

Bit Bucket X'1A'

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Trademarks

IBM
RACF
SMP/E
z/OS

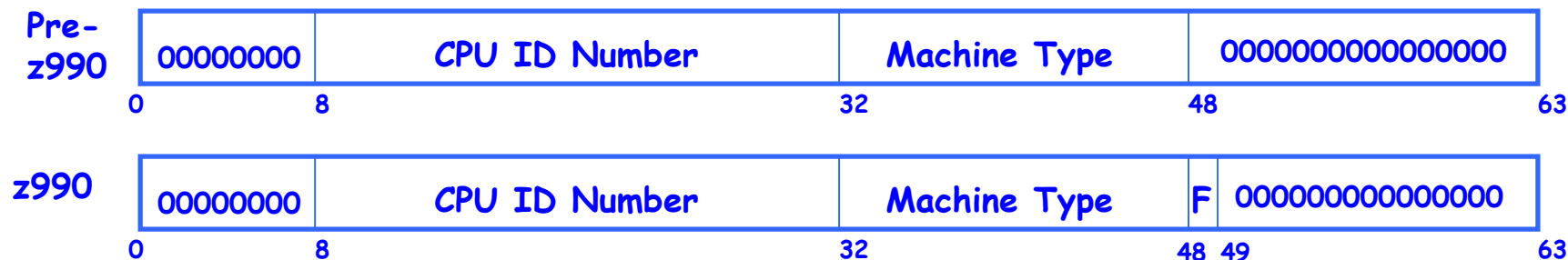
IBMLink
ShopZSeries
WLM

CA-MIA
CA-MIM
Omegamon

CA-MIM
HSC
STK

Store CPU ID (STIDP) Changes

z990 supports 30 LPARs (SOD for 60); necessitated changes to STIDP



When "F" = 0 the CPU Id Number is aaaaxxxx:

aaaa = logical CPU address

xxxx = LPAR number (0-F)

When "F" = 1 the CPU ID Number is xxxxxxxx:

xxxxxxx is the LPAR number (0-3F)

STSI will still return the logical CPU address

STAP is the recommended instruction to return the logical CPU address

WLM Problem -or- How We Shot Ourselves in the Foot

One night some batch jobs started running and WLM didn't adjust them down:

- Sucked up the entire processor until completion
- The operations manager wasn't happy
- CPU normally ran 100% busy at that time of night

We ran a performance monitor at a lower dispatching priority that recommended:

- Product name is unimportant
- Dispatching priority chosen due to ancient data/problem
- Not in SYSSTC

Performance monitor obtained the WLM sampling latch:

- Coincidentally WLM adjusted the monitor's priority down
- Coincidentally WLM adjusted the batch job's priority up
- The monitor couldn't get dispatched to free the latch
- WLM couldn't obtain the latch to adjust the workload

Run your started tasks where the vendors recommend!

Service to obtain the data available from D OMVS

- Supervisor state and key 0-7
- Branch entered (not PC)
- Buffer recommended to be at least 1 Mb!
 - If buffer in primary a/s, system protects last page
 - If buffer not in primary a/s, caller must protect last page

There have been some problems with this service:

- OW56488: bad macro due to finger check (2003)
- OW50400: invalid ODMVASID (2002)
- Inconsistency between HLASM and PL/X mappings
- Seems to be manual updating of macro with no test to insure it works (I only changed one little thing ...)

Very complicated structure returned (sizes for z/OS 1.3):

Options Information	X'000C' bytes
System Limit Information	X'0074' bytes
Process Limit Information	X'0078' bytes
Summary Output Data	X'04F0' bytes
Output array	X'0004' bytes
Process Array	X'0004' bytes
File Data	X'0122' bytes
Process Information	X'009C' bytes
Thread Information	X'00AC' bytes
PFS Data	X'00EC' bytes
CINET Data	X'0040' bytes

Summary output is *always* returned
Structure lengths change from release to release

MODESET MODE=SUP into supervisor state

```
LA      R0,BUFFER          load buffer addr
ST      R0,BUFFER@        save it
XC      ALET,ALET         insure primary space
USING  ODMV,BUFFER       map buffer
XC      ODMV(ODMV_LEN),ODMV clear input parms
OI      ODMVINBYTEM1,ODMVOPTIONS request asid information
LA      R0,ODMVINPUTEND   load output addr
ST      R0,ODMVOUTPTR     save in parmlist
```

```
BPXEKDA KBUFPTR=BUFFER@,KBUFLLEN=BUFFLEN,KBUFALET=ALET,      x
        RETCODE=RC,MF=(E,DYNEKDA)
```

MODESET MODE=PROB back to problem state

```
L       R8,ODMVOUTPTR     load output addr
LA      R7,ODMVOUT_LEN(,R8) bump past odmcout
USING  ODMVOUT,R8       map output
```

BPXZODMV

```
WORKAREA DSECT
SAVEAREA DS      18F
BUFFSIZE EQU     1024*1024+1024
RC        DS      F
BUFFLEN   DS      F
BUFFER@   DS      F
ALET      DS      F
DYNEKDA   DS      0D , XL ( EKDA_LEN )
          DS      0D
WALEN     EQU     *-WORKAREA
BUFFER    EQU     *
```

OMVS Kernal Information

OMVS Procname: OMVS ASID:0E
OMVS Parameters: OMVS=(RS)

OMVS Options

Max processes on system:	200
Max processes per User ID:	100
Max files per process:	400
Max file size:	nolimit
Max CPU time:	7200
Max users on system:	200
Max remote-terminal session:	256
Max pseudo-terminal sessions:	256
Max size of Memory Map Area in Pages:	40960
Max address space size (Mb):	1024
Max # of Threads:	10000
Max # tasks running process w/Pthreads:	5000
Max core size (Mb):	4
Max # shared pages:	300000
Max system message queue IDs:	500
Max bytes per message queue (Mb):	2047
Max messages per queue:	10000
Max system shared memory IDs: Ma	500

