

# Fully Wired Programmer's Free Software Tool Chest

## Session 2881



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# Session 2881 Abstract



## Fully Wired Programmer's Free Software Tool Chest

What's in the fully wired mainframe programmer's tool chest? Come to this session to find out! The speaker will give an introduction to the freeware tools (both system and application) that make his life easier, including tools that help:

- Fix broken data sets
- View storage displays
- Examine load libraries
- Really dig into OS/390
- Answer many questions quickly using SMF data

Popular utilities like TASID, LOOK, TAPEMAP, PDS, SHOWMVS, MXI, DAF and more will be discussed. As in the past the speaker will provide tools to take home. All attendees will receive the latest CBT Tape (CBT426) on 3480 cartridge. Some attendees will receive the new CBT Tape CD-ROM which includes the contents of many different MVS Freeware collections, complete OS/360 (MVT) source distribution, Hercules 370/390 emulator, and much more! This session was previously presented at SHARE 94 in Anaheim but has been revised.

# Agenda



- Introduction
- Free Software
- Tools for working with PDS(s)
- System Doctor Tools
- Super Sleuth Tools
- System Information Tools
- Tools for working with TAPE(s)
- Source Code
- Debugging and Performance
- Handout CBT Tapes
- Web Tour
- MVS Freeware
- Internet delivery of software for MVS
- PC Tools
- Mailing Lists
- Who me?
- Killing Lawyers
- The End

# 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.**”

# First a Recipe



## My Mom's Home Style Macaroni Casserole

3 T. butter

1 can mushrooms & juice

1/2 # grated mild cheddar cheese

1 cup mayonnaise

1 can mushroom soup

1/3 cup chopped onion

1 # box macaroni

Cook 1 box macaroni and drain off most of the water. Mix the following with the macaroni in a large casserole dish. Bake 20 minutes at 350°

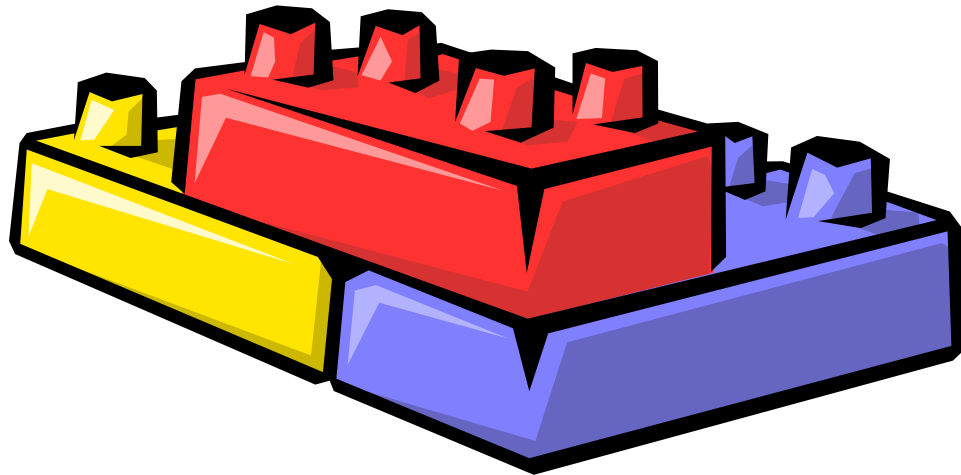
# Bring home the Tools!



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!”



# Tools for working with PDS(s)



## Partitioned Data Set (PDS)

A data set in direct access storage that is divided into partitions, called members, each of which can contain a program, part of a program, or data.

# Tools for working with PDS(s)



PDS or Partitioned Data Set is probably the most frequently manipulated type of data set on many OS/390 systems. We store JCL, source code, and system parameters in PDS(s).

ISPF facilities for working with PDS(s) have improved but still lag behind the powerful free tools users have built for themselves.

IBM does not supply an UNDELETE utility for PDS members.

IBM tools are difficult to use to perform complex operations in batch or REXX environments.

IBM tools split the functions required to effectively use PDS(s) into different utilities or multiple steps.

# PDS 8.5



PDS was originally written in 1972 at Fireman's Fund Insurance.

Bruce Leland, Steve Smith, and others built PDS into the utility “Battle Wagon” that it is today.

John Kalinich has worked to keep PDS alive and continues to enhance it. PDS 8.5 is the current version of this most popular, free PDS utility.

PDS incorporates functions from IBM ISPF Options 3.2, 3.4 3.14, Utility programs IEBCOPY, IDCAMS, and much, much, more! PDS has been extended to integrate many other free tools such as DSAT, VTOC, MXI, COMPARE, REVIEW, and more.

# PDS 8.5 vs. StarTool®



StarTool® is the commercial successor to PDS and now includes many years of additional development in it's feature set.

StarTool® is available from Serena. More information is available at the web site <http://www.serena.com>

PDS 8.5 is still a great free alternative!

# PDS 8.5 MEMLIST

```
CMD ----- MEMLIST Source Member List 1 ----- Row 1 to 16 of 34
COMMAND ==> SCROLL ==> CSR
Enter an ISPF command, a PDS subcommand or a special control code:
  8 View log      1 Suspend ISPF      6 MEMLIST all      F Find      R Recall
  LA Lista       4 Sublist =          7 Output table    L Locate    SO Sort
  LV Listv       5 Check aliases     9 Swap panels     O Options    X Above/Below/All
- DSN=CSSJK.UTIL.CNTL,VOL=SER=LS0008 MEM=CBT/ -----
CMD  NAME      DATA      VER.MOD    CREATED    LAST MODIFIED  SIZE  INIT   ID
     CBT$ANY    01.42     95/07/25  00/02/28  10:13         278   208   CSSJK
     CBTAUDIT   01.00     00/02/28  00/02/28  10:46         445   445   CSSJK
     CBTBXMI    01.01     98/10/16  98/10/16  13:36          23    13    CSSJK
     CBTF1     01.09     00/02/28  00/02/28  13:38        38249 38249  CSSJK
```

PDS MEMLIST is where you will probably spend most of your time

# PDS 8.5 MEMLIST examples

The example to the right demonstrates some MEMLIST capabilities:

create a **backup** ->>  
**delete** a member ->>  
**drop** from display ->>  
assign an **alias** ->>  
previously edited ->>  
**rename** a member ->>  
a new member name ->>  
**compare** members ->>  
invalid command ->>  
**get assistance** ->>  
previously invalid->>

```
----- MEMLIST Source Member List 1 -  
COMMAND ==>  
Enter an ISPF command, a PDS subcommand or a ...  
      8 View log      1 Suspend ISPF      6 MEMLIST all  
      LA Lista      4 Sublist =      7 Output tables  
      LV Listv      5 Check aliases      9 Swap panels  
- DSN=HABL.LIB.CNTL,VOL=SER=TSO001 MEM=MP/ ----  
CMD  NAME          DATA          ...  
repr SMP           smpold           ...  
del  TEMP02        ...  
x    TEMP03        ...  
alia TESTMAMP     testal           ...  
      TESTMP2      *EDIT*          ...  
ren  TEXMP         texmp3           ...  
      TEXMP2       *NEWNAME        ...  
com  T888TMP       t888            ...  
end  ZAMP          ...  
o    ZBMP          ...  
     ZMP           *INVALID        ...
```



*Use the  
PDS On-line Help (PF1)*

# PDS 8.5 MEMLIST "O"

DSLISL ----- PDS o line command selection -----  
OPTION ===>

Choose one of the following for member \$COMMON

- |      |   |            |     |   |          |      |   |          |
|------|---|------------|-----|---|----------|------|---|----------|
| A    | - | Attrib     | E   | - | Edit     | REP  | - | Replace  |
| AL   | - | Alias      | F   | - | Find     | REPR | - | Repro    |
| B    | - | Browse     | FSE | - | Fse      | REV  | - | Review   |
| COM  | - | Compare    | H   | - | Help     | SUB  | - | Submit   |
| COPY | - | Copy       | L   | - | List     | TSOE | - | Tsoedit  |
| DEL  | - | Delete     | LOG | - | Log line | TSOL | - | Tsolist  |
| DCF  | - | Dcf Script | OUT | - | Outcopy  | V    | - | Verify   |
| DIR  | - | Direntry   | PR  | - | Printoff | VPS  | - | Vpsprint |
| DSP  | - | Dsprint    | REN | - | Rename   |      |   |          |

Special line commands:

- X - remove line from display
- = - repeat previous line command
- K - kill and clear all following line commands
- UT - extended/user/installation utility command panel

# PDS 8.5 VERIFY finds problems

```
CMD ----- ISPMODE Session Display 1 ---- Row 91 to 107 of 108
COMMAND ==>                                     SCROLL ==> CSR
```

Enter an ISPF command, a PDS subcommand or a special control code:

```
LA Lista      1 Suspend ISPF      9 Swap panels      R Recall
LV Listv      6 MEMLIST all       F Find             X Above/Below/All
ML Memlist    7 Output log        O Options         * Memlist *
```

```
- DSN=SYS1.DP.LINKLIB,VOL=SER=CATPAK MEM=: -----
>verify :
```

```
** VERIFY    IMS51
```

```
PDS860E MEMBER IS AN ALIAS BUT NO MAIN MEMBER EXISTS
```

```
PDS861E THE ALIAS DIRECTORY ENTRY NOTES THE MAIN ENTRY NAME AS SYSIMS51
```

```
PDS006I END OF DATA SET
```

```
PDS111I      2,087 PHYSICAL BLOCKS WERE INPUT
```

```
PDS112I     32,760 CHARACTERS IN THE LARGEST PHYSICAL BLOCK
```

```
PDS113I     1,625 CHARACTERS PER AVERAGE PHYSICAL BLOCK
```

```
PDS114I          2 TRACKS COULD BE REGAINED BY COMPRESSING THIS DATA SET
```

```
PDS115I     158 MEMBERS WERE CHECKED
```

```
PDS118I 121 MEMBERS RMODE24; SIZE IS 2,397K
```

```
PDS119I 31 MEMBERS RMODEANY; SIZE IS 791K
```



# PDS 8.5 LISTF Options

CMD ----- Build LISTFILE using VTOC command -----

OPTION ===>

Enter volume list for VTOC

VOLUMEs===> LSMS ===> ===>

Catalog search for each DSNAME ===> NO (Yes/No)

Optional filtering:

LEVELs ===> OMVS ===>

More LEVELs===> ===> ===>

Containing ===> ===> ===>

Ending ===> ===> ===>

Strings for the above filtering must conform to dataset naming conventions. The userid will not be appended, do not use quotes.

