Fully Wired Hot Topics: Wicked

Questions, Cool Answers, and a Free Software Update!



SHARE 97

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Session 2861 Abstract

Dozens of tough questions and great answers appear daily on the IBM-MAIN mail list, but some seem to keep returning. Attend this session to learn the answers to both the common and especially interesting questions, which have been asked and answered on IBM-MAIN and other popular s390 mailing lists. In the past such questions have included:

- How do I move a link list library without an IPL?
- How do I determine the contents of a tape?
- How to I modify my system to allow me to LOGON to multiple systems with the same userid?
- Why am I getting message IEA602I and running out of ASIDs?

A brief overview on reading and optionally participating in the IBM-MAIN and other forums will be provided. The session will also cover what's new and exciting in MVS Freeware and MVS web resources. The latest MVS Freeware CBT tapes (3480 cartridges) V437 and CBT CD-ROM #8 (with MVS 3.8J, CBT Tape (CBT437), JES2 & JES3 Freeware, MVT, Hercules, and LOTS more), and CD-ROM "Volker Bandke MVS Turnkey Project for Hercules" will be handed out to attendees.

Agenda



- Introduction
- A few Hot Topics
- Free Software Update
- Mailing List Tutorial Overview, Tips, and Common Lists
- Handout Tapes & CD-ROM(s)
- Q&A



Dynamic Link List Rebuild

If a link list library (non-PDSE) takes a new extent you will begin to get failures CSV* messages fetching modules from that extent. You can active a different lnklst set that has the same data sets as the first to recover from this. You cannot active the same lnklst set.

So:

SETPROG LNKLST DEFINE NAME(NEWONE)
COPYFROM(CURRENT)
SETPROG LNKLST ACTIVATE NAME(NEWONE)
SETPROG LNKLST UPDATE JOB(*)

Do keep in mind that LNKLST UPDATE JOB(*) might cause problems. This is documented.

Session 2826 SHARE in Long Beach "Stop Those Unnecessary IPLs - The Dynamic OS/390 Functions" by Steve Schunk provides tutorial level coverage on this and other Dynamic Functions

Remove a link list library



It is now possible to remove a link list library from use to move it if you need to. Using more steps you can move a link list library to a new volume using either it's current data set name or a new name.

stop LLA i.e. P LLA
SETPROG LNKLST DEFINE NAME(NEW) COPYFROM(CURRENT)
SETPROG LNKLST DELETE NAME(NEW) DSN(xxx.OLD)
SETPROG LNKLST ACTIVATE NAME(NEW)
SETPROG LNKLST UPDATE JOB(*)

Do keep in mind that LNKLST UPDATE JOB(*) might cause problems. This is documented

restart LLA i.e. S LLA, SUB=MSTR, LLA=00

Caveat: This won't allow you to vary a volume off-line if the link list library was included at IPL time. The volume is marked permanently resident in the UCB.

LOGON TSO same user

How to I modify my system to allow me to LOGON to multiple systems with the same userid?

IKJ56425I LOGON rejected, UserId CSSJK already logged on to system PROD IKJ56400A ENTER LOGON OR LOGOFF-

GRS or CA-MIM/MII enqueue handling of SYSIKJUA/userid

For GRS check GRSRNL00 you may have a statement like this causing you to propagate SYSIKJUA sysplex wide. RNLDEF RNL(INCL) TYPE(GENERIC) QNAME(SYSIKJUA)

LOGON TSO same user

- JES2 MAS considerations HASPCNVT simple USERMOD or Exit 44 required if you wish to do this in a MAS
- JES3 complex considerations USERMOD to IATGRJS required
- ISPF data sets PROFILE, ISPF LIST, LOG, ISPCTL, and ISPWK.
- SDSF "Options" menu to set your console name to avoid collision

PROFILE can be allocated differently on each system. How you do it depends on your needs. Other ISPF data sets can be addressed in ISPF Exits.

IBM Item RTA000089663 documents and provides sample code

Mark Zelden provides nice samples in his CBT Tape file # 434 which is included on the CD in the /cbt directory

ASID Exhaustion & IEA6021

IEA602I ADDRESS SPACE CREATE FAILED. MAXUSERS WOULD HAVE BEEN EXCEEDED

An ASID is nothing more than control blocks. MVS sometimes marks ASID as unusable to preserve integrity. APAR II08563 explains this in great detail.

IBM developers have mentioned plans to provide a warning message at 95% utilization in a future release of z/OS. For now you are on your own.

IEF352I ADDRESS SPACE UNAVAILABLE is normal and unavoidable in limited quantities

IEASYSxx has some parameters that control how many slots are allocated and placed in reserve for ASID(s).

ASID Exhaustion & IEA6021

ASVT control block influenced by these IEASYSxx parameters

- RSVNONR slots reserved to replace slots marked non-reusable. Default is 5 which is too low 512 or 1000 is more reasonable. Affects the initial number of CSCB/CSCXs allocated in a cell pool in SQA.
- RSVSTRT slots reserved for address spaces created in response to a START command.
- MAXUSERS in conjunction with RSVNONR and RSVSTRT limits the maximum concurrently active tasks.

Don't set these too high it consumes real storage and may cause overhead or storage issues with IBM or OEM software.

The sum of all three cannot exceed 32767
The documentation in MVS Initialization and Tuning Reference covers all this very well.

Tools to diagnose ASID loss



- SHOWMVS R627+ of SHOWMVS will display summary information and also cross memory connections which will help you understand these relationships.
- REXX Bob Lamerand IBM-MAIN posting number 93236 provided a simple REXX exec to display current summary information
- MXI The current release of MXI includes a full screen report of the lost slots and associated jobs with MDQ command.
- IPCS On OS/390 R3 and above you can Get SVC dump of PCAUTH address space (asid 2) In IPCS issue the command: runc addr(cvt+364%+138?) link(x'88') exec((I x+48?+1c len(8) asid(2) char)) nodisplay

This should give a list of jobnames you may want to investigate

How to locate a module



- ISRDDN Member command, Inklst command. ISRDDN now included on all supported OS/390 releases
- TASID is a Super-Set of ISRDDN
- ISRFIND ISPF has a nice little 'feature / Level2 Diagnostic Aid' try: TSO ISRFIND ISRFIND is located in ISP.SISPEXEC if you want to look at it.

Note: You can use a module in TSO or an exec without knowing where it is. CALL *(SORT)

Is the mainframe dead?



No! This is a recurring question on IBM-MAIN

Craig Mullins made a relevant post and provides a web page on this with a short article "The Living Mainframe" here http://www.craigsmullins.com/cnr_mf.htm

From a Gartner Group report titled "IBM Mainframe Scenario and Residual Value Forecast" "The S/390 will remain a significant platform within the enterprise data center" .. "It will remain the best general-purpose system as characterized by high-availability high-security, high-volume"

To see Craig's complete post subscribe to IBM-MAIN and then send this command to LISTSERV@bama.ua.edu GETPOST IBM-MAIN 113760

PDSE



- **IBM Redpiece** Partitioned Data Set Extended Usage Guide at http://www.redbooks.ibm.com/redpieces/pdfs/sg246106.pdf answers almost any question about PDSE
- PDSE not new first introduced in MVS/DFP 3.2 but were SMS only
- Non-SMS PDSE(s) are new and APAR II1221 provides the latest information
- APAR OW41815 provides new commands for diagnosis
- IEC143I rc 213-70 check PARMLIB IGDSMSxx's PDSESHARING (NORMAL/EXTENDED)
- Considerations for GRS and CA-MIM/MII SYSZIGW0 and SYSZIGW1 enqueues must be sysplex wide. This is done automagically on OS/390 and z/OS by GRS.

PDS Search & Replace with IPOUPDTE and CPPUPDTE

- Not part of OS/390 or DFSMS
- Included with IPO and ServerPac
- Utilities and documentation come from IBM



USER modifications available to eliminate annoyances

You can find documentation on-line for the CPPUPDTE (IPOUPDTE) program here

http://www.s390.ibm.com/os390/installation/cppupdte.html

PDS Search & Replace with IPOUPDTE and CPPUPDTE

IPO012 DATASET NOT APPLICABLE TO IPOUPDTE

IPOUPDTE and CPPUPDTE have a requirement that an IBM Copyright Statement member \$\$\$COIBM exists in the PDS you want to use them on. A small modification to remove this requirement is show below. Modification thanks to Sam Golob, J Janco, and Thierry FALISSARD.

```
NAME
      CPPUPDTE
 VER 055A 0A12
                       SVC 18
                                     BLDL OR FIND
 VER 055C 12FF
                       LTR 15,15
                                      CHECK RETURN
 VER 055E 4780,C56E
                       BZ
      055E 47F0,C56E
                                     FORCE PROCESS
 REP
* SPZAP TO REMOVE REQUIREMENT THAT A '$$$COIBM' MEMBER
 BE THE FIRST ONE IN THE PDS TO BE SCANNED.
    J JANCO
              13 MARCH 1986
      IPOUPDTE
 NAME
 VER 0548 0A12
                       SVC 18
                                     BLDL OR FIND
                       LTR 15,15
 VER 054A 12FF
                                      CHECK RETURN
 VER 054C 4780,C55C
                       BZ
                                               PROCESS
 REP 054C 47F0,C55C
                                     FORCE PROCESS....
```

See the same at Thierry's IPOUPDTE page at http://os390-mvs.hypermart.net/ipoupdte.htm

RC 00 is good... Right?

```
//jobcard
//* EXECUTE FTP IN BATCH
//FTP EXEC PGM=FTP, PARM='198.17.57.67 (EXIT'
//SYSPRINT DD SYSOUT=*
//* testcase.boulder.ibm.com = 198.17.57.67
//* also known as testcase.software.ibm.com
//SYSIN DD *
anonymous sknutson@landmark.com
cd /mvs/toibm
binary
PUT 'CSSJK.DUMP1.PACKED' pmr32162.dump1.packed
PUT 'CSSJK.DUMP2.PACKED' pmr32162.dump2.packed
quit
/*
```

How to get real FTP RC

IBM FTP will set a job step return code of 00 regardless of what happens.

If you code this on your EXEC statement, you will be able to detect if the transmission is no good:

EXEC PGM=FTP,PARM='(EXIT=0016'

Documented in "z/OS Communications Server IP User's Guide " located at

http://www.ibm.com/servers/eserver/zseries/zos/bkserv/

MVS CAN BE HACKED!



OS/390 or z/OS is often assumed secure but it can still be easily made insecure. Thierry FALISSARD's "Top Ten Ways to Compromise OS/390 Security"

http://os390-mvs.hypermart.net/tenflaws.htm

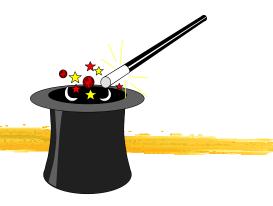
Magic SVCs installed by your site or an OEM product are still found in the wild perhaps now even less people understand the risk this entails. Handy free tools and documentation can help.

