Bit Bucket X'2D'

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SHARE 121
Session 13568
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Profiling

(Skip Robinson)

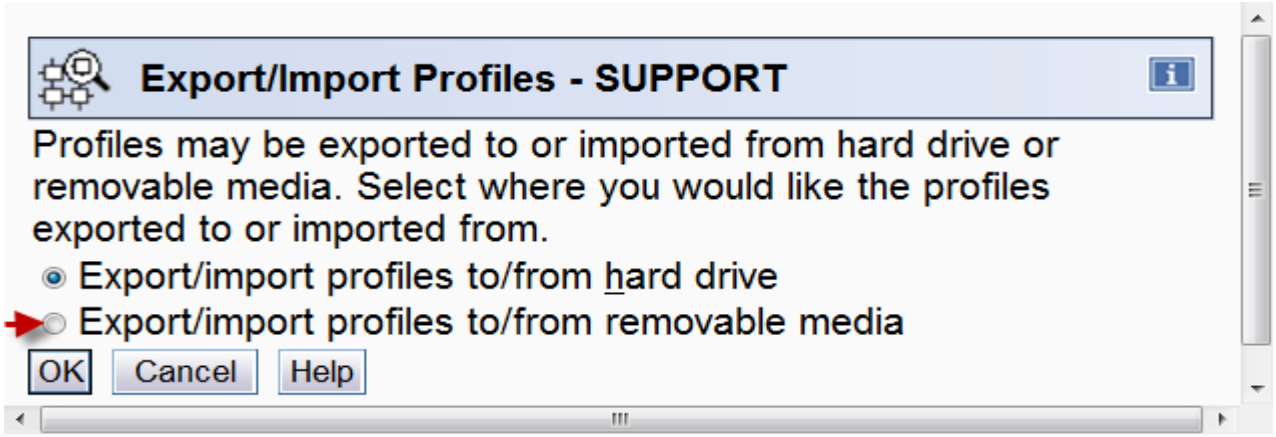
Profiling

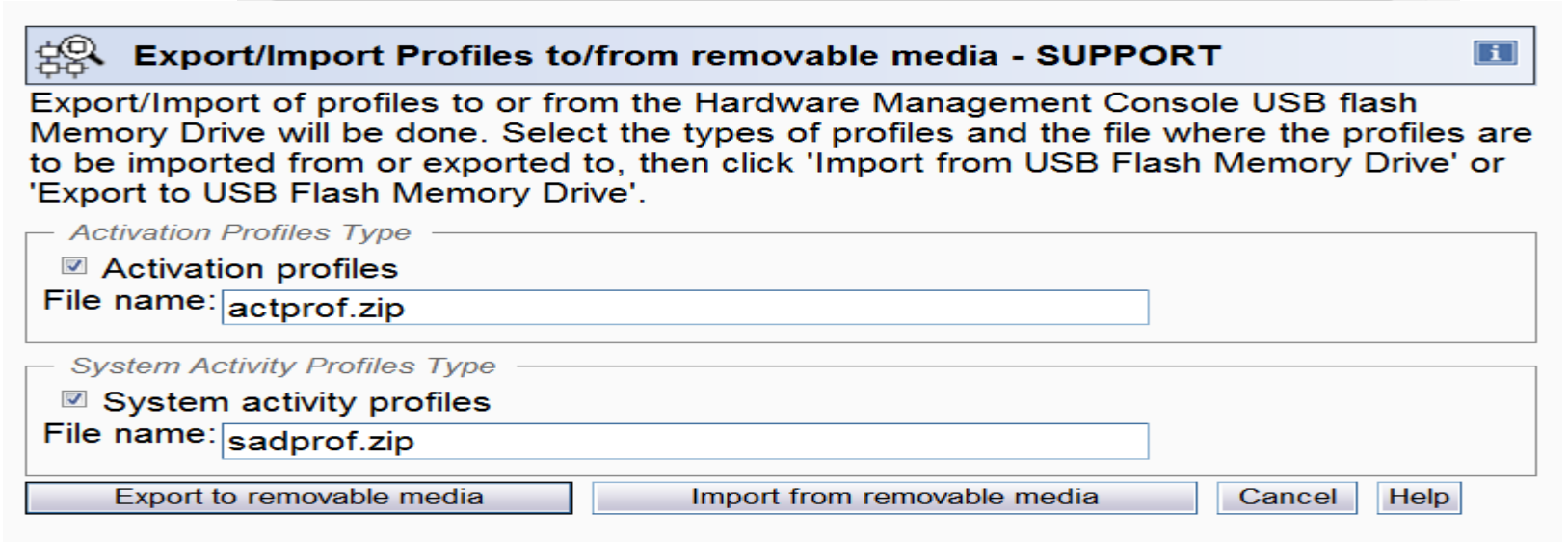
- HMCs are all about profiles
- Reset (POR), Image (LPAR), Load (IPL)
- You may have several HMCs in your enterprise
- Typing in all the data on every HMC is a pain
- There are ways to copy profiles among HMCs
- Here are a couple of useful mechanisms
- Consider whether you are dealing with a new CEC (nothing defined) or adding to existing

Profiling

- A new CEC often replaces an existing one
- Same LPARs commonly run on the new box
- Here is the simplest way to get started
- Logon on to HMC, then to SOO to old CEC
- Select Export/Import Profile Data

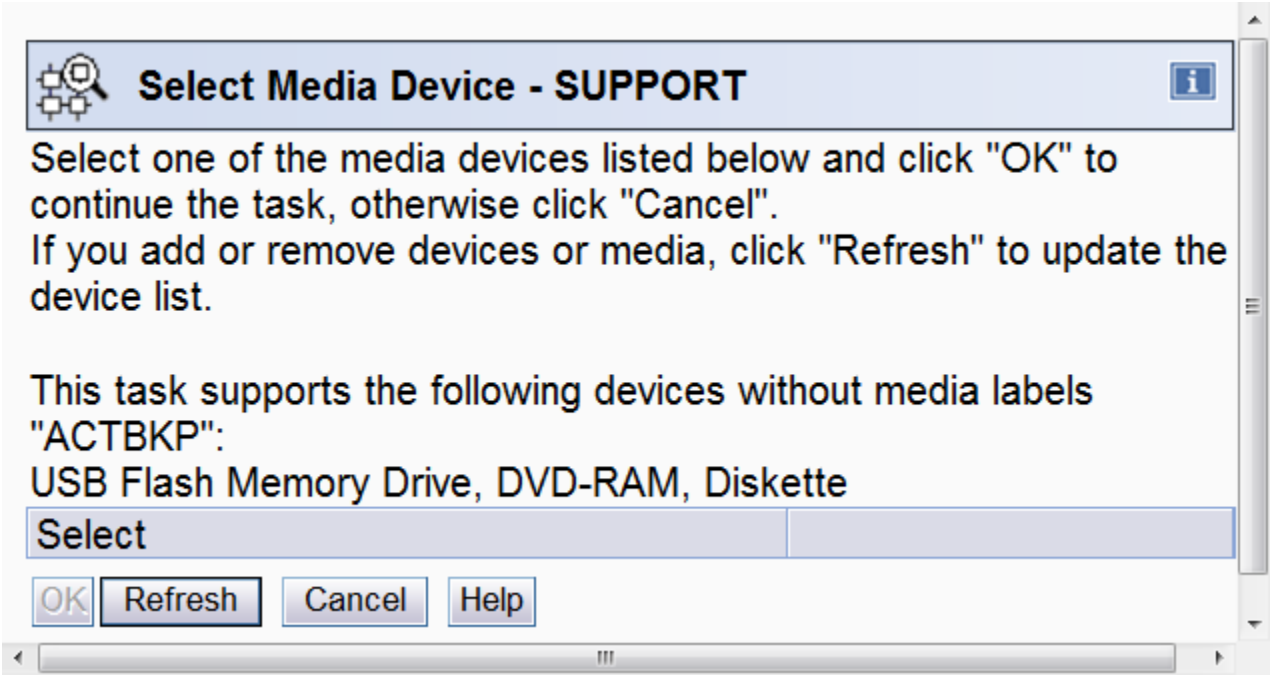
Profiling


Export/Import Profiles - SUPPORT
Profiles may be exported to or imported from hard drive or removable media. Select where you would like the profiles exported to or imported from.
Export/import profiles to/from hard drive
Export/import profiles to/from removable media
OK
Cancel
Help


Export/Import Profiles to/from removable media - SUPPORT
Export/Import of profiles to or from the Hardware Management Console USB flash Memory Drive will be done. Select the types of profiles and the file where the profiles are to be imported from or exported to, then click 'Import from USB Flash Memory Drive' or 'Export to USB Flash Memory Drive'.
Activation Profiles Type
Activation profiles
File name: actprof.zip
System Activity Profiles Type
System activity profiles
File name: sadprof.zip
Export to removable media
Import from removable media
Cancel
Help

Profiling

- I cannot demonstrate further because you have to be at a real HMC, not web browser
- When you insert a USB drive, it will show up