# PDS 8.5 LISTF

CMD ----- List files ----- Row 1 to 17 of 59  
COMMAND ==> SCROLL ==> CSR

Enter an ISPF command or a special control code:

- LV Listv        7 Output table     9 Swap panels     0 Options
- ML Memlist     8 View log            F Find            X Above/Below/All

---

CMD	C	V	DATA/MSG	DO	RECFM	LRECL	BLKSI	VOLUME	-----DATA SET NAME	---
-	Y			HF	U	0	0	LSMS02	OMVS.DEV.NFS	
-	Y			HF	U	0	0	LSMS03	OMVS.DEV.UCD-SNMP.NFS	
-	Y			HF	U	0	0	LSMS01	OMVS.S390R4.DCEASHFS.USR	
-	Y			HF	U	0	0	LSMS01	OMVS.S390R4.DFSHFS.GLOBAL	
-	Y			HF	U	0	0	LSMS01	OMVS.S390R4.DFSHFS.LOCAL	
-	Y			HF	U	0	0	LSMS01	OMVS.S390R4.ECN.ECN	
-	Y			HF	U	0	0	LSMS01	OMVS.S390R4.EPH.EPH	
-	Y			HF	U	0	0	LSMS01	OMVS.S390R4.HFS.DCEBASE	

# PDS 8.5 LISTA

CMD ----- List Allocations ----- Row 1 to 17 of 114  
COMMAND ==> SCROLL ==> CSR

Enter an ISPF command or a special control code:

LV Listv      7 Output table      9 Swap panels      0 Options  
ML Memlist    8 View log              F Find              X Above/Below/All

```
-----  
CMD  DDNAME      DATA          TYPE O# VOLUME  MEMBER      DATA SET NAME -----  
    STEPLIB                1  LS0008      CSSJK.LOAD  
    #      2                1  LS0016      CSSJK.CBT423.FILE035  
    SYSHELP                0  S3906R      ISP.SISPHELP  
    #      2                0  S3906R      SYS1.HELP  
    #      3                0  S3906R      SYS1.HELPEXP  
    #      4                0  CATPAK      LSC.TOOLS.HELP  
    #      5                0  S3903R      REXX.V1R3M0.SEAGHENU  
    SYSEXEC                0  S3906R      ISP.SISPEXEC  
    #      2                0  S3906R      ISF.SISFEXEC  
    SYSLBC                  0  S3906D      SYS1.PROD.BROADCAST  
    SYSUADS                  0  SYS002      SYS1.UADS  
    SYSPRINT                TERM 0          NULLFILE  
    SYSTEM                   TERM 0          NULLFILE  
    CONLIB                   0  SYS001      SYS1.ENDV37.CONLIB  
    SORTWK01                 0  WORK52      SYS00063.T084748.RA000.CSSJK.R01
```

# What else PDS 8.5 will do!



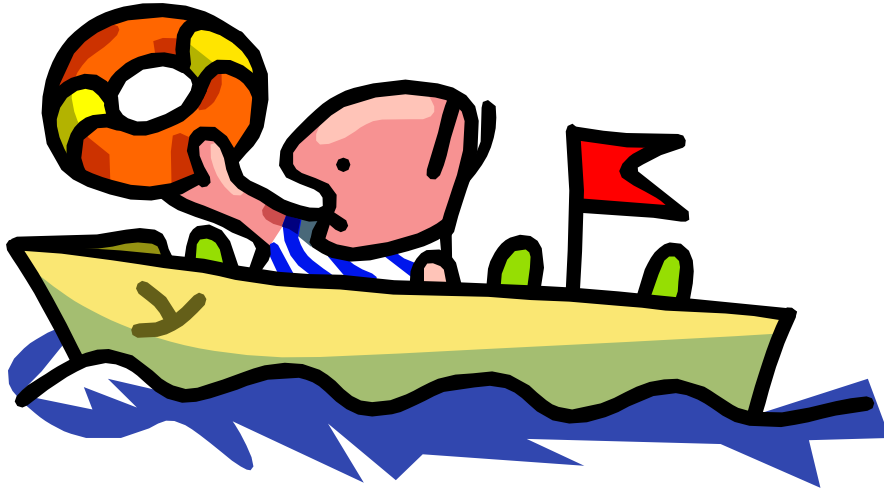
- **Use it in Batch**
- **Use it in a Started Task**
  - **TSSO + PDS = powerful recovery toolbox**
- **Display active CATALOG(s)**
- **It works with Sequential data sets too!**
- **Quickly clone a data set for testing**
- **Add or remove ALIAS(s)**
- **Restore deleted members (more about that later)**
- **Examine PDS directory entries**
- **Examine data set DSCB information**
- **Fix data set attributes using FIXPDS command**
- **Modify ISPF statistics**
- **Modify Load module attributes**

# PDS ↔ SEQ

- OFFLOAD program (from CBT Tape File 093)
- PDSLOAD program from File 093
- LISTPDS (from CBT Tape File 316)
- REVIEW (File 134) subcommand called =OFFLOAD

Many tools exist which allow a PDS to be unloaded to a sequential file which can be manipulated and reloaded. ISPF statistics can be preserved or easily altered in mass. These are just some of the tools that you might examine many other free tools include similar functions. IEBCOPY unloads a PDS but the unloaded format is not one which can easily be modified or processed.

# UNDELETE for PDS(s)



- Kimu REVIVE
- PDS

PDS data structure is such that until the PDS is compressed deleted members may be recovered.

# Revive!



- It cannot get any easier than this!
- A pleasant ISPF table of all the deleted members with a preview of contents.
- Developed by Tetsuya Kimura (Kimu)

You can find Revive! at Kimu's Home Page

<http://home4.highway.ne.jp/kimu/>

or File 442 on the [CBT Tape](http://www.cbttape.org) ( on-line <http://www.cbttape.org> )

# Revive!

CMD ve! : Bring Back to PDS Members .. < v0r9m3 > -----  
Command ===> Scroll ===> CSR

**Ok! member(MYDATA) restored.**

```
DataSet Name : CSSJK.FTP.PDS                               Vol : LS0014
Line Command : B - Browse      S - Show      R - Restore   X - eXtract
Member      T T R  -- Data ( First 60 Byte ) --                (1,27)
+002101    002101 pkzip25 -add cbt001.zip CBT001.XMI -maximum
+006506    006506 040756,
+00650C    00650C 121597,
+00650F    00650F 126593,
+006601    006601 .\INMR01.....&.....RANK2.....ZMRDS.....N2.....ZMRDS
+007109    007109 *****
+00CF01    00CF01 .\INMR01.....&.....RANK2.....ZMRDS.....N2.....
+00DA09    00DA09 .\INMR01.....&.....RANK2.....ZMRDS.....N2.....
+00E306    00E306 .\INMR01.....&.....RANK2.....ZMRDS.....N2.....
+011F05    011F05 ++APAR(XSESEED) /*~.....~..~.+~.....~..<..~~~..~..<| |.
```



# **PDS 8.5 RESTORE**



>restore

PDS101I DELETED MEMBER FOUND AT TTR: 002101

PDS144I DATA LINE 1:

//CSSJK1\$\$ JOB BATCH),IEFBR14.SAM.KNUTSON,

PDS390A SHOULD THIS MEMBER BE RESTORED  
(Y/N)?

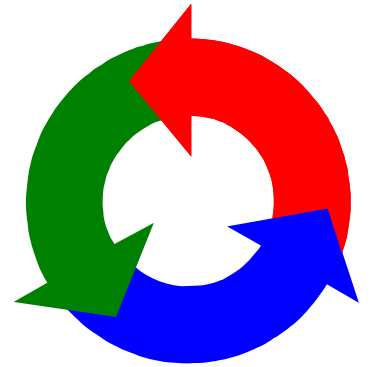
>y

**PDS091I GOODJCL HAS BEEN RESTORED**

# PDS Search & Replace

Things change... So quickly locating all the members of a PDS that contain a some value or possibly replacing one value with another in all members or a subset is very useful.

- PDS 8.5 from [CBT Tape](#) File 182 FIND and REPLACE commands can be used interactively or in batch and PDS is probably my tool of choice for most PDS searches and changes.
- PDSGEN from [CBT Tape](#) File 357 allows multiple string substitution



# **PDS Search & Replace with IPOUPDTE and CPPUPDTE**



IBM does not provide a supported PDS Search and Replace utility as part of OS/390 or DFSMS. IBM Service offerings such as IPO and ServerPac have included such utilities for a long time in order to help make the many changes required as part of customization during installation.