OEM products with powerful capabilities are not properly secured.

RACF database or APF libraries not protected

 Good Free Security Magazine www.infosecuritymag.com

MAGIC SVC



"small" user SVC found at a real customer's site by a consultant on the RACF-L mailing list.

```
      00A40000
      0000
      05C047F0
      C00CE2C5
      C3E4D9C9
      E3E812FF
      *...0..SECURITY..*

      00A40010
      0010
      4780C014
      07FF41F0
      000807FE
      00000000
      *...........*

      00A40020
      0020
      00000000
      00000000
      00000000
      00000000
      *.......................*
```

TGC00255 CSECT

16000233	CDECI		
	BALR	12,0	
	USING	*,12	
	В	START	
	DC	C'SECURITY'	o Security!
START	DS	0H	o Security
	LTR	15,15	
	\mathtt{BZ}	SKIP	NO ADDRESS
	BR	15	ADDRESS IS OK
SKIP	LA	15,8	
	BR	14	
	END	IGC00255	

SVC Checkup



- System Information Tools like MXI & SHOWMVS allow you to inspect the currently running system.
- Understand and document SVC usage in IEASVCxx as it really is not just what is being installed from PARMLIB
- David Alcock at http://www.planetmvs.com MVS Tip "Keep Track of Every SVC".

```
/* ---> 199 <--- INSTALLED BY CAS9 -----> CA-C RUNTIME (CA) */
SVCPARM 215,REPLACE,TYPE(6),EPNAME(DFHHPSVC) /* CICS V4.1 HPO */
SVCPARM 216,REPLACE,TYPE(3),EPNAME(DFHCSVC) /* CICS V4.1 SRB */
SVCPARM 239,REPLACE,TYPE(3),EPNAME(DVGMCSVC) /* NETVIEW FTP */
/* ---> 241 <--- INSTALLED BY CAS9 ------> TMS (CA1) X SVC */
```

Why Tools?



The difference between an amateur and a professional is often mastery of the tools of the trade. If you take the time to prepare and grow comfortable with your tools when required you will be able to quickly and efficiently accomplish tasks that others consider impossible or too large to complete in the available time.

"Whatever tools you have, learn to use them. Over and over. Better and better. You'll surprise yourself if you are patient, stick to an organized schedule, and keep working at it." Sam Golob

Free Software



"Sharing of software was not limited to our particular community; it is as old as computers, just as sharing of recipes is as old as cooking. But we did it more than most." Richard Stallman

SHARE: "It's not an acronym. It's what we do."

Bring home the Tools!



Take home at least one tool and solve a problem. If you do this someone may actually believe you worked at SHARE. Probably not since everyone at your shop KNOWS that they only reason you come to SHARE is because "THEY HAVE AN 8 HOUR OPEN BAR AT SCIDS EVERY NIGHT!"

Compress utilities



There are a variety of tools to package and compress data for storage or transport.

'One side will make you grow taller, and the other side will make you grow shorter.' the Caterpillar in **Alice's Adventures in Wonderland by Lewis Carroll**

Compress utilities



- IBM TRSMAIN Free, useful for MVS << >> MVS transfers
 - ftp://service.boulder.ibm.com/s390/mvs/tools/packlib
 - PARM=SPACK for increased compression uses more CPU
- PKZIP \$ISV product, recommended by many, search IBM-MAIN archives for discussions
 - http://www.asizip.com
- ISPZIP \$ISV product, recommend by many, search IBM-MAIN archives for discussions
 - http://ase.com.au/

TRSMAIN JCL



```
//****************
//*
//*
         TRSMAIN WITH SPACK OPTION
//*
//STEP
         EXEC PGM=TRSMAIN, PARM=SPACK, TIME=1439
//SYSPRINT DD
            SYSOUT=*
//INFILE
          DD DISP=SHR, DSN=CSSJK.PROD.CONSOLE.DUMP2
//OUTFILE
          DD
  DISP=(NEW, CATLG), UNIT=SYSDA, VOL=SER=DMPAC1,
//
       DSN=CSSJK.DUMP2.PACKED,
//
        SPACE=(CYL, (1000, 150), RLSE)
```

Compress utilities



- GIMZIP Free from IBM available as PTF back to R5, not really a ZIP utility, seems to be a poor choice for a name. (Potential gotcha! ICSF "nee crypto" is required)
 - Produces .z file (.pax.z) contains compressed data should be compatible with UNCOMPRESS on UNIX platforms and others that support format
 - http://www.ibm.com/servers/eserver/zseries/zos/smpe/gimzip.html
- GZIP Free, some oddities found by Roland Schiradin with MVS implementation, wide cross platform support including Linux, Windows, UNIX, etc.
 - http://www.gzip.org

Compress utilities



- The ARCHIVER Free, CBT Tape file #147, Open Source, Excellent history of support and enhancements by Rick Fochtman MVS <<>> MVS, supports archive to tape for transport and backup
 - http://www.cbttape.org
- Info-Zip Free, open source, PKZIP compatible, wide cross platform support for the PKZIP format and for ports of Info-Zip
 - USS & MVS classic
 - http://www.info-zip.org/pub/infozip/
 - http://www.ctan.org/tex-archive/tools/zip/info-zip/
- TSO/E XMIT provides no compression but does package files with odd attributes into FB80 for safe transmission through non-MVS facilities. When combined with terse "TRSMAIN" it is very useful to move SVC dump,GTF, SMF, etc. More later on using XMIT and tools to work with XMIT files

File Delete Tools & Tips



When it's time for spring cleaning deleting files one at a time by hand is not good enough.

You have to feel the delete. Be the delete.

-Jeremy Werner and Brian Hales

DELETE w/ XDELETE



XDELETE - REXX exec uses Catalog Search Interface to invoke DELETE against data sets matching a pattern mask. Another great tool by Gilbert Saint-flour

- CBT file #183 http://www.cbttape.org
- http://members.home.net/gsf/
- XDELETE generic_name EXECUTE
- Use without specifying EXECUTE for a preview
- generic_name i.e. SYS1.PARMLIB , SYS1.* , SYS1 or SYS1.** , **.LIST , AAA%*.B*%%B
- documented in source, install in SYSEXEC or SYSPROC concatenation for easy use, can be run in batch TSO

DELETE w/ DFDSS



 DFSMSdss (IBM) is not free but is installed in the majority of installations.

- Many other OEM products also provide this functionality
- See recent thread "Delete libraries" on ISPF-L Search web archives at http://listserv.nd.edu/cgi-bin/wa?S1=ispf-l A nice REXX exec by Steve Neeland demonstrates simple Roll Your Own solution using REXX & ISPF services

PC Tools for Dinosaurs



A personal computer is a necessary evil for most of us. A few good tools can help make it more useful.

If you say Java again I'm going to puke.

-Dave Winer

Book Explorer



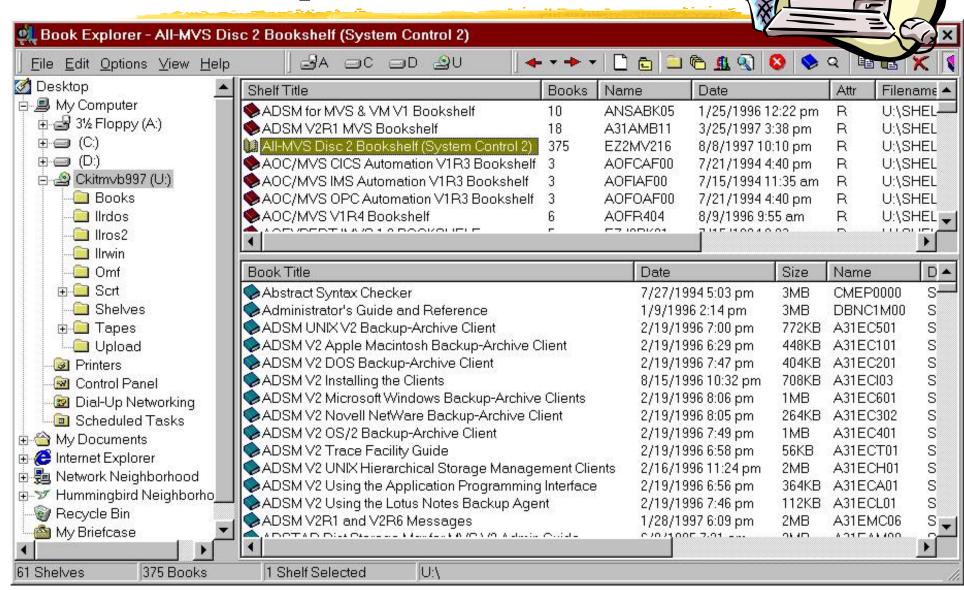
John Moore's has produced a nifty add-on for IBM Reader software that allows you to open books quickly on any drive. Book Explorer is easy to use, makes life with Library Reader better and is so small and efficient the download is only 700k!

Get it here http://bookex.users1.50megs.com/

Book Explorer provides a Windows Explorer-like interface for browsing and managing IBM BookManager shelves and books. It works with BookManager Read for Windows and Library Reader for Windows.

- Copy Shelves, Books
- Now supports .PDF Books
- It's on the CBT CD# 8

Book Explorer



Quick Picks PC Tools



VNC - Virtual Network Computing

- Free remote control software from AT&T
- http://www.uk.research.att.com/vnc/

LDAP Browser/Editor

- User-friendly Windows Explorer-like interface to LDAP directories with tightly integrated browsing and editing capabilities. It is entirely written in Java
- Often recommend on MVS-OE list
- http://www-unix.mcs.anl.gov/~gawor/ldap/

Quick Picks PC Tools



THE - The Hessling Editor

- XEDIT like with more ISPF features being added
- Open Source, Freeware
- http://www.lightlink.com/hessling/

Other TN3270 clients (shareware, not Free)

- Vista http://www.tombrennansoftware.com
- QWS3270 Plus http://www.jollygiant.com/
- TN3270 Plus SDI http://sdisw.com.au/

Anything but Windows



Why?

Network Tools, Professional Growth, just for fun

Linux

- IBM resources http://www.ibm.com/linux
- Information Centralized http://www.linuxdoc.org/
- I often buy mine here http://www.cheapbytes.com

BSD

- OpenBSD http://www.openbsd.org
- It's UNIX-like very UNIX-like and secure too

A better file browser



ISPF Browse and Edit sometimes need a little help.

What we see depends on mainly what we look for.

-John Lubbock

REVIEW

Now supports HFS files!