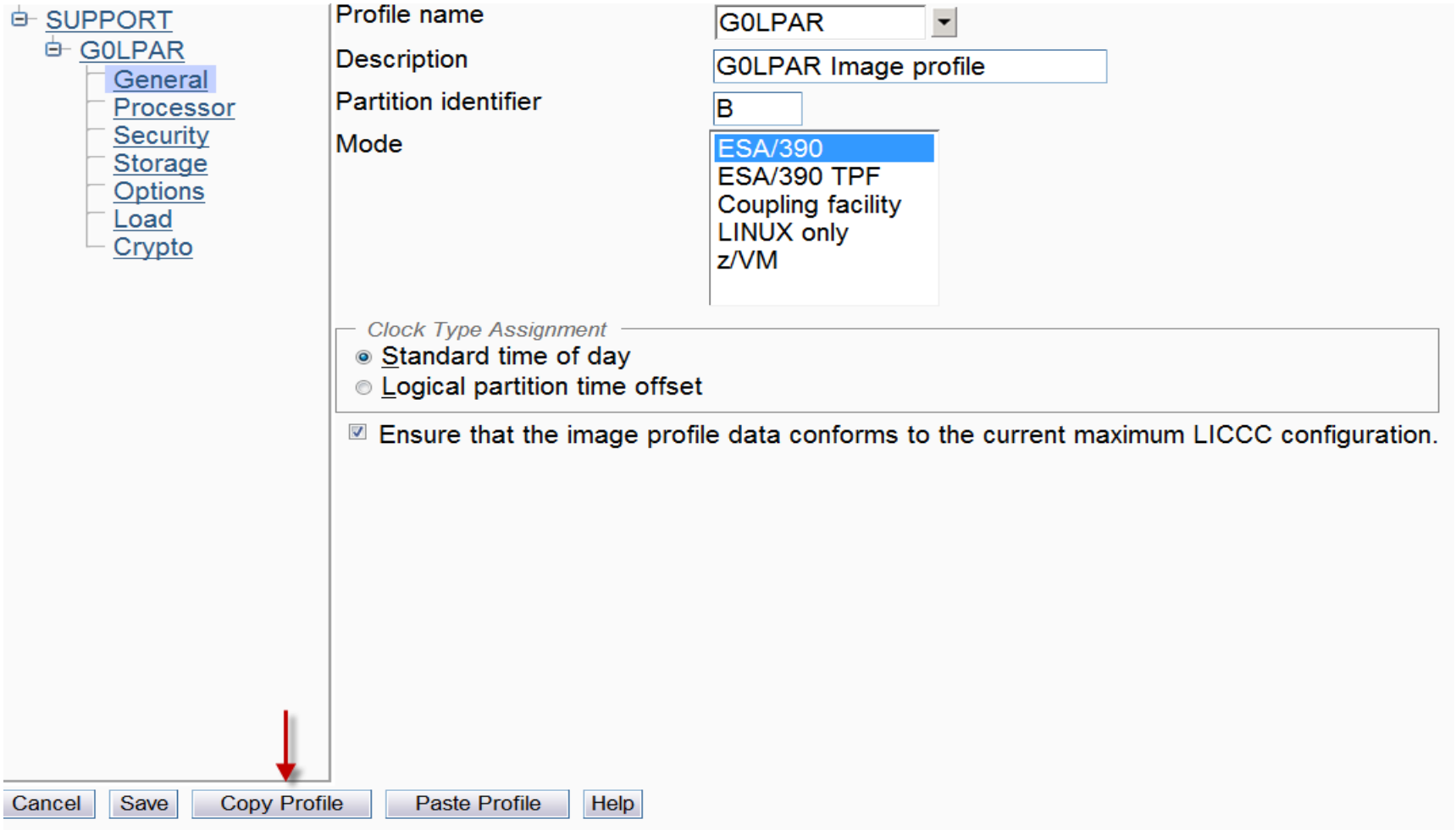
Profiling

- Follow the process and select Export
- All activation profiles will be copied to USB
- Then SOO to new CEC
- Follow the process and select Import
- All profiles will be uploaded to new CEC
- Caution: you may overwrite existing profiles
- Recommended for new CEC or a total refresh

Profiling

- You may copy individual profiles across CECs
- No need to SOO to SE
- Select source CEC, get into Customize/Delete Activation Profiles

Profiling


SUPPORT
G0LPAR
General
Processor
Security
Storage
Options
Load
Crypto
Profile name
G0LPAR
Description
G0LPAR Image profile
Partition identifier
B
Mode
ESA/390
ESA/390 TPF
Coupling facility
LINUX only
z/VM
Clock Type Assignment
Standard time of day
Logical partition time offset
Ensure that the image profile data conforms to the current maximum LICCC configuration.
Cancel
Save
Copy Profile
Paste Profile
Help

Profiling

- Select target CEC, and select Default profile
- This time select Paste
- Most attributes will be pasted over Default
- You must
  - Give pasted profile a name; may be same as source
  - For Image profile, assign a unique partition id
  - For Load profile, edit load address and sysparm
- Finally Save profile
- Repeat as necessary

We don't need no stinkin' POR

(Skip Robinson)

We don't need no stinkin' POR

- POR has become a rare necessity
- Once needed (frequently) for IOGEN
- Now dynamic ACTIVATE can do anything
  - Almost…
- We recently had a case of misnamed LPAR
  - LPAR1 LPAR2 L3 LPAR4 LPAR5
  - Should have been called LPAR3
- All definitions in L3 were correct except for name
- So I set out to rename L3 to LPAR3 dynamically

We don't need no stinkin' POR

- I rolled IODFxx to IODFyy and renamed L3
- At dynamic ACTIVATE, I got NO-CAN-DO
- IOS chided me missing already-defined L3
  - It exists in IODFxx, therefore must exist in IODFyy
  - 'FORCE' was not an option
  - L3 was currently deactivated at the time
- So I loaded IODFyy into IOCDS and PORed
- Machine came up fine with everything intact
- LPAR3 looked just like L3 except for the name

We don't need no stinkin' POR

- It's possible to 'reset' an LPAR to '*'
  - Then rename '*' to any value
- But this will likely lose defined attributes
  - Would require redefining them from scratch
- I'm told that there are requirements for enhanced dynamic activate
- This situation may or may not be covered
- May not be common enough to warrant fixing

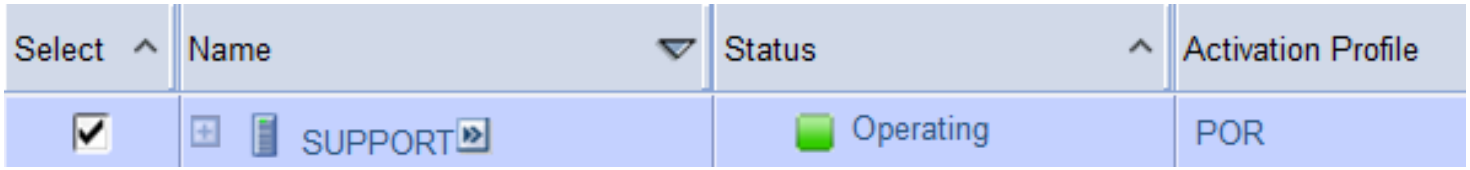
Sysplex Timer Protocol and POR

(Skip Robinson)

Sysplex Timer Protocol and POR

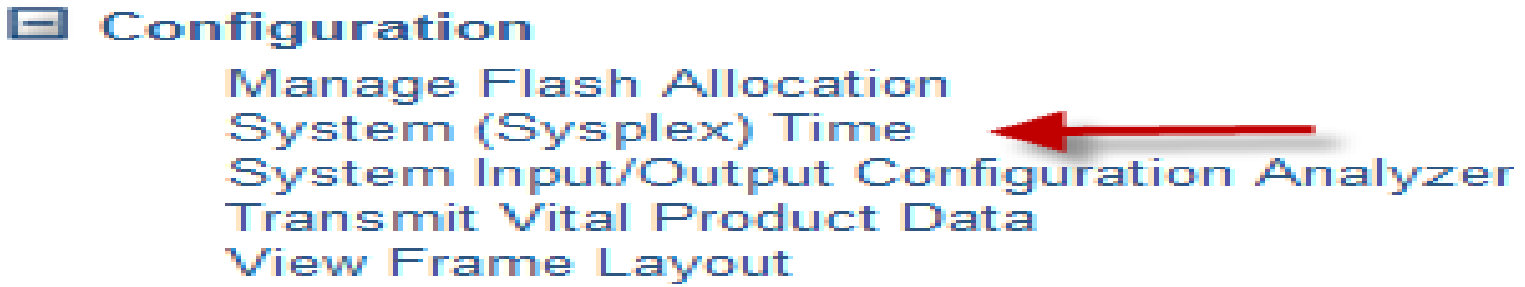
- Once upon a time you could POR at will
- Shut down all systems (nice but optional)
- Select CEC icon on HMC
  - Unlock it
  - Click Activate
- Now you can't POR a system that has STP role
- First you have unconfigure the CEC