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

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                ..... PROCESS
REP   055E 47F0,C56E B                FORCE PROCESS.....
```

\*

```
* SPZAP TO REMOVE REQUIREMENT THAT A '$$$COIBM' MEMBER
* BE THE FIRST ONE IN THE PDS TO BE SCANNED.
*   J JANCO   13 MARCH 1986
```

\*

```
NAME  IPOUPDTE
VER   0548 0A12      SVC   18      BLDL OR FIND
VER   054A 12FF      LTR   15,15    CHECK RETURN
VER   054C 4780,C55C BZ                ..... PROCESS
REP   054C 47F0,C55C B                FORCE PROCESS.....
```

~~\$\$\$COIBM~~

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

# System Doctor Tools



“What are the  
tools?”

William S. Mosteller

The Systems  
Programmers Problem  
Solver

ISBN 0-89435-271-7

# CDSCB

EDIT E CSSJK.IDCAMS.CNTL

Browse substituted

Command ====>

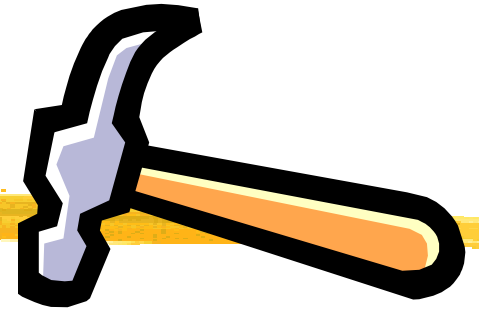
Scroll ====>

CSR

Name	Size	TTR	Alias-of	AC	AM	RM	----	
Attributes	----							
. DEFALIAB	00069F03	000021			24	24		NX
. DEFALIAS	00069F03	00000E			24	24		NX
. DEFNVSAM	00069F03	00001B			24	24		NX
. DEFUCAT	00069F03	000105			24	24		NX
. DELDEFNV	00069F03	000017			24	24		NX
. EXPORT	00069F03	000025			24	24		NX
. LISTBKUP	00069F03	000012			24	24		NX
. LISTC	00069F03	00000C			24	24		NX
. LISTDATA	00069F03	000103			24	ANY		NX
. MERGECAT	00069F03	000010			24	24		NX
. REPROSEQ	00069F03	000023			24	24		NX
. SETCAOFF	00069F03	000101			24	24		NX
. WTOENROL	00000090	000107			01	31 ANY	RN RU	TS

Someone has accidentally linked a load module into his JCL PDS... changing the attributes of the PDS itself.

# CDSCB



The CDSCB (change DSCB) command modifies a data set's Format-1 DSCB in a VTOC.

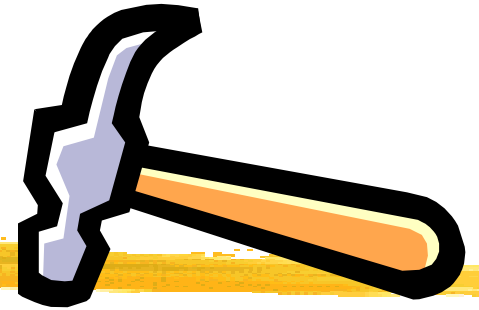
Since the Format-1 DSCB contains information crucial to a data sets' security and integrity, (and in fact to the whole system's security and integrity), this command **Must be restricted to systems support personnel.**

```
CDSCB 'DSNAME' EXPDT(DATE) SHR VOL(VOLUME) UNIT(UNIT)
      CREATE(DATE) REFDT(DATE)
      DSORG(XX) RECFM(XX) LRECL(XX) BLKSIZE(XX)
      ALLOC(TR/CYL/BL) SPACE(SECONDARY-AMOUNT)
      PWR/PWW/NOP/RACF/NORACF
      ZAP(OFFSET VERDATA REPDATA)
```

REQUIRED - 'DSNAME'

DEFAULTS - NOTHING WILL HAPPEN IF NO CHANGES ARE SPECIFIED

# CDSCB



```
CDSCB CSSJK.IDCAMS.CNTL RECFM(FB) LRECL(80)
```

```
CHANGED
```

## Fixed!

- CDSCB can be used to quickly repair data set attributes which users have unintentionally altered.
- CDSCB is found on [CBT Tape](#) File 300. A version modified my Michael Cleary to use RACF instead of an internal userid table is on CBT Tape File 301 or his web page.



# Full Screen ZAP data sets

The ZAP command is used to examine, dump, and modify any type of sequential, partitioned, or direct access dataset. Any RECFM is accepted. This command is the TSO interactive equivalent of IBM's service aid 'IMASPZAP' or 'SUPERZAP'. ZAP is found on CBT Tape files 134 (source) and 135 (load).

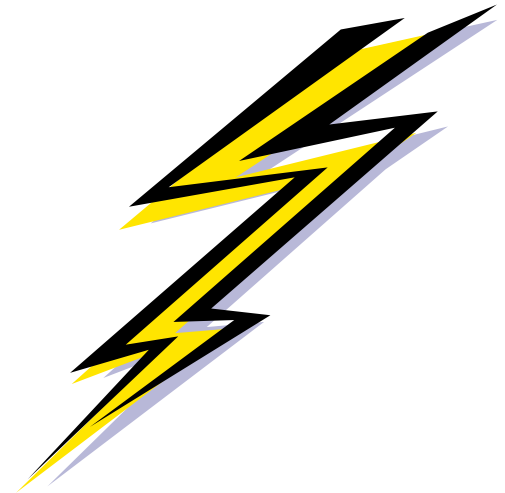
```
ZAP 'dsname' VOLUME('serial') CRT NOT3270  
  TERSE/VERBOSE BLKSIZE('blksize')  
  NOLOG/LOG  
  FULLVOL
```

REQUIRED: 'dsname'

DEFAULTS: TERSE, NOLOG

No volume implies a cataloged dataset.

NOTE: VOLUME keyword is required if dataset is not cataloged or if it is 'FORMAT4.DSCB'.



# Full Screen ZAP Volumes



The ZAP command ZAP 'FORMAT4.DSCB' VOLUME(DEVL51) FULLVOL allows me to inspect and modify any location on the volume DEVL51.

Z A P

ENTER VALID COMMAND ABOVE OR ? FOR HELP

VERSION=3.2K 04JAN99

```
00000 >C9D7 D3F1 0008 0000 8000 015A 0600 4A98 |IPL1.....!...ϕq|
00010 6000 0060 0800 4A98 0000 0000 |-...-...ϕq....|
```

```
OFF: 0000 ( 0) ADDR: 00000 ( 0) DSN: VOLUME DEVL51
LEN: 001C ( 28) BASE: 00000 ( 0) CCHHR: 0000000001 TTR: 000001
```

- ZAP can help you understand the formats of data sets by eliminating any formatting imposed by other viewers
- On-line help available by pressing “?” is enough to get you started
- Sam Golob’s columns on ZAP (CBT Tape file 120 or on-line) very helpful

# Bypassing Enqueue

- IBM ENQUEUE serializes data sets by name not by instance (dsname/volume)
- More and more installations are running multiple systems
- Systems programmers sometimes need to make changes to data sets which are serialized by GRS

BYPASSNQ is a driver that allows you to run any utility program (such as IEHPROGRAM or IDCAMS) and bypass the data set name enqueue that is normally performed by the DYNALLOC, SCRATCH and RENAME SVC(s). This technique allows data sets to be deleted or renamed using standard MVS services and is fully compatible with indexed VTOCs and SMS.



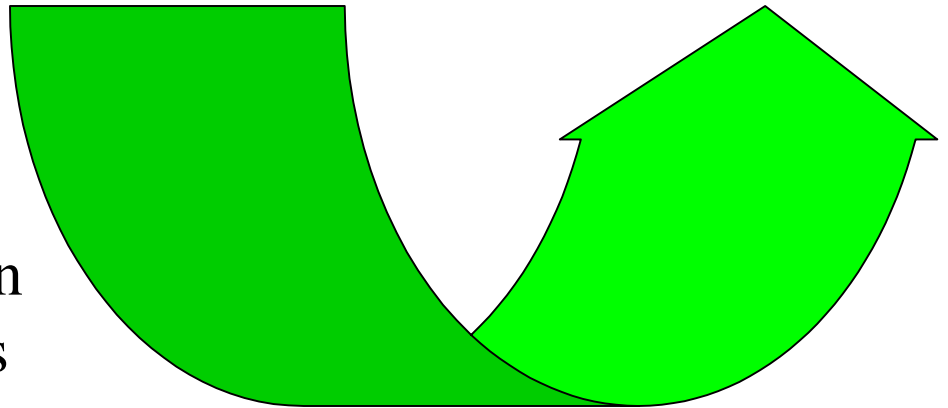
**When you use BYPASSNQ you must be sure that the instance of the data set (dsname/volume) is really not in use since you are bypassing the safety mechanisms put in place by MVS!**

# Bypassing Enqueue