- REVIEW is a Quick Viewer for almost any type of data on OS/390 including PKZIP and even some graphic formats
- REVIEW provides optionally formatted displays for SMF, LOGREC, VTOC, and more



- REVIEW is a TSO command processor and does not need ISPF
- REVIEW source code is in CBT Tape File 134 and a ready to use load module is in CBT Tape File 135. Greg Price regularly updates REVIEW and has a great collection of other useful tools as well which can be found in the same files.

REVIEW a volumes VVDS



SYS1	.VVDS.VUS	ER05 ON US	ER05				LINE 1 CO	L 1 80			
COMM	IAND ===>						SCROLL ==	=> CS			
1	10	20	30	40	50	60	70	80			
++	+	+	+	+	+	+	+	++			
.8V	VCR		CATALOG.LS	C.AUX							
	ZSYS	1.VVDS.VUS	ER05 .SYS1	.VVDS.VUSE	R05SYS1	.VVDS.VUSE	R05 0.				
.1.~Ç)NVP	LV012.TDVR	AZ.VNVGCNTI	L.INDEXN	VPLV012.TD	VRAZ.VNVGC	NTLCATAL	OG.TSO			
.\$2	.\$ZSYS1.IODF84.WORKSYS1.IODF84.WORK.CLUSTERCATALOG.S39024.MASTER.SYS										
.hç)INF	O.V3.DICT.	INDEXINFO	O.V3.DICT.	.CATALOG.V	TSOPAK.INF	O.V3.DICT.				
.j.ւ)INF	O.V3.RPANE	LS.INDEX	INFO.V3.RP	ANELSCAT	ALOG.VTSOP	AK.INFO.V3	.RPANE			
.?Z	SYS	1.IODF82.W	ORKSYS1.	IODF82.WOR	K.CLUSTER.	.CATALOG.S	39013.MAST	ER.SYS			
2	TMO	N.CICS322.	DFHXRCTL.DA	ATATMON.	CICS322.DF	HXRCTLCA	TALOG.VTSO	PAK.TM			
2	TMO	N.CICS322.	DFHXRMSG.DA	ATATMON.	CICS322.DF	HXRMSGCA	TALOG.VTSO	PAK.TM			

Update IKJSTO00 to make REVIEW authorized and it can quickly examine a VVDS instead of running Batch IDCAMS PRINT

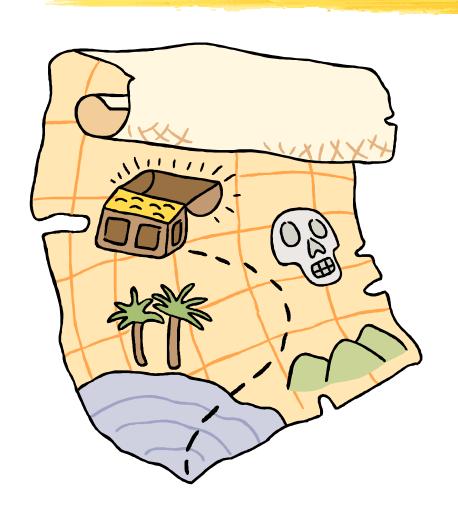
REVIEW on-line SMF data



SYS	SYS1.PROD.MAN2 ON S3906R 180										
CON	MMAND ===	>						SCROLI	_ ===> CS		
1	10	20)	30	40	50	60	70	80		
+	-+	+	+	+	-+	+	++-	++	+		
75	14:45:01	00.063	PROD	RMF 143E	PAGE. VPAG	GE12.PROD	.LOCA	1.1io/s	6.0xfr/s		
78	14:45:01	00.063	PROD	RMF	subtype	2					
15	14:45:01	00.063	PROD	CSSJW	CSSJW.PS9	932G.INS	TLIB B=6	320	1 LS0022		
77	14:45:01	00.063	PROD	RMF	subtype	1					
72	14:45:01	00.063	PROD	RMF pg 0	1167srv/	'sec					
72	14:45:01	00.063	PROD	RMF pg20	618srv/	'sec 12:	9srv/sec	347srv/s	ec		
302	214:45:06	00.063	PROD	RMF	STC04053	IEFPROC	CPU-00:00	:02 I/O	2		
14	14:45:09	00.063	PROD	CSSJW	CSSJW.PSS	932G.INS	TLIB B=6	320	3 LS0022		
302	214:45:10	00.063	PROD	FARLG	TSU04109	\$TSFACCS	CPU-00:00	:05 I/O	1027		
80	14:45:12	00.063	PROD	CSABS	CSABS	TSOHOLD	TPXGR244				
620	14:45:45	00.063	PROD	CSSJK	SYS1.PROD	MAN1			S3906R		

REVIEW formats useful SMF information for a quick review of recent past

System Information Tools



Several tools provide so much information they let you quickly map out an OS/390 system.

SHOWMVS

- One Stop shopping for system configuration information.
 The format allows you to quickly review everything on-line or in Batch.
- CBT Tape file 183 or GSF Web Site <u>http://members.home.net/gsf/</u>
- The Source code for SHOWMVS can teach you a lot! STRING macro is EXCELLENT formatting tool for assembler programs.
- Sample output on Gilbert's Web Site
- SHOWMVS public release of development version 6.27 by Roland Schiradin on CBT Tape file 492



SHOWMVS (Short)



Operating System:

OS/390 02.06.00 CVTOSLVL: FF FF F0 00 00 00 00

DFSMS/MVS 1.4.0 Dynamic Linklist is supported

Dynamic LPA is available

DFSMS Loader Fork Exit is present

JES2 Level: OS 2.5.0 NJE Node: JES2MVS DSNID: 01

Last IPL:

Date: Monday 2000-02-07 (25 days ago) Time: 19.23 Julian:

2000.038

From: S3906R/1209 NUC Id: 1 Type: Cold Start CVTUSER: 00000000

SYSPLEX name: DEVL52 SYSPLEX ID: OD OpenMVS available: YES

Timezone: W 05.00.00

SHOWMVS



SHOWMVS displays two different types of data:

- Data related to the MVS operating system
 - Operating System Release and status, Subsystems, XCF, GRS, DAE, DASD, Linkage Index (LX) Table, more...
- Data related to the current address space
 - TCB Tree, TSO Information, REXX Environment, more..

SHOWMVS can be invoked as a program, as a TSO command, or as an edit macro and can run authorized or non-authorized. Some of the displays are only produced when SHOWMVS runs authorized.

SHOWMVS many displays!

MVS LEVEL, DFP LEVEL, OSLVL FLAGS, JES2 LEVEL IPL DATE, TIME, VOLSER, NUC-ID, CLPA, CVTUSER Date and time of last CLPA (auth) Time Zone, Primary sub-system name and type Software Level: TSO/E, ISPF, DSS, HSM, RACF, VTAM, SORT, DSF, DB2, CICS, MQ Series Run-time Environments (CBL, PLI, FORTRAN, C/370, LE) SMF Information: SID, JWT, data sets, exits SMS Configuration: SCDS, system names, last update GRS Configuration XCF Configuration (auth) PATH data Coupling Facility Data External Time Reference (ETR) Hardware configuration Central Processing Complex Node Description (CPC ND) On-line CPUs and storage Performance (SU/sec, estimated MIPS) Service Processor data I/O configuration Definition (IODF) LPAR configuration VM host information (auth) VIRTUAL STORAGE MAP (CSA, SQA, LPA, etc) SRM data (IPS/ICS/OPT, APG, etc) WLM data (MODE, ETC) Resource Recovery Manager (RRS) Automatic Restart Manager (ARM) OPEN catalogs PAGE data sets in use Dump data sets status and dump options Dump data sets date, time and title (auth) Automatically-allocated dump data sets (auth) DAE Parameters (auth) GTF status and options Initialization Parameters (IPA) Master JCL (IEEMSJCL) Sub-system vector table with functions processed Primary Sub-system JCL (auth) TSO PARMLIB data (IKJTSOxx) TSO Exits and Tables TCAS parameters (auth)

RACF options, data sets and tables Address space usage: Batch Jobs TSO users Started tasks JES2 Initiators and corresponding jobs Link-list data sets, with creation date LPA-list data sets, with creation date List of authorized libraries Dynamic Exit Facility Static system symbols LLA parameters and managed libraries (auth) ACTIVE LPA QUEUE SVC Table with name of the corresponding module T1, T2, T3 and T6 ESR tables Linkage Index (LX) Table (auth) Program Properties Table (PPT) (auth) I/O Appendage Table Resource Manager List (IEAVTRML) Device Classes and corresponding unit names On-line devices, with unit-name, VOLSER, owning j ob, use attribute, storage group System consoles, with status & Routcde list Message Processing Facility (MPF) Command Prefix Table (CPFT) Device Allocation Defaults (ALLOCxx) Addresses of selected global control blocks JCL information for current JOB/STEP RACF profile (from ACEE) TSO profile (from PSCB & UPT) REXX environments, host cmd tables and func pkg directories Allocated Data sets (from TIOT, SWA, TCT) TCB tree and PRB chain Attention Routines Enhanced view of the JPAQ and Load-lists Recovery exits and timers

Addresses of selected local control blocks



MXI

- MXI (MVS eXtended Information) is an ISPF-based application that enables the MVS Systems Programmer to display important configuration information about the active MVS system.
- Although primarily used online, MXI can be run in batch and also has a REXX interface.
- Most of the displays can be filtered using ISPF-like masking characters and many display fields are 'point-and-shoot'.
- Some displays only available if MXI is authorized
- MXI is very easy to install OCO

Where to get it?