<snip>

BPXZODMV

```
XC      ODMV(ODMV_LEN),ODMV      clear input parms
OI      ODMVINBYTEM1,ODMVOPTIONS  request asid information
LA      R0,ODMVINPUTEND          load output addr
ST      R0,ODMVOUTPTR            save in parmlist
```

```
BPXEKDA KBUFPtr=BUFFER@,KBUFLen=BUFFLen,KBUFALET=ALET,          x
        RETCODE=RC,MF=(E,DYNEKDA)
```

```
LTR     R15,R15                  work ok?
BNZ     ERROR                    bif no
```

```
L       R8,ODMVOUTPTR           load output addr
LA      R7,ODMVOUT_LEN(,R8)     bump past odmvout
USING   ODMVOUT,R8             map output
```

Process Information for RMFGAT

```
Asid:                6C
User Id:              RMFGAT
Process Id:           67174404
Parents Process Id:  00000001
Process Real User Id: 00000051
Process Effective User Id: 00000051
Start Date/Time:     2003/215 16:00:48
Compute Time (sec):  8034.47
Process Status        One Active Task
                     No Pthread Task in Process
```

Service to retrieve UNIX process statistics from OMVS address space:

- Requires Supervisor state key 0
- Also requires ASCB address of requested address space; zero indicates current address space
- Branch-entered
- R13 points to a savearea
- Has more information than Type 30
- Nice compliment to BPXZODMV

BPXESMF ACCDAT=accdat,ASCBPTR=ascbptr

ACCDAT: address of buffer to return data (BPXOSMF)

ASCBPTR: addresss of ASCB for targeted address space

BPXESMF

OSMFID	DS	CL4	EBCDIC ID - OSMF
OSMFVERSION	DS	FL1	Version of System SMF
OSMFLENGTH	DS	FL3	Length used by System SMF
OSMFRUID	DS	F	OpenMVS real user ID number
OSMFRGID	DS	F	OpenMVS real group ID number
OSMFPROCESSID	DS	F	OpenMVS process ID number
OSMFPROCGRPID	DS	F	OpenMVS process group ID number
OSMFSESSIONID	DS	F	OpenMVS session ID number
OSMFPARENTPID	DS	F	OpenMVS parent process ID number
OSMFSYSTIME	DS	1BL.064	Total CPU time spent in OpenMVS kernel (TOD clock format)
*			
OSMFSYSCALLCOUNT	DS	F	Total OpenMVS callable services.
	DS	CL8	Reserved
OSMFDIRR	DS	F	Directory read I/O blocks
OSMFSTDR	DS	F	Standard file read I/O blocks
OSMFSTDW	DS	F	Standard file write I/O blocks
OSMFCHRSR	DS	F	Character special read I/O blocks
OSMFCHRSW	DS	F	Character special write I/O blocks
OSMFPIPER	DS	F	Pipe read I/O blocks @D2A
OSMFPPIPEW	DS	F	Pipe write I/O blocks

BPXESMF

OSMFLKLFS	DS	F	Path name lookup calls to logical
*			file system lookup routine
OSMFLKPFS	DS	F	Path name lookup calls to physical
*			file system lookup routine
OSMFGNPLFS	DS	F	Path name generation calls to
*			logical file system
OSMFGNPPFS	DS	F	Path name generation calls to
*			physical file system lookup
*			routine
OSMFSCKR	DS	F	Remote socket read I/O blocks
OSMFSCKW	DS	F	Remote socket write I/O blocks
	DS	CL4	reserved VERSION 1
OSMFEEXECPCNAME	DS	CL16	Executed program name
	DS	CL4	reserved VERSION 2
OSMFMSQSEND	DS	F	# Message send bytes
	DS	CL4	Reserved
OSMFMSQRCV	DS	F	# Message receive bytes
OSMFSYNCCOUNT	DS	F	# calls to sync() VERSION 3

BPXESMF

```
<snip>
*      Get RMFGAT ASCB Addr
      L      R0,=X'00F73E80'      we're cheating here
      ST      R0,ASCB@           save ascb addr
      MODESET MODE=SUP,KEY=ZERO  switch to sup state key zero

*      Obtain buffer for SMF Data
      LA      R0,OSMF#LENGTH      get length for obtain
      STORAGE OBTAIN,LENGTH=(0),ADDR=(10),COND=NO
      USING  OSMF,R10            map buffer

      BPXESMF ACCTDAT=(10),ASCBPTR=ASCB@,RETCODE=RC,MF=(E,DYNESMF)
      LTR     R15,R15            work ok?
      BNZ     ERROR             bif no
      <snip>
      BPXESMF MF=(L,STATESMF)

ESMFLEN  EQU    *-STATESMF

WORKAREA DSECT
SAVEAREA DS    18F
ASCB@    DS    F
RC       DS    F
DYNESMF  DS    0D,CL(ESMFLEN)
WALEN    EQU    *-WORKAREA
```

STK Dynamic LMU Connection Support

Most LMUs are coax attached to a 3174
3174s are going away

We were installing a new STK ACS (library)

- Intended as a remote site/backup facility
- Coax was not an option due to distance

STK now supports TCP/IP connections to LMU

Straight forward setup:

- Add OMVS segment to HSC RACF id
- Assign TCP/IP address and port to LMU
- Update HSC parmlib (LMUPATH and LMUPDEF)
- Establish connection

COAX devices are available after NIP but TCP/IP
devices are available much later

STK Dynamic LMU - Operational "Features"

If TCP/IP not available at startup:

- ACS doesn't come up in full service mode
- No automated retry - operator command required to force ACS off/on
- Solution is to defer start of HSC until TCP/IP was up and functional