```
//GO          EXEC PGM=BYPASSNQ, PARM=IEHPRGM
//SYSIN      DD *
    SCRATCH VOL=3390=SYS006, DSNAME=SYS1.SYS522.LOGR.COUPLE
/*
//SYSPRINT  DD SYSOUT=*
//DD1       DD UNIT=SYSDA, VOL=SER=SYS006, DISP=OLD
//ABNLTERM  DD SYSOUT=*
//SYSUDUMP  DD SYSOUT=*
```

BYPASSNQ is one of many useful utility programs written by Gilbert St. Fleur available in CBT Tape File 183 or from his web site

<http://members.home.net/gsf/>



# CALLRTM

CALLRTM is the system macro used to terminate a TCB or an address space. It is used by the operating system CANCEL and FORCE commands and by OEM MVS Monitors.

It's just an authorized macro and you can use it too!

A sample CALLRTM program may be obtained from IBM RTM Level 2 or you may write your own.

An older sample of CALLRTM TYPE=MEMTERM is on CBT Tape file 352

A nicely written CALLRTM package would be a great addition to the CBT Tape and the MVS Freeware community.



# Super Sleuth Tools

---



Who deleted my data set?

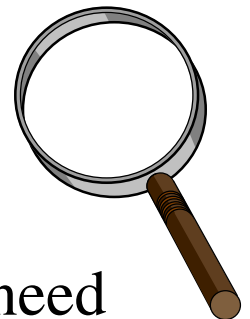
Where is this data set cataloged?

How does this Control Block work?

# REVIEW

---

- REVIEW is a Quick Viewer for almost any type of data on OS/390
- 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.VUSER05 ON USER05 ----- LINE 1 COL 1 80
COMMAND ==>                               SCROLL ==> CS
1      10      20      30      40      50      60      70      80
+---+-----+-----+-----+-----+-----+-----+-----+-----+-----+
.8..VVCR.....CATALOG.LSC.AUX.....
....Z.....SYS1.VVDS.VUSER05 .SYS1.VVDS.VUSER05 ..SYS1.VVDS.VUSER05 ... 0.....
.1.~Q.....NVPLV012.TDVRAZ.VNVGCNTL.INDEX..NVPLV012.TDVRAZ.VNVGCNTL..CATALOG.TSO
.$..Z.....SYS1.IODF84.WORK..SYS1.IODF84.WORK.CLUSTER..CATALOG.S39024.MASTER.SYS
.h..Q.....INFO.V3.DICT.INDEX..INFO.V3.DICT..CATALOG.VTSOPAK.INFO.V3.DICT.....
.j.÷Q.....INFO.V3.RPANELS.INDEX..INFO.V3.RPANELS..CATALOG.VTSOPAK.INFO.V3.RPANE
.?..Z.....SYS1.IODF82.WORK..SYS1.IODF82.WORK.CLUSTER..CATALOG.S39013.MASTER.SYS
....Z.....TMON.CICS322.DFHXRCTL.DATA..TMON.CICS322.DFHXRCTL..CATALOG.VTSOPAK.TM
....Z.....TMON.CICS322.DFHXRMSG.DATA..TMON.CICS322.DFHXRMSG..CATALOG.VTSOPAK.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

```
SYSDUMP: SYS1.PROD.MAN2 ON S3906R ----- LINE 475 COL 1 80
COMMAND ==>                                SCROLL ==> CS
1      10      20      30      40      50      60      70      80
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
75 14:45:01 00.063 PROD RMF 143E PAGE.VPAGE12.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.PS9932G.INSTLIB      B=6320      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  129srv/sec  347srv/sec
30214:45:06 00.063 PROD RMF      STC04053 IEFPROC      CPU-00:00:02 I/O-----2
14 14:45:09 00.063 PROD CSSJW      CSSJW.PS9932G.INSTLIB      B=6320      3 LS0022
30214:45:10 00.063 PROD FARLG      TSU04109 $TSFACCS      CPU-00:00:05 I/O-----1027
80 14:45:12 00.063 PROD CSABS      CSABS      TSOHOLD      TPXGR244
62014:45:45 00.063 PROD CSSJK      SYS1.PROD.MAN1      S3906R
```

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

# DAF Dataset Audit Facility



- DAF is the Dataset Audit Facility an SMF post processor for data set activity
- Reads standard IBM and some ISV SMF records, and based upon user supplied selection criteria, generates detailed data set audit trail reports
- Found on CBT Tape File 094 or Mike Cleary's Web Page <http://home.pacbell.net/mcleary/freeware.html>

\* Information on DAF is taken from the DAF source code and "DAF, GRS, and LPALNK" Session 2895 SHARE Conference - Winter 1998 by Michael Cleary

# DAF Supported SMF Records:

- 014 - INPUT or RDBACK Data Set Activity
- 015 - OUTPUT UPDAT INOUT or OUTIN Data Set Activity
- 016 - DFSORT Statistics
- 017 - Scratch Data Set Status
- 018 - Rename Data Set Status
- 022 - Configuration
- 024 - JES2 Spool Offload
- 036 - Integrated Catalog Facility Catalog
- 042 - DFSMS Statistics and Configuration
- 059 - MVS/BDT File-to-File Transmission
- 060 - VSAM Volume Data Set Updated
- 061 - Integrated Catalog Facility Define Activity
- 062 - VSAM Component or Cluster Opened
- 063 - VSAM Catalog Entry Defined
- 064 - VSAM Component or Cluster Status
- 065 - Integrated Catalog Facility Delete Activity
- 066 - Integrated Catalog Facility Alter Activity
- 067 - VSAM Catalog Entry Deleted
- 068 - VSAM Catalog Entry Renamed
- 069 - VSAM Data Space Defined Extended or Deleted
- 073 - RMF Channel Path Activity
- 074 - RMF Device/XCF/OMVS/CF/Cache Activity
- 075 - RMF Page/Swap Data Set Activity
- 077 - RMF Enqueue Activity
- 080 - RACF Processing
- 081 - RACF Initialization
- 082 - ICSF/MVS Record
- 083 - RACF Audit Record for Data Sets
- 090 - System Status
- 092 - USS File System Activity
- 118 - TCPIP Statistics
- 170 - File-AID
- 201 - SRS
- 241 - DFHSM

Reporting from 34 different SMF record types!

# DAF control statements

- Catalog name
- Dataset name
- Date (YYYYDDDD)
- Data definition name
- Execute Channel Program
- Group Identification
- Job name
- Logical Record Length
- Major enqueue name
- Member name
- Minor enqueue name
- Record type
- System identification
- Time - HH.MM.SS.HH
- User identification
- Volume serial
- VSAM volume dataset name
- Wait Time Max

• Like control statements utilize OR logic

DSN EQ A with DSN EQ B

Would find all data sets that begin with A or B

• Unlike control statements utilize AND logic

DSN EQ A with JOB EQ B

Would find all data sets that begin with A and from JOB B

## Operators

- EQ, GE, GT, LE, LT, NE

# DAF Examples



- What happened to that darn payroll file ?

DSN EQ PROD.PAYROLL.CLUSTER

- What was locking up the system at lunch time ?

TIME EQ 12

- What data sets were accessed on volume USER05 ?

VOLUME EQ USER05

- What data sets are blocked poorly ?

BLKSIZ LT 4096

- Did the special job run on New Year's Day ?

JOB EQ SPECIAL

DATE EQ 2000001

# DAF Reports

Dataset Audit Facility (DAF) - Level 2.0.6(20000306)

Date	Time	SID	Job	User	RTY
CSSJK3	.ISPF	.ISPPROF			
2000066	01.41.29.96	PROD	CSSJK		014
VOLUME=LS0003 DD=ISP16383 OPE=01.41.29.83 CRDT=00066 XPDT=00000					
DISP=Shr BUFNO=1 DSORG=PS RECFM=FB BLKSIZE=256 LRECL=256 NVOL=1					
EXCP=46 CTRI=ABSTR NTU=00002D00 NEX=1 NTA=4					
2000066	01.41.34.48	PROD	CSSJK		017 VOLUME=LS0003 NVL=1



DAF Reports can quickly answer questions about data set activity. DAF also generates detail logs and statistics about it's processing and the SMF data analyzed.

# LOOK

- TSO command to display virtual storage
- Optionally run APF authorized and display storage in any address space!
- Optionally customize (through DSECT assemblies) to format any control block
- Supports indirect addressing
- LOOK source is on File 264 of the CBT Tape and a pre-assembled load module is on File 035.

The valid commands are:

Iexp	24 bit indirect		Jexp	31 bit indirect
>	Forward		<	Backward
=sym	Define current address as "sym"		,sym	Redisplay core at "sym"
M0/M1	Flip between top and center		Lname	Indirect thru control block field
Ocb	Format as "cb" control block		R	Refresh displayed storage
	"cb" may be NULL to show as hex			

where 'exp' is of the form:

<+/->hhhh<+/->hhhh<+/->hhhh...>>

and 'hhhh' is a 1 to 8 digit hex number.

# LOOK

LOOK COMMAND - DISPLAY VIRTUAL MEMORY

DISPLAY ASID= 0024

ENTER CMD -

LAST CMD - I006000

