THE MULTI-TASKER

Volume 15, Number 5

The Newsletter of the RSX-11/IAS Special Interest Group

Letters and articles for publication are requested from members of the SIG. They may include helpful hints, inquiries to other users, reports on SIG business, summaries of SPR's submitted to Digital or other information for the members of RSX-11/IAS SIG.

All contributions should be "camera-ready copy" e.g. sharp black type in a 160x240 mm area (8 1/2" x 11" paper with 1" margins) and should not include xerox copies. If you use RUNOFF to prepare your contribution the following parameters have been found to be satisfactory:

.PAPER SIZE 60,80 .LEFT MARGIN 8 .RIGHT MARGIN 72 .SPACING 1

These parameters assume output on a lineprinter with a pitch of 10 char/inch. Adjust the parameters to maintain the same margins if another pitch is used.

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FROM THE EDITOR

The major part of this issue is the SIG Tape Abstracts (Part 4). Also, one problem surfaced when I started publishing the SIG Tape Abstracts: I forgot to tell you where to get the tapes. Unfortunately, there is no good answer. I will not make personally make copies. There is not enough time in a day, even if I did not have to work for a living. The same applies to the Phil Cannon who is in charge of the RSX/IAS Tape Copy. There are two possible routes you can take at this time:

* Contact your Local Users Group (LUG). From the start of the tape copy effort, each LUG received one copy they were to distributed to their members. If you do not know what LUG's exist in your area, call the DECUS office at (617) 467-4875 to find out. If your LUG is newly formed and does not have all past tape versions, have the LUG librarian contact me.

* Order the tape from the DECUS library. Some of the latest tapes (Fall 1979 and on) are in the DECUS library and can be ordered directly.

We are working to solve this problem. As soon as possible, all of the RSX/IAS SIG tapes not currently in the DECUS library will be submitted. Also, a seperate submission combining all tapes will be made and continually updated as new SIG tapes are produced. The SIG tape abstract document will also be a seperate submission and again continually updated. Finally, the Miami tape is in distribution now and by the time you read this, should be available from your LUG and the DECUS library. Next issue, I will have an article going into more details about the SIG Tape Copy process and the DECUS library.

I have run into a problem with phone calls. I enjoy talking to many of you, but the volume is beginning to interfere with my job. So as a new policy, I will only accept calls from 3 to 5 pm, Central Standard Time (St. Louis).

There will not be a December issue. Instead, publications will be delayed until after the Los Angeles symposium and the January issue will carry the news from it. I will try to have the issue submitted to DECUS before the holidays.

Ralph Stamerjohn
Multi-Tasker Editor

Phone: (314) 694-4252 (3-5 pm, CST only)

PROCESS CONTROL WORKING GROUP FORMS

A Process Control Working group, newly formed at the Spring 1981 DECUS Symposium in Miami, is looking for members interested in process control applications. If you are interested in the application area, please send your name and address to:

> Blair D. Gerrish
> DOFASCO Inc.
> Process Control & Automation Group
> P.O. Box 460
> Hamilton, Ontario
> Canada, L8N 3J5

Please include any thoughts you have on the kinds of things the group should get involved in for the future. Working group chairman Mark King will hold a birds-of-ther-feather session for problem discussions at the Los Angeles Symposium. Also, Mark Joyce and Dr. Ceib Phillips have submitted a paper on the LPA11 for the symposium.

SPEAK OUT

"Speak Out" is a monthly column for readers to express their opinions or to comment on a previous column. The articles published in this column are an individual's viewpoint and do not necessarily reflect the opinion of DECUS or the RSX/IAS SIG. Readers are welcome to submit articles on any subject concerning the RSX/IAS world. Submissions may be editted by the Multi-Tasker staff for space considerations and clarity.

SOFTWARE MAINTENANCE SERVICES

Ralph W. Stamerjohn

From the Author

I am speaking here as an individual. While I feel my views are held by others, they are strictly my own and are not an official position of DECUS, the RSX/IAS SIG, or Monsanto.

Software Maintenance Service resembles the weather, everyone talks about it. Whenever stories are exchanged at any gathering of users, you inevitably hear tales of how one is not getting their Software Dispatch, the latest errors in the autopatch kit, or what new problem was fixed but not published. Unfortunately, all the talk seems to accomplish nothing because the problems have existed for a long time.

Three major problem areas seem to dominate Software Maintenance Services:

* The order processing system for Maintenance Services is not fool-proof. Furthermore, you have no indication something is wrong until you notice you are not getting your Software Dispatch, the next Autopatch kit, or the latest software release. Then it is very difficult to find someone to respond to the problem and fix it. Typically months pass without the vital information you need to maintain your system.

* An alarming number of supplied answers are wrong. And most of these errors are simple reproduction mistakes. While the percentage of bad responses is low, the cost of a bad answer to customers can be enormous. Whenever a misprint occurs in a Software Dispatch, many repeated hours of wasted time are spent by customers checking the patch over and over to find a typing mistake that is not there. Worse are problems in Autopatch kits. Here, you are not even sure what is needed to fix the problem.

* It appears that a substantial number of problems reported to Digital are never published. Even more alarming is that Digital does not publish all responses they make to individual SPR's. It is extremely frustrating to spend many hours working on a problem critical to your site, come to a resolution to the problem, and then find that Digital was aware of the problem all along and did not publish the fix because it was not of general applicability to their user community.

Software Maintenance Service is an extremely complex problem. Most sites have trouble maintaining their own application systems on one CPU. I can appreciate that the problems increase by orders of magnitude when trying to handle a large customer base. There are no simple, quick solutions to the problem. However, the SIG and Digital should begin working together to solve the problems because the benefit would be great: a satisfied customer community. Some suggestions I have for the problems are as follows:

* More audit controls could be built into the order processing system so a customer and Digital know when something is amiss. Furthermore, there needs to be a single hot-line number where anyone can call and get immediate action.

* A common, independent quality control group could check all responses in the final, pubished form. Lay people in this group will attempt to apply the patches as published to check-out that the instructions can be clearly followed and the patches work. Published answers should always have a test case that allows the users to test that the patch has been applied correctly. For source patches, there needs to be someway to verify the resulting object module is correct. A simple technique would be to verify object module checksum when the module is assembled using a standard technique and prefix file.

* Digital should start a clock whenever an SPR is received and if no response is returned to the customer within some time period, the raw problem published in the next Software Dispatch. Digital responses should always be published.

FROM FIVE YEARS AGO

The November 1976 issue of the Multi-Tasker (Vol. 6, No. 5) carried mostly Software Performance Reports: 4 for RSX-11D, 7 on RSX-11M, and 8 for IAS. Perhaps the most interesting for today were two from David Thiel on RSX-11M V2.0. He noted that the user-mode light on a PDP-11/45 would noticably dim when doing output to 9600 baud terminals using a DH11. Inspection of the terminal driver should that one character was being sent at a time and the DMA output logic of the DH11 was not being used. The other SPR commented that RK05 disk performance could be improved by using the overlapped seek capability of the drive. While the first problem has since been resolved, RSX-11M still does not have overlapped seek support for any drives.

