Fully Wired Mainframe Systems Programmer

Sam Knutson
Landmark Systems Corporation
8000 Towers Crescent Drive
Vienna, VA 22182-2700
(703) 902-8338
sknutson@landmark.com

Installation Code: LND
SHARE 92
MVS/SCP Project
Session 2816

February 24, 1999

Session 2816 Abstract

Fully Wired Mainframe Systems Programmer

Is the Internet useless to a mainframe programmer? Maybe not! Find out how the Internet can be leveraged to **network with other systems professionals** every day, **obtain powerful free mainframe tools**, **transfer debugging data** to IBM or ISVs, **obtain program product maintenance**, and share your knowledge with others. This session will **take you on a tour** of some of the most useful places on-line for a S/390 professional as well as quickly reviewing all the tools and techniques to will need to get started. A detailed explanation of how to get started **using the IBM-MAIN mailing list** will be provided. Afterwards you will be able to use the net for work instead of just surfing.

Agenda

Introduction

Networking

Free Software

Transporting diagnostic data

Obtain Service

Web Tour

Handouts

Do you have Internet access at your workplace today?

Internet access is as important a tool for a mainframe programmer as is a telephone.
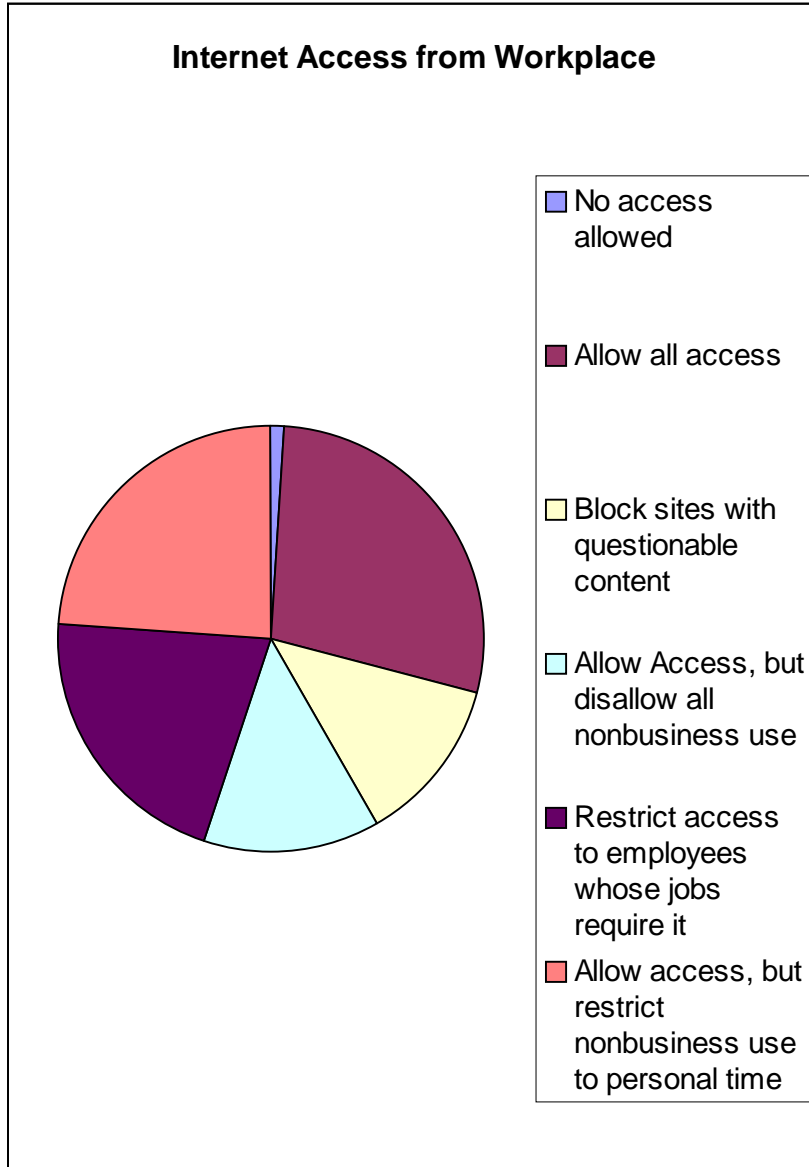
If you do not have Internet access it may be possible to get it by documenting how it will be used to be a more productive employee.

What is so important about the Internet?

"This Changes Everything"   because it is both global and immediate.