CBT Tape Files 409, 410 (Rob also has MORE utilities on file 411) or

SEC web site at

http://www.secltd.co.uk

MXI Options screen 1 of 2



MXI - SYSA - MVS Extended Information Primary Option Menu ----- Row 1 of 39 Command ===> Scroll ===> PAGE

AGRP	SMS Aggregate Group Information	MPF	MPF Information
APF	APF List Dataset Information	NTOK	System Name/Token Information
ASID	Address Space Usage Information	NUC	Display System Nucleus Modules
CAT	Catalog Information	PAGE	Page Dataset Information
CA1	CA-1 Configuration Information	PARM	Active PARMLIB Information
CDE	JPAQ and TCB loaded modules	PC	PC Routine Information
CF	Coupling Facility Information	PEEK	Show ISPF Screens
CHP	Online Channel Paths	PLEX	Display Sysplex Information
CPF	Command Prefix Table	PPT	Program Properties Information
CPU	CPU and LPAR Information	RS	Real Storage Usage Information
CS	Common Storage Usage	SCLS	SMS Storage Class Information
CSR	Common Storage Remaining	SGRP	SMS Storage Group Information
DA	Active Address Space Information	SMF	SMF General Information
DASD	Online DASD Information	SMFD	SMF Dataset Information
DCLS	SMS Data Class Information	SMS	SMS Configuration Information
DDNS	Allocated Dataset Information	SMSM	SMS Module Map
DSP	Dataspace Information	SP	Common Storage Subpool Usage
DYNX	Dynamic Exit Information	SPD	Subpool Definitions
EDT	Display EDT Information	SSI	Subsystem Information

MXI Options screen 2 of 2



MXI - SYSA - MVS Extended Information Primary Option Menu ----- Row 20 of 39 Command ===> Scroll ===> PAGE

ENQ Display ENQ Information

ENQC Display ENQ Contention

EXC System Exceptions

GRS GRS Resource Name Lists

HSMQ HSM Request Queue Information

INIT JES2 Initiators

IPL IPL and Load Information

LINK Linklist Dataset Information

LLS Linklist Set Information

LLSU Linklist Set Usage Information

LPA LPA List Dataset Information

LPD Link Pack Directory Entries

MAKE Change Address Space

MCLS SMS Management Class Information

MDQ Memory Delete Queue

MEM Display Memory

SRVC WLM Service Class Information

STOR System Storage Information

SVC SVC Information

SYM System Symbols

SYSX System Exit Information

TAPE Online TAPE Information

TCB TCB and RB Information

UCB UCB Information

UIC UIC Information

USP User Subpool Information

VMAP Display Virtual Storage Map

WLM WLM Policy Information

WTOR Outstanding Operator Replies

XCFM Display XCF Members

XCFS Display XCF Structures

XM Cross Memory Connections

MXI Version 3.1b

(c) Scott Enterprise Consultancy Ltd

MXI Allocated Dataset Info

```
MXI - PROD - Allocated Dataset Information: JES2 ----- Row 1 of 13 Command ===> PAGE
```

DD	Cat		Volume	EXCP	Dataset
Name	Seq	Unit	Serial	Count	Name
STEPLIB	+00	1209	S3906R	0	SYS1.V2R5M0.SHASLINK
PROC00	+00	122A	S3906T	460	SYS4.PROD.PROCLIB
PROC00	+01	1209	S3906R	14	SYS1.PROCLIB
PROC00	+02	1209	S3906R	0	CPAC.PROCLIB
PROC00	+03	1209	S3906R	0	SYS1.IBM.PROCLIB
PROC02	+00	1C4B	CATPAK	288	SYS1.PRODPK.PROCLIB
PRT1	+00	050F		0	SYS00062.T090946.RA000.JES2.R0116242
ALTPARM	+00	1209	S3906R	0	SYS1.PROD.PARMLIB.NEW
SYS00001	+00	122A	S3906T	192747	SYS1.PROD.HASPCKPT
\$SPOOL1	+00	141A	SPOOL1	0	SYS1.PROD.HASPACE

- Peek into other ASID(s) and look at I/O same as OEM MVS Monitors
- Displays the current allocated DDNAMEs and their associated data sets.
- Command Syntax DDNS dd-mask JOB(jobname) ASID(asid)

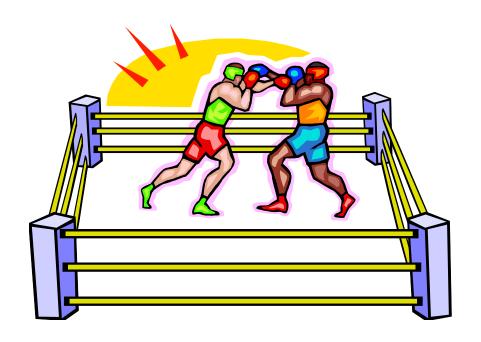
MXI Common Storage Usage

Active	JES2	Job Sta	arted		-Storage Al	located	
Jobname	JobID	Date	Time	CSA	E-CSA	SQA	E-SQA
TOTAL				326080	26169032	369752	7806880
MASTER		2000/02/07	19.25.27	94792	841704	55656	907208
SYSTEM				62520	10851000	259552	4662408
DSN6MSTR	STC09981	2000/02/07	19.25.57	32704	1534800	896	4848
RACF		2000/02/07	19.25.27	31912	51776	64	416
JES2				27992	3270120	64	1584
CPTCECSM	STC09970	2000/02/07	19.25.53	12952	132624	4072	768
CPTMVTAM	STC09972	2000/02/07	19.25.53	11144	175184	4616	384
NET	STC09945	2000/02/07	19.25.25	9976	3124488	0	352
CATALOG				8464	32144	2816	41904
TPX	STC03114	2000/02/12	18.05.47	7056	22840	9664	352

- Uses IBM Common Storage Tracking Data (PARMLIB DIAGxx)
- Same information as RMF III and OEM MVS Monitors

SHOWMVS vs. MXI





- Different but both have unique strengths. I use both!
- Both are updated frequently so stay current to have access to the latest features and information specific to the most recent OS/390 releases.

TASID System Information and more

TASID (pronounced tas-eye-dee) is a program that provides, among other things, information on system configuration, what is running on an OS/390 system (jobs, users, tasks, etc), ENQ contention information, current ENQs, Initiator information (JES2 only), DASD Space information, Allocated DD names, and storage displays. It is one of the most requested tools available on IBM's internal MVSTOOLS repository. It is a free tool supplied by IBM in OCO format.

- ISRDDN now includes many featured first seen in TASID
- TASID is very easy to install and is never APF authorized

The most current copy of TASID and many other useful Tools and Toys from Doug Nadel are always available through the web at

http://www.mindspring.com/~somebody/

TASID

File Navigate Settings

TASID option menu

Limited ENQ data

More:

Version 5.06c

Option ===>

Select one of the following options:

1 - Address space list 5 - Miscellaneous displays

2 - System ENQ contention 6 - Current dataset allocations

3 - Total system ENQ status 7 - Storage View Facility

4 - Initiator Status List 8 - Snapshot

Current time 15:40 on 2000/03/07 TSO users 47 Last IPL time 19:23 on 2000/02/07 | Started tasks 34 IPL Parameters 1C4B PT Jobs System addrs 25 OS/390 02.06.00 JES version JES2 SMF ID PROD JES level 2.5.0 Free initiators 9 User ID CSSJK RACF level 2.6.0 Node JES2MVS TSO version 2.6.0 Total 118 VTAM Adr TPXGR206 VTAM Level 4.5 Proc \$SJKTEST DFSMS level 1.4.0 CPU utilization 27% Region 255000K DSS Level 1.4.0 | CPU 9672-R44 (2 CPUs) RACF Grp TSOHOLD DSF level 1.16. ENO Contention None

(c) Copyright IBM Corp, 1993, 1998. All Rights Reserved.

TASID Current Dataset Allocations



- Compares to PDS LISTA screen but with less commands
- Detects common problem of mixed DSORG(s) under one ddname
- Provides a few basic commands to Browse, Edit, Compress, Free or perform some other simple functions with data sets already allocated to your session
- APF, LINK LIST, and LPA LIST libraries can can be added to this list by command
- Data sets can be searched for members and the search can be restricted to a ddname

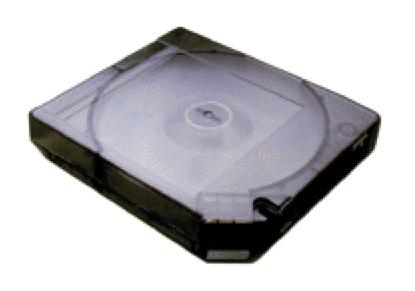
Cu Command ===>				nt Datase	t Allocations Line 6 of 115 Scroll ===> CSR
6144	80 U 80 U ** U	PO PO PO	> > >	DDname ISPLLIB	Data set Name (Line commands: E,B,C,F,V,I,Q) CSSJK.LOAD LSC.TOOLS.ISPLLIB EOY.SEOYLPA
32760 6320 8800	** U 80 FB 80 FB	PO	> > >	ISPMLIB	SYS1.SCBDHENU CSSJK.ISPF.PANELS ISP.SISPMENU

TASID can be run in Batch



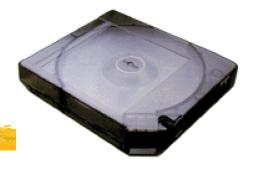
```
//TSO EXEC PGM=IKJEFT01, DYNAMNBR=1600
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//ISPLIST
           DD DUMMY
//ISPLOG DD DUMMY
//ISPPLIB
           DD DISP=SHR, DSN=ISP.SISPPENU
//ISPSLIB DD DISP=SHR, DSN=ISP.SISPSENU
//ISPTLIB DD DISP=SHR, DSN=ISP.SISPTENU
//ISPMLIB
           DD DISP=SHR, DSN=ISP.SISPMENU
//ISPPROF
           DD DSN=&&PROF,
       DISP=(NEW, DELETE, DELETE),
// UNIT=SYSALLDA, LRECL=80, RECFM=FB, DSORG=PO,
       SPACE=(TRK, (5,1,5))
//SYSTSIN
          DD *
PROFILE NOPREFIX
PROFILE MSGID
ISPSTART PGM(TASID) PARM(8)
```

Tools for working with TAPE(s)



- Duplicate
- Examine Data
- Map Contents
- File Manipulation

TAPEMAP



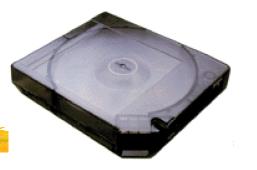
The tape mapping program called TAPEMAP supplied as source on file 299 of the CBT tape, is widely used. It includes special support for mapping the CBT Tape and other common file formats. *64k blocksize supported*

Does not require BLP but BLP allows you to analyze a volume without changes to JCL or any prior knowledge of that tape volume.