The major article was a report from Colin Mercer on the European 1976 Symposiums. The lively discussions at the European Symposium centered around the stabilization of RSX-11D and problems with Software Service policies. This resulted in a letter from the European RSX/IAS SIG to Karl Gibson (then Digital RSX Product Manager) with the following points (note how some problems are still discussed today):

* Documentation on the internal structure of the RSX operating systems be made available as part of the standard documentation kits.

* The SIG was concerned with the stabilzation of RSX-11D and requested urgent discussions on the status of RSX-11D and associated layered product developments.

* Software maintenance schemes should take into account previous releases, primiarily because many sites freeze to a particular level at some time and a three month support policy for previous releases after a new release was not adequate.

* The SIG deplores the long time between quoted release dates and delivery of the products (much more a problem in Europe than America).

* Multi-user licenses be made available at resonable prices under a declared policy.

Finally, the November, 1976 issue carried the initial draft of the RSX/IAS Operating Procedures. These procedures were eventually adopted and remain in effect untill this year when they were revised to better reflect the changing needs of the SIG

HELP YOURSELF

"Help Yourself" is a place for you to get your tough questions answered. Each month, questions from readers will be published. If you have a question, send a letter to the Multi-Tasker at one of the addresses listed on the cover.

We would also like to publish the answers to questions. If you can help someone, send a letter to the Multi-Tasker or call Ralph Stamerjohn (see first page). Your answer will be sent directly to the person in need and published in the next edition of the Multi-Tasker.

THIS MONTH'S QUESTIONS

UNIVAC 1100 COMMUNICATIONS

I am very interested in finding a "fast" hardware/software configuration for performing communications between a Univac 1100 series computer and a PDP-11/23 running RSX-11M. We will be implementing Digital's UN1004/RSX for our initial configuration but the speed limitation of the serial transfer to 4800 baud is a problem. We would like to upgrade to a faster interface (i.e. faster serial, parallel or DMA). I have not been able to find a faster interface through Digital or Univac contacts and would appreciate any information or suggestions. I would also be grateful for any comments regarding problems with the UN1004/RSX product.

Norman Idleson, ITT Research Institute, 185 Admiral Cochrane Drive, SMDD 30, Annapolis, MD, 21403. Phone (301) 267-2969.

VS-11 FORTRAN GRAPHICS

I am looking for a RSX-11M Fortran callable graphics package for a VS-11. Our hardware is a PDP-11/44.

Teri J. Becker, Informatics Inc., 1211 San Antonio Road, Palo Alto, CA, 94303. Phone (415) 965-6623.

REGIS COLOR OUTPUT

We are looking at the ReGIS software package and GIGI terminals for a graphics application we have. However, color output is a requirement and the volume makes photographs impractical because of cost. An eight pen plotter interfaced to ReGIS would solve the problem. Does anyone have a solution to how to interface such a plotter to ReGIS or an alternate solution for color output?

Kreigh Tomaszewski, Amway Corporation, EDP Technical Support 21-2B, 7575 East Fulton Road, Ada, MI, 49355.

AUTO-DIALER SOFTWARE

We are looking for a software package that will allows a user at a local terminal invoke an autodialer and be connected (transparently) to the dial-out line to a service such as GE or Compuserv. We also would like the ability to capture the entire session onto disk and allow for outputing a local file to the dial-out line while the dialogue is progress. We would look like a terminal to the reference system.

Kreigh Tomaszewski, Amway Corporation, EDP Technical Support 21-2B, 7575 East Fulton Road, Ada, MI, 49355.

HINTS AND THINGS

"Hints and Things" is a monthly potpouri of helpful tidbits and rumors. Readers are encouraged to submit items to this column. Any input about any way to make life easier on RSX/IAS is needed. Please beware that items in this column have not been checked for accuracy.

REMOVING RESIDENT DEVICE DATABASES

The following article is from Frank Keefer, NASA/GSFC, Code 685, Greenbelt, Maryland, 20771.

We have a Versatec printer-plotter on a PDP-11/44 that we use as a line printer and plotter. The driver for this device has the option of using NPR transfers in plot mode, but the resident data base for Digital's LP: does not have the necessary 6-word register assignment block in its SCB needed for NPR devices on a 22-bit machine (since line printers are not expected to be NPR). The system crashes if a NPR transfer is attempted.

Since all the devices selected at SYSGEN have data bases created for them inside the executive, it is impossible to eliminate one of them without at least reassembling and rebuilding the executive. However, it is easy to remove a data base in the sense that the system will no longer recognize it and thus use the data base provided when the user builds the driver with a loadable data base.

If we change the menumonic "LP" in the DCB of the resident data base to "XP", when LOA loads the Versatec line printer driver, it fails to locate device LP: and uses the data base built with the driver. We setup this data base by extracting the LP: data base from SYSTB.MAC, adding the necessary global symbols needed for loadable data bases, ading the 6-word register assignment block, and building the driver according to the method for loadable drivers with loadable bases.

The following describes how we change the LP: driver name for both the disk and memory executive image. Note, the LP: driver must be unloaded before this is

done or a message "DEVICE NOT IN SYSTEM" is returned from UNL LP:. You can get the address of the LP: DCB from the executive map or a crash dump listing.

For a memory image

```
>UNL LP:                          ;Unload the driver first
>OPE 41462                        ;Open D.NAM field in DCB
041462 05114/ 50130<ESC>         ;Change LP to XP
>LOA LP:                          ;Load new LP: driver
```

The same technique can be applied to the boot image except VMR is used to unloaded and load the driver and ZAP is used to make the patch. Note, ZAP must be in absolute mode (/AB) because RSX11M.SYS does not have a header.

HANDLING NO-POOL ERRORS ON OPENS

The following article is from Felix Li, A&S Building Systems, P.O. Box 40099, Houston, Texas, 77040. Phone (713) 466-7521.

We run a PDP-11/70 with 1 MB of memory and a 20 KW executive. Because of the excessively large number of installed tasks, a direct consequence of an outside-supplied system, it is not unusual for a task to fail while attempting a file open with an FCS error -23 (no pool). While other parts of FCS seem to handle this condition, the open logic does not. Feeling that a transient condition such as this should not result in file open errors, we modified the OPFNB (open by filename block) routine to handle the condition. This helps us the most because this is the open routine used by Fortran.