Network Computing Magazine Poll
February 8, 1999

Internet Access from Workplace

- No access allowed
- Allow all access
- Block sites with questionable content
- Allow Access, but disallow all nonbusiness use
- Restrict access to employees whose jobs require it
- Allow access, but restrict nonbusiness use to personal time

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http://www.networkcomputing.com

Networking

Peer support or networking is an important part of every user group including SHARE. The "Paddle Project" was a good example of peer support. To learn more about the "Paddle Project" attend Session 2680 JES2: Esprit de Corps in the Hilton - Ballroom Level - Parlor 5 Thursday - 10:30 PM.

Traditional Networking

- Local User Groups
- SHARE meetings
- CMG meetings
- GUIDE meetings
- Bulletin Board Systems

Local User Groups are still active but not in as great a number as in years past. Many local user groups have disbanded.

Companies are sending fewer representatives to SHARE and CMG. GUIDE format is now a more targeted conference.

BBS(s) have largely been replaced by the World Wide Web.

Internet Networking

- Mailings Lists
- Newsgroups
- Web Forums

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.

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.

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.

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 to I join a mailing list?

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

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

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.

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.
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 i.e.

Date: Wed, 17 Feb 1999 17:11:22 -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>

> ok
Confirming:
> SUBSCRIBE IBM-MAIN Sam Knutson
You have been added to the IBM-MAIN list.
Summary of resource utilization

CPU time: 0.020 sec
Overhead CPU: 0.010 sec
CPU model: Ultra-Enterprise (1024M)

You have to be a geek or a systems programmer to care about the CPU time and overhead used to process you command☺

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

Date: Wed, 17 Feb 1999 17:11:21 -0600
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, especially if this is the
first time you subscribe to an electronic mailing list. If you ever need
to leave the list, you will find the necessary instructions below.
Perhaps more importantly, saving a copy of this message (and of all
future subscription notices from other mailing lists) in a special mail
folder will give you instant access to the list of mailing lists that you
are subscribed to. This may prove very useful the next time you go on
vacation and need to leave the lists temporarily so as not to fill up
your mailbox while you are away! You should also save the "welcome
messages" from the list owners that you will occasionally receive after
subscribing to a new list.
To send a message to all the people currently subscribed to the list,
just send mail to IBM-MAIN@BAMA.UA.EDU. This is called "sending mail to
the list", because you send mail to a single address and LISTSERV makes
copies for all the people who have subscribed. This address
(IBM-MAIN@BAMA.UA.EDU) is also called the "list address". You must never
try to send any command to that address, as it would be distributed to
all the people who have subscribed. All commands must be sent to the
"LISTSERV address", LISTSERV@BAMA.UA.EDU. It is very important to
understand the difference between the two, but fortunately it is not
complicated. The LISTSERV address is like a FAX number that connects you
to a machine, whereas the list address is like a normal voice line
connecting you to a person. If you make a mistake and dial the FAX number
when you wanted to talk to someone on the phone, you will quickly realize
that you used the wrong number and call again. No harm will have been
done. If on the other hand you accidentally make your FAX call someone's
voice line, the person receiving the call will be inconvenienced,
especially if your FAX then re-dials every 5 minutes. The fact that most
people will eventually connect the FAX machine to the voice line to allow
the FAX to go through and make the calls stop does not mean that you
should continue to send FAXes to the voice number. People would just get
mad at you. It works pretty much the same way with mailing lists, with

the difference that you are calling hundreds or thousands of people at
the same time, and consequently you can expect a lot of people to get
upset if you consistently send commands to the list address.
You may leave the list at any time by sending a "SIGNOFF IBM-MAIN"
command to LISTSERV@BAMA.UA.EDU. You can also tell LISTSERV how you want
it to confirm the receipt of messages you send to the list. If you do not
trust the system, send a "SET IBM-MAIN REPRO" command and LISTSERV will
send you a copy of your own messages, so that you can see that the
message was distributed and did not get damaged on the way. After a while
you may find that this is getting annoying, especially if your mail
program does not tell you that the message is from you when it informs
you that new mail has arrived from IBM-MAIN. If you send a "SET IBM-MAIN
ACK NOREPRO" command, LISTSERV will mail you a short acknowledgement
instead, which will look different in your mailbox directory. With most
mail programs you will know immediately that this is an acknowledgement
you can read later. Finally, you can turn off acknowledgements completely
with "SET IBM-MAIN NOACK NOREPRO".
Following instructions from the list owner, your subscription options
have been set to "MIME" rather than the usual LISTSERV defaults. For more
information about subscription options, send a "QUERY IBM-MAIN" command
to LISTSERV@BAMA.UA.EDU.
Contributions sent to this list are automatically archived. You can get a
list of the available archive files by sending an "INDEX IBM-MAIN"
command to LISTSERV@BAMA.UA.EDU. You can then order these files with a
"GET IBM-MAIN LOGxxxx" command, or using LISTSERV's database search
facilities. Send an "INFO DATABASE" command for more information on the
latter.
This list is available in digest form. If you wish to receive the
digested version of the postings, just issue a SET IBM-MAIN DIGEST
command.
More information on LISTSERV commands can be found in the LISTSERV
reference card, which you can retrieve by sending an "INFO REFCARD"
command to LISTSERV@BAMA.UA.EDU.