Leonard Woren's web page http://www.best.com/~ldw/mvs

has his original version of TAPEMAP. oco

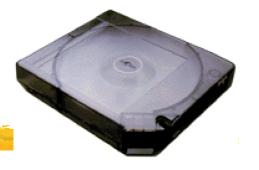
TAPEMAP sample output



1VOL=OS360S		CART	ANALYSIS	PROGRAM	(T A P	EMA	P) V2.	1	TUES	SDAY	NOV	03, 1	998	(98.307)	14:14:03
RELOAD FILI FORMAT SEQ		PSW AME REQ	D D C-DATE	E-DATE	INFO SOURCE	RECFM	LRECL	BLOCK SIZE	BLOCK COUNT	DEN	TRT	LNTH (FT)	TOTL LNTH		STEPNAME
	0360S001		98.012	00.000		VB V	94	32716 32716		N/A N/A		8	8	SBGOLOB	5/STEPYYY
	0360S002		98.012	00.000	LABELS SCAN	VB V	94	32716 32716		N/A N/A		8	17	SBGOLOB	5/STEPYYY
CBT973 8	3 0360S003 3		98.012	00.000	LABELS SCAN	VB V	94	32716 32714		N/A N/A		2	19	SBGOLOB	S/STEPYYY
EOV *** ONOTE: LENGTH(S) ARE COMPUTED, (BASED ON BLKSIZE, BLKCOUNT, AND DENSITY), AND ARE THEREFORE ONLY APPROXIMATE. 1VOL=OS360S CART ANALYSIS PROGRAM (T A P E M A P) V2.1 TUESDAY NOV 03, 1998 (98.307) 14:14:03															
-0360S001	•	0001) IS A CB		RESSED FI	LE: A-	ADD	C-CHANGE	R-REI	PLACE	> = S	UBORDI	NATE	NAME		
0		MEMBERS UNLO													
0	A-IEMAA		A-IEMAC	A-IEMAD			A-IEMAG			A-IEM		A-IEM		A-IEMAK	
	A-IEMAL		A-IEMAN	A-IEMAP			A-IEMAT	A-II		A-IEM		A-IEM		A-IEMBF	
	A-IEMBG		A-IEMBJ	A-IEMBM			A-IEMBO	A-II		A-IEM		A-IEM		A-IEMBT	
	A-IEMBU		A-IEMBW	A-IEMBX			A-IEMCC	A-II		A-IEM		A-IEM		A-IEMCK	
	A-IEMCL		A-IEMCN	A-IEMCO			A-IEMCR	A-II		A-IEM		A-IEM		A-IEMCW	
	A-IEMED	A-IEMEF	A-IEMEG	A-IEMEH	A-IE	MET	A-IEMEJ	A-11	EMEK	A-IEM	┖ഥ	A-IEM	FIM		







The tape copying program called "COPYMODS" on file 229 of the CBT tape, is useful for making byte-for-byte copies of the CBT tape, and other tapes. Up to 10 copies may be made at one time.

COPYMODS is very reliable and is the recommended program for making copies of the CBT Tape.

Normal use requires BLP privileges.

Updated by Sam Golob for 64k blocks and serious tape label manipulation!

COPYMODS JCL



```
//*
//* COPYMODS IS A FREEWARE TAPE COPIER WHICH CAN CREATE
//* MULTIPLE COPIES OF A TAPE IN A SINGLE PASS. IT CAN USE
//* UNLIKE DRIVES FOR INPUT AND OUTPUT E.G. 3480 <<-->> 3490
//*
//* WARNING!!!! THIS WILL OVERWRITE ANYTHING YOU PUT IN THE
//* OUTPUT DRIVE.
//*
//COPY EXEC PGM=COPYMODS, REGION=6M
//STEPLIB DD DISP=SHR, DSN=IBMUSER.LOAD
//SYSPRINT DD SYSOUT=*
//IN DD DSN=IBMUSER.INPUT.TAPE, DISP=OLD, LABEL=(,BLP), UNIT=3490,
     VOL=SER=INPUT
//OUT1 DD DSN=IBMUSER.WRITE.TAPE1,UNIT=3480,VOL=SER=OUTPU1,
// LABEL=(,BLP,EXPDT=98000),DCB=TRTCH=COMP
//OUT2 DD DSN=IBMUSER.WRITE.TAPE2,UNIT=3480,VOL=SER=OUTPU2,
// LABEL=(,BLP,EXPDT=98000),DCB=TRTCH=COMP
```

TAPESCAN

Tape Analysis and Copying Program

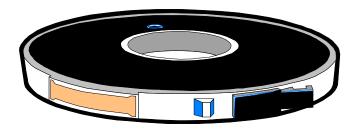


TAPESCAN is found on CBT Tape File 102 with a load module on File 035.

Provides useful measure of "Total Bytes Read"

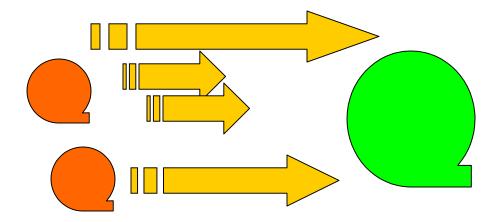
Map of contents

LIST parameter includes preview of each file in output



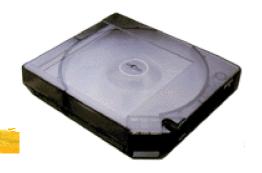
COPYFILE





- Copy and reorder files
- Used as part of the process to create a new CBT Tape
- Found on CBT Tape File 316 in source and a load module on CBT Tape File 35

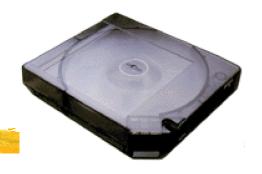
CBT Tapes



- CBT Tape on 3480 tape cartridge w/ IDRC
- Unload File 1 using IEBGENER for documentation on the contents and advice on getting started finding useful tools on the tape.
- Visit http://www.cbttape.org for updates and other goodies
- Updated frequently

CBT Tape Version 437 July - 12 - 2001 available here today!

Getting started with CBT Tape



JCL to unload File 1 (Documentation) or File 3 (Unload JCL)

```
//COPY EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSUT1 DD DSN=FX,DISP=OLD,UNIT=uuuu,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=32720),
// VOL=SER=CBT432,LABEL=(n,NL,EXPDT=98000)
//SYSUT2 DD DSN=userid.CBT432.FILEn,
// DISP=(NEW,CATLG,DELETE),UNIT=SYSDA,VOL=SER=VVVVVV,
// SPACE=(TRK,(5,5),RLSE),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=6320)
//SYSIN DD DUMMY
```

 Explore File 1 possibly use CBTUPDTE program to break it up into a PDS of smaller members

Web Tour



"Using the Internet today is like trying to use a library where all the books have been dumped on the floor and the lights turned out." A.J. Vendeland, in Review of The Software Publishers Association Europe Conference, Conference Analysis June 28, 1996

One starting place http://www.cbttape.org/links.phtml

Web Tour





http://www.sdsusa.com/techsupt/tsmag.htm

Free Archives with 13 years of NaSPA's Technical Support® Magazine

http://www.naspa.net is home site for NaSPA



http://www.esj.com

Free access to current and back issues of Enterprise Systems
Journal. Subscribe Free to the printed magazine on-line. Reduced MVS content in recent issues.

Web Tour



http://dmoz.org/Computers/Software/Operating_Systems/OS-390/



dmoz Open Directory Project is the largest, most comprehensive human-edited directory of the Web



http://www.xephon.com

Free backs issues of Xephon MVS, DB2, RACF, CICS, and other Update publications from prior to 1998

Web Tour - IBM Redbooks

IBM has released a new Redbook series entitled the

"ABC's of Systems Programming" and is a

"five-volume set that is designed to introduce the structure of an OS/390 and S/390 operating environment. The set will help you install, tailor, and configure an OS/390 operating system, and is intended for system programmers who are new to an OS/390 environment."

Check out **IBM Redbooks** at http://ibm.com/redbooks or:

- •Volume 1 http://www.redbooks.ibm.com/abstracts/sg245597.html
- •Volume 2 http://www.redbooks.ibm.com/abstracts/sg245852.html
- •Volume 3 http://www.redbooks.ibm.com/abstracts/sg245853.html
- •Volume 4 http://www.redbooks.ibm.com/abstracts/sg245654.html
- •Volume 5 http://www.redbooks.ibm.com/abstracts/sg245655.html

On-Line Computer Dictionaries



• Terminology

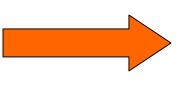
http://www.ibm.com/ibm/terminology/



Free On-Line Dictionary of Computing

http://www.foldoc.org

This standard one is handy and no pop-up ads!



http://www.m-w.com

Freeware Formats and Sources

- Many traditional distribution channels for the exchange for free software are no longer being maintained.
- Free software updates now must also be obtained from the Internet.
- Formats for software delivery on the Internet vary from those which long time users of S/390 free software may be familiar.

Internet Formats



- ZIP
- ZIP is standard for compression in most of the non-unix world
- Commercial ZIP utilities on PC such as PKZIP http://www.pkware.com or WinZIP http://www.winzip.com
- Info-ZIP is a freeware utility available at http://www.cdrom.com/pub/infozip/Zip.html for a large number of platforms including native OS/390 and OS/390 USS
- XMIT
- Using the TSO XMIT command is a convenient way to package data into standard FB records for safe transmission of the internet
- XMIT + ZIP
- XMIT packaged data sets which are then compressed with a ZIP utility such as PKZIP work especially well and are becoming a popular choice to distribute MVS software over the internet
- ASCII vs. EBCIDIC

How to download and restore XMIT + ZIP



Frequently files are packaged on MVS for transfer using the TSO transmit (XMIT) command to transmit them into a data set. This is done to turn PDS(s) and other odd files into nice FB 80 files which will FTP nicely to PC and UNIX systems. These files are downloaded to a PC and then compressed with PKZIP to reduce the size since disk space is limited and most people have limited bandwidth to download. The convention of files suffixed .XMI packaged in XMIT format is becoming common.

Download <u>name.ZIP</u> file to PC as using your web browser or an FTP client.

How to download and restore XMIT + ZIP



Extract <u>name.XMI</u> or <u>name.DAT</u> file from <u>name.ZIP</u> file on PC . You will need a small utility program to do this.

Commercial Unzipping programs like PKZip from Pkware http://www.pkware.com and WinZip from NicoMac http://www.winzip.com are excellent tools.

Freeware Unzipping programs are almost as good and many can be found be searching PC Freeware web sites such as NoNags http://www.nonags.com.

For Windows EnZip is a good one you can download from http://www.cpam.freeserve.co.uk

How to download and restore XMIT + ZIP



Upload <u>name.XMI</u> files to MVS using a binary file transfer method (no CRLF or ASCII translation) and that the MVS dataset created is LRECL=80,RECFM=F,DSORG=PS Note that you can upload into a PDS if you want as long as it is FB80.

Receive the <u>name.XMI</u> file on MVS

Issue command: TSO RECEIVE INDATASET(<u>name.XMI</u>)

When prompted by message "INMR906A Enter restore parameters or 'DELETE' or 'END' +":

Enter: DA(name.of.your.library) UNIT(unit) VOLUME(volume)

Note: The UNIT() and VOLUME() operands are optional but shown in case your installation puts RECEIVE files on work packs by default like mine does

Trouble Downloading



- If you are having trouble downloading try to find out if you are behind a firewall. If you are behind a firewall and you cannot get your network folks to configure it to allow you to download using a web browser try getting an FTP client like the free Blue Zone FTP or WS_FTP that has a few firewall friendly options (PASV mode) that might help. Failing that download from home and email yourself the files or bring them in on a floppy as most are not that large.
- More hints at http://www.cbttape.org/download%20trouble.htm

Xmit Manager

What is Xmit Manager?