Our technique to make the patch was as follows:

1. Using LBR, extract the OPFNB object module from SYSLIB.OLB.

2. Using the disassembler from UIC [301,52] on the Fall 1980 RSX/IAS SIG tape, disassmble the module.

3. Apply the following patch file to the disassmbled source (note, this patch file depends on the disassembler we used).

4. Assemble the newly patched source.

5. Using LBR, put the new version of OPFNB back into SYSLIB.OLB.

The technique seems to work fine for solving Fortran opens. A similar patch could be developed for the other open modules.

```
OPFNB.DOB;2=OPFNB.DOB;1
-2,2
        .IDENT   /17.0M2/

        .MCALL   FDOF$L                  ;Define FCS symbols
FDOF$L
        .MCALL   IOERR$                  ;Define error symbols
```

```
        IOERR$
        .MCALL  WSIG$S                  ;Define directive
-9,9
RETRY:  MOV     @#.FSRPT,R1             ;Restart operation
-172,172
E01116: CMPB    #IE.NOD,F.ERR(R0)       ;Low pool error?
        BNE     SET                     ; No, continue
        WSIG$S                          ;Wait for some event
        JMP     RETRY                   ; And retry operation
SET:    SEC                             ;Try again
/
```

FROM THE WIZARDS BOOK OF MAGIC

The Magic sessions at the symposium have become one of the most popular features of the RSX/IAS SIG. This column has the same purpose: to exchange and discuss ideas on non-standard RSX and IAS programming. Readers are encouraged to submit items to this column and are also warned that the material here have not been checked for accuracy. Also, implementation of any items from this column will be completely unsupported. The material here is potentally dangerous: incorrect usage could result in system crashes and other incorrect system operations.

USING XDT WITH USER-WRITTEN DRIVERS

The following article is from Phil Stephensen-Payne, Systime Ltd., Concourse Computer Centre, 432 Dewsbury Road, Leeds, England. The article comes from a note Phil put on the RSX/IAS Miami SIG tapes in UIC [373,310]. This account also has some other interesting documentation, most notably a very complete description on RMS internals.

It is sometimes convenient to be able to trap to XDT inside a user-written driver. Most suggestions include a placing BPT either in the source code or temporarily inserted into the driver image with ZAP and then somehow invoking the driver. An alternate technique can be used that suffers none of the dangers of on-line poking code. The key to this is to allow the MCR SET /BUF command put a flag into U.CW4. The driver then checks this flag and conditionally executes a BPT. In this manner the BPT can remain hidden until required and there is no chance that an incorrect location will be zapped. The trap will also be selectively executed for any unit of a multi-unit driver. It is also much easier to use the SET /BUF command. The driver check is very simple. For example:

```
$XXINI::
        CMP     #1,U.CW4(R5)    ;TURN ON WITH SET /BUF=XX:1
        BNE     .+4             ;NOT SET
        BPT                     ;GO TO XDT
```

SOFTWARE PERFORMANCE REPORTS

This section contains SPR's submitted to the Multi-Tasker by users. SPR's should always be sent to DIGITAL. However, if you feel that a report should be published in the Multi-Tasker, you may send a duplicate copy to the editor at the addresses listed on the cover. Publication of an SPR in the Multi-Tasker does not imply endorsement by the SIG. Implementation of suggested fixes must be at the reader's own risk. The SPR's published in this column may be abstracts of the original submission and have not been checked for accuracy.

The following SPR on the RSX-11M V3.2 XBDRV and XMDRV was submitted by Lance Szyhowski, McDonnell Douglas Electronics Company, Department 1492, 2600 N. Third Street, P.O. Box 426, St. Charles, MO, 63301.

From the Editor

Lance also submitted his patch file for the problem, but due to its extensive length, I am not publishing it. If you need the patch, contact me and I will send a copy to you. The problem seems very similar to the one reported in the Software Dispatch for the XMDRV (August 1981, sequence 3.1.5.2).

Corruption occurs of the link list for the UMR mapping assignment blocks for either the XBDRV or XQDRV when used on a 22-bit RSX-11M system. The problem occurs because the drivers fail to deallocate the UMR(s) used after the I/O completes. The corruption occurs when the next operation is initiated because the drivers use the same mapping block to attempt to allocate a UMR without having previously dealloctaed the last used UMR. In some cases the pointers become corrupted so the UMR list becomes circular and a loop in the $DEUMR routine when other drivers try to properly deallocate a UMR. Other times, active UMR's may be reallocated because of list corruption.

The following SPR on BRU was submitted by Kreigh Tomaszewski, Amway Corporation, EDP Technical Support 21-2B, 7575 East Fulton Road, Ada, MI, 49355.

BRU lowers its priority during the internal sort operation. Also, BRU cannot copy files to a different UIC other than the original input device.

The Digital response agreed with the first statement. This was done so BRU would not take over completely the machine when it went compute bound for its internal sort. However, if this is desired, the following patch can be added to

the BRU task build command file:

    GBLPAT=ROOT:$SRPRI:nnn

The second problem is a current restriction of BRU. BRU puts all UIC's
specified in both the input and output specification into the same table. So if
an input UIC of [200,200] was specified and output was to be put in [200,201],
both [200,200] and [200,201] would be restored to their respective UIC's. The
next release may possibly remove this restriction.

The following SPR on RSX-11M V3.2 executive was submitted by Dennis Cook,
Fischer and Porter, Department 437, County Line Road, Warminster, PA, 18974.

If TKTN is not installed in a system and a task with outstanding I/O is aborted,
if the I/O has an AST routine, the AST is queued to the aborted task and invoked
the next time the task is started. TKTN hides the problem because it forces
task exit processing following the abort message. During the second exit
processing, the AST's queued from the first exit are discarded, and since all
I/O has been cleaned-up by this time, no new AST are generated.

The following SPR on RSX-11M V3.2 executive was submitted by D.P. Costello,
Cornell University, 317 Space Sciences Building, Ithaca, New York, 14853.

If checkpointing is disabled or checkpoint space runs out and there is an
allocation failure, the following message is output to the console:

    ***tsknam CHECKPOINT SPACE ALLOCATION FAILURE

Unfortunately, this message reappears continuously and it is impossible to type
any command on the console to clear the condition. If logins are disabled
(normal during startup) or there is only one terminal, the system must be
rebooted to fix the problem.

The following SPR on EDT V2.0 was submitted by Kevin Angley, Telex Terminal
Communications, 3301 Terminal Drive, Raleigh, North Carolina, 27064.

Under certain conditions, EDT will terminate with a write check error if disk
write checking is enabled. If write checking is disabled, the problem does not
occur.

The Digital response stated that EDT, under certain conditions, would issue a
write to its work file and then begin modifying the block buffer before the
write was complete. Because it always reissued the write again, no problems
would result and the logic actually improved EDT's efficiency. However, the
disk write check logic assumes the I/O buffer will not be modified during an I/O
operation.