```
54C9E340 >D4C9E340 C8C1E2D7 D5E4C340 D6E240F2 *>MIT HASPNUC OS 2*
54C9E350 4BF54BF0 40404040 40404040 40404040 *.5.0 *
54C9E360 40404040 01D10050 F6200000 C8D1C5F6 * .J.&6...HJE6*
54C9E370 F6F0F540 F0F261F2 F761F9F8 F1F14BF0 *605 02/27/9811.0*
54C9E380 F80096E0 0000F418 0000F6C0 0000F6E0 *8....4...6...6.*
54C9E390 E2D740F5 4BF34BF0 40404040 40404040 *SP 5.3.0 *
54C9E3A0 F6000000 000E58D0 0B001FD8 0AC5AFE0 *6.....Q.E..*
54C9E3B0 0B001FA0 00B3E6E0 01800000 000081A2 *.....W.....*
54C9E3C0 01800000 0000C14E 01800000 0000C1B6 *.....A+.....A.*
54C9E3D0 00000000 00009250 000092D8 0000D680 *.....&...Q..O.*
54C9E3E0 0000D874 0000CD6A 000EBB18 000EBB18 *..Q.....*
54C9E3F0 000EBB5E 000EBBA4 0008F444 0000B482 *...;.....4.....*
```

1= HELP            2=                    3= END                4=                    5= REPEAT    6=  
7= BACKWARD       8= FORWARD           9= HIST BWD       10= HIST FWD    11=                12=



# TASID as a storage browser

## Storage View Facility

Command ==>

Scroll ==> CSR

Base address ==> 00FD0BC0

Alignment .. HWORD

Offset from base ==> (optional)

Location ... R/W Nucleus

Find string ==>

Last block .

Address fields are Point & Shoot

00FD0BC0	+0	4	8	C	e 0 4 8 C	
	+0	00000218	00FDC560	00FD0B3C	00FD11A8	e .....ÙÈ-. Ù... Ù.y
	+10	00000000	00FF8874	00FF5156	00FE7378	e .....hÈ..éî.ÚËÌ
	+20	00FE71AC	01648DA0	812A4900	00FEC398	e .ÚÉÐ.Àýµa.ñ..ÚCq
	+30	00F43858	00FE65B0	0100069F	00FD11D0	e .4.ì.ÚÁ^...α.Ù.}
	+40	00F3A000	00FF9958	00FDC788	00000000	e .3µ...rì.ÙGh....
	+50	0A0307FE	00FD0B44	00FD0990	00000000	e ...Ú.Ù.à.Ù.°....
	+60	40C3E5E3	00FD1D20	00FE99AA	00FE99CA	e CVT.Ù...Úrì.Úr-
	+70	00F48DD8	9BFD60B0	00000000	00FDC9F0	e .4ýQ°Ù-^.....ÙI0
	+80	00000000	8160FC50	00FECC80	01657A10	e ....a-Û&.ÚöØ.Á:..
	+90	838BD000	00FD11D0	00FEF510	00991A00	e c»}..Ù.}.Ú5..r..
	+A0	00000000	7FFFFFFF	00000000	00000000	e ....."

Current address: 00FD0BC0

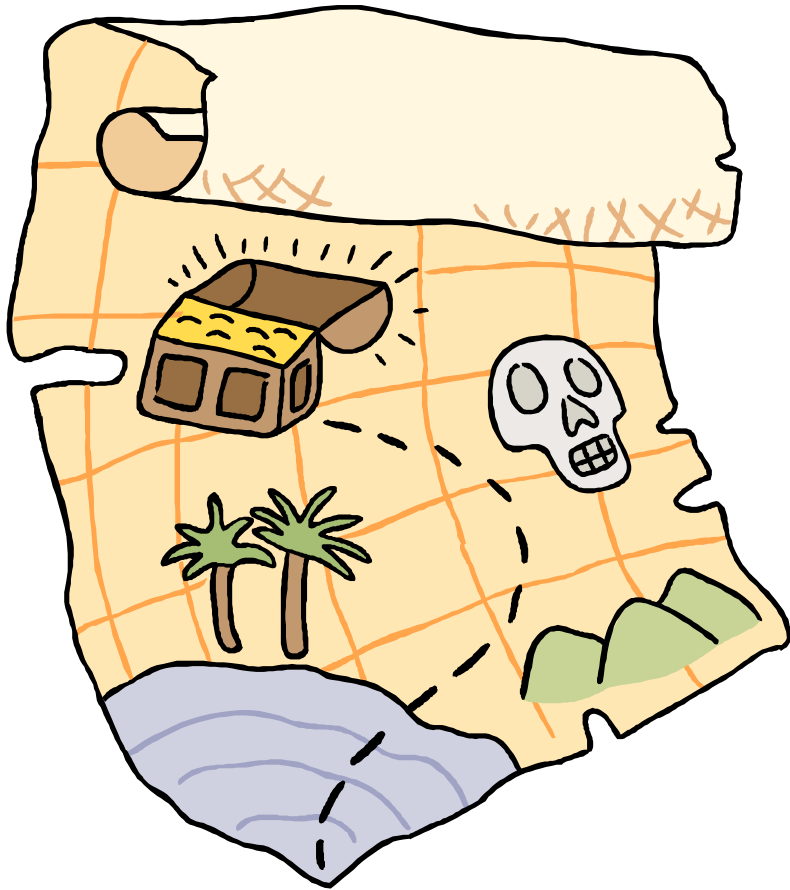
Limits: Top - 00FBF000, Bot - 017F0FFF, Size - 00832000

# MXI as a storage browser

```
MXI - PROD - Control Block Mapping (00FD0BC0, CVT, R/W Nuc) -----  
Command ==> MEM @CVT MAP(CVT)                               Scroll ==> PAGE
```

Offset	Field	Hex	EBCDIC		
Dec	Hex	Name	Len	Value	Value
0	0000	CVTTTCBP	4	00000218	....
4	0004	CVT0EF00	4	00FDC560	..E-
8	0008	CVTLINK	4	00FD0B3C	....
12	000C	CVTAUSCB	4	00FD11A8	...Y
16	0010	CVTBUF	4	00000000	....
20	0014	CVTXAPG	4	00FF8874	..hÈ
24	0018	CVT0VL00	4	00FF5156	..éî
28	001C	CVTPCNVT	4	00FE7378	..ËÏ
32	0020	CVTPRLTV	4	00FE71AC	..ÉÐ
36	0024	CVTLLCB	4	01648DA0	.Ãýµ
40	0028	CVTLLTRM	4	812A4900	a.ñ.
44	002C	CVTXTLER	4	00FEC398	..Cq
48	0030	CVTSYSAD	4	00F43858	.4.î
52	0034	CVTBTERM	4	00FE65B0	..Á^
56	0038	CVTDATE	4	0100065F	...¬
60	003C	CVTMSLT	4	00FD11D0	...}
64	0040	CVTZDTAB	4	00F3A000	.3µ.
68	0044	CVTXITP	4	00FF9958	..rî
72	0048	CVT0EF01	4	00FDC788	..Gh

# 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  
<http://members.home.net/gsf/>
- 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
- Future enhancements to SHOWMVS may include a TCP/IP client/server version, more USS information and much more!

# SHOWMVS (Short)

## Operating System:

OS/390 02.06.00                    CVTOSLVL: FF FF F0 00 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

Where to get it?

CBT Tape Files 409, 410 (Rob also has MORE utilities on file 411) or  
SEC web site (Home Page for Rob & MXI) at  
<http://www.secltd.co.uk>

**OCO - MXI does not include source**



# MXI Options screen 1 of 2

```
MXI - PROD - MVS Extended Information Primary Option Menu ---Row 1 of 34
Command ==>                                     Scroll ==> PAGE
AGRP SMS Aggregate Group Information             NET  VTAM Major Node 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             PLEX Display Sysplex Information
CPU  CPU and LPAR Information                  PPT  Program Properties Information
CS   Common Storage Usage                      RS   Real Storage Usage Information
CSR  Common Storage Remaining                  SCLS SMS Storage Class Information
DA   Active Address Space Information           SGRP SMS Storage Group Information
DASD Online DASD Information                   SMF  SMF General Information
DCLS SMS Data Class Information                SMFD SMF Dataset Information
DDNS Allocated Dataset Information             SMS  SMS Configuration Information
DYNX Dynamic Exit Information                  SMSM SMS Module Map
EDT  Display EDT Information                   SP   Common Storage Subpool Usage
ENQ  Display ENQ Information                   SPD  Subpool Definitions
ENQC Display ENQ Contention                   SSI  Subsystem Information
EXC  System Exceptions                         STOR System Storage Information
GRS  GRS Resource Name Lists                   SVC  SVC Information
HSMQ HSM Request Queue Information             SYM  Static System Symbols
```

# MXI Options screen 2 of 2

MXI - PROD - MVS Extended Information Primary Option Menu ----- Row 22 of 34  
Command ==> Scroll ==> PAGE

IPL	IPL and Load Information	SYSX	System Exit Information
LINK	Linklist Dataset Information	TAPE	Online TAPE Information
LLS	Linklist Set Information	TCB	TCB and RB Information
LLSU	Linklist Set Usage Information	UCB	UCB Information
LPA	LPA List Dataset Information	UIC	UIC Information
LPD	Link Pack Directory Entries	USP	User Subpool Information
MCLS	SMS Management Class Information	VMAP	Display Virtual Storage Map
MEM	Display Memory	XCFM	Display XCF Members
MPF	MPF Information	XCFS	Display XCF Structures

MXI Version 2.1e  
(c) Scott Enterprise Consultancy Ltd  
<http://www.secltd.co.uk>

# MXI Allocated Dataset Info

MXI - PROD - Allocated Dataset Information: JES2 ----- Row 1 of 13  
Command ==> Scroll ==> 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.HASPCCKPT
\$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)

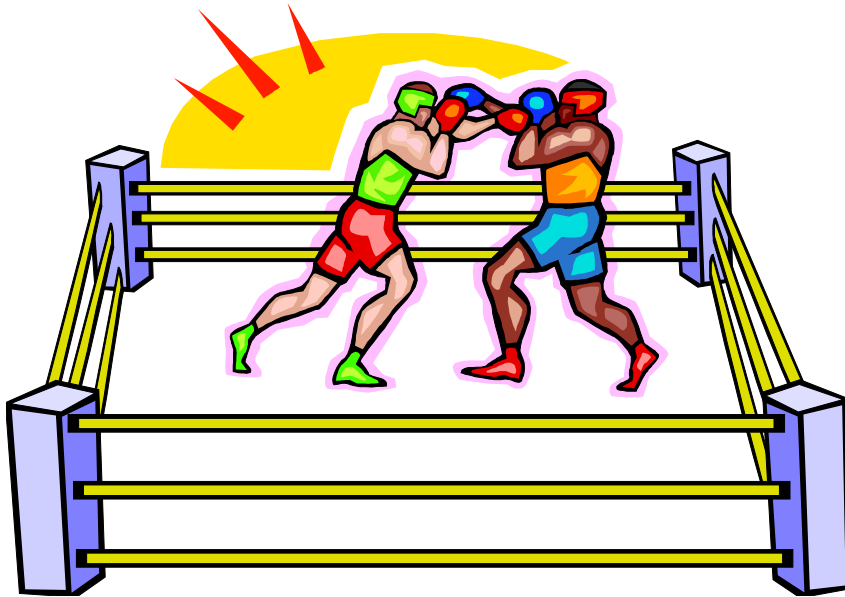
# MXI Common Storage Usage

MXI - PROD - Common Storage Usage ----- Row 1 of 69  
Command ==> Scroll ==> PAGE

Active	JES2	----Job Started----		-----Storage Allocated-----			
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.

TASID is very easy to install.

The most current copy of TASID is always available through the web at <http://www.mindspring.com/~somebody/>

# TASID

File Navigate Settings

TASID option menu

Limited ENQ data

Option ==>

Select one of the following options:

Version 5.06c

- |                             |                                 |
|-----------------------------|---------------------------------|
| 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                    |

More: +

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 1	Jobs 3
OS/390 02.06.00 JES version JES2	System addrs 25
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.	ENQ Contention None

# 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 be added to this list by command
- Data sets can be searched for members and the search can be restricted to a ddname

Command ==>		Current Dataset Allocations				Line 6 of 115	
						Scroll ==> CSR	
Blksz	Lrecl	RCFM	Org	Cmd	DDname	Data set Name (Line commands: E,B,C,F,V,I,Q)	
23200	80	U	PO	>	ISPLLIB	CSSJK.LOAD	
23200	80	U	PO	>		LSC.TOOLS.ISPLLIB	
6144	**	U	PO	>		EOY.SEOYLPA	
32760	**	U	PO	>		SYS1.SCBDHENU	
6320	80	FB	PO	>	ISPMLIB	CSSJK.ISPF.PANELS	
8800	80	FB	PO	>		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 by latest update.*

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 which is **OCO**.