If TCP/IP was there and later the connection drops:

- Recovery logic has 30 minute window where it retries
- Even with a dual LMU configuration, fail over is problematical. Designed for STK hardware failure, not network?
- Solution: 30 minute recovery retry has been adequate - haven't lost a connection

If TCP/IP goes away before HSC shut down, HSC loops issuing user abends:

- Still open issue
- Solution is to ensure HSC is shutdown before TCP/IP

Dynamic LMU Connection Support Update Rel 4.0 Available on the STK Website

Required Maintenance:

- L1H10I4: Adds messages about network recovery status
- L1H10LE: Display ACS command - incorrect status
- L1H10HV: No recovery of lost connection
- L1H118E: HSC hangs when networked LMU goes into recovery
- L1H11A2: Abend OC4 and random storage overlays (HIPER)

Working well for us:

- We run HSC 4.1 - 5.0/5.1 are more current and may be improved?
- TCP/IP support doesn't appear to be industrial strength (yet?)

CA-MIA Enhanced Vary

We share all tape devices across many LPARs

Recently experienced a rash of corrupted tape volumes and 214-10 job failures:

- Virtual tape volumes were only ones affected
- Discovered it frequently occurred when one of the test systems was IPL'd
- Coincident with varying tape drives "Online" on the test system

CA-MIA intercepts Vary commands for tape:

- If a device is allocated, defers the Vary until the allocation is released
- If the device is not currently allocated, passes the Vary command to MVS
- MVS queues the command under *MASTER*
- *MASTER* processes each Vary as a subtask
- Vary will issue a "rewind" command to the target device
- The Vary command completes and the UCB status is updated

CA-MIA Enhanced VARY

There have always been exposures:

- Vary command issued and drive gets allocated, opened and writing before vary completes
- Exacerbated by the number of drives being Vary'd
- The number of subtasks under *MASTER* is finite and may result in a delay

Non-virtual tape is much less of a problem due to mechanical processes

Virtual tape, due to its quickness, is a significant problem

CA-MIA Enhanced VARY

CA-MIA has introduced "Enhanced Vary" to address the problem

CA-MIA intercepts Vary commands for tape:

- If a device is allocated, defers the Vary until the allocation is released
- If the device is not currently allocated, **CA-MIA enqueues on a "cross-system group lock"** and then passes the Vary command to MVS
- MVS queues the command under ***MASTER***
- ***MASTER*** processes each Vary as a subtask
- Vary will issue a "rewind" command to the target device
- The Vary command completes and the UCB status is updated
- **CA-MIA detects the completion and releases the enqueue**

Both Allocation and Vary use the same enqueue. The result is serialization extended through the life of the Vary

CA-MIA Enhanced VARY

MIM 4.5 service pack 2 delivers the new features

Pre-reqs 30+ IBM PTFs (depending on OS level and currency)

New SYNCVARY={NO|YES} GTAF command

- Default is NO in current release(s)
- Next version, default changes to YES

Vary commands processed in blocks of eight devices:

- Will take longer to Vary Online a large number of devices at one time
- Our interim solution is to not share virtual tape devices

Secret APARs

General APARs are well understood

- HIPER, PE, INSTALLABILITY, ATTENTION, RESTART/BOOT/IPL, FUNCTIONLOSS, PERFORMANCE, DATALOSS, SYSPLXDS, PERVASIVE, NEW FUNCTION

There is another (secret) flag which customers never see in IBMLink:

- INTEGRITY

APARs flagged with INTEGRITY cannot be displayed by customers, nor found using any search in IBMLink

PTFs which solve INTEGRITY problems can be displayed in IBMLink, but the word INTEGRITY does not appear

Criteria for use of INTEGRITY flag

- From "SMP/E's Standard Packaging Rules for MVS-Based Products" (SC23-3695):

S253. If the APAR describes an integrity or security problem, then only the words "INTEGRITY PROBLEM" are to be listed as the problem description text.

- and -

S262. Specify the INTEGRITY: keyword when the PTF corrects a system exposure that allowed unauthorized access to protected resources.

Where can we find information on INTEGRITY problems?

- The PTF cover letters in your SMPPTS!

```
//SEARCH EXEC PGM=ISRSUPC,  
//          PARM=(SRCHCMP,  
//          'ANYC')  
//NEWDD DD DSN=SMPE.MVS.GLOBAL.SMPPTS,  
//          DISP=SHR  
//OUTDD DD SYSOUT=(*)  
//SYSIN DD *  
SRCHFOR 'INTEGRITY:'  
/*
```

SuperC Output:

```
ISRSUPC MVS/PDF COMPARE UTILITY  
LINE-# SOURCE SECTION
```

```
UA00598  -- STRING(S) FOUND --
```

```
    15    INTEGRITY:
```

```
UA01353  -- STRING(S) FOUND --
```

```
    15    INTEGRITY:
```

Secret APARs

Only service in RECEIVED status will be found

Search all your SMPPTS's (if you've got more than one)

How to tell what's what?

```
++ PTF (UA00598)
//UA00598 JOB 5752-00598,XXH00
++ VER (Z038)
   FMID(HRF7707)
```

This PTF is for FMID HRF7707 (RACF)

If you don't recognize the FMID, look it up in the ServiceLink PCR application in IBMLink

Looking up HRF7707 in PCR:

PCRMM1

Product Cross Reference List

Type search arguments in one or more fields, then press
Enter.