A restriction for EDT V2.0 will be that the work file must be on a non-write
checked disk. This can be done by reassigning lun 1 to such a volume.

The following SPR on EDT V2.0 was submitted by Kreigh Tomaszewski, Amway
Corporation, EDP Technical Support 21-2B, 7575 East Fulton Road, Ada, MI, 49355.

The VT100 without AVO (advance-video option) does not work reliably in
132-column mode, even with the number of lines set to 12.

The Digital response stated that EDT always used lines 23 and 24 for its status
lines and because only 12 lines are displayed by a VT100 in 132-column mode
without the AVO option, unpredictible things would happen to the screen. This
will remain a permantent restirction of EDT.

The following SPR on FOR V2.2 was submitted by J. Bradley Flippen, Raytheon
Service Company, 2341 Jeffersion Davis Highway, Arlington, Virginia, 22202.

The Fortran default carriage control is documented as 'NONE' for an unformatted
file. The default carriage control is actually 'FORTRAN'.

The Digital response agreed with the analysis. The only solution is to
explicitly open unformatted files with a carriage control of 'NONE'.

The following SPR on RSX-11M Plus V1.0 was submitted by J. Bradley Flippen,
Raytheon Service Company, 2341 Jeffersion Davis Highway, Arlington, Virginia,
22202.

What is the contents of the high byte of word 3 of the buffer returned by the
GLUN$ directive when the lun is assigned to a disk driver?

The Digital response noted an error in the documentation. Words 3 and 4 of the
buffer are documentented as being the size of a disk for disk drivers. In fact,
this is only a 24-bit quantity and some drivers use the high byte for driver
dependent storage. A program should always clear the high byte of word 3 from a
GLUN$ before attempting to use the words as a maximum logical block number.

This account has patches to HELLO and BYE to aid the use of virtual disks. The HELLO patches allow a virtual disk to be automatically assigned on login. The BYTE patch will deassign all virtual disks current in use by the terminal. See also [313,2x] for other enhanced components of the virtual disk package.

1981 - Spring - Miami

[313,030] UIC

UIC is a shorthand SET /UIC task. It simplifies the syntax needed to change your current UIC. It also allows specification of account names.

1980 - Fall   - San Diego

[313,050] DMP

This is a version of the standard DMP task with three additional switches: /EBCDIC converts input from EBCDIC and outputs as ASCII, /LC enables lower case output, and /SI outputs data in signed decimal.

1980 - Fall   - San Diego

[313,060] TISTAT

TISTAT provides Indirect MCR with status on the terminal type. It returns a 16-bit mask to the <EXSTAT> variable with such information as whether the terminal is privileged, set to lowercase, etc.

1980 - Fall   - San Diego

[313,070] FLECS

FLECS is a popular language that adds structured programming constructs to Fortran. FLECS is implemented as a Fortran preprocessor to the Digital compilers.

1980 - Fall   - San Diego

[314,001] RATFOR
[314,001] STRLIB
[314,001] VTLIB

This account has three entries. RATFOR is a popular structured

language. It is implemented as a preprocessor to Fortran and adds structured programming constructs to Fortran. VTLIB is a subroutine library with support for the graphics features of Digital's VT-series terminals. STRLIB is a subroutine library for string handling.

1980 - Spring - Chicago

[314,004] RENUM

RENUM is a program that will resequence Fortran labels. It will also provide a cross reference of variables to statement numbers. It produces an output with DO loop ranges flagged.

1980 - Spring - Chicago

[314,006] RATFOR
[314,006] STRLIB
[314,006] VTLIB

This account has three entries. RATFOR is a popular structured language. It is implemented as a preprocessor to Fortran and adds structured programming constructs to Fortran. VTLIB is a subroutine library with support for the graphics features of Digital's VT-series terminals. STRLIB is a subroutine library for string handling.

1980 - Spring - Chicago

[315,100] ASG
[315,100] BLK
[315,100] CANALL
[315,100] COMP
[315,100] CORENAL
[315,100] CPY
[315,100] DAC
[315,100] DUKE SUBROUTINES
[315,100] FIL
[315,100] FRG
[315,100] GREP
[315,100] LP
[315,100] READTAPE
[315,100] STF
[315,100] TAPUTL
[315,100] TRANSLATE
[315,100] TRUNC

This account has a variety of submisisons for IAS systems (and possibly RSX-11M). Included in the account are the following items:

o ASG is a MCR program that will assign luns of non-installed tasks.

o BLK is a disk utility which will determine in which file a particular block is in and do some consistency checks on the disk structures.

o CANALL is a MCR program that will cancel all scheduled requests for a task.

o COMP is a block-by-block binary compare program for comparing things like task images.

o COREANAL is a task dump analysis package.

o CPY is a disk-to-disk copy utility which does very large block transfers.

o DAC is a program that will produce a sorted listing of directories and how much space is used.

o The DUKE SUBROUTINES include the following:

  * CTLIMP is a routine to set a file for implied carriage control.

  * DIRDL is a routine to handle no-pool errors on QIO's and mark times.

  * PRFCS is a routine to process errors and output messages from QIOSYM.MSG.

  * NOLOCK is a routine to set a file for no lock on improper close.

o FIL is a program to unlock files and reset the EOF.

o FRG is a utility that reports the size of free spaces on the disk. This version can handle any size disks and should work on all systems.

o GREP is a pattern search utility that will find a specified pattern in the files specified.

o LP is a device handler for multiple line printers.

o READTAPE is a disk backup utility for writing to magtapes.

o STF is a MCR program that will issue the specified command at the specified terminal.

o TAPUTL is a collection of MCR commands to manipulate magtapes (rewind, space forward, etc).

o TRANSLATE is a program to read RT-11 magtapes and translate RT-11 format text files into RSX-11 format.

  o TRUNC is a utility program to truncate files to the EOF.

1978 - Fall   - San Francisco

[316,001] FILEIND

FILEIND is a set of patches to the RSX-11M V3.0 Indirect MCR to implement pre-answer files. It allows IND to record answers to a file. These files can then be used later to reexecute the command file.

1978 - Fall   - San Francisco

[317,300] WIRAP

WIRAP is a program to simplify, check, and optimize wire-wrapping of PC circuit boards.

1979 - Spring - New Orleans

[320,205] IAS ACCOUNTING

This account has an accounting package for IAS systems.

1979 - Spring - New Orleans

[321,001] BRIDGEPORT-TEXTRON SUBMISSIONS

This account has general information about the [321,*] accounts. These are submissions from Bridgeport-Textron.

1979 - Spring - New Orleans
1980 - Spring - Chicago

[321,002] RATFOR
[321,002] SCCS

This account has two submissions. RATFOR is a popular language that adds structured programming constructs to Fortran. It is implemented as a pre-processor to Digital's compilers. SCCS is a source code control system. It is implemented as a command file and provides

unified control for source management.