```
//TAPEMAP EXEC PGM=TAPEMAP,REGION=6M
//SYSUDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSPRNT2 DD SYSOUT=*
//SYSUT1 DD DISP=OLD,
// DSN=MOUNT.TAPE,
// LABEL=(,BLP,EXPDT=98000),
// UNIT=3490,
// VOL=SER=(TAPEIN)
```

# TAPEMAP sample output

1VOL=OS360S                      CART ANALYSIS PROGRAM    (T A P E M A P)    V2.1                      TUESDAY    NOV 03, 1998    (98.307)    14:14:03

RELOAD	FILE	PSWD	INFO	BLOCK	BLOCK	LNTH	TOTL	CREATOR
FORMAT	SEQ#	DATASET NAME	REQD C-DATE E-DATE SOURCE RECFM LRECL	SIZE	COUNT DEN TRT	(FT)	LNTH	JOBNAME/STEPNAME
0	1	0360S001	98.012 00.000 LABELS VB	94 32716	107 N/A			SBGOLOB6/STEPYYY
CBT973	2		SCAN V	32716	107 N/A	8	8	
	2	0360S002	98.012 00.000 LABELS VB	94 32716	107 N/A			SBGOLOB6/STEPYYY
CBT973	5		SCAN V	32716	107 N/A	8	17	
	3	0360S003	98.012 00.000 LABELS VB	94 32716	26 N/A			SBGOLOB6/STEPYYY
CBT973	8		SCAN V	32714	26 N/A	2	19	

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                      (FILE 0001) IS A CBT973 COMPRESSED FILE:    A-ADD    C-CHANGE    R-REPLACE    > = SUBORDINATE NAME

0                      FOLLOWING MEMBERS UNLOADED:

0	A-IEMAA	A-IEMAB	A-IEMAC	A-IEMAD	A-IEMAE	A-IEMAG	A-IEMAH	A-IEMAI	A-IEMAJ	A-IEMAK
	A-IEMAL	A-IEMAM	A-IEMAN	A-IEMAP	A-IEMAS	A-IEMAT	A-IEMAV	A-IEMBC	A-IEMBE	A-IEMBF
	A-IEMBG	A-IEMBI	A-IEMBJ	A-IEMBM	A-IEMBN	A-IEMBO	A-IEMBP	A-IEMBR	A-IEMBS	A-IEMBT
	A-IEMBU	A-IEMBV	A-IEMBW	A-IEMBX	A-IEMCA	A-IEMCC	A-IEMCE	A-IEMCG	A-IEMCI	A-IEMCK
	A-IEMCL	A-IEMCM	A-IEMCN	A-IEMCO	A-IEMCP	A-IEMCR	A-IEMCS	A-IEMCT	A-IEMCV	A-IEMCW
	A-IEMED	A-IEMEF	A-IEMEG	A-IEMEH	A-IEMEI	A-IEMEJ	A-IEMEK	A-IEMEL	A-IEMEM	

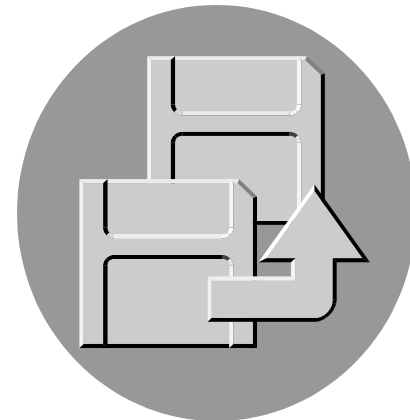
# COPYMODS

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.

*Also recently updated for 64k blocks.*



# 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
```

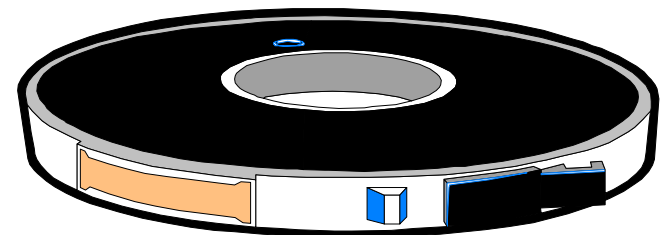
# **TAPESCAN** Tape Analysis and Copying Program

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

Provides useful measure of “Total Bytes Read”

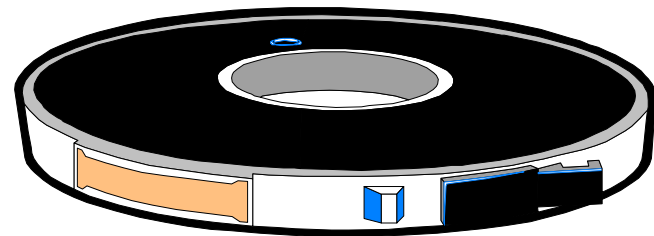
Map of contents

LIST parameter includes preview of each file in output



# SS0104 SYSTEM SUPPORT UTILITIES - TAPE MAP PROGRAM

- SS0104 is found on CBT Tape File 266 with a load module on File 035.
- Provides consistent measure of files footage.
- Caveat: Like most tape utility program originally designed for REEL tapes, however, still useful.

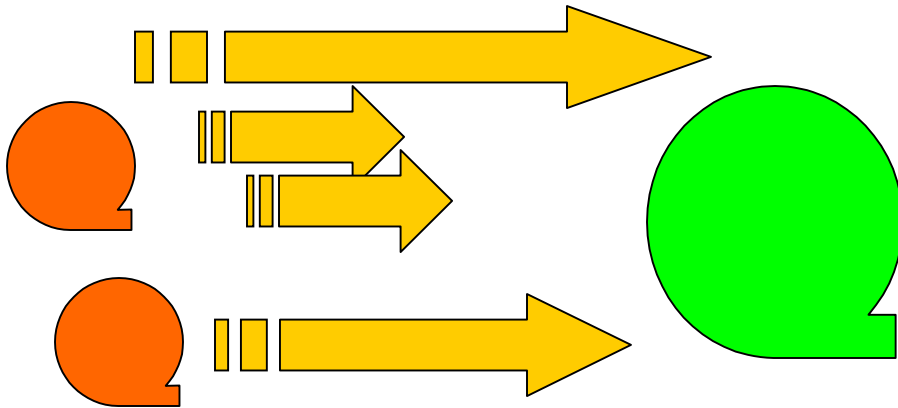


```
//TESTA EXEC PGM=SS0104
//SYSPRINT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//TAPE DD UNIT=3480,VOL=(PRIVATE,RETAIN,,SER=(MYVOL)),
// DISP=SHR,LABEL=(1,BLP,EXPDT=98000),FREE=CLOSE
```



# COPYFILE

```
//COPYSTEP EXEC PGM=COPYFILE,REGION=4000K,PARM='TAPEL'  
//MSG DD SYSOUT=*  
//TAPELOUT DD SYSOUT=*  
//SYSUDUMP DD SYSOUT=*  
//IN DD DSN=INPUT.FILE,UNIT=TAPE,DISP=SHR,LABEL=EXPDT=98000,  
// VOL=SER=vvvvvvv  
//TAPELIN DD DSN=OUTPUT.FILE,  
// UNIT=( &UN2 , ,DEFER) ,VOL=( ,RETAIN, SER=vvvvvvv) ,  
// DISP=(NEW,KEEP) ,LABEL=EXPDT=98000 ,DCB=TRTCH=COMP
```



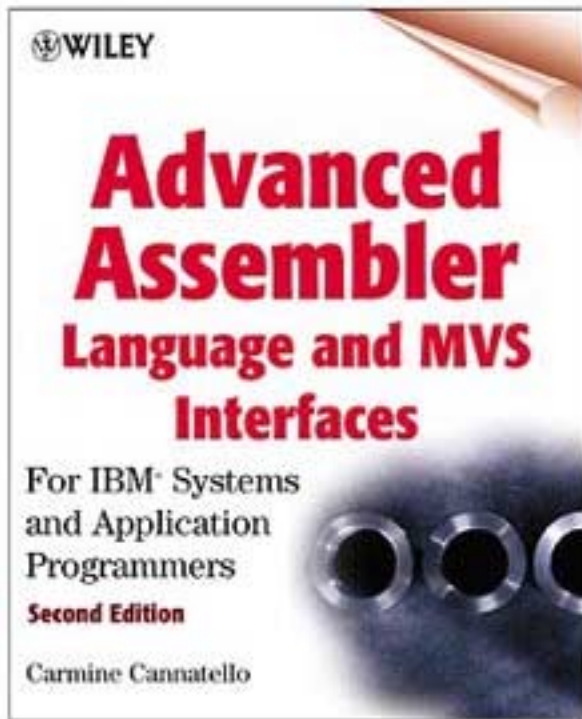
- Copy and reorder files
- Used as part of the process to create a new CBT Tape
- Found on CBT Tape File 316 in source and a load module on CBT Tape File 35

# Source Code



“Nobody should ever have to solve a problem twice.”,  
Eric Steven Raymond

# Advanced Assembler Source



Advanced Assembler Language and  
MVS Interfaces: For IBM Systems  
and Application Programmers,  
Second Edition

by Carmine A. Cannatello

ISBN 0471361763

848 pages

Source Code on CBT  
Tape File 69

Where to buy the book? SHARE Book Store or....