Select CEC

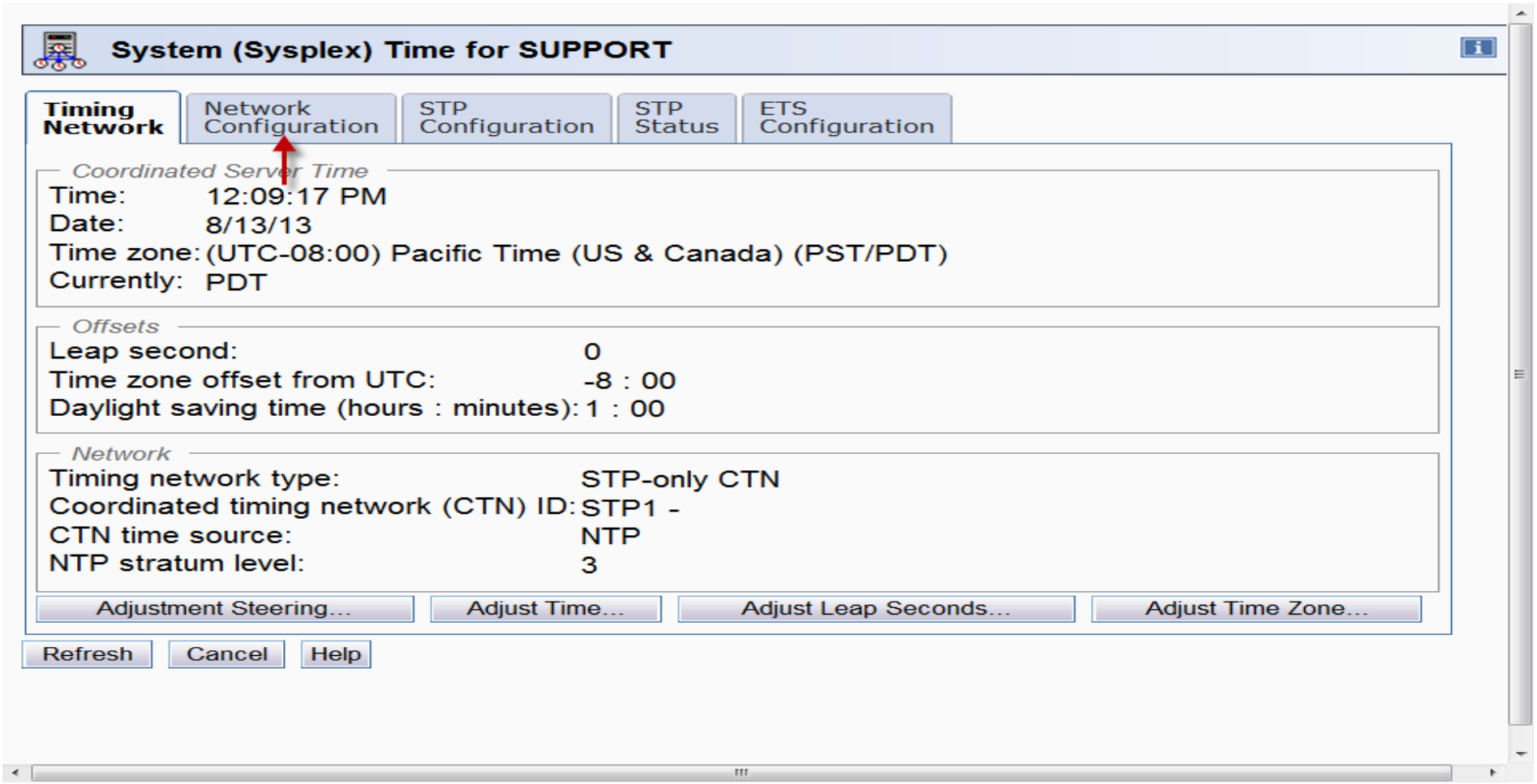

Select
Name
Status
Activation Profile
SUPPORT
Operating
POR

Sysplex Timer Protocol and POR

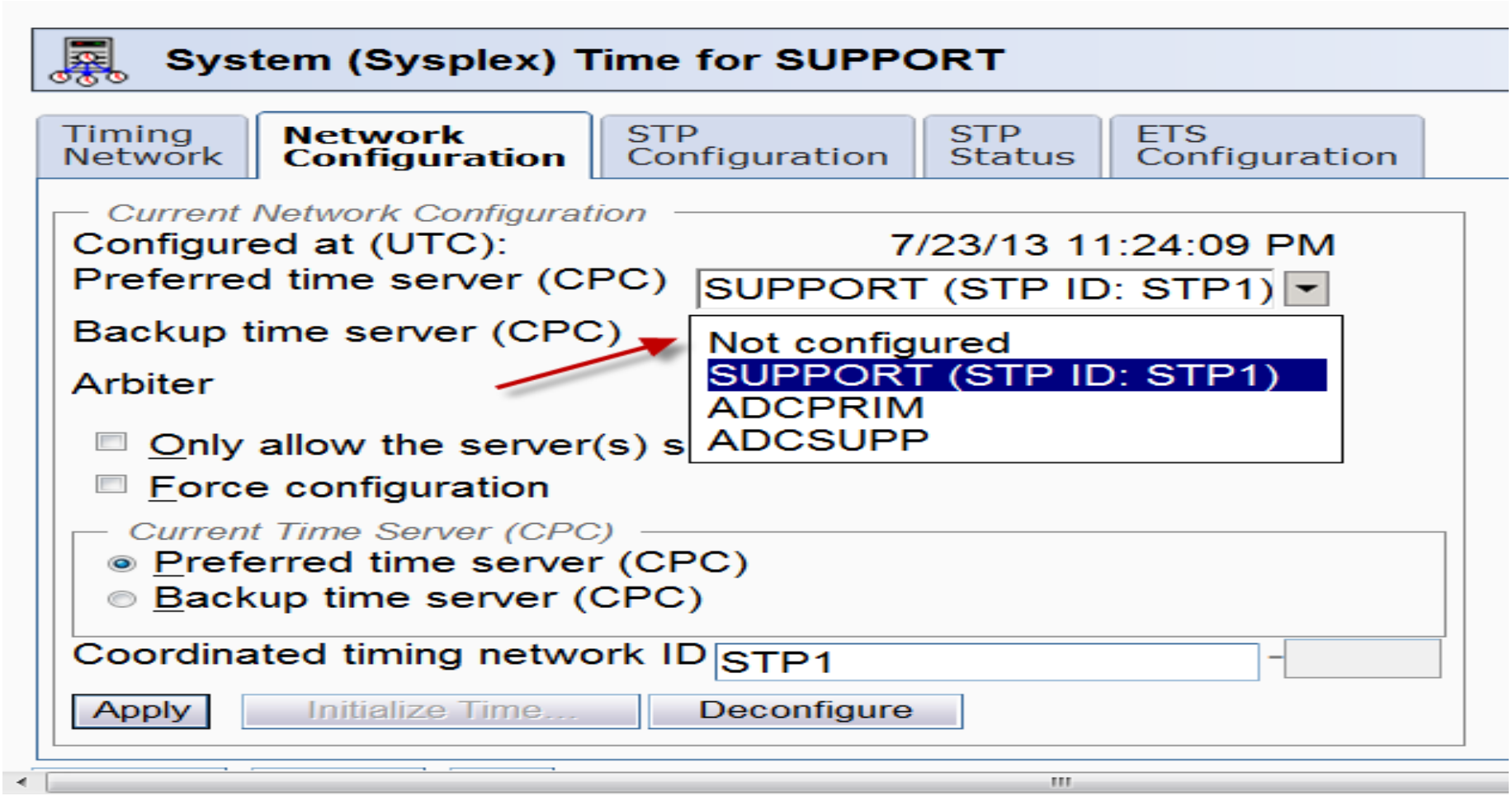
- Click to select System (Sysplex) Time
- Note: CEC must be unlocked for this action



Click on Network Configuration



Click Not configured; Apply; POR



Cleanup

- After POR, put it back together again
  - Reconfigure original STP role
- Note that this CEC is the only one at this site
- STP synchronizes this CEC to our Enterprise NTP server(s) somewhere in our network
- Configuration must always be done from 'preferred time server'
- For multi-CEC STP, may require shuffling roles around to configure before and after POR

It's a Little Muggy in Here

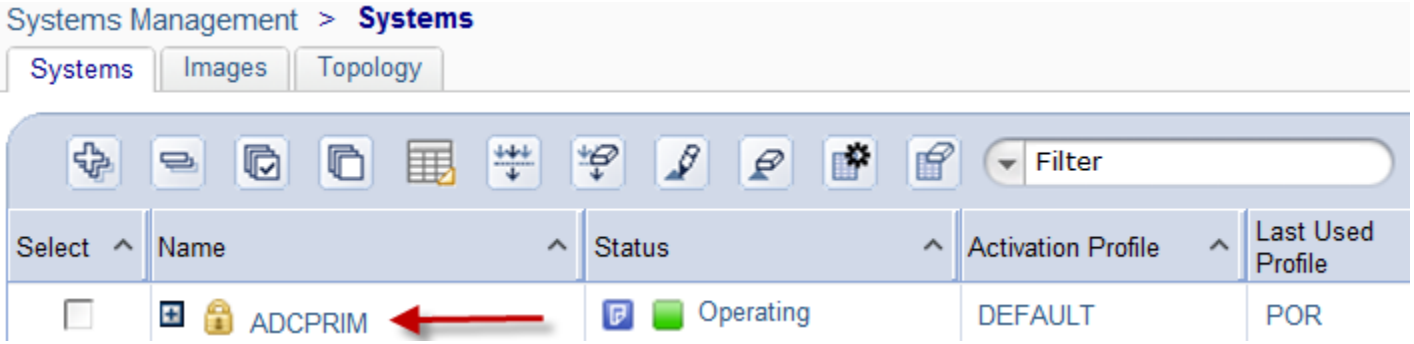
(Skip Robinson)

It's a little muggy in here

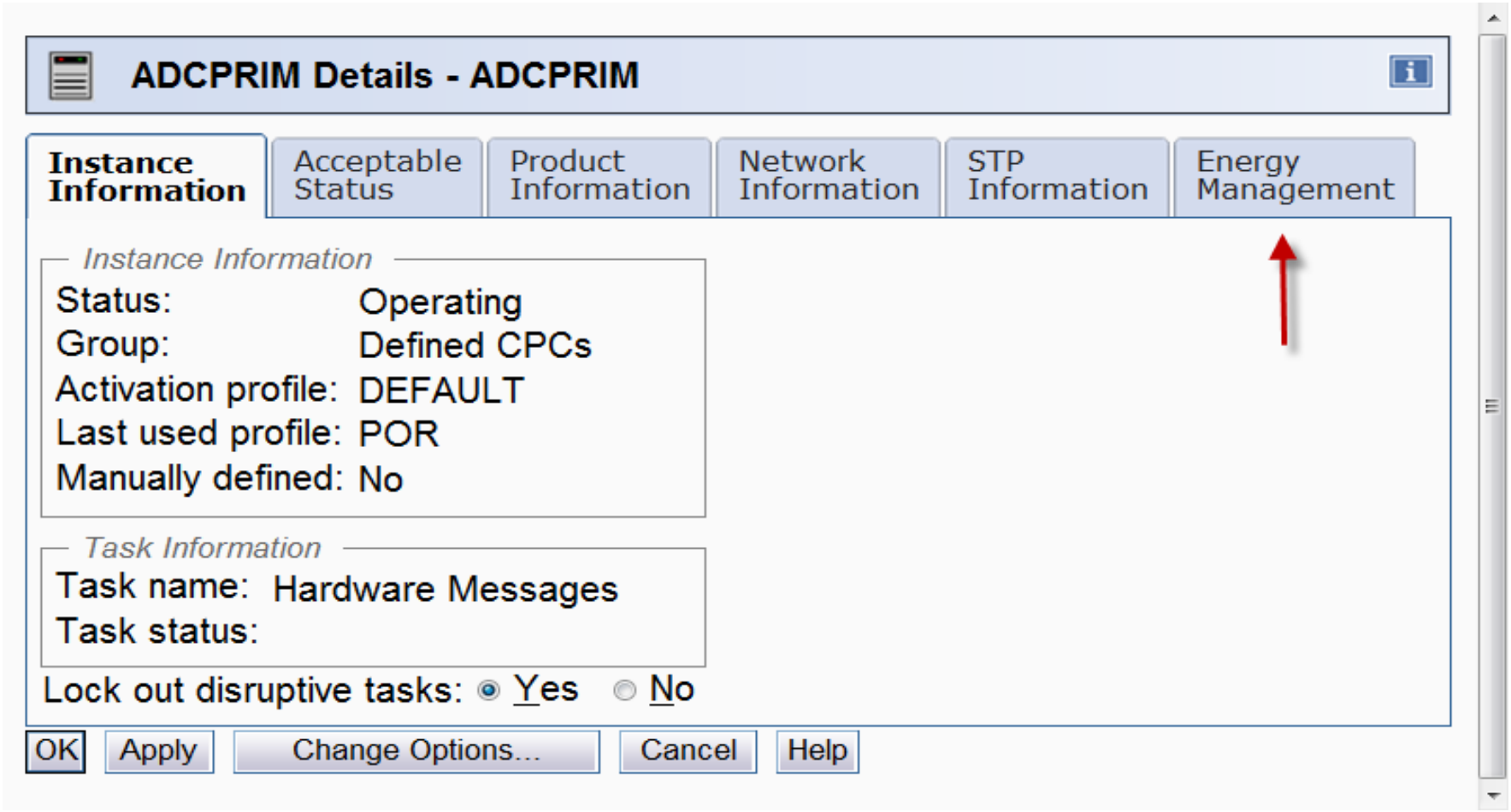
- Two zEC12s were installed in new data center
- Mainframe not production yet but functional
- After Ops folks moved into the building, I dropped by to check on their HMC
- It was red, showing 'Power Alert' on one CEC
- Message detail indicated high humidity
- No other alerts in the building
- I sat down to explore the alert