1979 - Spring - New Orleans
1980 - Spring - Chicago

[321,003] FRAG
[321,003] SUPMAC

This account has two submissions. FRAG is a utility to list the free space on a disk. This version is corrected for large disks. SUPMAC is a set of macros which add structured programming contructs to Macro-11.

1979 - Spring - New Orleans
1980 - Spring - Chicago

[321,004] RMSFTN
[321,004] SPQ

This account has two submissions. SPQ is a task to output the current print queue, including the size of the files. RMSFTN is a set of Fortran callable subroutines to provide access to RMS ISAM files. Included are the following routines:

o   RMSOPE opens an ISAM file.

o   RMSCLO closes a file.

o   RMSCON connects a record access stream.

o   RMSDIS disconnects from a record access stream

o   RMSGET inputs a record.

o   RMSPUT outputs a record.

o   RMSFND finds a record.

o   RMSUPD updates a record.

o   RMSDEL deletes a record.

o   RMSRWD rewinds a file.

o   RMSRAC sets record access mode.

o   RMSKEY sets key information for record retrival.

o   RMSFRE frees a locked bucket.

o   RMSFLS flushes an I/O buffer.

1979 - Spring - New Orleans
1980 - Spring - Chicago

[321,005] SCREEN

SCREEN is a Fortran callable subroutine that provides screen formating and cursor support for VT52 and like terminals.

1979 - Spring - New Orleans

[321,006] RMSFTN

RMSFTN is a set of Fortran callable subroutines to provide access to RMS ISAM files. Included are the following routines:

o   RMSOPE opens an ISAM file.

o   RMSCLO closes a file.

o   RMSCON connects a record access stream.

o   RMSDIS disconnects from a record access stream

o   RMSGET inputs a record.

o   RMSPUT outputs a record.

o   RMSFND finds a record.

o   RMSUPD updates a record.

o   RMSDEL deletes a record.

o   RMSRWD rewinds a file.

o   RMSRAC sets record access mode.

o   RMSKEY sets key information for record retrival.

o   RMSFRE frees a locked bucket.

o   RMSFLS flushes an I/O buffer.

1979 - Spring - New Orleans

[321,007] SUPMAC

    SUPMAC is a set of macros that provides structured programming
constructs for macro programs. This is an enhanced version of SUPMAC.

    1979 - Spring - New Orleans

[321,010] SCCS

    SCCS is a source management procedure that is implemented as an
command file. It provides a unified mechanism for maintaining source
files.

    1979 - Spring - New Orleans

[321,011] DECNET DOWN-LINE LOADING

    This account has a procedure for modifying DECNET Phase II to support
more than one file for down-line loading.

    1979 - Spring - New Orleans

[322,013] IND PATCHES

    This account has a set of patches to Digital's Indirect MCR (IAS V3.0)
to add three new features: a /LI switch, secondary search for command
files, and positional and keyword parameters on the initial command
line.

    1979 - Spring - New Orleans

[323,001] PALUG SUBMISSIONS

    This account has information on the [323,*] accounts. These are
submissions from the Portland, Oregon (PALUG) user group.

    1979 - Fall   - San Diego

[323,002] TAPE DOCUMENTATION

    This account has annotated directories for the Fall 1977 (San Diego),
Spring 1978 (Chicago), Fall 1978 (San Francisco), and Spring 1979 (New
Orleans) RSX SIG tapes. It also has directories for the Fall 1979

Pascal tape and Spring 1979 RT-11 tapes.

    1979 - Fall   - San Diego

[324,001] WRUG SUBMISSIONS

    This account has information about the [324,*] accounts. These
accounts hold submissions from the Western Reserve Users Group (WRUG).

    1979 - Fall   - San Diego

[324,201] STAT

    STAT is a collection of programs to collect and report IAS system
performance. It computes the time spent in user tasks, batch,
swapping, idle, and total timesharing time. The package includes
routines to plot the data collected.

    1979 - Fall   - San Diego

[324,202] REPORT
[324,202] USAGE

    This account has two entries related to IAS accounting. REPORT is a
program to generate monthly reports based on CPU usage, connect time,
and disk usage. USAGE is a modification to the USAGE program in
[355,2] that allows the disk quota limit to be modified.

    1979 - Fall   - San Diego

[324,203] HELP PATCH

    This account has a patch to IAS HELP to enable recognition of digits
in help keywords.

    1979 - Fall   - San Diego

[324,204] SORTUPF

    SORTUPF is a program to sort the PDS user profile file
(LB:[1,100]PDSUPF.DAT) into ascending order according to UIC's. Any
holes left in the file are compressed.

    1979 - Fall   - San Diego

[324,205] IASDEV
[324,205] IASWHO

This account has two MCR display utilities. IASWHO is a version of
Digital's WHO with levels added. IASDEV is just the device portion of
the WHO program.

1979 - Fall   - San Diego

[324,301] SCAN

SCAN is a Fortran callable routine for command line scanning.

1979 - Fall   - San Diego

[325,007] CDDRV

This account has a device driver for the COMTAL image display.

1979 - Fall   - San Diego

[325,013] IMG
[325,013] SHO

This account has some programs for imaging applications. IMG is a
program to move image data to and from devices (like the Comtal
display) and files. SHO is a program to display images on the Comtal
display.

1979 - Fall   - San Diego

[326,001] NORTH TEXAS CONTRIBUTIONS

This account has documentation on the [326,*] accounts. These
accounts have submissions from the North Texas Local Users Group.

1980 - Spring - Chicago

[326,213] BATJOB
[326,213] DATE
[326,213] DEVICE
[326,213] DIRECTIVE DOCUMENTATION
[326,213] DISTRIB

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[326,213] FILSAV
[326,213] LDX
[326,213] LPSTART
[326,213] LPT
[326,213] MWAIT
[326,213] SECRET
[326,213] TAPE
[326,213] TAPVER
[326,213] WATCH

This account has various utilities and items written for IAS.
Included in the account are the following:

o BATJOB fires off batch jobs at specified times in the day.

o DATE is a program to output the date and time on the console
   device. It is useful to run a midnight each day to separate
   output.

o DEVICE is a program to output the allocatable device status and
   who currently owns them.

o DIRECTIVE DOCUMENTATION is a listing of the IAS directive codes
   (DIC) and dircective sizes.

o DISTRIB is a program to output multiple copies of a file with
   distribution information.

o FILSAV is a program to reset the EOF to the last allocated block.

o LDX converts task-image files into absolute loader format.

o LPSTART is a program to restart the line printers from a batch
   job.

o LPT produces man-readable leaders for paper tapes.

o MWAIT is a batch utility to synchronize paper tape access.

o SECRET outputs passwords for accounts.

o TAPE is a program to find the block size of a tape.

o TAPVER is a program to verify absolute loader format paper tapes.

o WATCH is a KW11-Y watchdog timer program.