Xmit Manager is a Free Windows based utility which decodes IBM Mainframe based Xmit files and allows for viewing or extraction of the content data.

Supports PDS, SEQ content, FTP to MVS or Internet, Zipped files. Written by Neal Johnston-Ward

It is on the CBT CD & Web Site too!

Xmit Manager Home Page

http://www.data-aid.co.uk

PDS Magician!

Patrick Allmond's freeware utility allows you to examine the contents of a TSO/E XMIT file on your Windows PC.

- Download it from http://www.atbsconsulting.com/magician.htm
- Written in Visual Basic
- First public release February 2000
- Future enhancements will follow

You may also be interested in David Alcock's "UnXMIT Information Page" at

http://www.planetmvs.com/UnXMIT/index.html



Hercules - What is it?

- Hercules is a System/370, ESA/390 and z/Architecture emulator which can IPL and execute most of the instructions defined for these architectures. It can also emulate CKD and FBA DASD, printer, card reader, tape, channel-to-channel adapter, and local non-SNA 3270 devices.
- Currently runs under Linux or Windows experimental ports for other platforms
- Capable of running MVS/ESA, OS/390, VM/ESA, VSE/ESA and older Operating Systems such as MVT, MVS 3.8 and VM/370
- Refer to Session 2880 & 2881 in the proceeding
- Included on the CBT CD or download from the Internet

Hercules Home Page

http://www.conmicro.cx/hercules



Hercules - Where to get it?



Active User Community on Yahoo.

http://groups.yahoo.com/group/hercules-390

- Post message: hercules-390@yahoogroups.com
- Subscribe: hercules-390-subscribe@yahoogroups.com
- Unsubscribe: hercules-390-unsubscribe@yahoogroups.com
- List owner: hercules-390-owner@yahoogroups.com

New Users Documentation Effort for Hercules http://www.kiyoinc.com/hercdoc.html

My Hercules links at: http://www.cbttape.org/links.phtml#Hercules

Hercules - Turnkey CD



You are getting TWO CD-ROM(s) today! One of them is the Volker Bandke MVS Turnkey CD for Hercules Project.

It is a new MVS distribution (Revised June 2001) available for the Hercules world created by Volker Bandke. This distribution builds a useable system, complete with lots of spool and page space, all the CBT PDS data sets available as cataloged PDS files on 3350 disks, e few TSO command processors, RPF, etc.

This distribution is a turnkey system. You insert the CDROM, run setup, answer a few questions, and you have a fully functional MVS system on your hard disk. The system runs mostly off the CD-ROM, and takes about 30 MB of disk space on your hard disk. Installation is usually a matter of a few minutes.

http://www.bsp-gmbh.com/hercules

Where to get FREE software?

CBT Tape Home Page http://www.cbttape.org

- Download CBT Tape, CBT Overflow Tape, Pending updates to the CBT tape and other freeware collections. The files are stored primarily as XMIT + ZIP and when restored properly preserve all the original MVS attributes. No special user id's or memberships are required to download or to upload contributions.
- Free email list you can sign up for to receive notifications about updates to the CBT Tape and other interesting MVS Freeware.

Where to get FREE software?

NaSPA - http://www.naspa.net

 Membership in NaSPA is required to access the download area. NaSPA members receive a CD-ROM annually which normally includes the current CBT Tape when the CD-ROM is prepared.



Freeware Potpourri

- IMPORTANT
- This list is a subset of the on-line list of MVS Freeware links at: http://www.cbttape.org/links.phtml
- Gilbert Saint-Flour's Tools http://members.home.net/gsf/
- Dave's MVS page http://planetmvs.com
- IBM TASID http://somebody.home.mindspring.com
- Mike Cleary http://home.pacbell.net/mcleary/freeware.html
- Mark Zelden's MVS Utilities <u>http://www.flash.net/~mzelden/mvsutil.html</u>
- Info-ZIP Home Page http://www.cdrom.com/pub/infozip/Zip.html
- Leonard Woren http://www.best.com/~ldw/mvs/

Freeware Potpourri (cont)

- Lionel Dyck's OS/390 Freeware including tools to make using FTP, Email easier, and ISPF OEM product installation less painful http://www.geocities.com/lbdyck
- Doug Nadel's OS/390 Tools and Toys including the latest version of TASID, Query Enq REXX function, ISRDDN documentation, much, much, more... http://www.mindspring.com/~somebody/tasid.htm
- David McRitchie's REXX Macros Toolbox Over 160 Edit Macros for use with ISPF and SPF/PC http://www.geocities.com/davemcritchie/rexx/nclist.htm
- Michael A. Newell's PDS2PDS (PDS to PDS) is an IBM MVS ISPF utility that lets you display the members of two partitioned datasets sideby-side on the same screen. http://wb4huc.home.texas.net/pds2pds/
- Jan Jaeger's S-390 System Utilities (ZZSA standalone editor, DASD tools) and other useful tools http://home-5.worldonline.nl/~jjaeger/

S/390 Information Potpourri

- Sam Knutson's S/390 Home Page <u>http://www.knutson.org/s390.htm</u>
- Eric Loriaux http://www.loriaux.com/s390
- IBM Home Page http://www.ibm.com
- Balbir Oberoi's http://www.geocities.com/~oberoi/mainfrme.html
- Washington System Center Flashes and documents http://www.ibm.com/support/techdocs/wsc
- Chuck Hopf http://www.chopf.com/geekland.shtml

S/390 Information Potpourri (cont)

- Rock Painter's Links and Rexx Examples http://www.texasrock.com
- IBM Catalog and VSAM Knowledge Base <u>http://knowledge.storage.ibm.com</u>
- David Elder-Vass MVS Systems Programming is now back in print through and partially on-line at http://www.mvsbook.fsnet.co.uk
- IBM S/390 Library http://www.s390.ibm.com/library

VM & VSE Sites of interest

VM Home Page is located at http://www.vm.ibm.com

The VM Workshop Tools at http://ukcc.uky.edu/~tools

WAVE User Group at http://www.wavv.org

VMESA-L Archives

http://listserv.uark.edu/archives/vmesa-l.html

VSE-L Home

http://www.lehigh.edu/~wsm0/vse-l/vse-l_archives.shtml

Melinda Varian's Page http://pucc.princeton.edu/~melinda (Paper VM and the VM Community: Past, Present, and Future, and more!)

What is a mailing list and how do I find mailing lists?

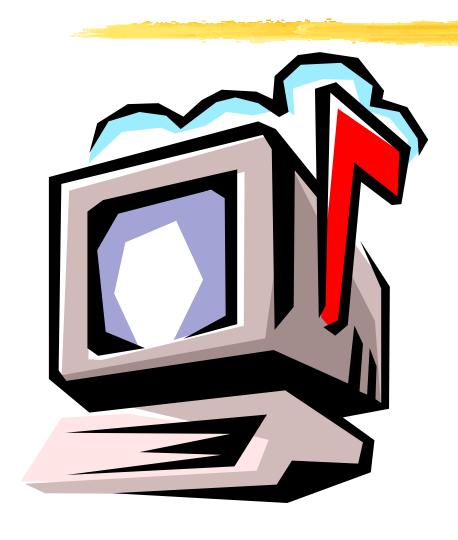
• A mailing list is a free service you subscribe to that allows you to exchange email with others on a topic of mutual interest. For more information check out popular resources like Internet For Dummies® ISBN: 0-7645-0700-1.

- There are several catalogs of lists available on the web.
 - My list http://www.knutson.org/internet.htm
 - Catalog of LISTSERV lists http://www.lsoft.com/lists/listref.html

A Reference for

 Catalog of many lists including some other list servers i.e. majodomo, listproc, and listserv. http://www.liszt.com

Mail Lists



"To sum it all up, SHARE is now 365

days a year rather than 4 times a year." Melinda Varian in "VM and VM Community: Past, Present, and Future" speaking about VMSHARE. VMSHARE is gone but lives on in spirit in the discussion groups which stretch across the globe using the Internet.

Mailing Lists

- Almost everyone knows how to send email so networking through email is a natural use for the Internet.
- A big part of networking is finding other people interested in the same things you are especially those who might be willing to help you. Mailing lists help people interested in the same thing exchange email.

What is a mailing list and how does it work?

- A mailing list works by allowing people to join the and then send a single email message that is relayed to all the list members. Responses to messages are also relayed to all list members.
- A list server program does the work of keeping track of list members and relaying the email messages. A real human being administers the list server and helps to resolve problems

Who runs a mailing list and Why?

- •A real human being can run a mailing list by hand but computers run most and those are the ones I am going to talk about.
- A mailing list is normally created to facilitate discussion related to a particular topic.

Will you give me an example?

- YES!
- The mailing list I am going to use for my examples is the IBM-MAIN mailing list.
- IBM-MAIN is the IBM Mainframe Discussion List and is a very active mailing list frequently getting more than 150 messages a day.

How does it work?

- There are two email addresses associated with a list server. The list server has an address to which you send commands which normally takes the form LISTSERV@list i.e. LISTSERV@BAMA.UA.EDU
- The list has an address that you use when you want to send a message to everyone who is a list member which normally takes the form listname@list i.e. IBM-MAIN@BAMA.UA.EDU

How do I join a mailing list?

 To join a LISTSERV mailing list you start by sending the list server an email message asking to be subscribed with the text "subscribe listname Joe User"

How do I join a mailing list?

 So to join the IBM-MAIN mailing list I send a message like this one:

To: LISTSERV@bama.ua.edu

From: Sam Knutson <sknutson@cbttape.org>

Subject: listserv

subscribe ibm-main Sam Knutson

How do I join a mailing list?

 The listserv sends back a message to the email address which is being signed-up and asks for confirmation that you want to be subscribed. This is a simple control to prevent someone from signing you up for email you don't want

How do I join a mailing list? Command confirmation request

Date: Wed, 17 Feb 1999 17:09:29 -0600

From: "L-Soft list server at U of A (1.8c)" <LISTSERV@BAMA.UA.EDU>

Subject: Command confirmation request (477D8A)

To: Sam Knutson <sknutson@CBTTAPE.ORG>

Your command:

SUBSCRIBE IBM-MAIN Sam Knutson

has been received. You must now reply to this message (as explained below) to complete your subscription. The purpose of this confirmation procedure is to check that the address LISTSERV is about to add to the list for your subscription is reachable. This is a typical procedure for high-volume lists and all new subscribers are subjected to it - you are not being singled out. Every effort has been made to make this verification as simple and painless as possible. Thanks in advance for your cooperation.