Component name . . _____
Product name . . . _____
FMID hrf7707
CLC _____
Program number . . _____
Component ID . . . _____
Release _____

Secret APARs

Looking up HRF7707 in PCR:

PCRLT1

FMID List

Select an item, then press Enter.

```
      FMID/CLC Program Product Name
.   HRF7707  5655G52 Z/OS.E RELEASE 4
/   HRF7707  5694A01 Z/OS RELEASE 4
```

PCRLT2

Product Cross Reference List

Commands: Tailor

Component Name	FMID/CLC	Av Date	COMPID	Rel	Ma
MSYS RACF SUPPORT	HRF7707	020927	5752MSI05	707	BN
SECSRVR RACF BASE	HRF7707	020927	5752XXH00	707	BN

Secret APARs

If INTEGRITY APARs/PTFs are secret, how does IBM tell customers about them? They don't!

Instead, INTEGRITY PTFs are always included in IBM's Consolidated Service Test Monthly RSU cycle and receive an RSUmmyy sourceid

You automatically apply INTEGRITY fixes to your system if you use IBM's RSU service strategy

If you depend on the HIPER flag or IBMLink ASAP notifications ONLY, you WON'T apply all INTEGRITY service

Use IBM's RSU preventive service strategy!

SMP/E LIST Output For UA00598

```
UA00598      TYPE                = PTF
              STATUS              = REC
              DATE/TIME REC        = 03.158  12:25:13
              SOURCE1 = PUT0302    RSU0303
              APPLY ZONE           = CCCTGT
              SREL   VER(001)      = Z038
              FMID   VER(001)      = HRF7707
              SUPING VER(001)      = AW57072    AW57299    UW96041
              SAMP                = IRR@XACS
              HOLDSYSTEM(INT)      = DOC(UA00598)
```

INTEGRITY PTFs From My System

HBB7707 - MVS BASE

UA03038 PUT0305 RSU0306

UA03040 PUT0305 RSU0306 SMCCOR

UA01355 HIPER PUT0303 RSU0304

HDZ11G0 - DFSMS

UA03580 SMCCOR

HRF7707 - RACF

UA00598 PUT0302 RSU0303

UA02356 PUT0304 RSU0305 SMCCOR

UA02358 PUT0304 RSU0305 ZOSV1R4

UA03328 PUT0306 SMCCOR

INTEGRITY PTFs From My System

HRM7705 - RMF

UA00078 PUT0301 RSU0302 SMCCOR

HIP6120 - TCP/IP

UQ60290 PUT0201 RSU0202 ZOSV1R3

JIP6129 - TCP/IP HFS

UQ74927 HIPER RSU0306 SMCCOR

UQ75308 PUT0304 RSU0305 SMCCOR

UQ75923 HIPER RSU0306 SMCCOR

INTEGRITY PTFs From My System

JIP6149 - TCP/IP HFS

UQ74926 HIPER PUT0305 RSU0306

UQ75309 PUT0304 RSU0305 ZOSV1R4

UQ75928 HIPER PUT0305 RSU0306

HCR7706 - CRYPTO ICSF

UW92899 PUT0207 RSU0209 ZOSV1R4

HIMW530 - HTTP SERVER

UQ64040 PUT0203 RSU0204 SMCCOR

UQ66289 PRP PUT0205 RSU0206 SMCCOR ZOSV1R4

Session 8175 "Using the Binder: A Tutorial"

IBM's Leona Baumgart Asks:

- Are You Still Using the Old Linkage Editor?
- We Want to Know Why

IBM Would Like to Remove HEWLKED

- Needs to Understand Why It Might Be in Use

Send ~REAL~ Technical Reasons to Leona

- leona@us.ibm.com

spaceck - REXX Exec for z/OS UNIX

Reports the % Used Space For Mounted File Systems

- Requires:
 - REXX Function Package From USS Tools & Toys Page
 - or--
 - z/OS 1.4 and Above (Includes the REXX Package)

USS Tools and Toys Page:

- <http://www-1.ibm.com/servers/eserver/zseries/zos/unix/bpxa1toy.html>
- Don't Forget to Remove Old Versions of the REXX Function Package When Going to z/OS 1.4

spaceck - REXX Exec for z/OS UNIX

```
/* REXX */
/* spaceck.rx--Report of % space used for mounted */
/* file systems */
parse UPPER arg cutoff
if datatype(cutoff,'N') <> 1 then cutoff = 0
call bpxwunix "df",,cmdout.
do i = 2 to cmdout.0
  parse var cmdout.i . (' HFS ') rawdata .
  parse var rawdata used '/' free
  percent = trunc((1-(used/free))*100, 2)
  HFS = left(HFS,40)
  if left(HFS,4) <> '*AMD' & percent > cutoff then
    say HFS format(percent,3,2) '%'
end
exit(0)
```

spaceck - REXX Exec for z/OS UNIX

Sample Execution:

```
Z1SY:/home/sc90/pxkycyx: > ./spaceck.rx 70
SA07.HFS.Z1SY.HOME.DATALIB          76.73 %
OV99.HFS.Z1SY.WEB.MAPS2.DATALIB     76.69 %
SC90.HFS.Z1SY.HOME.DATALIB          79.18 %
SC90.HFS.Z1SY.BOOKS.IBMV2R10.DATALIB 78.75 %
SC40.HFS.Z1SY.V2R8.JAVA118          75.77 %
SC40.HFS.Z1SY.LOCALA                 70.69 %
SC40.HFS.Z1SY.R12B.JV390            71.80 %
SC40.HFS.Z1SY.R12B.ROOT             76.89 %
Z1SY:/home/sc90/pxkycyx: >
```

DB2 Table Update With REXX

Shift Change Reporting

Software Version Mgmt

Automation Message Tracking

```
/* REXX */  
address DB2 "SIGNON DBZA"  
  
I = 1  
  
DO WHILE (I <= RECORD.0)  
    CALL INSERT_REC  
    I = I + 1  
  
END  
  
address DB2 "SIGNOFF"
```