1980 - Spring - Chicago

[330,001] LIST

LIST is a program especially designed for listing files to video

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terminals. It can perform pattern searches and subtask SRD for directory support. There are many more features.

1981 - Spring - Miami

[330,002] FDT

FDT is a Fortran IV Plus symbolic debugger. A preprocessor program reads the Fortran listings (done with /LI:3) and the task map to produce a binary file with the location of all Fortran statements and variables. The debugger loaded with the task can then take this information to provide complete symbolic debugging facilities.

1981 - Spring - Miami

[330,003] CPL

CPL is an IAS program that correctly generates assembly or compilation commands for different languages, allowing users to only have to remember one standard format.

1981 - Spring - Miami

[330,004] SRDCMD

SRDCMD is a program which takes SRD output and constructs command lines by combining the selected files with specified text. The program spawns SRD automatically.

1981 - Spring - Miami

[330,005] SRD

SRD is a directory utility with a wide range of file selection options including wild-character names and creation dates. This is an enhanced version of SRD. It also outputs the standard format expected by the other submissions in the [330,*] accounts.

1981 - Spring - Miami

[330,006] MTLIB
[330,006] TAPE

This account has two submissions. MTLIB is a general purpose, Fortran callable set of magtape I/O routines. TAPE is a utility to read and

write various foreign tapes including IBM compatible format.

1981 - Spring - Miami

[330,011] RESEQ

RESEQ is a utility to renumber a Fortran source file.

1981 - Spring - Miami

[330,012] TRU

TRU truncates files, however, unlike PIP, it will not change the revision date if the file does not need truncation. This keeps incremental backups sane.

1981 - Spring - Miami

[330,014] GAME
[330,014] RUNNL
[330,014] SCHEDULE

This account has three IAS programs related to scheduling and task invocation. GAME is a common interface to games, that together with SCHEDULE, can limit access to games according to time. RUNNL is a program that runs tasks against the TI: of NL:. SCHEDULE is a program to schedule tasks to be run at specified times and days.

1981 - Spring - Miami

[330,015] RATFIV

RATFIV is a structured Fortran preprocessor providing SWITCH, IF-ELSE, WHILE, FOR, DO, REPEAT-UNTIL, BREAK, and NEXT constructs. Also supported are INCLUDE files, DEFINE for symbolic constants, macros, conditional compilation and many other features. RATFIV was developed from the Lawrence Berkeley RATFOR compiler.

1981 - Spring - Miami

[330,016] MULTI-TREK

MULTI-TREK is a multiple play Star Trek game. This is an improved version of the [330,300] submission.

1981 - Spring - Miami

[330,017] MULTI-TREK

MULTI-TREK is a multiple play Star Trek game.   This   is   an   improved
version of the [330,300] submission.

1981 - Spring - Miami

[330,300] MULTI-TREK

MULTI-TREK is a multiple player Star Trek game.

1980 - Fall   - San Diego

[330,301] RATFOR

RATFOR   is   a   popular   language   that   adds   structured   programming
constructs   to   Fortran.   RATFOR is implemented as a pre-processor to
Digital's compilers.

1980 - Fall   - San Diego

[331,001] FLECS

FLECS   is   a   popular   language   that   adds   structured   programming
constructs   to   Fortran.   FLECS   is   implemented as a pre-processor to
Fortran. This is the version produced by the SIG working group on
structured Fortran.

1980 - Fall   - San Diego

[331,010] RATFOR

RATFOR is a popular language that implements structured programming
constructs for Fortran. RATFOR is implemented as a pre-processor to
Digital's compilers. This is the RATFOR version of the SIG structured
Fortran working group.

1980 - Fall   - San Diego

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[331,011] CMD
[331,011] RATLIB
[311,011] VIEW

This account has three submissions.

o CMD is a program to generate command files from directory
   listings.

o VIEW is a copy of the view graphs used at the Fall, 1980 symposium
   at the Structured Languages session.

o RATLIB is a subroutine library written in RATFOR that has routines
   for string manipulation, command parsing, and file I/O.

   * EQUAL compares two strings for equality.
   * LENGTH returns the length of a string.
   * SCOPY copies a string to the specified location in another
      string.
   * TYPE returns the type (letter or number) of a character.
   * CTOI converts a string to the specified base (2-10) integer.
   * CHEXTI converts a string to the specified base (2-16) integer.
   * ITOC converts a integer to its ASCII string.
   * INDEX searches a string for a specified character.
   * BRAKE eliminates all characters in a string that are in a
      specified break set.
   * MATCH returns the position of the first occurence of one
      string in another string.
   * ANY returns the position of the first character in a string
      which is also in the specified break set.
   * NOANY returns the position of the first character in a string
      which is not in the specified break set.
   * SHIFT removes the specified number of characters from a
      string.
   * RPLACE replaces all occurances of a character in a string with
      the specified new character.
   * TRIM removes trailing spaces and tabs from a string.
   * APPEND concatentates two strings.
   * REMOVE removes a substring from a specified string.
   * INSERT inserts a substring into a specified string.
   * LPAD inserts blanks at the beginning of a string.
   * RPAD appends blanks to the end of a string.
   * ALIGN left, right, or center justifies a string.
   * ALLDIG tests a string to see if it contains only digits.
   * CLOWER converts the character to lower-case.
   * CUPPER converts the character to upper-case.
   * FOLD converts the character string to lower-case.
   * UPPER converts the character string to upper-case.
   * GETL inputs the next record (line).
   * GETC inputs the next character.
   * PUTL outputs a record (line).