(CONTINUED ON NEXT PAGE)

How do I join a mailing list? Command confirmation request

To confirm the execution of your command, simply reply to the present message and type "ok" (without the quotes) as the text of your message. Just the word "ok" - do not retype the command. This procedure will work with any mail program that fully conforms to the Internet standards for electronic mail. If you receive an error message, try sending a new message to LISTSERV@BAMA.UA.EDU (without using the "reply" function - this is very important) and type "ok 477D8A" as the text of your message. Finally, your command will be cancelled automatically if you do not confirm it within 48h. After that time, you must start over and resend the command to get a new confirmation code. If you change your mind and decide that you do NOT want to confirm the command, simply discard the present message and let the command expire on its own.

What next?

 The listserv will wait for you to reply before actually putting you on in the mailing list. I do want to subscribe so I send back the message it directed me to.

To: LISTSERV@bama.ua.edu

From: Sam Knutson <sknutson@cbttape.org>

Subject: Re: Command confirmation request (477D8A)

ok

Joined at last!

The listserv will now send back two email messages. Any time you send the listserv a command it sends you a summary about the execution of that command. This is what I call the geek message i.e.

Welcome to the list

Date: Wed, 17 Feb 1999 17:11:21 -0600

 The welcome message is a lot more friendly and informative i.e.

```
From: "L-Soft list server at U of A (1.8c)"
<LISTSERV@BAMA.UA.EDU>
Subject: You are now subscribed to the IBM-MAIN list
To: Sam Knutson <sknutson@CBTTAPE.ORG>
Reply-To: IBM-MAIN-request@BAMA.UA.EDU

Wed, 17 Feb 1999 17:11:21
Your subscription to the IBM-MAIN list (IBM Mainframe Discussion List) has been accepted.
```

Please save this message for future reference

Digest



The IBM-MAIN list gets 100 - 200 messages each day. Digest delivers a days worth of messages concatenated in one large daily email.

To: LISTSERV@bama.ua.edu

From: Sam Knutson <sknutson@cbttape.org>

Subject: listserv

set ibm-main digest

\$HASP000 OK

The listserv once again sends me back a message showing that it executed my command and the resources used i.e.

Date: Thu, 18 Feb 1999 06:43:38 -0600

From: "L-Soft list server at U of A (1.8c)" <LISTSERV@BAMA.UA.EDU>

Subject: Output of your job "sknutson"

To: Sam Knutson <sknutson@CBTTAPE.ORG>

> set ibm-main digest

Your subscription options have been successfully updated. Here are the exact settings now in use for your subscription. Please take a few moments to check that this is indeed what you wanted.

Subscription options for Sam Knutson <sknutson@CBTTAPE.ORG>, list IBM-MAIN:

DIGEST You receive list digests, rather than individual postings

MIME You prefer to receive messages in MIME format

FULLHDR Full (normal) mail headers (formerly "FULLBSMTP")

NOREPRO You do not receive a copy of your own postings

NOACK No acknowledgement of successfully processed postings

Subscription date: 17 Feb 1999 Summary of resource utilization

CPU time: 0.010 sec

Overhead CPU: 0.010 sec

CPU model: Ultra-Enterprise (1024M)

Mail List Options

- I also followed up by sending another message to select the ACK and REPRO options since I like a "warm fuzzy" feeling that my posts went through. You can send multiple set commands in one email just put each on a new line.
- It is also a good idea to set the CONCEAL option for lists that support it.

IBM-MAIN

 You can also read and search on past messages on IBM-MAIN at the web archives without joining the list. This is a fabulous research tool easily as valuable as IBMLink even for those who do not care to follow the list antics on a daily basis.

http://bama.ua.edu/archives/ibm-main.html

Hold the mail I am taking a vacation

• If you want to temporarily halt email from IBM-MAIN you can use the SET NOMAIL command i.e.

To: LISTSERV@bama.ua.edu

From: yourname

Subject: listserv

set ibm-main nomail

Resume Delivery

 to reverse this you just send another message

To: LISTSERV@bama.ua.edu

From: yourname

Subject: listserv

set ibm-main mail

Posting

Just send an email to the list...

To: IBM-MAIN@bama.ua.edu

From: yourname

Subject: How do I enable SMS data set stripes?

.

Soon you may receive lots of helpful replies! A caveat is that once you stop lurking and decide to post you reveal your email address to everyone on the list and on UseNet (which is LOTS of people). You may receive unsolicited junk mail some of which may be offensive to you. This is often called SPAM. You can use services like HotMail or Juno to create throwaway accounts from which to post messages.



Searching Archives

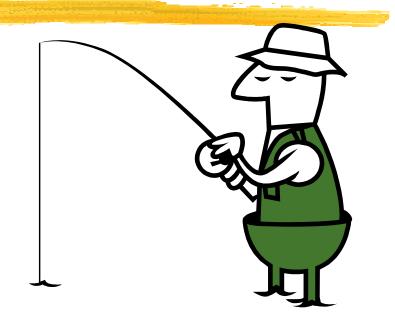
Just send an email to the LISTSERV

To: LISTSERV@bama.ua.edu

From: yourname

Subject: CMD

search ibm-main IEA602I



The reply with include snips of the postings and a set of GETPOST commands you can use to retrieve the full text of all the postings. For advanced options see the INFO-CARD described in the welcome message. The archives can also be searched from the web.

Stop the "email" I want to get off!

 If you decide you want to unsubscribe it's easy to do. Send the following

To: LISTSERV@bama.ua.edu

From: yourname

Subject: listserv

signoff ibm-main

Ms. Manners on "Netiquette"

- Mailing lists just like any other social organization have an etiquette all their own. You will pick it up pretty quickly but here are a few tips.
- A good web site dedicated to Net etiquette is http://www.etiquette.net which includes links to the complete on-line copy of book <u>Netiquette</u> by <u>Virginia</u> Shea



- DO read others posts for a week or two to get the flavor of the list before trying to post anything yourself. The list got along fine for years without your help it can get along for at least another week.
- DON'T ever send an attachment to the list.
- DON'T forward off-topic email like jokes or the latest hoax email chain letter to the list i.e. WARNING DO NOT OPEN ANY EMAIL WITH THE SUBJECT ______
- A good site for information on hoaxes is http://www.vmyths.com Also most of the major Anti-Virus sites provide some information on hoaxes.

Ms. Manners on "Netiquette"

- DON'T send commands for the LISTSERV to the list. Be sure you send SET xxxx, SIGNOFF xxxx to LISTSERV@listaddress
- DON'T respond to inappropriate messages i.e. listserv commands and all
 the others things you know better than to send to the list. The only thing
 worse than reading a useless post is reading a useless post and 20 replies.
 The list manager will take care of this type of thing if it is really a problem.
 If you absolutely have to say something respond to the person's private
 email not to the list.
- DO send PLAIN text email to the list not Rich Text or HTML. Many people
 use email programs which don't display this type of content and it appears
 as useless attachments or garbage to them. Microsoft Outlook and
 Microsoft Exchange are two programs which frequently send Rich Text mail
 without the send being aware.

Avoid HTML in e-mail

```
Smith<br/>br>Let me add to John's statement - it's difficult to "automagically"
<br/>br>convert from assembly language to anything, much less legible C.
Sut, since part of your goal was to run the 390 program on NT,
<br>perhaps you could use some of the execellent 390 emulators available
<br/>br>around today...&nbsp; that is, don't convert your program,
<br/>br>just "run it."
<br/>br>&nbsp;
    - John Smith-
<br/>br>&nbsp;
<-re>--&nbsp;
smith@biz.com         
sp;         
bsp;   Work: (555) 123-1234
Get your widget at <A HREF="http://www.biz.com">http://www.biz.com</A>
 </html>
```

Avoid Out of Office Reply to List

Your email message RE: "Re: Storage not released at end of JOB ..." addressed to John Smith has been successfully delivered.

John Smith is currently out of the office and will SOON return on 01/16/2000

Message: I am currently on an assignment in CSC Frankfurt, please mail me at jsmith2@biz.com

A copy of your email has been delegated to: jsmith2@biz.com;

This communication is for informational purposes only. It is not intended as an offer or solicitation for the purchase or sale of any financial instrument or as an official confirmation of any transaction, unless specifically agreed otherwise. All market prices, data and other information are not warranted as to completeness or accuracy and are subject to change without notice. Any comments or statements made herein do not necessarily reflect those of Biz Incorporated, its subsidiaries and affiliates.

Turn off WINMAIL.DAT in Microsoft Exchange

A good way to annoy people is to repeatedly fill their mailbox with the useless WINMAIL.DAT attachments that Microsoft Exchange insists on including. Email sent from Exchange to a non-Exchange mail reader may contain an Attachment called WINMAIL.DAT. If you use Exchange, you won't see this file, and the message will retain its formatting. However, it can be confusing for those who don't use Exchange (the majority of the Internet population), and have no use for this file. Here's how to turn it off:

Step #1: Double-click on the Mail and Fax icon in Control Panel. Click on the Services tab, and select Internet Mail from the list. If Internet Mail is not listed, click Add to add this service. Click Properties, and then Message Format. Turn off the option that reads Use MIME when sending messages. Click OK and then OK again.

Turn off WINMAIL.DAT in Microsoft Exchange II

Step #2:

Double-click on the name of each recipient in your Address Book. Turn off the option that reads Always send to this recipient in Microsoft rich-text format. This option needs to be set for each recipient of a message - if even one has this turned on, all recipients will still get the attachment.

Note: Either of these methods should work for most users, but sometimes nothing seems to work. If you plan to be sending lots of internet email, you might consider using a mail program such as Eudora. Information on the free Eudora Light and commercial Eudora Pro can be found at http://www.eudora.com

This information is based on a message from Wilson Smith which you can read at: http://www.xnet2.com/patti/archives/9608/msg00962.html

IBM-MAIN

Topic: IBM S/390 Computing almost anything

Name: IBM-MAIN Type: LISTSERV

Listserv: <u>LISTSERV@bama.ua.edu</u>

List: IBM-MAIN@bama.ua.edu

Web: http://bama.ua.edu/archives/ibm-main.html

News: <u>bit.listserv.ibm-main</u>

Weekday Message Volume: 100 - 200 (High consider setting

DIGEST option)

David Alcock's excellent Unofficial IBM-MAIN FAQ

More information: http://www.planetmvs.com/ibm-main/index.html

Sam Knutson's LISTSERV Page http://www.cbttape.org/internet.phtml and IBM-MAIN page http://www.cbttape.org/ibm-main.htm

 Notes: 20% - 40% off topic posts are not unusual i.e. high signal to noise ratio, however, the remaining content is great!

IBM-MAIN Bakery

"Thanks to all for the great replies. Having such talent available and willing to help is the best thing since sliced bread!"