Finding the culprit

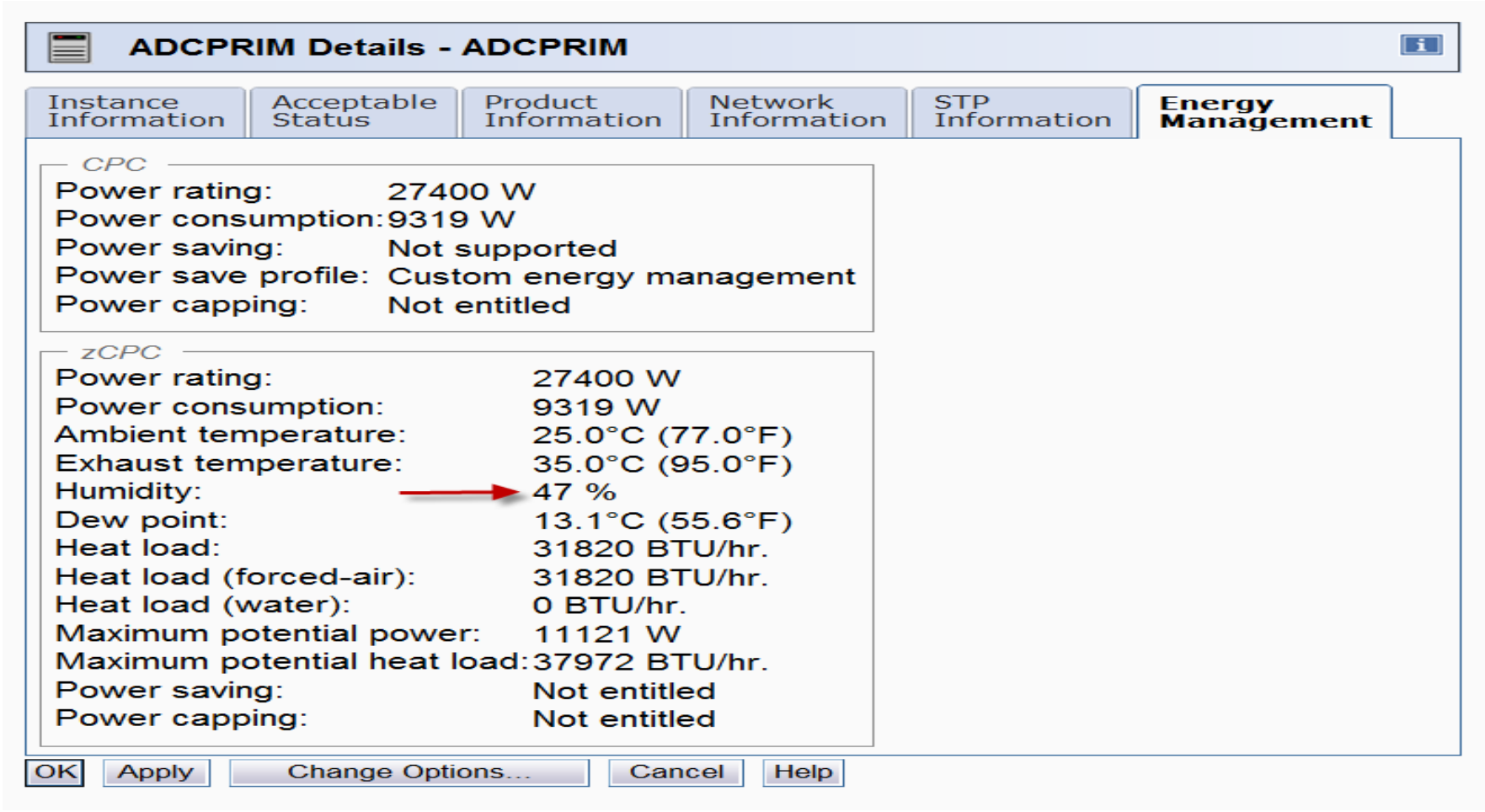
- On HMC, Systems Management → Systems
- Click on CEC name to query status



Click on Energy Management



Observe energy readings



This is LA, not Amazon Basin

- At time of alert, humidity showed 57%
- Neighboring CEC—not in alert—showed 56%
- Doc says zEC12 can handle up to 80% but recommends staying below 60%
- Building engineer made some adjustments
- Humidity soon dropped into low 50s
- Now runs below 50% on a regular basis
- A risk in running in a 'greenish' data center with swamp coolers in lieu of refrigeration

Hippity Hop

(Skip Robinson)

Hippity Hop

- My enterprise uses cascaded FICON over DWDM
- Needed for…
  - Disaster Recovery DASD mirroring
  - Day to day 'remote tape'
  - SNA CTC connections among all LPARs
- For many years we connected Sites 1 and 2
- Then we built Site 3 to eventually replace Site 1
- Added new permanent link between Sites 2 and 3
- Added transitional link between Sites 1 and 3

Hippity Hop

- Each site has a pair of Brocade switches
- We created a link for Sites 1 and 3 because of the cascading caveat: only two switch hops allowed
- I.e. Site 1 directly to 2, 2 to 3, and 1 to 3
- 'Could not' cascade Sites 1 to 2 to 3 in one link
- Early on we had problems linking Site 1 to 3
  - Reason doesn't matter, but link did not work
- Yet we found that Sites 1 and 3 were talking
- It had to be via Site 2, which we 'could not' do

Hippity Hop

- Doing the 'impossible' was disturbing
- Also did not want extra traffic on link 2 – 3
- We took the issue to IBM in an SR
- Answer: caveat is 'should not', not 'can not'
- Three-hop link is not supported but neither is it guaranteed to fail
- In our case it worked when we did not expect it
- We eventually fixed the link from 1 to 3
- We now go (presumably) from 1 to 3 directly

Go Wide Young Console

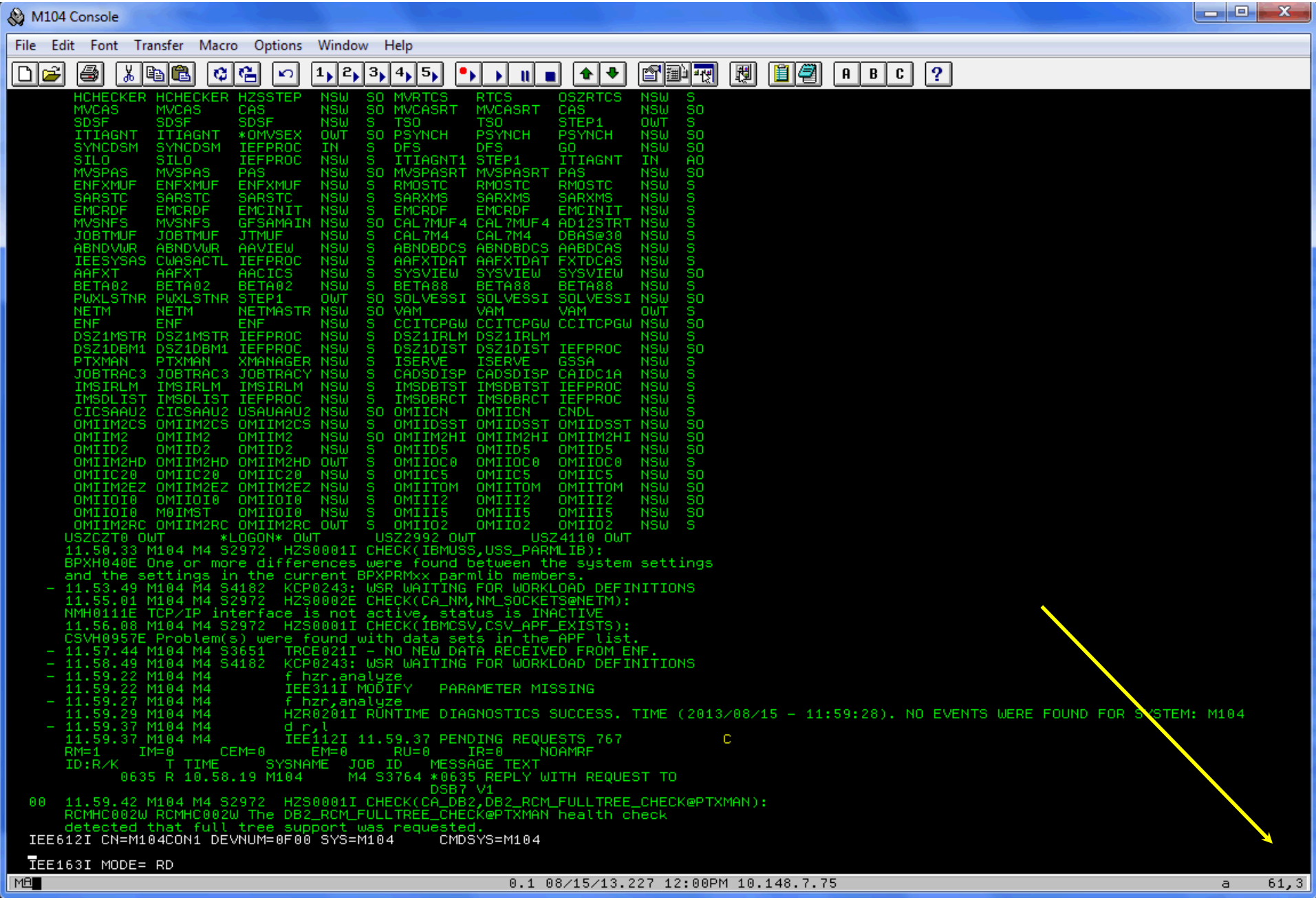
(Ed Jaffe)

SSMVSE11008: Allow OSA-ICC Consoles to have larger than Mod 5 Screen Size

- Requirement submitted in 2011 by Brad Carson from LabCorp (RIP)
- Provider response: Reject Reason: OSA-ICC is a stabilized function and is not being enhanced
- Tom Conley asked about this during Ask The Experts. He wanted to know what was OSA-ICC being replaced with?
- Nobody in the room knows the answer to that question, but Mark Zelden did mention a Technote that implied the function was already available.
- http://www-01.ibm.com/support/docview.wss?uid=swg21470458
- The technote points out that IBM-DYNAMIC does not work when connecting large screens to the the OSA-ICC TN3270 server. You must use IBM-3278-2-E instead.