DB2 Table Update With REXX

```
insert_rec:
syst = word(record.i,2)
acct = word(record.i,3)
appl = word(record.i,5)
stat = word(record.i,6)
stat = stat + 0
prtr = word(record.i,7)
sql_text = "INSERT INTO SI09.TCPU VALUES"
sql_text = sql_text || "(" || syst || "','" || acct || "','"
sql_text = sql_text || "'" || appl || "','"
sql_text = sql_text || "'" || prtr || "','"
sql_text = sql_text || mm || "," || yy || "," || stat)"
address DB2 sql_text
if ( sqlcode = 0 ) then do
    address DB2 "COMMIT"
end
```

How to Use BXLE Instruction

BXLE - "Branch on Low or Equal"

- Uses 3 Registers & a Branch Address

1st Operand Register Contains Address to Be Incremented

2nd Operand Register is the "Even" Register

- In Even-Odd Register Usage

3rd Operand is Location Address to Branch

- When BXLE Instruction Returns
 - LOW condition
 - EQUAL condition

How to Use BXLE Instruction

Registers R3, R4 & R5 Used in Sample BXLE Instruction

```
LA      R3,FIRST_BYTE      * FIRST BYTE WE PLAN TO CONSIDER
LA      R5,LAST_BYTE        * LAST BYTE WE PLAN TO CONSIDER
L       R4,=F'8'            * SET BXLE INCREMENT AT 8
LOOP    DS    0H
CLC     0(8,R3),=CL8'FOUND\' * CHECK THESE 8 BYTES FOR 'FOUND'
BE      WE_FOUND_IT         * EXIT LOOP WHEN FOUND
BXLE    R3,R4,LOOP          * R1 =COMPARE SOURCE ADDRESS
                                     * R4 =INCREMENT LENGTH (=F'8')
                                     * R5 =ADDR LAST BYTE OF COMPARE AREA
```

SMB for SMPNTS in HFS

Recommended for ShopzSeries

Simplifies Upload of Inventory Files

Allows HFS to be Mapped on PC

Browser Can Point Directly to HFS

“Distributed File Services SMB Administration”

