D READY FOR COMMUNICATIONS.
  - UNBATCH the partition to VSE
    5 unbatch
  - Re-alloc the partition and define default size
    alloc f5=0m
    alloc f5=2m
    size f5=1m

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Changing Partition Size

- **Changing a static partition...**
- PSTART the partition to VSE/POWER
  - You **must** know in advance the spool devices and classes 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

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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
```

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Changing Partition Size…

- Changing a static partition…
  Re-establish standard assigns, labels etc

```
5 exec proc=$$jcl
F5 0005 // JOB STARTF5
        DATE 04/22/2003, CLOCK 12/10/22
F5 0005 1N90I  EOP WAS FORCED BY EOJ
F5 0005 EOP $5JCL
F5-0005 EOJ STARTF5
        DATE 04/22/2003, CLOCK 12/10/24, DURATION
00/00/01
```

- You are done! Tedious, wasn't it!

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Changing Partition Size

- Automating the process for a static partition
  Put a job out in the POWER/VSE RDR queue to perform all the above commands with DTRATTN i.e.

```
* $$ JOB JNM=ALLOCF4.DISP=H,CLASS=6
// JOB ALLOCF5
// EXEC DTRATTN,PARM='PSTOP F5'
// EXEC DTRATTN,PARM='5 UNBATCH'
etc. etc.
/&
* $$ EOJ
```

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Changing Partition Size…

- **Changing a dynamic partition**
- Using IUI, Update Dynamic Class Table with new data
  - DTR$DYNC or user-specified suffix
  - Need to change Dynamic Space GETVIS value also?
- Load updated table
  pload 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
F1 0001 1Q6AI   C  ENAB     0  9     1M    500K    128K   STDPROF
F1 0001 1Q6BI  DYNAMIC CLASS TABLE LOADED SUCCESSFULLY
```

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Changing Partition Size…

- Things to think about...
  - The procedures for changing a static partition are tedious and error prone They are basically for emergency use only.
  - Furthermore they are temporary unless you update the IPL procs
  - In many cases it is easier to just IPL
  - The procedures for changing a dynamic partition are easier and permanent

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VSE/POWER

- Little known Autostart SET commands
  - SET CONFIRM=power command
    Prevents processing of accidentally entered POWER commands

    For example: require confirm for “PEND”
    IQZ3D PROCESS PEND? CONFIRM WITH ‘YES’ ELSE ‘NO’

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VSE/POWER

- Little known Autostart SET commands…
  - SET IR33D=FLUSH|IGNORE

    IR333D is issued when incorrect JECL is submitted. The Operator must reenter the entire JECL card correctly (and he generally doesn't know what to enter)
    With FLUSH the entire job is flushed and put on hold.
    With IGNORE the card is bypassed

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VSE/POWER

- Little known Autostart SET commands…
  - SET NORUN=YES
    Prevents active jobs from running after a system failure. DISP is changed to X during autostart.
    Automatic PAUSE is issued for any static partition with a DISP X job.
    * $$ JOB NORUN=IGN bypasses this for jobs that you always want to run after a failure, i.e. VTAM

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VSE/POWER

- Little known Autostart SET commands…
  - SET LONGCMD=power-command
    Keeps POWER from accepting short forms of selected commands which may be entered by mistake e.g. "L RDR,ALL"
    Multiple SET LONGCMDs may be specified.

    But short form commands can still be used by DTRATTN or other programs

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VSE/POWER

- Little known Autostart SET commands…
  - SET AUTONAME=FLUSH|HOLD
    Prevents jobs without valid * $$ JOB or // JOB cards from running.

    They are probably seriously wrong anyway.
  - FLUSH deletes the job
    HOLD leaves it in the RDR on hold

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VSE POWER…

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

```
d lst,zwebcnfg,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  ZWEBCNFG 03324 3 D A       3   1       TO=(JEL1)
FROM=(JEL1)
F1 0001        D=03/20/2003 U='ABCD           '  DBGP=000001 L=0000000
F1 0001        QNUM=00673
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  ZWEBCNFG 03324 3 D A       3   1       TO=(JEL1)
FROM=(JEL1)
I lst,cuinf= abcd
AR 0015 1C39I COMMAND PASSED TO VSE/POWER
F1 0001 1R88I  OK : 1 ENTRY PROCESSED BY L LST,CUINF=ABCD
```

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Read-Only DASD volumes

- The supported way to do this is with ADD cuu,dev-type, SHR and the lock file
- This works fine, but can mean lots of I/Os against the lock file
- However there is another undocumented way to get the same result.

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Read-Only DASD Volumes…

- ADD cuu,dev-type,READ
  - Prefixes a MODE SET to each CCW string to inhibit writes.
  - Overhead is quite low, but be aware that any program that tries to write on the volume will cancel

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Now It's Your TURN

- Does anybody else have any tips they would like to contribute?

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