Zelden's Experiment

- The technote refers to PCOMM setup, but Mark connects to the OSA-ICC using Tom Brennan's Vista 3270 emulator.
- He changed the following in vista.ini:
  - TermTypeUser=IBM-DYNAMIC to...
  - TermTypeUser=IBM-3278-2-E
- Mark points out that for Vista this setting applies to all sessions supported by the emulator, so logmode D4C32XX3 no longer works for his other sessions. ☹
- I believe that PCOMM allows this setting to be set differently for each session. I will certainly experiment with this...
- Anyway, Mark set his emulator to 62x142
- The result was ... (see next slide)


M104 Console
File Edit Font Transfer Macro Options Window Help
HCHECKER HCHECKER HZSSTEP NSW SO MVRTCS RTCS OSZRTCS NSW S
MVCAS MVCAS CAS NSW SO MVCASRT MVCASRT CAS NSW SO
SDSF SDSF SDSF NSW S TSO TSO STEP1 OWT S
ITIAGNT ITIAGNT *OMVSEX OWT SO PSYNCH PSYNCH PSYNCH NSW SO
SYNCDSM SYNCDSM IEFPROC IN S DFS DFS GO NSW SO
SILO SILO IEFPROC NSW S ITIAGNT1 STEP1 ITIAGNT IN AO
MVSPAS MVSPAS PAS NSW SO MVSPASRT MVSPASRT PAS NSW SO
ENFXMUF ENFXMUF ENFXMUF NSW S RMOSTC RMOSTC RMOSTC NSW S
SARSTC SARSTC SARSTC NSW S SARXMS SARXMS SARXMS NSW S
EMCRDF EMCRDF EMCINIT NSW S EMCRDF EMCRDF EMCINIT NSW S
MVSNFS MVSNFS GFSAMAIN NSW SO CAL7MUF4 CAL7MUF4 AD12STRT NSW S
JOBTMUF JOBTMUF JTMUF NSW S CAL7M4 CAL7M4 DBAS@30 NSW S
ABNDVWR ABNDVWR AAVIEW NSW S ABNDBDCS ABNDBDCS AABDCAS NSW S
IEESYSAS CWASACTL IEFPROC NSW S AAFXTDAT AAFXTDAT FXTDCAS NSW S
AAFXT AAFXT AACICS NSW S SYSVIEW SYSVIEW SYSVIEW NSW SO
BETA02 BETA02 BETA02 NSW S BETA88 BETA88 BETA88 NSW S
PWXLSTNR PWXLSTNR STEP1 OWT SO SOLVESSI SOLVESSI SOLVESSI NSW SO
NETM NETM NETMASTR NSW SO VAM VAM VAM OWT S
ENF ENF ENF NSW S CCITCPGW CCITCPGW CCITCPGW NSW SO
DSZ1MSTR DSZ1MSTR IEFPROC NSW S DSZ1IRLM DSZ1IRLM NSW S
DSZ1DBM1 DSZ1DBM1 IEFPROC NSW S DSZ1DIST DSZ1DIST IEFPROC NSW SO
PTXMAN PTXMAN XMANAGER NSW S ISERVE ISERVE GSSA NSW S
JOBTRAC3 JOBTRAC3 JOBTRACY NSW S CADSDISP CADSDISP CAIDC1A NSW S
IMSIRLM IMSIRLM IMSIRLM NSW S IMSDBTST IMSDBTST IEFPROC NSW S
IMSDLIST IMSDLIST IEFPROC NSW S IMSDBRCT IMSDBRCT IEFPROC NSW S
CICSAAU2 CICSAAU2 USAUAAU2 NSW SO OMIICN OMIICN CNDL NSW S
OMIIM2CS OMIIM2CS OMIIM2CS NSW S OMIIDSST OMIIDSST OMIIDSST NSW SO
OMIIM2 OMIIM2 OMIIM2 NSW SO OMIIM2HI OMIIM2HI OMIIM2HI NSW SO
OMIID2 OMIID2 OMIID2 NSW S OMIID5 OMIID5 OMIID5 NSW SO
OMIIM2HD OMIIM2HD OMIIM2HD OWT S OMIIOC0 OMIIOC0 OMIIOC0 NSW S
OMIIC20 OMIIC20 OMIIC20 NSW S OMIIC5 OMIIC5 OMIIC5 NSW SO
OMIIM2EZ OMIIM2EZ OMIIM2EZ NSW S OMIITOM OMIITOM OMIITOM NSW SO
OMIIOI0 OMIIOI0 OMIIOI0 NSW S OMIII2 OMIII2 OMIII2 NSW SO
OMIIOI0 M0IMST OMIIOI0 NSW S OMIII5 OMIII5 OMIII5 NSW SO
OMIIM2RC OMIIM2RC OMIIM2RC OWT S OMIIO2 OMIIO2 OMIIO2 NSW S
USZCZT0 OWT *LOGON* OWT USZ2992 OWT USZ4110 OWT
11.50.33 M104 M4 S2972 HZS0001I CHECK(IBMUSS,USS_PARMLIB):
BPXH040E One or more differences were found between the system settings
and the settings in the current BPXPRMxx parmlib members.
- 11.53.49 M104 M4 S4182 KCP0243: WSR WAITING FOR WORKLOAD DEFINITIONS
11.55.01 M104 M4 S2972 HZS0002E CHECK(CA_NM,NM_SOCKETS@NETM):
NMH0111E TCP/IP interface is not active, status is INACTIVE
11.56.08 M104 M4 S2972 HZS0001I CHECK(IBMCSV,CSV_APF_EXISTS):
CSVH0957E Problem(s) were found with data sets in the APF list.
- 11.57.44 M104 M4 S3651 TRCE021I - NO NEW DATA RECEIVED FROM ENF.
- 11.58.49 M104 M4 S4182 KCP0243: WSR WAITING FOR WORKLOAD DEFINITIONS
- 11.59.22 M104 M4 f hzr,analyze
11.59.22 M104 M4 IEE311I MODIFY PARAMETER MISSING
- 11.59.27 M104 M4 f hzr,analyze
11.59.29 M104 M4 HZR0201I RUNTIME DIAGNOSTICS SUCCESS. TIME (2013/08/15 - 11:59:28). NO EVENTS WERE FOUND FOR SYSTEM: M104
- 11.59.37 M104 M4 d r,l
11.59.37 M104 M4 IEE112I 11.59.37 PENDING REQUESTS 767 C
RM=1 IM=0 CEM=0 EM=0 RU=0 IR=0 NOAMRF
ID:R/K T TIME SYSNAME JOB ID MESSAGE TEXT
0635 R 10.58.19 M104 M4 S3764 *0635 REPLY WITH REQUEST TO
DSB7 V1
00 11.59.42 M104 M4 S2972 HZS0001I CHECK(CA_DB2,DB2_RCM_FULLTREE_CHECK@PTXMAN):
RCMHC002W RCMHC002W The DB2_RCM_FULLTREE_CHECK@PTXMAN health check
detected that full tree support was requested.
IEE612I CN=M104CON1 DEVNUM=0F00 SYS=M104 CMDSYS=M104
IEE163I MODE= RD
MA
0.1 08/15/13.227 12:00PM 10.148.7.75
a 61,3

The Implications of Zelden's Result

- Mark was able to get a 62x142 console to work with Vista TN3270.
- His result seems to suggest that a provider response of AV (available) might have been more appropriate than RJ (reject).
- I suggest other OSA-ICC customers experiment with different emulators to see how this discovery can be leveraged.
- There is still the outstanding question of whether OSA-ICC is really stabilized. Harv Emery has this on his "to do" list. ☺

The Report of HFS's Death was an Exaggeration (Tom Conley)

It Started as a Simple Request...

- USS application required a large (2TB) zFS filesystem to extract reports, then send them to a service bureau
- After extracting and sending a fixed number of reports (100,000-500,000), reports would be deleted from the zFS and the next batch of reports would be processed
- Created a 2TB zFS to handle the reports
- First batch processed OK, then we had a problem...

But it Became a Big Problem

- Deleting the reports with "rm *.*" or "rmdir" was taking hours, which was unacceptable for the application's SLA
- Opened PMR with IBM, and discovered this was WAD
- z/OS V1R13 and previous use zFS v4 filesystems
- Directory formats are linear in zFS v4, so that directories with thousands of entries experience severe performance degradation
- With zFS v4, IBM recommends using HFS for directories > 50,000 entries
- IBM provides a utility to detect the large directory issue with zFS files on the z/OS Unix Tools and Toys page:

http://www-03.ibm.com/systems/z/os/zos/features/unix/bpxa1ty2.html

z/OS V2R1 to the Rescue!