- Fat Brain.com <http://www.fatbrain.com>
- Amazon <http://www.amazon.com>
- Barnes & Noble <http://bn.com>

# Debugging RACF with RACTRACE



RACTRACE is a free IBM diagnostic tool for RACF which can help you understand how many aspects of security work.

<ftp://www.redbooks.ibm.com/redbooks/GG24398>

4

**OCO - does not include source**

# CBT Tapes

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CBT Tape Version 426

July - 14 - 2000

# Getting started with the 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=CBT426,LABEL=(n,NL,EXPDT=98000)
//SYSUT2    DD  DSN=userid.CBT426.FILEn,
//          DISP=(NEW,CATLG,DELETE),UNIT=SYSDA,VOL=SER=vvvvvvv,
//          SPACE=(TRK,(5,5),RLSE),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6320)
//SYSIN     DD  DUMMY
```

# Handouts CBT Tape



- 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.
  - <http://www.cbttape.org> for updates or if you did not get a tape
  - Explore File 1 possibly use CBTUPDTE program to break it up into a PDS of smaller members

# Happy Birthday CBT Tape

The CBT Tape is also having a Birthday of sorts. Sam Golob has now been maintaining the the tape for 15 years.

Happy Birthday CBT!





# Web Tour



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

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

<http://www.esj.com>

Free access to current and back issues of Enterprise Systems Journal. Subscribe Free to the printed magazine on-line.



# Web Tour

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<http://www.performancedoctor.com>

Free Advice on Performance and  
Tuning problems



<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 them out at <http://www.redbooks.ibm.com> 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 Computing Dictionary

-  Dictionary of Computing

<http://www.networking.ibm.com/nsg/nsgmain.htm>



- Free On-Line Dictionary of Computing

<http://foldoc.doc.ic.ac.uk/foldoc/index.html>

# 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. EBCDIC

# How to download and restore typical 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 *name.ZIP* file to PC as using your web browser or an FTP client.

# How to download and restore typical XMIT + ZIP

Extract *name.XMI* or *name.DAT* file from *name.ZIP* 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 by searching PC Freeware web sites such as [NoNags http://www.nonags.com](http://www.nonags.com) .

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



# How to download and restore typical XMIT + ZIP

Upload *name.XMI* 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 *name.XMI* file on MVS

Issue command: TSO **RECEIVE INDATASET(*name.XMI*)**

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>

# 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 and ESA/390 emulator which can IPL and execute S/370 and ESA/390 instructions. 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
- OS/2 and Windows 2000 ports discussed
- Capable of running MVS, OS/390, VM/370, VSE/ESA and older Operating Systems such as MVT and MVS 3.8



# Hercules - Where to get it?

Get the latest version of Hercules from:

<http://www.conmicro.cx/hercules>

Community email addresses:

Post message: [hercules-390@onelist.com](mailto:hercules-390@onelist.com)

Subscribe: [hercules-390-subscribe@onelist.com](mailto:hercules-390-subscribe@onelist.com)

Unsubscribe: [hercules-390-unsubscribe@onelist.com](mailto:hercules-390-unsubscribe@onelist.com)

List owner: [hercules-390-owner@onelist.com](mailto:hercules-390-owner@onelist.com)

Files and archives at:

<http://www.onelist.com/community/hercules-390>

OS/360 packages & Ready to Run Archive at:

<ftp://ftp.ox.ac.uk/pub/linux/hercos360>

My Hercules links at:

<http://www.knutson.org/links.htm#Hercules>



# Hercules - What to run? MVT!

Although Hercules is capable of running most of the current IBM operating systems most of us outside of IBM cannot legally do so.

So what can I run on Hercules? MVT of course!  
OS/360 runs fine S/370 mode on Hercules.

Read more at Jay Maynard's  
Introduction to running OS/360 on Hercules at  
<http://www.conmicro.cx/hercos360/>



Malcolm Beattie's Guide to installing TSO under MVT  
on Hercules at  
<http://users.ox.ac.uk/~mbeattie/hercules/tso.html>

Mike Ross Hercules Page including MVT login through IBM Host on  
Demand at <http://www.corestore.org/hercules.html>

# Hercules - Where to run?

Hercules is currently a Linux only application.

SHARE Linux Project session 5521 Installation of Linux on Desktop - Lab Part 1 of 3 plans to give many copies of Linux away and teach you how to use them. This session is 8am Friday and limited capacity so arrive early if you plan on going.

VMWare ® provides a very flexible environment for running Windows under Linux and Linux under Windows. You will see this shortly.



<http://www.vmware.com> to learn more or

download a trial copy. SHARE session 5524 gave a user experience on VMWare ® .

# Where to get **FREE** software?



SHARE - <http://www.share.org>

- The SHARE web site requires a userid and password to access the members only area. If you do not know the userid for your installation contact SHARE headquarters. The CBT tape and archives from the many SHARE projects are available to download. Archives from a number of popular mailings lists are available to search.
- The CBT Tape contents will shortly be moved to the public side of the SHARE web site so you will NOT need a userid and password to download.
- SHARE members will shortly receive individual userids



# Where to get **FREE** software?

# CBT

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.



NaSPA: World-wide not-for-profit  
Network and Systems Professionals Association  
for enterprise computing professionals; publishers  
of Technical Support Magazine.



# Freeware Potpourri

- This list is a subset of the on-line list of MVS Freeware links at: <http://www.cbttape.org/links.htm>
- 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 <http://www.flash.net/~mzelden/mvsutil.html>
- Info-ZIP Home Page <http://www.cdrom.com/pub/infozip/Zip.html>
- Leonard Woren <http://www.best.com/~ldw/mvs/>

A graphic of a white rectangular stamp with a red border and the word "IMPORTANT" written in black, slanted upwards to the right. The stamp is positioned in the upper right corner of the slide, partially overlapping the yellow brushstroke.

IMPORTANT

# 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://members.aol.com/dmcritchie/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 side-by-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  
<http://www.knutson.org/s390.htm>
- 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 <http://knowledge.storage.ibm.com/>
- Linux on S/390 <http://linux390.org>
- \_Linux/VM Project <http://linuxvm.org>

Linux  
for S/390

# VM & VSE Sites of interest



- The 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](http://www.lehigh.edu/~wsm0/vse-l/vse-l_archives.shtml)

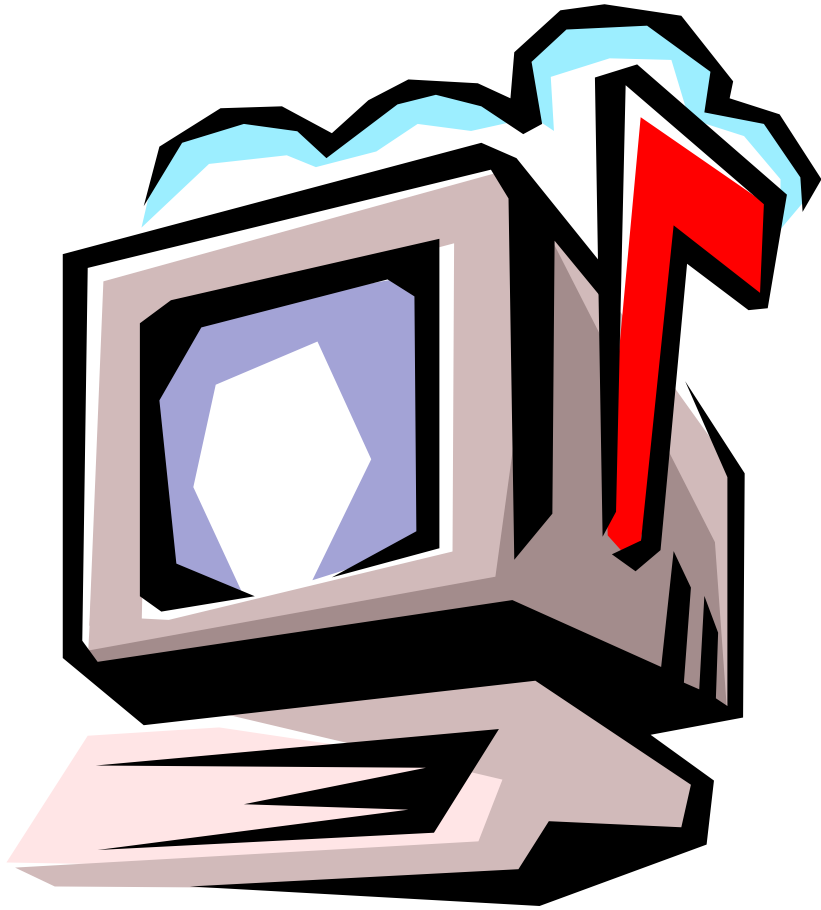
# Mail Lists



“If you’re really looking for community online forget the Web. What you want is a mailing list. **Lists are to chat rooms as a dinner party is to a singles bar** -- quiet enough that you can hear yourself think, generally fairly decorous and often quite engaging.” E-LIFE  
By Elizabeth Weise from [USA Today](#) Wednesday, August 25, 1999



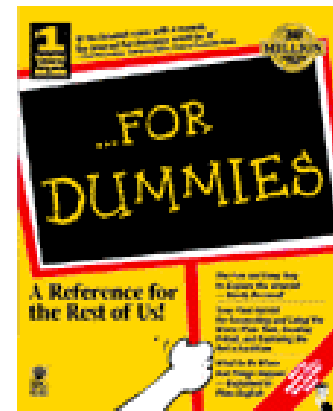
# Mail Lists



“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.

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

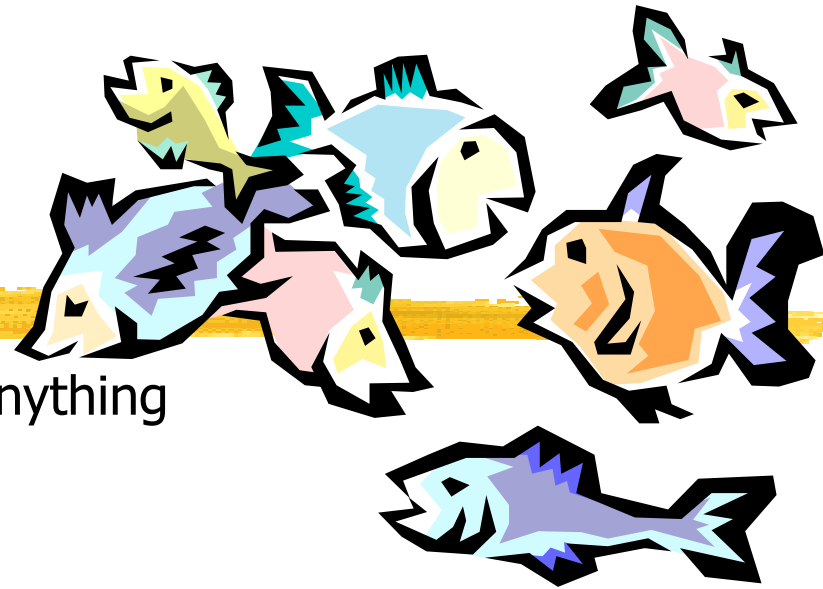
■ A mailing list is a free service you subscribe to that allows you to exchange email with others on a topic of mutual interest. For more information see the tutorial in Session 2816 from SHARE 93 in Chicago, IL or check out popular resources like Internet For Dummies® ISBN: 0-7645-0700-1.



■ There are several catalogs of lists available on the web.

- My list <http://www.knutson.org/internet.htm>
- Catalog of LISTSERV lists <http://www.isoftware.com/lists/listref.html>
- Catalog of many lists including some other list servers i.e. majodomo, listproc, and listserv. <http://www.liszt.com>

# IBM-MAIN



- Topic: IBM S/390 Computing almost anything  
Name: IBM-MAIN  
Type: LISTSERV  
Listserv: [LISTSERV@bama.ua.edu](mailto:LISTSERV@bama.ua.edu)  
List: IBM-MAIN@bama.ua.edu  
Web: <http://bama.ua.edu/archives/ibm-main.html>  
News: [bit.listserv.ibm-main](mailto:bit.listserv.ibm-main)  
Weekday Message Volume: 100 - 200 (**High** consider setting DIGEST option)  
More information: David Alcock's excellent Unofficial IBM-MAIN FAQ  
<http://www.planetmvs.com/IBM-Main/index.html>  
  
Sam Knutson's LISTSERV Page <http://www.cbttape.org/internet.htm>  
  
IBM-MAIN Archives Page <http://bama.ua.edu/archives/ibm-main.html>
- Notes: 20% - 40% off topic posts are not unusual i.e. high signal to noise ratio, however, the remaining content is great!

# 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: [listserv@vm.marist.edu](mailto:listserv@vm.marist.edu)

List: MVS-OE@VM.MARIST.EDU

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

News: n/a

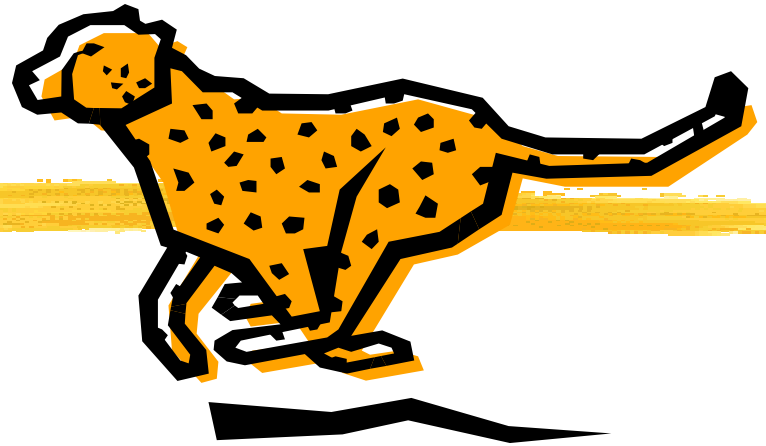
Weekday Message Volume: 20 - 50

More information: n/a

Notes:



# DB2-L



Topic: IBM DB/2 database

Name: DB2-L

Type: LISTSERV

Listserv: [LISTSERV@RYCI.COM](mailto:LISTSERV@RYCI.COM)

List: [DB2-L@RYCI.COM](mailto:DB2-L@RYCI.COM)

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

News: [bit.listserv.db2-l](mailto: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](mailto: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: [Dave's unofficial HLASM web page](http://www.planetmvs.com/hlasm/index.html)  
at <http://www.planetmvs.com/hlasm/index.html>

Notes:

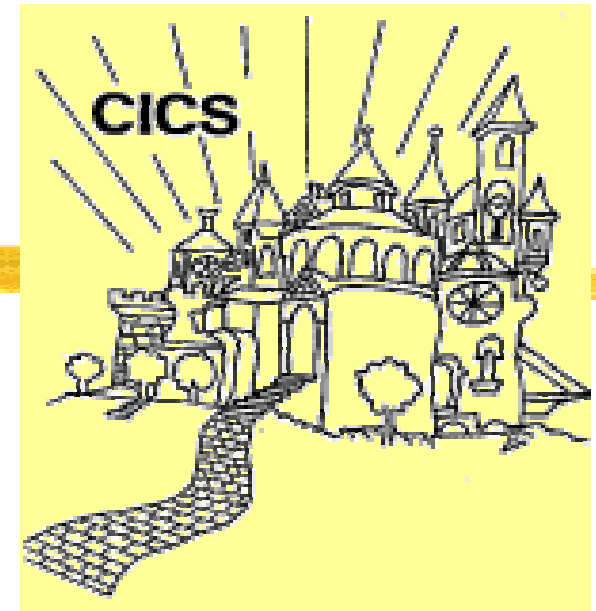
```
LA      R0,WRKDSECT_LEN
        STORAGE OBTAIN,
        LENGTH=(0),
        RELATED=RELEASE_WRKDSECT