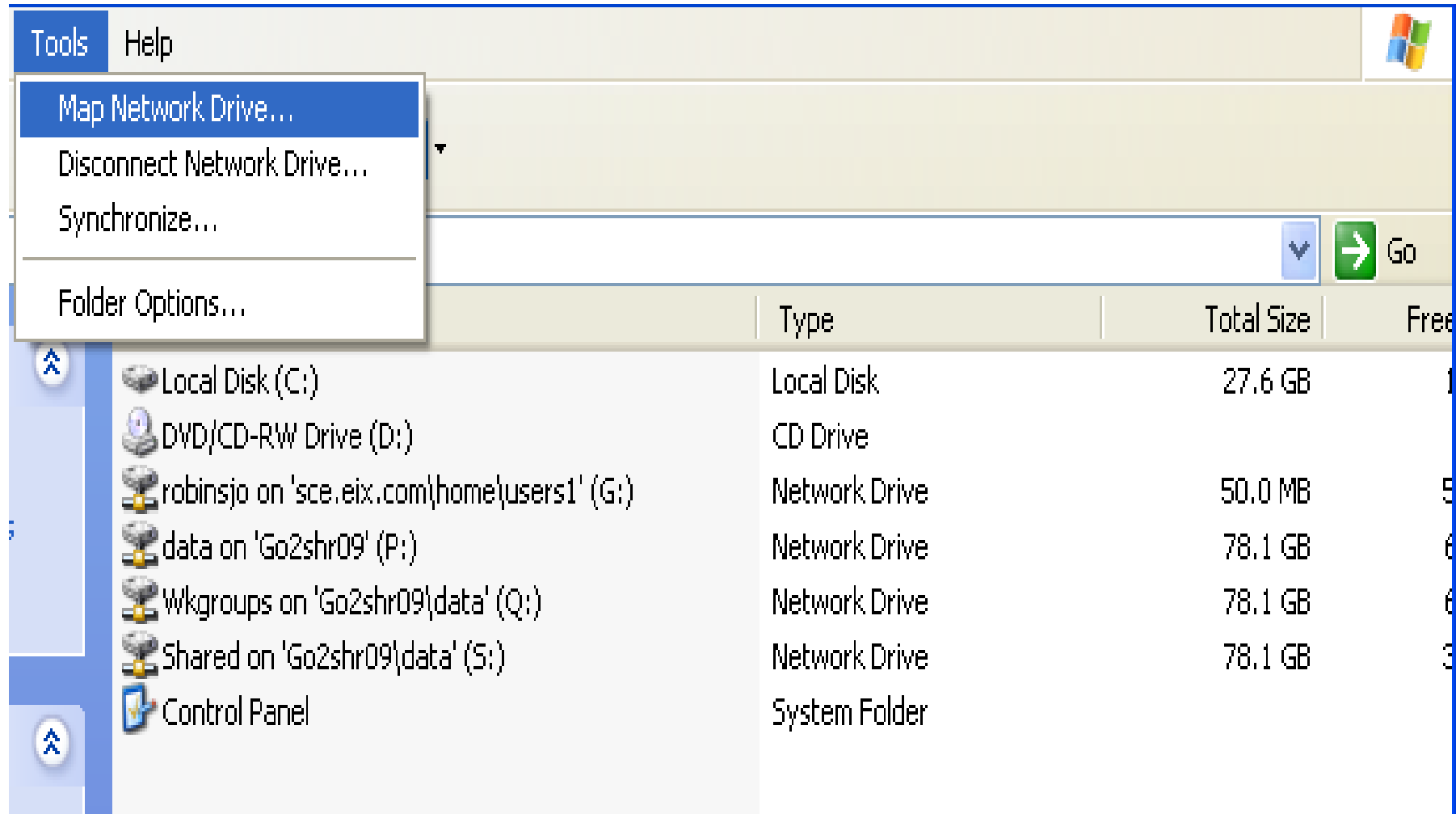
- SC24-5918

We Run DFS/SMB Under z/OS 1.4

We Use DFS PROC in CPAC.PROCLIB

SMB for SMPNTS in HFS

Mapping HFS to PC via SMB

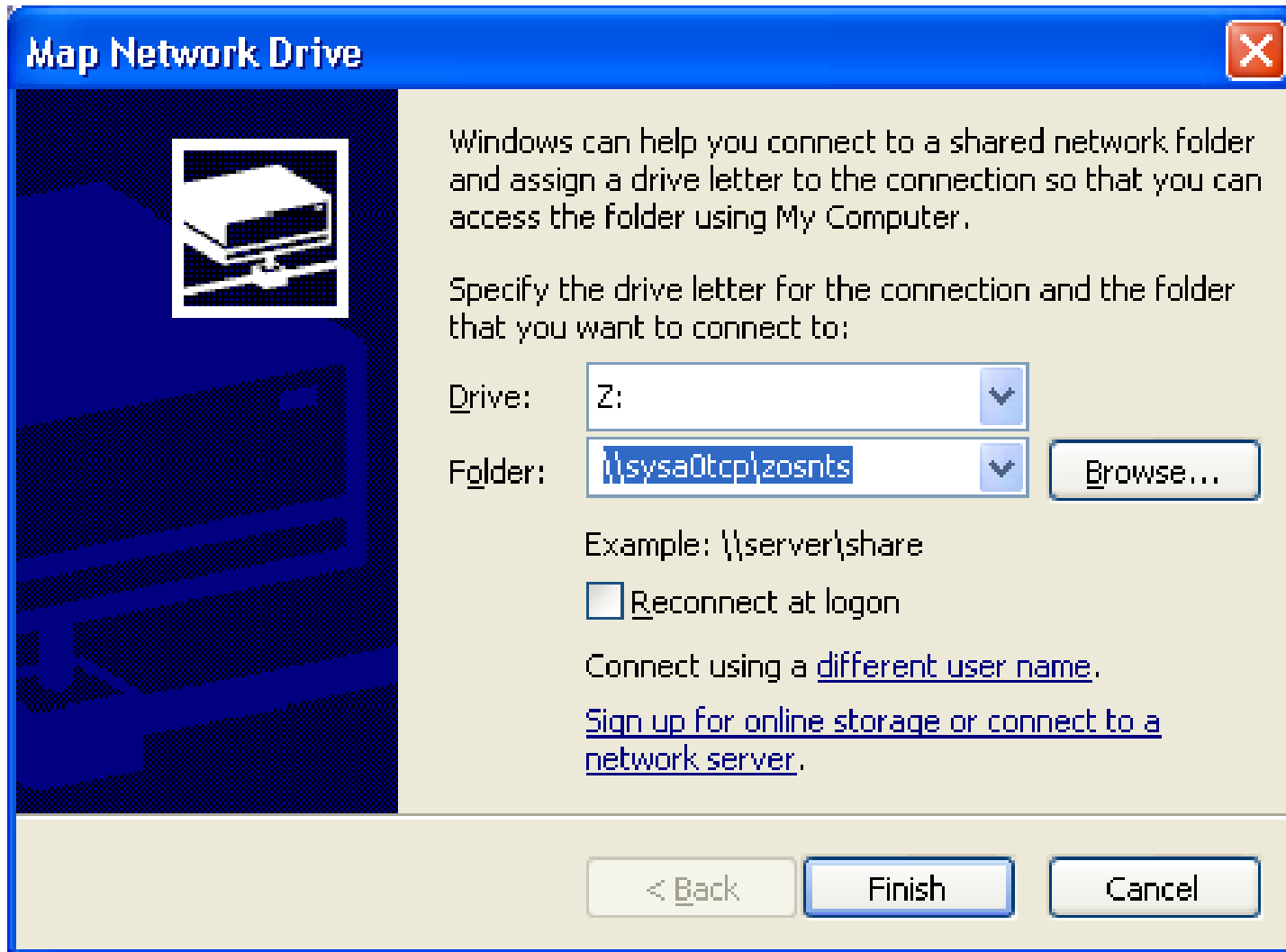


The screenshot shows a Windows Explorer window with the 'Tools' menu open. The menu options are: 'Map Network Drive...', 'Disconnect Network Drive...', 'Synchronize...', and 'Folder Options...'. The main window displays a list of drives with the following columns: Name, Type, Total Size, and Free Space.

Name	Type	Total Size	Free Space
Local Disk (C:)	Local Disk	27.6 GB	1...
DVD/CD-RW Drive (D:)	CD Drive		
robinsjo on 'sce.eix.com\home\users1' (G:)	Network Drive	50.0 MB	5...
data on 'Go2shr09' (P:)	Network Drive	78.1 GB	6...
Wkgroups on 'Go2shr09\data' (Q:)	Network Drive	78.1 GB	6...
Shared on 'Go2shr09\data' (S:)	Network Drive	78.1 GB	3...
Control Panel	System Folder		