- IBM has addressed zFS directory performance issues in z/OS V2R1 with creation of zFS v5
- zFS v5 uses tree structure for directory, with improved performance that scales linearly as directory grows
- Even small directories will benefit from zFS v5
- zFS v4 directories can be converted to v5 with IBM-provided tooling
- For full details on performance improvements and migration paths from zFS v4 to v5, reference Ann Totten's presentation 14248: z/OS V2R1 zFS Function Update
- If you have a need for large directories prior to z/OS V2R1, you'll likely still need HFS
- Postpone any HFS to zFS conversions until z/OS V2R1
- Once you get to z/OS V2R1, you should look to convert your remaining HFS's to z/FS v5

General ZAD is not Evil

(Ed Webb)

Zero Address Detection (ZAD)

- What's the problem?
- Programs that inadvertently reference low virtual storage (0-4095)

- How to find them?
- FLAG(PAGE0) Assembler parameter to detect potential incorrectly coded instructions
- DIAG Traps such as IGVINITGETMAIN
- PRIMEPSA

Zero Address Detection (ZAD)

- But "dirty" Getmain/Freemain and PRIMEPSA change behavior:
- Abends, other failures

- Another solution now in z196 and later processors
- Requires z/OS V2R1 officially (works in V1R13)

What Does ZAD Do?

- It records instructions that access storage with a Base Register (GPR) that is all zeros
- The record includes address space id, jobname if any, program name, offset, instruction, decoded instruction

Disclaimer

- A SLIP PER ZAD trap must be used with care. Due to normal system processing, many expected ZAD events in IBM modules might occur. These expected ZAD events do not represent problems and should not be considered as defects.

How to Setup the ZAD Environment

- SETPROG LPA,ADD,DSN=SYS1.LINKLIB, MOD=IEAVTSZE,FIXED or add to IEAFIXxx
- Run a Started Task
- First run sets up recording space
- Subsequent run(s) report the contents of the recording space and resets it
- Optional final run to clean up

```
//IEAVTSZR PROC SIZE=1M,OP=DATA,STATS=YES,SYSOUT=*
//IEAVTSZR EXEC PGM=IEAVTSZR,TIME=1440,REGION=0M,
//  PARM='OP=&OP,SIZE=&SIZE,STATS=&STATS'
//SYSPRINT DD SYSOUT=&SYSOUT
```

Controlling ZAD

- Start recording with a SLIP ZAD command
- SLIP SET,ZAD,A=AEXIT,AEXIT=IEAVTSZE, ID=ZAD1,PL=50,OK,END
- SLIP parameters apply
- Exclusive with PER SLIPs

ZAD Report Output

```
JobName  ASID  Address      Count   ModName    Offset  Dsp InstrucText   Decoded
HZR      002C  21829632   1C524CE6  HZRINPVT  00029632     5840B0005040  L R4,0(,R11)
HZR      002C  21829620   1A3B6FCB  HZRINPVT  00029620     48B04000A5B6  LH
OMVS     0010  218BAF02    43A1A74  BPXINPVT  000B5F02     585200005050  L R5,0(R2)
USC33M1A 01D3  22EF3F98    1A20BC6  UWUXMSFN  00017F98     95406000A784  CLI 0(R6),64
******** 0000  1D73496A     C857D2  CELHV003  0006096A     5860721C5860  L
ZFS      0037  21A664D4     BCAB2A  IOEFSKN   001E74D4     5810100C5010  L
CATALOG  0035  218303A6     92AFC7  IGG0CLX0  000303A6     95504004A774  CLI
LRLM0    006D  2181043E     7C0C5A  DXRRLM60  0001043E     E320B0000004  LG
BCI7INS4 01B8  7A019DFE     7B6EDE  *PATHNAM  00019DFE     5826500C5851  L R2,12(R6,R5)
                                   /shared/java160/SR8/usr/lpp/java/IBM/J6.0/lib
REPORT   004B  2184508E      6D922  SAS       0004508E     5810E0001211  L R1,0(,R14)
```

Dead Software Society

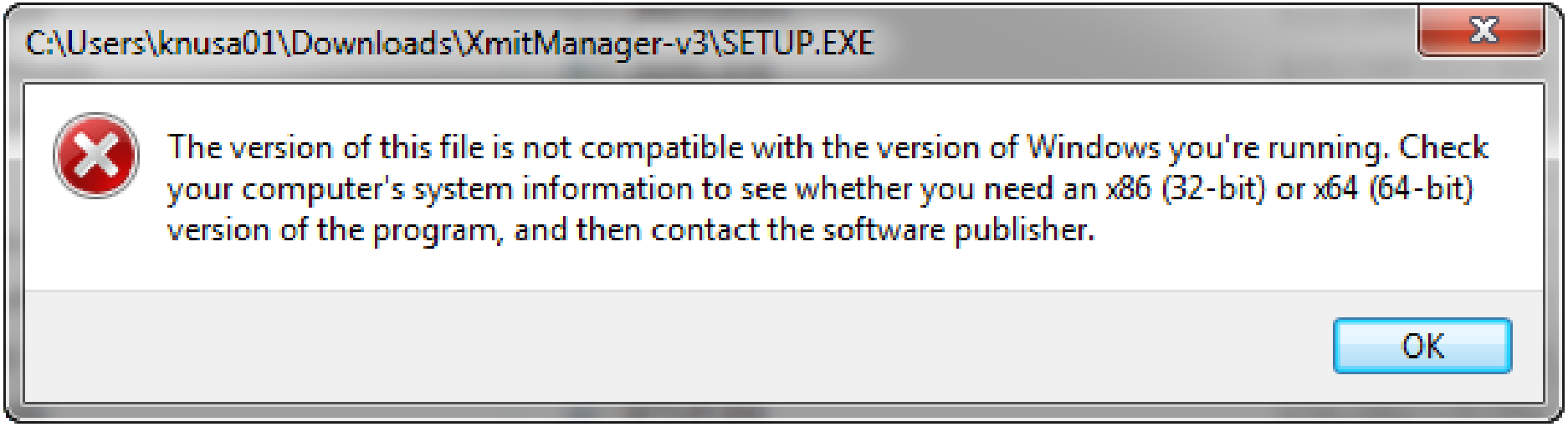
(Sam Knutson)

Old Tools

- **Xmit Manager** is a Windows based tool that allows for the manipulation of IBM Mainframe created Xmit format files. With Xmit Manager you can open Xmit files and view or extract the data within them, whether that is binary or text based. Xmit files with Partitioned datasets or Sequential datatsets content can be dealt with similarly through the Graphical Interface.
- **Ftp2Jes** is a windows based application that provides a GUI around the FTP protocol that supports simple access to JES2 on IBM OS390 and zOS based operating systems. This FTP support allows Batch jobs to be submitted to JES2 and the output to be retrieved through an FTP session between the IBM host and your PC. Ftp2Jes enhances this functionality to provide a useful tool for using this functionality.

Old Tools + Windows 7

- You could get around this using virtualization tools like Virtual PC, XP Mode, VMWare, Virtual Box, etc.
- These old tools are not going to be updated in the future by the author and no source code is available
- Someone has moved the cheese time to move on

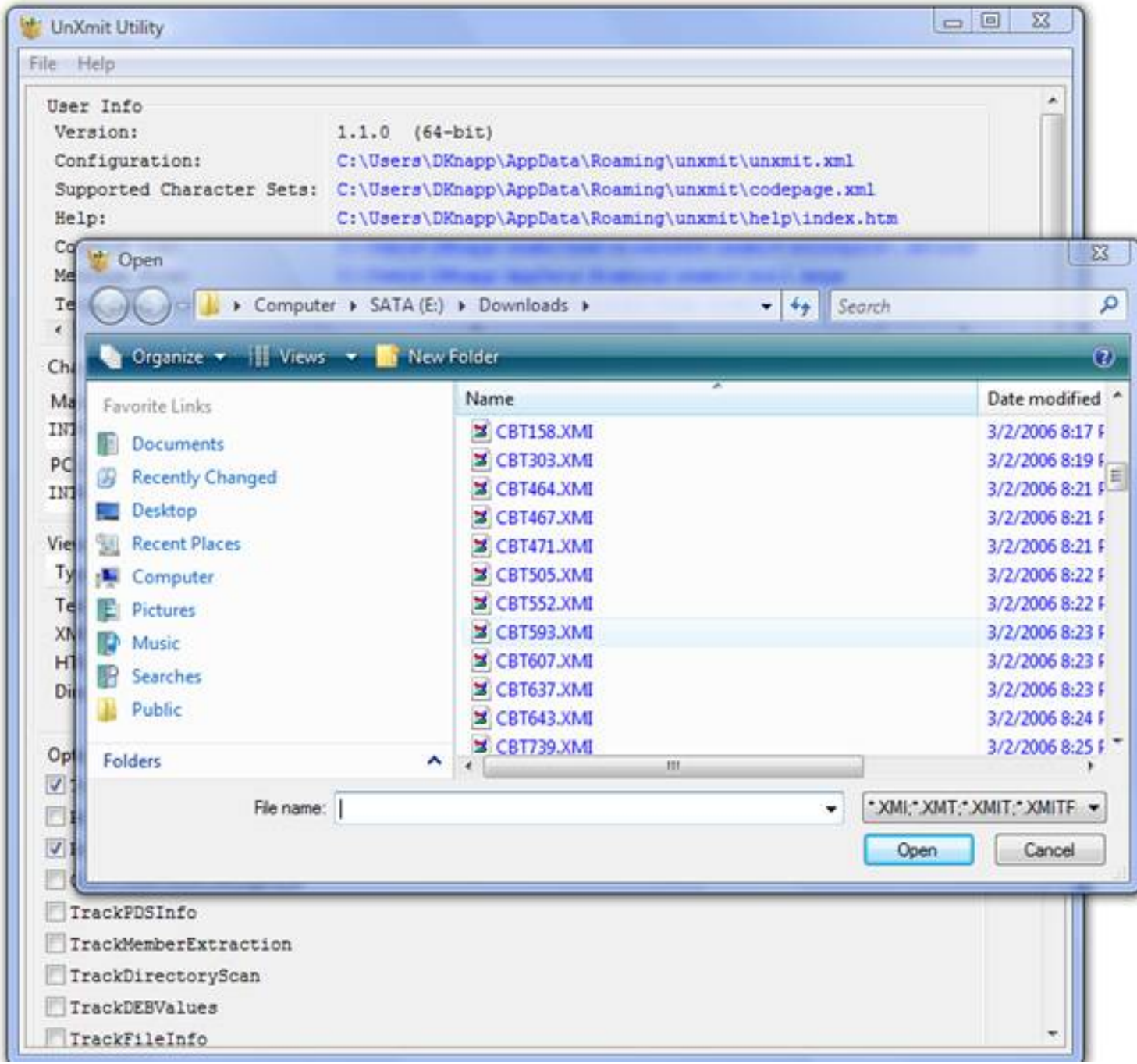


New Tool - unXMIT

- unXMIT extracts data from files created by TSO/e's XMIT command. UnXmit presents a directory of members and gives the workstation user an opportunity to extract members. Source-type members are stored as TXT members. TXT members are converted from EBCDIC to ASCII.
- Open Source and responsive to users
- Free
- Supported on Windows, Linux, and OSX (alpha code)
- Built on Java, can be a big download
- Hosted on Sourceforge
- http://unxmit.sourceforge.net/
- PDSE supported