Fred Schmidt Posted Wed, 6 Dec 2000 on IBM-MAIN

MVS-OE

• Topic: IBM's UNIX on MVS a.k.a OpenEdition a.k.a USS a.k.a. OE

a.k.a OS390 Unix System Services

Porting to OS390, Utilities, Shell, C, Perl, Domino Go Webserver,

Security, misc.
Name: MVS-OE

Type: LISTSERV

Listserv: <u>listserv@vm.marist.edu</u>

List: MVS-OE@VM.MARIST.EDU

Web: http://www.marist.edu/htbin/wlvindex?MVS-OE

News: n/a

Weekday Message Volume: 20 - 50

More information: n/a

Notes:

DB2-L

Topic: IBM DB/2 database

Name: DB2-L

Type: LISTSERV

Listserv: LISTSERV@RYCI.COM

List: DB2-L@RYCI.COM

Web: http://jupiter.ryci.com/archives/db2-l.html

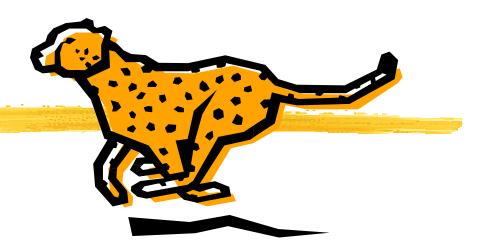
News: bit.listserv.db2-l

Weekday Message Volume: 50 - 75

More information: http://www.ryci.com/db2-l (FAQ)

Notes: DB2 Freeware Archives for the list

http://jupiter.ryci.com/archives/db2-l-documents.html



ASSEMBLER-L

• Topic: Assembler programming on S/390

Name: ASSEMBLER-L

Type: LISTSERV

Listserv: LISTSERV@LISTSERV.UGA.EDU

List: ASSEMBLER-L@LISTSERV.UGA.EDU

Web: n/a

News: comp.lang.asm370 (same topic different messages)

Weekday Message Volume: 5 - 20

More information: <u>Dave's unofficial HLASM web page</u>

at http://www.planetmvs.com/hlasm/index.html

Notes:

```
RO, WRKDSECT LEN
LA
STORAGE OBTAIN,
      LENGTH=(0),
      RELATED=RELEASE WRKDSECT
LR
      R13,R1
      R0,R1
LR
      R1, WRKDSECT LEN
LA
      R15, R15
SLR
     R0,R14
MVCL
USING WRKDSECT, R13
      WRKSAVEP, =C'F1SA'
MVC
```

CICS-L

Topic: IBM CICS

Name: CICS-L

Type: LISTSERV

Listserv: <u>listserv@vm.marist.edu</u>

List: CICS-L@VM.MARIST.EDU

Web: http://www.marist.edu/htbin/wlvindex?CICS-L

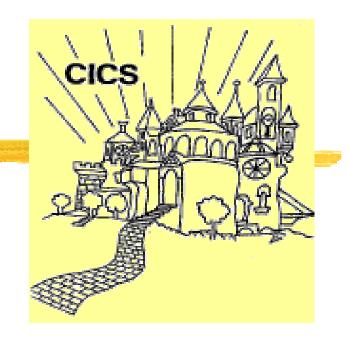
News: bit.listserv.cicsl-l

Weekday Message Volume: 15 - 45

More information: n/a

Notes:

http://www.yelavich.com/





GoogleTM



Google[™] groups is a web site which allows you to read newsgroups with a web browser instead of using special newsreader software and finding a news server.

Google™ Groups http://groups.google.com

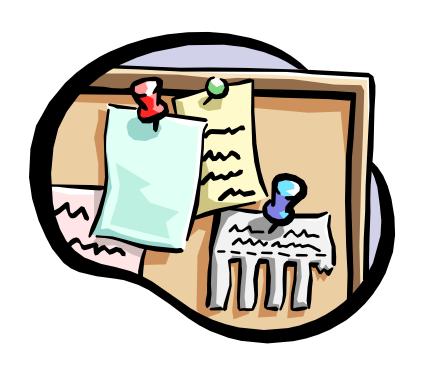
In order to post messages to many of the lists through these sites you still need to subscribe to the mail list and set to "nomail" if you don't want email.

Deja™ and RemarQ™ Gone

Deja[™] and RemarQ[™] were web sites which also provided the capabilities now available through Google[™] groups. Google[™] acquired Deja[™] and RemarQ[™] closed down.

Deja[™] had collected Usenet Archives dating back to 1995 and these will eventually be searchable at Google[™].

MVS Posting Boards



Posting Boards provide a web friendly bulletin board experience. Several are available that cater to MVS folk.

Make sure you post your notice in the right spot (e.g., if you are selling your golf clubs, advertise at the local golf course).

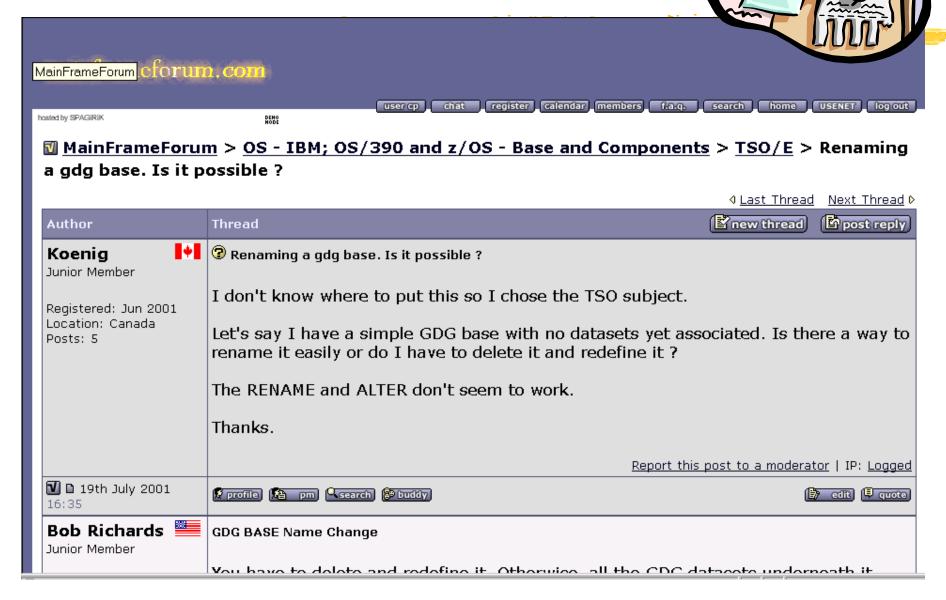
MainFrameForum



Mainframeforum http://www.mainframeforum.com

- Launched May 29, 2001 it's free
- Mainframeforum currently has no ads but watch this space
- You will need to register. Information needed is minimal, mostly optional.
- The forum software offers many features including a powerful search engine.
- Many topics are covered with the Administrator dividing the board into many pre-defined topic areas
- Recently added USENET archives

MainFrameForum



MVSHELP



MVSHELP http://mvshelp.com/

- Arrived early
- growing following including many from IBM-MAIN
- Free, does include ads
- Requires a simple registration to use
- Less finely defined topics, lots more activity
- Appears to be the pick of the litter in this type of facility

MVSHELP







≈⊠ UBBFriend: Email This Page to Someone!

Topic Reply

 $\underline{\mathsf{profile}} \ | \ \underline{\mathsf{register}} \ | \ \underline{\mathsf{preferences}} \ | \ \underline{\mathsf{faq}} \ | \ \underline{\mathsf{search}}$

next newest topic | next oldest topic

Author	Topic: FREE=CLOSE on SORTOUT
John Mindock Sr. Member	D posted 07-25-2001 11:15 AM 😂 🗗 😂 🗈
	From the DFSORT manual (July, 2000):
	When using DFSORT applications, FREE=CLOSE cannot be used on any DD statements except DFSPARM
	We have some JCL with this on it, on the SORTOUT dataset. The SORTOUT is actually going to SYSOUT.
	Is FREE=CLOSE simply being ignored? Any caveats to leaving it there?
	Thanks John
	IP: <u>Logged</u>
Frank Yaeger Moderator	D posted 07-25-2001 11:52 AM 🛂 🖅 🖹 🗗 🗗
	If I remember correctly, with FREE=CLOSE the ddname is deallocated when the data

SHARE Members Only

Located at http://www.share.org/members

- Mail-List Repository with 6 month read-only, searchable archive of many lists including IBM-MAIN.
- Proceedings Archive back to SHARE 92
 San Francisco February 1999
 - A few sessions available as Web Casts
 - Download Area (not current)
 - Requirements (Work in Progress)
 - Requires registration to use



Common abbreviations

- IIRC If I remember correctly
- AFAIK As Far As I Know
- YMMV Your Mileage May Vary
- IMHO In My Humble Opinion
- RTFM Read the manual you could have and should have looked it up yourself
- OTOH On The Other Hand
- BTW By The Way
- TIA Thanks in advance
- FWIW For What Its Worth
- ISTR I Seem To Remember

Who me? Contribute to the CBT Tape or CD-ROM? Why not!

Send contributions to the CBT Tape to Sam Golob and call or email him. Send contributions only suited for the CD-ROM to Sam Knutson.

Most contributions are now made via email over the Internet. To contribute, it is preferred that you make a PDS on an MVS system, including documentation member(s), put the pds into TSO XMIT OUTDSN format, download it in binary to the PC (if you need to), and attach it to an email to Sam at: sbgolob@attglobal.net

If the file is large, you can PKZIP it on the PC, before attaching it to the email. That's all there is to it!

If you want to send anything any other way, Sam Golob's address is:

Sam Golob, P.O. Box 906, Tallman, NY 10982-0906 USA

Other email newsletters

IBM e-business and Software News Alert

http://www.ibm.com/software/news-alert/subscribe.html

• Cheryl's List (free Performance, Tuning, and Tidbits)

http://www.watsonwalker.com/feed.html

CBT Tape Newsletter

http://www.cbttape.org/maillist.htm



Errata and more information after SHARE

- The foils from this presentation as well as any additions or corrections will be posted at my web site following the SHARE conference and will be in the proceedings.
- http://www.knutson.org/share97.htm
- Feel free to call me at (703) 464-1615 or email me at <u>sknutson@landmark.com</u> or <u>sknutson@cbttape.org</u>
 Please send any additions or corrections I would be glad to include them.

Just for fun!

Buy Geek Stuff

- http://www.thinkgeek.com
- http://www.copyleft.net
- http://www.mainframesareback.com

Some funny Canadian's you listened to prior to the session

http://www.mp3.com/deadtroll

Some funny cartoons

- http://www.userfriendly.org/static/
- http://www.dilbert.com/



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- Brian Perryman
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- Mark Zelden
- Greg Price
- Rob Scott
- Thomas Ramseier
- Three Dead Trolls in a Baggie

The End



Please fill out your session evaluations.