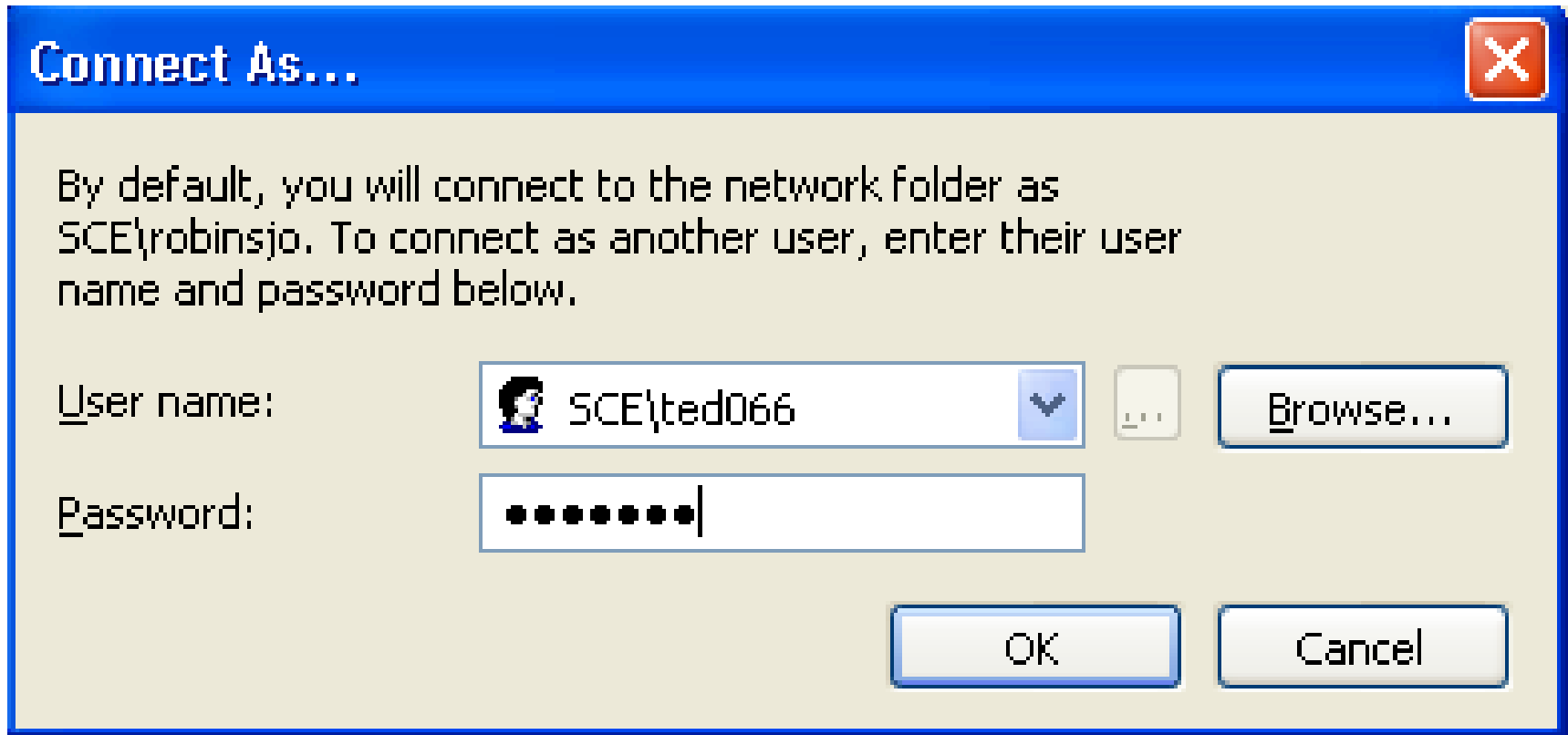
SMB for SMPNTS in HFS

Mapping HFS to PC via SMB











SMB for SMPNTS in HFS

Mapping HFS to PC via SMB



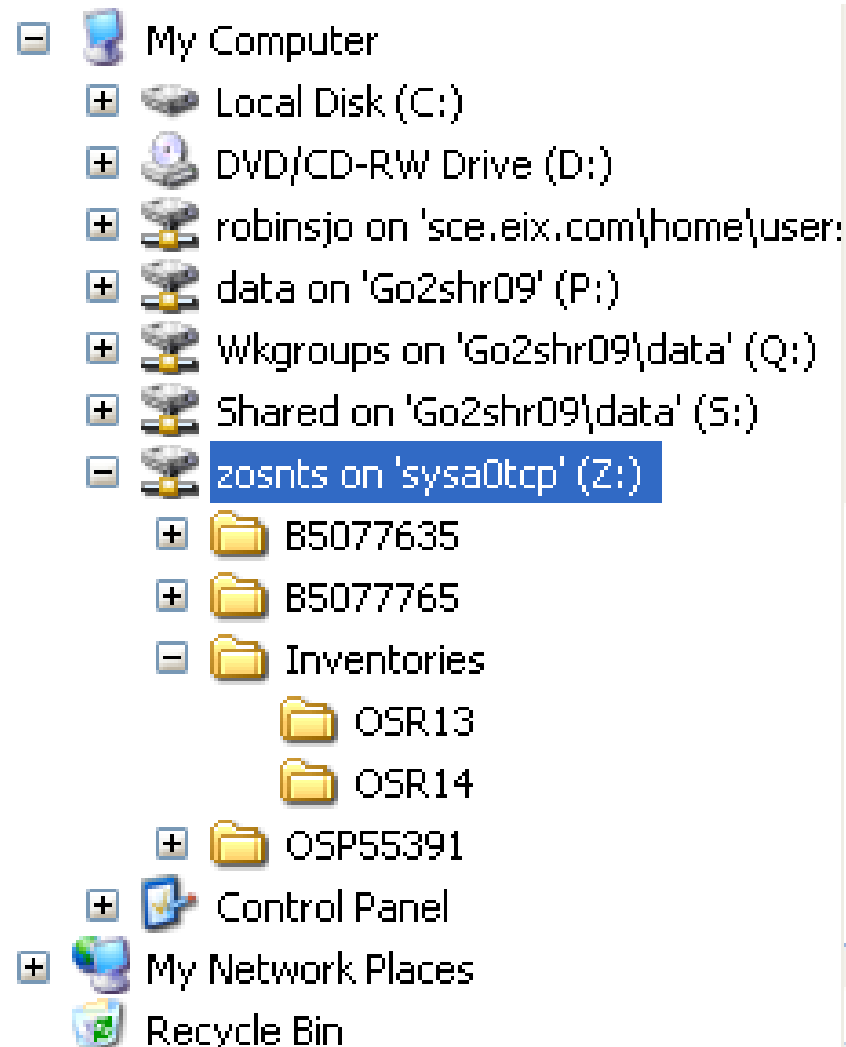
SMB for SMPNTS in HFS

Mapping HFS to PC via SMB

Name ▲	Type	Total Size	Fre
 Local Disk (C:)	Local Disk	27.6 GB	
 DVD/CD-RW Drive (D:)	CD Drive		
 robinsjo on 'sce.eix.com\home\users1' (G:)	Network Drive	50.0 MB	
 data on 'Go2shr09' (P:)	Network Drive	78.1 GB	
 Wkgroups on 'Go2shr09\data' (Q:)	Network Drive	78.1 GB	
 Shared on 'Go2shr09\data' (S:)	Network Drive	78.1 GB	
 Control Panel	System Folder		
 zosnts on 'sysa0tcp' (Z:)	Network Drive	773 MB	

SMB for SMPNTS in HFS

Mapping HFS to PC via SMB



SMB for SMPNTS in HFS

/etc/dfs/var/dfs/devtab

```
#  
# HFS for ShopzSeries z/OS  
define_ufs 101  
OMVS.ZOSNTS.$SYSA0
```

/etc/dfs/var/dfs/dfstab

```
#  
# Entry for ShopzSeries z/OS  
/dev/ufs101 hfs101 ufs 101 0,,101
```

SMB for SMPNTS in HFS

/etc/dfs/var/dfs/smbtab

```
#  
# ShopzSeries z/OS  
/dev/ufs101 zosnts ufs "ShopzSeries z/OS" r/w 100 /
```

/etc/dfs/home/dfs kern/smbidmap

```
SCE\robinsjo  
ted066
```

RACF Security Requirements

- Add 'Empty' DCE Segment to Userid
- ALTUSER Userid DCE

USS Security Requirements

- Set SMB-only Password (Non-Expiring)
- Get into OMVS
- SMBPW smb-pswd smb-pswd

SORTa Sleuthing

Thursday PM

- DB2 crisis on Mem 1 of Beloved Cowplex
- An application saturates a CF lock structure
- DB2 goes into noisy recovery
- Eventually order is restored
- No IPL is indicated or performed
- Life goes on

Friday AM

- We Get Reports of Strange Problems on Mem 1
- SOCx ABENDs--Including SOC6!
- DB2 04E
- Worst of All: Corrupted Files :-(((

SORTa Sleuthing

Friday PM

- Skip spends hours looking at one case
- DFSORT has ended CC zero but output file bad
- Sort key contains garbage
 - Four bytes of junk inserted
 - Rest of key shifted right
- User resubmits job with good result
- Skip runs down all the usual suspects
- Finally goes home stumped and bewildered

Monday AM

- More strange problem reports from Mem 1
- Corrupted sort file can be reproduced
- Failure is intermittent
- Half a dozen runs might be OK, then failure
- Failure more likely if many jobs run at once
- Jeff opens PMR with DFSORT