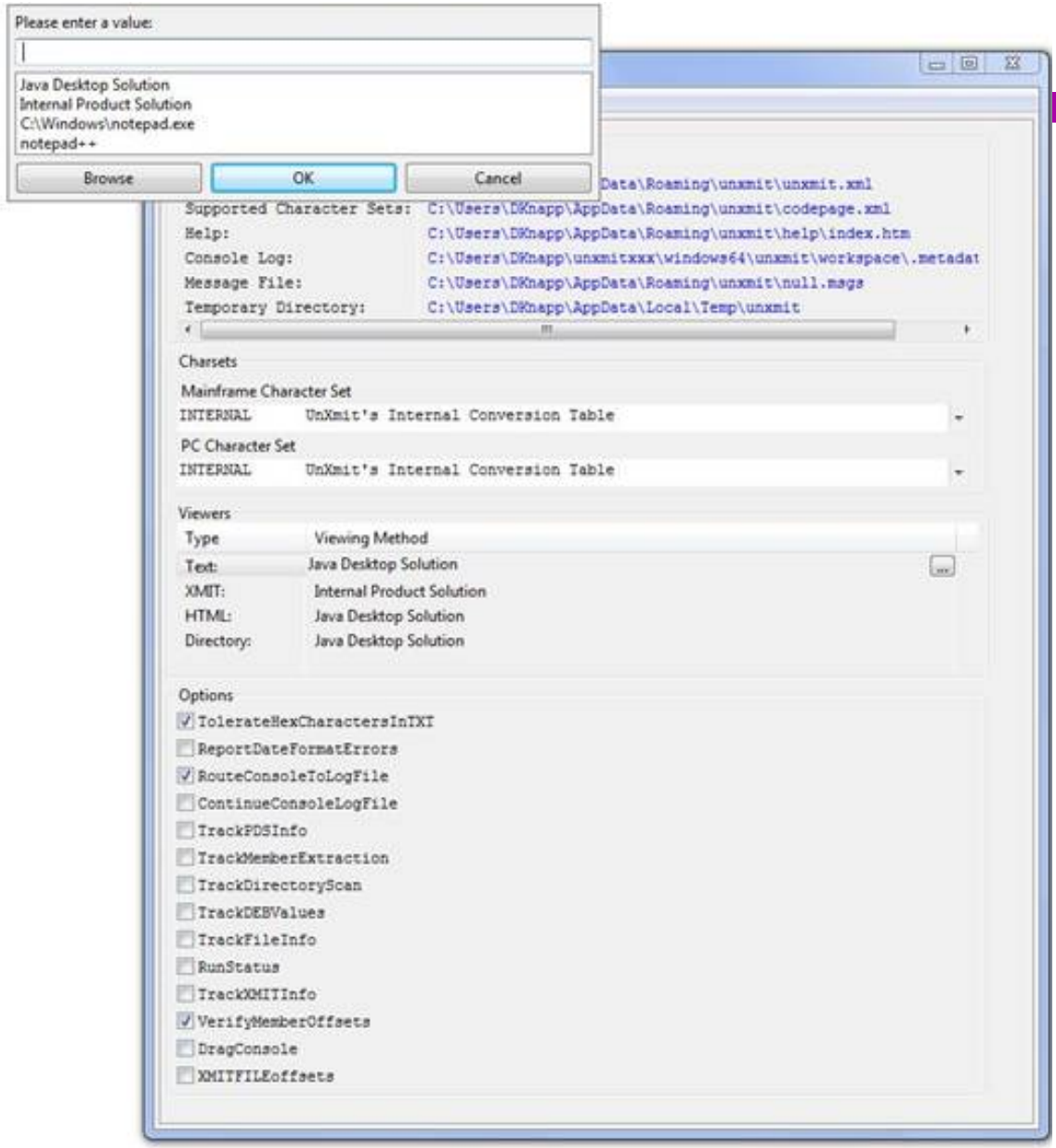
New Tool

- OPEN .XMI files



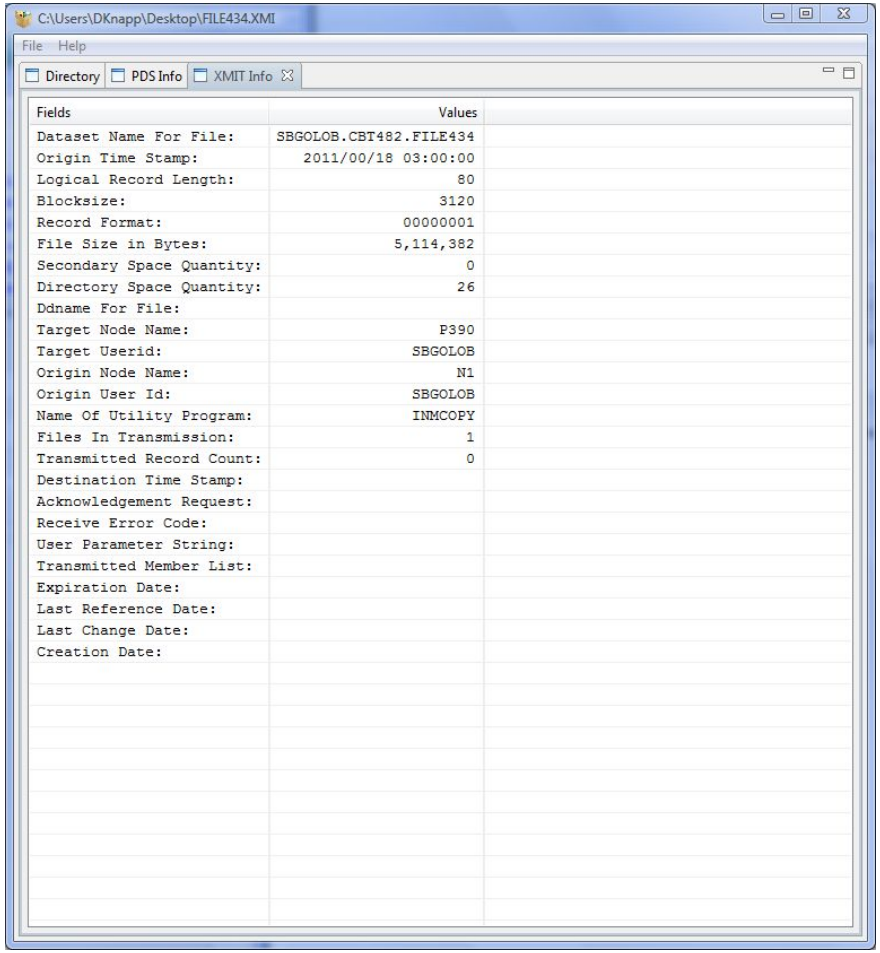
New Tool - unXMIT

- Customization!
- The Viewers section are the changeable viewer programs unXmit uses for viewing text members, HTML, XMIT, etc.
- Specify EBCDIC and ASCII Code Pages to use