Indigestion

The IBM-MAIN list receives over 100 messages a day on a busy weekday. This can more than 4000 or 5000 lines of email!

I prefer to get this all combined into one large email and sent daily so that it is easier to read. The DIGEST option lets you do this.   I send a command to the listserv to set this option.

To: LISTSERV@bama.ua.edu
From: Sam Knutson <sknutson@cbttape.org>
Subject: listserv

set ibm-main digest

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)
```

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.

The handout disk has some recent digest messages from IBM-MAIN which you can review to see if this mailing list would interest you.

IBM-MAIN is very busy and the topics just in recent weeks have included:

- LE migration
- MVS dispatcher logic
- Diagnosis of S0C4 abend
- ECB Waits
- SDSF and ACF2
- LPAR performance
- IEFACTRT SMF Exit
- LE options

You can also read and search on past messages on IBM-MAIN at the web archives 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

to reverse this you just send another message

To: LISTSERV@bama.ua.edu
From: yourname
Subject: listserv

set ibm-main mail

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

How do I find other mailing lists?

There are several catalogs of lists available on the web.

http://www.lsoft.com/lists/listref.html

This is a catalog of LISTSERV lists.

http://www.liszt.com

This is a catalog of many lists including some other list servers i.e. majodomo, listproc, and listserv .

Mailing lists for S/390

List name: IBM-MAIN
List Server: LISTSERV@bama.ua.edu
Web Archives: http://bama.ua.edu/archives/ibm-main.html
Topic: IBM Mainframes

List name: MVS-OE
List Server: listserv@listserv.georgetown.edu
Web Archives: None
Topic: OS/390 Unix System Services

List name: DB2-L
List Server: LISTSERV@AMERICAN.EDU
Web Archives: http://listserv.american.edu/archives/db2-l.html
Topic: IBM DB2 database

List name: ASSEMBLER-L
List Server: listserv@uga.cc.uga.edu
Web Archives: None
Topic: S/390 assembler programming

List name: CICS-L
List Server: listserv@uga.cc.uga.edu
Web Archives: None
Topic: IBM CICS product

These are only a few of the active mailing lists. The handout disk has a page of information on mailing lists which is also at http://www.his.com/~dragon/internet.htm

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 _____

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.

How to turn off WINMAIL.DAT if you are using 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.

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

Common abbreviations you may see in messages on IBM-MAIN or other lists

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
CURE - Capability, Usability, and Reliability

DejaNews

Dejanews 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.

http://www.dejanews.com

Power Search

One feature you may miss at Dejanews is the power search which is especially useful for ferreting out messages from recent past postings to IBM-MAIN or other mailing lists which have newsgroup mirrors.

http://www.dejanews.com/home_ps.shtml

Power Search: ?????
Subject: *
Author: *
Make sure all date fields are cleared out by Ctrl selecting field and hitting delete.

Free Software

Sharing source code and tools is just as much a part of user groups as sharing information. I depend on tools that I have used for years without commercial support for years and I bet you do to.

I think that the essay "The Cathedral and the Bazar" by Eric S. Raymond makes a more eloquent case for shared code than I possibly can. You can read it at
http://www.redhat.com/redhat/cathedral-bazaar/cathedral-bazaar.html

Traditional Sources of Free Software

- SPLA Tapes
- CBT Tape
- MVS Mods Tape
- LA RACF User Group Tape
- Mellon Mods Tape
- BBS(s)

Internet Sources for Free Software

- Web Sites
- FTP Servers

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 typical XMIT + ZIP

Extracted from the download FAQ at http://www.cbttape.org

Frequently files are packaged on MVS for transfer using the TSO transmit (XMIT) command to trasnmit them into a data set. This is done to turn PDSs 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. Files suffixed .XMI are packaged in XMIT format while there are still a few files here suffixed .DAT that are straight sequential files.

- Download _name.ZIP_ file to PC using your web browser or an FTP client
- Extract _name.XMI_ or _name.DAT_ file from _name.ZIP_ file on PC . You will need a small utility program to do this. I recommend PKZIP or WinZIP.
- Upload _name.XMI_ or _name.DAT_ 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.
- _name.DAT_ files are sequential files and ready to use onece you have uploaded them. We are trying to switch to packing everything in XMIT format to make it more consistent so these should slowly go away.
- 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

- Most files which have some documentation in them to help you use the contents. Look for $DOC, $README, $INDEX, or similar members or comments at the top of the file. File 1 is the roadmap for CBT tapes and so also may have useful comments about the files contents and format.

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 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.

Where to get FREE software?

Large organized collections of Freeware

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. SHARE has announced the intent to move to a userid for each individual once it completes an upgrade to the web site. The CBT tape and archives from the many SHARE projects are available to download.

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.

NASPA - http://www.naspa.net

Membership in NASPA is required to access the download area. NASPA members receive a CD-ROM annually, which has included the CBT Tape in ASCII format.

Freeware Potpourri

This list is a subset of the on-line list of MVS Freeware links at: http://www.cbttape.org/links.htm#OS/390 Freeware

- ## Gilbert Saint-Flour's Tools
  http://members.home.net/gsf/

- ## Dave's MVS page
  http://www.ticnet.com/davea/mvs/

- ## IBM TASID
  http://www.software.ibm.com/ad/ispf/downloads/tasid.htm

- ## 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
  ftp://lindy.stanford.edu/pub/mvs

S/390 Information Potpourri

- ## Sam Knutson's S/390 Home Page
  http://www.his.com/~dragon/s390.htm

All the web links included in this document and many more are available through my S/390 Home Page.

- ## 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

Free Software for VM

VM Download Library: The Place to Go for Great Tools, Apps and Sample Programs for VM!

Not far from the VM Homepage there's a place you can go where the tools are plentiful, the apps are leading edge and the samples are helpful...it's called the VM Download Library. At the VM Download Library you can also find VM function from IBM that is being delivered between releases, so to keep up with the "latest and greatest", you'll want to visit and visit often. The VM Download Library accepts package submissions from IBMers and non-IBMers alike...but don't bring your credit card, because the packages are all free for the asking!

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

Other useful VM sites on the internet include

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

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

VENDOR Support

Traditional Support

- Dialup BBS
- Dedicated line to hookup IIN
- Phone tag
- Fax
- Snail mail
- Sending tapes

Internet Support

- email
- web sites
- mailing lists
- newsgroups
- #1 Users helping Users 24X7X365

FTP a dump to IBM