SORTa Sleuthing

Tuesday

- More Problem Reports on Mem 1
- Concern Mounts
- Murmur → Rumble → Dull Roar
- No Failures at All on Mem 2 or Mem 3
- Stuart and Tom Get Involved
- Skip is More Mystified than Ever

Wednesday AM

- IBM Hints at a Specific Suspicion, No Details
- Level 2 Requests AMBLIST of a SORT Module
- We're Sure that the DB2 Crisis was the Cause
- Management Schedules an IPL of Mem 1 for 6PM
- Flying on a Wish and Prayer

SORTa Sleuthing

Wednesday 5pm

- Level 2 Has the Answer
- Open PQ76793 PEing UQ90053
- We Installed Bad PTF back in March
- And Migrated Across the Enterprise
- Error: 1 Instruction Missing a Base Register
- Caused It to Test Low Storage X'OE' and X'OF'
- This is Restart PSW in PSA (in 31-bit mode)
- If Storage is All 0, No Problem
- Otherwise Unpredictably Horrible Results
- But Only if Sort has FIELDS=xxx,FORMAT=yyy!

SORTa Sleuthing

Wednesday 5:30pm

- Skip pulls APAR Fix from Testcase
- Very Simple Mod: Only 1 Instruction to Fix
- APPLY CHECK Fails on Missing PREREQ
- Skip Pulls UQ90054 via ShopzSeries
- Because of Chain, Many Modules are Hit
- Too Many for Dynamic Updates on Busy System
- Tom and Skip Build a New SYSRES Pack
- Fix is Tested on Sandbox, No Problem Seen

Wednesday 6pm

- Mem 1 is Brought Down & IPLed from New SYSRES
- Extensive Testing Shows Problem is Gone
- Low storage Now Presumably 0
- Bad Instruction Now Presumably Looks at Correct Location

Thursday

- We Begin to Understand What Happened
- During DB2 Crisis, System Detected a Spin Loop
- Spin Loop Recovery Performed Automatic PSW Restart
- Restart Put a DB2 PSW in Low Storage PSA
- Just for the 1 Spinning Processor Out of 10!
- If a Vulnerable SORT Ran on CP9, Boom
- Otherwise No Problem

SORTa Sleuthing

Sunday @ SCIDS

- Stuart has News for Skip
- The Spin Loop was Bogus
- IRLM got Very Busy Clearing 25K Locks
- Repetitive Process Appeared to be in a Loop
- PSW Restart Was Never Needed!

Monday

- Tom Does Extensive Testing on Sandbox
- Recreates Failure Reliably with Zapped Restart PSW
- Proves PQ76793 Fixes Problem With Non-Zero PSA
- Schedules New Maintenance for All Systems
- PS: In 64-bit Mode, Area Would have Been Zero!

Bibliography

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