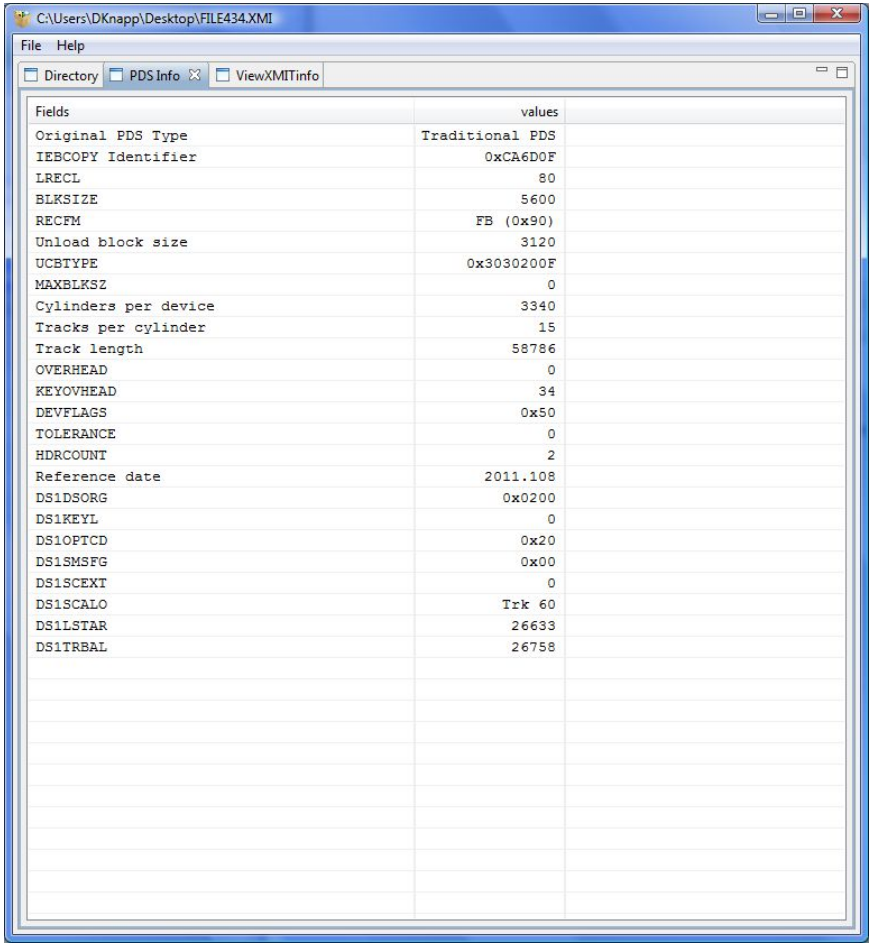


New Tool – unXMIT

- Display XMIT and IEBCOPY headers



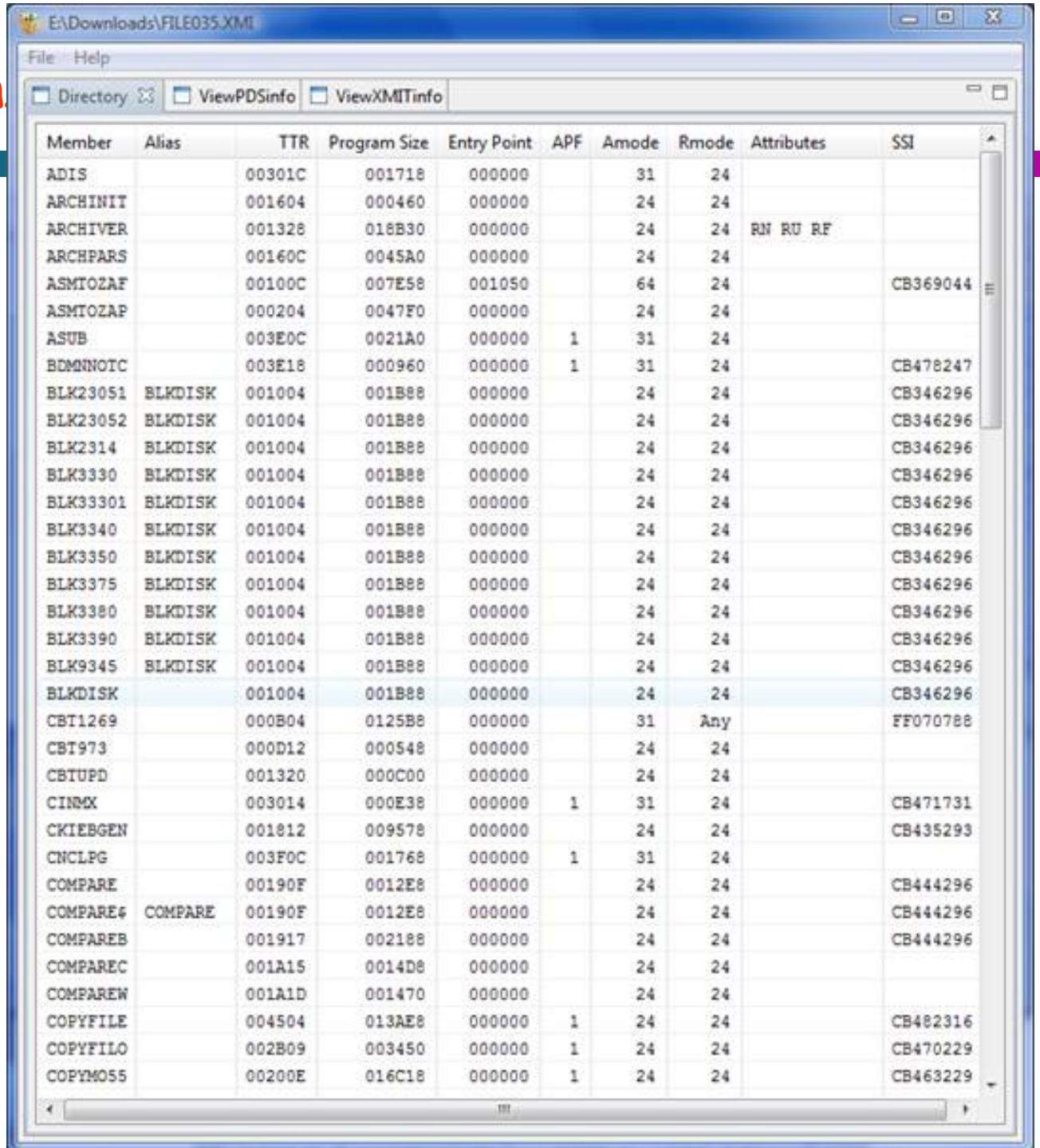
Fields	Values
Dataset Name For File:	SBGOLOB.CBT482.FILE434
Origin Time Stamp:	2011/00/18 03:00:00
Logical Record Length:	80
Blocksize:	3120
Record Format:	00000001
File Size in Bytes:	5,114,382
Secondary Space Quantity:	0
Directory Space Quantity:	26
Ddname For File:	
Target Node Name:	P390
Target Userid:	SBGOLOB
Origin Node Name:	N1
Origin User Id:	SBGOLOB
Name Of Utility Program:	INMCOPY
Files In Transmission:	1
Transmitted Record Count:	0
Destination Time Stamp:	
Acknowledgement Request:	
Receive Error Code:	
User Parameter String:	
Transmitted Member List:	
Expiration Date:	
Last Reference Date:	
Last Change Date:	
Creation Date:	



Fields	values
Original PDS Type	Traditional PDS
IEBCOPY Identifier	0xCA6D0F
LRECL	80
BLKSIZE	5600
RECFM	FB (0x90)
Unload block size	3120
UCBTYPE	0x3030200F
MAXBLKSZ	0
Cylinders per device	3340
Tracks per cylinder	15
Track length	58786
OVERHEAD	0
KEYOVHEAD	34
DEVFLAGS	0x50
TOLERANCE	0
HDRCOUNT	2
Reference date	2011.108
DS1DSORG	0x0200
DS1KEYL	0
DS1OPTCD	0x20
DS1SMSFG	0x00
DS1SCEXT	0
DS1SCALO	Trk 60
DS1LSTAR	26633
DS1TRBAL	26758

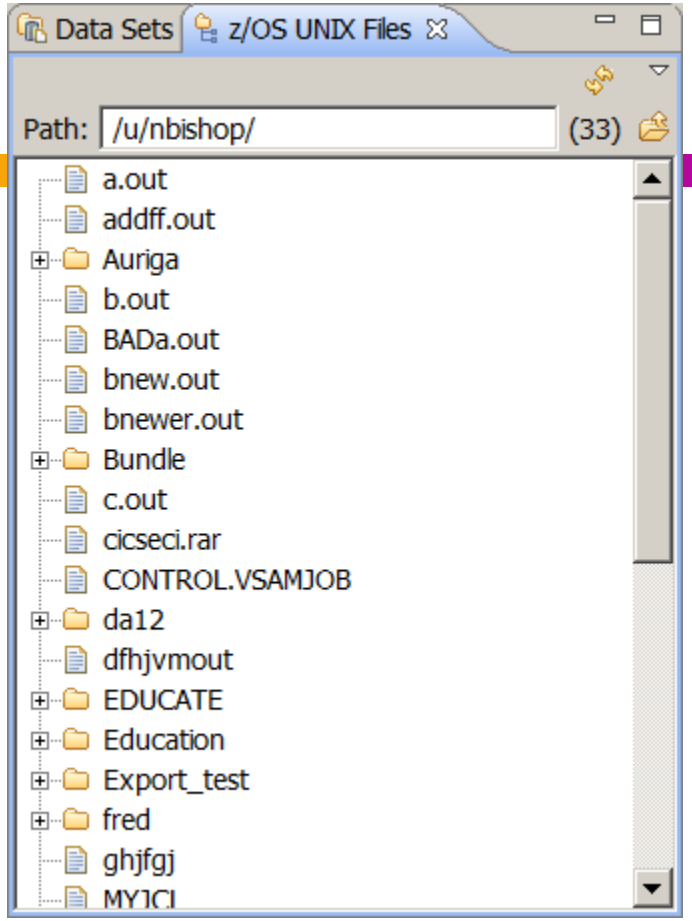
New Tool - un

- Load Library Directory



Member	Alias	TTR	Program Size	Entry Point	APF	Amode	Rmode	Attributes	SSI
ADIS		00301C	001718	000000		31	24		
ARCHINIT		001604	000460	000000		24	24		
ARCHIVER		001328	018B30	000000		24	24	RN RU RF	
ARCHPARS		00160C	0045A0	000000		24	24		
ASMTOZAF		00100C	007E58	001050		64	24		CB369044
ASMTOZAP		000204	0047F0	000000		24	24		
ASUB		003E0C	0021A0	000000	1	31	24		
BDMNNOTC		003E18	000960	000000	1	31	24		CB478247
BLK23051	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK23052	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK2314	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK3330	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK33301	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK3340	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK3350	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK3375	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK3380	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK3390	BLKDISK	001004	001B88	000000		24	24		CB346296
BLK9345	BLKDISK	001004	001B88	000000		24	24		CB346296
BLKDISK		001004	001B88	000000		24	24		CB346296
CBT1269		000B04	0125B8	000000		31	Any		FF070788
CBT973		000D12	000548	000000		24	24		
CBTUPD		001320	000C00	000000		24	24		
CINMX		003014	000E38	000000	1	31	24		CB471731
CKIEBGEN		001812	009578	000000		24	24		CB435293
CNCLPG		003F0C	001768	000000	1	31	24		
COMPARE		00190F	0012E8	000000		24	24		CB444296
COMPARE$	COMPARE	00190F	0012E8	000000		24	24		CB444296
COMPAREB		001917	002188	000000		24	24		CB444296
COMPAREC		001A15	0014D8	000000		24	24		
COMPAREW		001A1D	001470	000000		24	24		
COPYFILE		004504	013AE8	000000	1	24	24		CB482316
COPYFILO		002B09	003450	000000	1	24	24		CB470229
COPYMOS5		00200E	016C18	000000	1	24	24		CB463229

New Tool – z/OS Explorer



- IBM z/OS Explorer V2.1
- previously part of CICS or IMS Explorer, is now available as a separate component
- For more details see Announcement 213-141, dated April 23, 2013
- browse and edit files and datasets, create paths and modify permissions, submit jobs, and view output
- z/OS FTP and z/OSMF connections types
- Free
- Supported on Windows, Linux
- http://www.ibm.com/software/htp/cics/ibmexplforzos

Acknowledgements Both Knowing and Unknowing

- Ann Totten, IBM
- Peter Relson, IBM

See You in Anaheim…