```
//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
/*
```

Compress dumps before FTP

If you send dumps to IBM using FTP be sure and get the compression utility TRSMAIN from ftp://service.boulder.ibm.com/s390/mvs/tools/packlib which will allows you to send PACKed dumps that transmit faster and use less space on IBM's FTP directory.

TRSMAIN is easy to install follwing the directions and easy to execute. It uses a lot of CPU to PACK a dump but the resulting file is much smaller and will transfer quicker and use less space in the IBM FTP directory.

```
//****************************************************
//*                                                  *
//*         TRSMAIN WITH PACK OPTION                 *
//*                                                  *
//****************************************************
//JOBLIB   DD   DISP=SHR,DSN=CSSJK.TERSE409.LOADLIB
//STEP     EXEC PGM=TRSMAIN,PARM=PACK,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)
```

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 http://www.his.com/~dragon/share92.htm following the SHARE conference.

You may also contact me directly at

      Sam Knutson
      Landmark Systems Corporation
      8000 Towers Crescent Drive
      Vienna, VA 22182-2700
      (703) 902-8338
      sknutson@landmark.com

Thank You

Please send me any additions or corrections at sknutson@landmark.com or sknutson@cbttape.org

Special Thanks

Sam Golob
Sylvia Gorman
Greg Dyck
Bill Horton
David Alcock
Gilbert Saint-Flour
Bob Johnson
Dr. Robert P. Rannie
John Kalinich
Paula Knutson