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*  PUTC outputs a character.
*  NXTMCR gets a MCR command line.
*  NXTFIL gets the next filename from an MCR command line.
*  GETARG processes switches from a command line.
*  MCRERR outputs error messages.
```

1980 - Fall   - San Diego

[332,100] DSCDIR
[332,100] DSCCPY
[332,100] DSCTAPE

This account has two extremely useful programs for handling DSC (Disk Save and Compress) tapes. The first, DSCDIR, produces a directory of the contents of the tape. The second, DSCCPY, allows just a few files to be restored without restoring the entire volume or all reels of a multiple-reel set. In addition, DSCTAPE is documentation on the format of DSC tapes.

1981 - Spring - Miami

[336,200] HOS
[336,200] MAI
[336,200] PMR
[336,200] RMDEMO
[336,200] RST
[336,200] RVT
[336,200] VDV

This account has some very useful submissions from Digital's Distributed Systems group. Included in the account are the following:

o HOS is a virtual terminal program for connecting a RSX-11M system to a DECsystem-20.

o MAI is a network-wide mail system. It especially allows mail to be exchanged between RSX-11M and VAX systems.

o PMR is a poor-man's route-through program. This allows a program to route messages in a Phase II network.

o RMDEMO is an enhanced version of RMDEMO. It has new pages for active task list and task header display. There are also pages for DECnet status which require DECnet Phase III.

o RST is a virtual terminal program for connecting a RSX-11M system to a RSTS/E system.

o RVT is a virtual terminal program for connecting a RSX-11M system to a VAX.

o VDV is a set of programs which implement virtual devices, i.e. remote device support to disks, magtapes, and line printers.

1981 - Spring - Miami

[337,020] LOGREPORT

LOGREPORT reads the console output of the RSX-11M V3.2 console driver and produces a report of the total time a user has been logged into the system.

1980 - Spring - Chicago

[337,030] SGFL70

SGFL70 is a set of routines for Tektronix 4006, 4010, and 4014 graphics. A wide variety of routines are available.

1980 - Spring - Chicago
1981 - Spring - Miami

[337,040] DV

DV is a virtual disk handler for IAS. It allows any file to be treated as a disk. The handler will create new files and extend files if needed.

1980 - Spring - Chicago

[337,050] XXDRV

XXDRV is a skeleton RSX-11M driver and data base. It serves as an example device driver for anyone implementing one.

1980 - Spring - Chicago

[337,060] SYSTAT

SYSTAT is a RSX-11M program that reports many different types of system status. This includes disk information, terminals, tasks, uptime, and many more.

1980 - Spring - Chicago

[337,070] FIXDISK
[337,070] TMTRACE

This account has two submissions. FIXDISK is an utility that will read specified blocks from a disk, edit them, and write tham back to the disk. TMTRACE produces an execution profile of Fortran IV PLUS programs by tracing subroutine calls.

1980 - Spring - Chicago

[337,100] ACCLOG

ACCLOG appears to be an IAS accounting package, however, I could find no documentation on it. The sources for the package are in [337,110]. A IAS executive modules is in [337,120].

1980 - Spring - Chicago

[337,110] ACCLOG

This is an IAS accounting package. See [337,100].

1980 - Spring - Chicago

[337,120] ACCLOG

This is an IAS accounting package. See [337,100].

1980 - Spring - Chicago

[337,140] SETTIM
[337,140] SETTCU

This account has two routines to use the TCU-100 or TCU-150 clocks with RSX-11M. SETTCU sets the TCU time. SETTIM reads the TCU time and sets as the system time. The submission also uses accounts [337,150] and [337,160].

1980 - Spring - Chicago

[337,150] SETTIM
[337,150] SETTCU

This account has two routines to use the TCU-100 or TCU-150 clocks with RSX-11M. See [337,140].

1980 - Spring - Chicago

[337,160] SETTIM
[337,160] SETTCU

This account has two routines to use the TCU-100 or TCU-160 clocks with RSX-11M. See [337,140].

1980 - Spring - Chicago

[337,170] TTDRV PATCHES

This account has a set of modifications to the RSX-11M V3.2 full-duplex terminal driver. Among the new features are the following:

o Rubouts and control-R are echoed when echo is supressed. This is needed for TYMNET support.

o Backspace and control-A are treated as rubouts.

o The last character typed is returned to the unsolicited input AST instead of the first character.

o A new function, IO.DIS, is added to hang-up DZ11 lines.

o Remote lines answer at the speed selected by the SET /SPEED command.

o An AST routine can be specified for remote line answer or hangup.

1980 - Spring - Chicago

[337,200] KCWLSN

KCWLSN is a program that allows remote systems to maintain a current copy of a data base being randomly updated. The package uses DECNET for remote communication.

1980 - Spring - Chicago

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[340,001] ARC SUBMISSIONS

          This account has information on the [340,*] submissions.  These  items
          are from the Alberta Research Council.

          1978 - Fall    - San Francisco

--------------------------------------------------------------------------

[340,002] MAIL

          MAIL is a set of RSX-11M programs that implements a mail  system.   It
          uses  the  account  file  for supplying user names and includes a mail
          notification program.

          1978 - Fall    - San Francisco

--------------------------------------------------------------------------

[340,003] DCNT

          DCNT is a disk accounting and quota system.  It runs periodically  and
          checks  each  account  on  the  disk for over quota values.  Any users
          over-quota are given a nasty message.  DCNT enforces  no  disk  quotas
          and will not delete files.

          1978 - Fall    - San Francisco

--------------------------------------------------------------------------

[340,004] FODT

          FODT is a Fortran IV debugging tool.  This is a modified version  that
          includes   a   user  manual,  multiple  breakpoints,  and  performance
          historgramming.

          1978 - Fall    - San Francisco

--------------------------------------------------------------------------

[340,005] HELP

          This account has a help file for RSX-11M.  The file includes  text  on
          the commands, errors, FLX, DMP, TKB, CMP, FOR, PIP, LBR, and EDI.

          1978 - Fall    - San Francisco

--------------------------------------------------------------------------

[340,006] ARC LIBRARIES

          This account has an object and macro library.  These files are  needed
          to build the other [340,*] programs.
```

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1978 - Fall   - San Francisco

--------------------------------------------------------------------------

[340,007] CNT
[340,007] DOC
[340,007] EVF
[340,007] RAT
[340,007] STF

          This account has five separate submissions:

          o  CNT  is  a  disk  utility  that  will  output  the  three  largest
             contigious areas on a disk.

          o  DOC is a program to prepare Runoff input files.  It is driven from
             template files.

          o  EVF is a MCR command to manipulate global event flags.

          o  RAT is a magtape manipulation utility.   It  allows  the  user  to
             issue  most  of  the  magtape  I/O calls, like rewind, unload, set
             characteristics, etc.

          o  STF is a MCR command which will stuff an MCR  command  to  another
             terminal.


          1978 - Fall    - San Francisco

--------------------------------------------------------------------------

[340,020] DOC
[340,020] KWC

          This account has two items.  DOC is a Runoff source generator that  is
          driven  from  template files.   It  is useful for generating standard
          letters  and  documentation.   KWC  is  a   keyword-in-context   index
          generator.