LR      R13,R1
LR      R0,R1
LA      R1,WRKDSECT_LEN
SLR     R15,R15
MVCL   R0,R14
USING  WRKDSECT,R13
MVC    WRKSAVEP,=C'F1SA'
```

# CICS-L

- Topic: IBM CICS
- Name: CICS-L
- Type: LISTSERV
- Listserv: [listserv@vm.marist.edu](mailto:listserv@vm.marist.edu)
- 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/>



Great Site for  
CICS folks!

# Deja™ and RemarQ™



Deja™ and RemarQ™ are web sites which allows you to read newsgroups with a web browser instead of using special newsreader software and finding a news server.

Deja™ <http://www.deja.com>

RemarQ™ <http://www.remarq.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.



# 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

# 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.
- 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 \_\_\_\_\_

# 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 sender being aware.

# OCO Freeware?



Free Software is often confused with Open Source Software. Free Software without source has limitations that Open Source Software does not. You should carefully evaluate any **OCO** (Object Code Only) Free Software and determine your own needs and comfort level with the supplier.

# **Who me? Contribute to the CBT Tape?**

## **Why not!**



Send contributions to the CBT Tape to Sam Golob and call or email him.

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](mailto: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

Phone: 914-362-1996 Fax: 914-362-5843

# LICENSE to code



"First thing that we do let's kill  
all the lawyers,"

Shakespeare's King Henry VI

# LICENSE to code



A license protects the software author, his employer, and consumers of the freeware application.

Good open source licenses include GPL (GNU Public License). Learn more at <http://www.opensource.org>

MVS freeware has generally not included a license or has included kind hearted but non binding statements i.e. “Property of the free world”. There are good reasons to encourage freeware developers to adopt an open source license.

UCITA and other legislation may impact liability and the stronger open source licenses are currently the best protection and likely to be heavily defended if ever challenged. Read more about why UCITA may be bad for the Freeware community at <http://www.4cite.or> SHARE opposes UCITA! Find out why at <http://www.share.org>

# LICENSE to code

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Read it on-line at

<http://www.oreilly.com/catalog/opensources/book/toc.html>



# 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.
- <http://www.knutson.org/share95.htm>
- Feel free to call me at (703) 464-1615 or email me at [sknutson@landmark.com](mailto:sknutson@landmark.com) or [sknutson@cbttape.org](mailto:sknutson@cbttape.org)  
Please send any additions or corrections I would be glad to include them.

# Special Thanks



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# The End

**THANK YOU**