          1979 - Fall    - San Diego

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[340,100] ARC LIBRARIES
[340,100] CALENDAR
[340,100] CHG
[340,100] CLOCK
[340,100] CREF
[340,100] EVF
[340,100] FLY
[340,100] FODT
[340,100] LOG
[340,100] MAIL
[340,100] MAKEDF
```

```
[340,100] MKDOC
[340,100] NEWS
[340,100] RAT
[340,100] RENUM
[340,100] RSX-11M DOCUMENTATION
[340,100] RSX-11M PATCHES
[340,100] SND
[340,100] STF
```

This account has many submissions for RSX-11M V3.0. Included in the account are the following:

o ARC MACRO LIBRARY is a set of macros for many useful functions. It is required to build the programs in this account.

o ARC SUBROUTINE LIBRARY is a set of useful subroutines. It is required to build the programs in this account.

o CALENDAR prints out full page calendars with Peanuts characters.

o CHG allows certain accounts to change their privileges.

o CLOCK is a large character digital clock for the VT-52.

o CREF produces a cross-reference of variables in a Fortran source.

o EVF is a MCR command to manipulate global event flags.

o FLY is a program to generate multi-column listings.

o FODT is an interactive Fortran IV debugger.

o LOG is an utility to allow users to maintain personal logs.

o MAIL is a general purpose mail utility.

o MAKEDF is a program to generate error message files. It is needed for the various utilities in this account.

o MKDOC is a Runoff source generator that is driven from template files.

o NEWS is a program to display system "NEWS".

o RAT is a magtape manipulation utility that allows almost all magtape I/O like rewind, unload, etc.

o RENUM is a Fortran source renumbering program.

o RSX-11M DOCUMENTATION is a set of documentation about RSX-11M. It includes an introduction to the RSX-11M terminal (INTRO), user's manual for PIP, RUNOFF, SRD, and TECO.

o RSX-11M PATCHES are all RSX-11M V3.0 patches through the October 1977 Software Dispatch.

o SND is an inter-terminal, multiple line message utility.

o STF is a MCR command to force an MCR command for another terminal.

1977 - Fall   - San Diego

```
[340,300] SFILES
[340,300] SINTRO
[340,300] UPIP
[340,300] USRD
```

This account has beginners documentation on RSX-11M. It includes an introduction to the system (SINTRO), a description of RSX-11M files (SFILES), and beginning user documentation on PIP (UPIP) and SRD (USRD).

1978 - Fall   - San Francisco

```
[341,001] BLK
[341,001] BROOM
[341,001] LBN
[341,001] LEVELS
[341,001] LG
[341,001] TECO MACROS
```

This account has a variety of submissions, primarily for IAS systems. It includes the following:

o BLK is a disk utility that will determine which files logical disk blocks are allocated to.

o BROOM is a disk utility that writes zeros to every free block on a disk. It is used to make sure data from deleted files is kept private.

o LBM is a disk utility that will output the logical blocks allocated to a file.

o LEVELS is an IAS display utility that displays task status and timesharing levels. This version supports some fancy features for the VT-100.

o LG is a pseudo device handler used for logging system messages.

o The TECO MACROS include the following:

* ASCII converts each line of the input file into .ASCII macro
  statements.
* CTLIMP duplicates files.
* KEEPER searches files for a specified string in a specified
  location and deletes those lines. For example, it could be
  used to delete comments from a Fortran program.
* NODUPS removes duplicate lines from a file.
* STRIPPER outputs only the lines in the input files that are
  between the delimiter strings.
* TAPREP replaces all tabs with spaces.
* WILD performs the specified command line or file on a
  wild-card set of files.
* 029TP026 converts 029 to 026 punch card format.

1980 - Fall   - San Diego

[341,100] LEVELS
[341,100] PONG

This account has two submissions. LEVELS is an IAS system task to
display task status and scheduling levels. PONG is a CRT ping-pong
game.

1977 - Fall   - San Diego

[341,101] CLC
[341,101] FILEFIX
[341,101] FILLIN
[341,101] GRIPE
[341,101] UTIL
[341,101] VT52DEF

This account has a variety of submissions mostly for IAS systems.
Included in the account are the following:

o CLC is a macro to compare two character strings.

o FILEFIX is a program to set the record attributes of a file to
  implied carriage control.

o FILLIN is a subroutine which converts variable ASCII record to
  80-character fixed record. It converts tabs to spaces.

o GRIPE is a program that will allow users to complain
  (anonimously). All gripes are written to a file which can then be
  reveiwed by the system manager.

o UTIL is an IAS system program which will output the percentage of
  system utilization, total pool, and largest partition hole.

o VT52DEF is a macro to define the control characters for a VT52.

1978 - Spring - Chicago

[341,102] FOOTBALL
[341,102] INPUT

FOOTBALL is a game written in basic. INPUT is a subroutine to perform
a prompt, read sequence. The input field is underlined so the user
knows how much he can enter.

1978 - Spring - Chicago

[341,103] INPUT

INPUT is a macro to setup and issue a read-with-prompt QIO.

1979 - Spring - New Orleans

[341,200] SPW

SPW reports on the status of IAS print queues and spoolers.

1979 - Spring - New Orleans

[341,201] LEVELS
[341,201] XON

This account has two submissions. LEVELS is an IAS system program to
display the current system status. XON is a MCR command to send a
control-Q to a terminal-type device to resume its output.

1979 - Spring - New Orleans

[341,202] CVTUC
[341,202] DELTMP
[341,202] KILC
[341,202] SORTIT

This account has four subroutines:

o CVTUC converts lower to upper case.

o DELTMP deletes temporary files.

o KILC removes leading spaces and control characters from strings.

o SORTIT is a program interface to the SORT utility.

1979 - Spring - New Orleans

[341,203] DCNT

DCNT is a disk management/quota utility. This is a conversion of the DCNT package in [340,*] for IAS systems.

1979 - Spring - New Orleans

[341,205] SRD

SRD is a directory utility with a wide range of file selection options including wild-character names and creation date. SRD outputs sorted directories and also has directory write-back and selective delete options. This version has various changes to SRD that generally clean up some problems with other versions.

1979 - Spring - New Orleans

[341,300] F4P
[341,300] JACKSON LAB MACROS
[341,300] JACKSON LAB SUBROUTINES

This account has a variety of routines and macros. It also has documentation on the internals of F4P OTS routines.

1979 - Spring - New Orleans

[341,306] PLTRTN

PTLTRN is a set of Fortran callable subroutines for VT-52 terminal I/O.

1979 - Spring - New Orleans

[341,306] ELIZA

ELIZA is a PL/1 version of the program of the same name.

1979 - Spring - New Orleans

[341,310] CACHE
[341,310] LEVELS
[341,310] LOG
[341,310] PLOT
[341,310] SLEEP
[341,310] TMS
[341,310] XON

This account has a variety of items, mostly for IAS systems. It includes the following:

o CACHE is a program to output the status of PDP-11/70 cache.

o LEVELS is a system display program for IAS.

o LOG is a pseudo device handler that catches all output from a terminal and logs it to a file

o PLOT is a set of Tektronix plotting routines.

o SLEEP is a PDS utility to allow use to leave terminal and prevent IAS from timing out.

o TMS is an inter-terminal message facility.

o XON is a MCR command that sends a control-Q to a terminal to wake it up.

1978 - Fall   - San Francisco

[342,001] TECO

TECO is a very versatile and powerful text editor. It is a character oriented editor and has many possible commands, including a full range of macro-type commands that allow TECO command files to be written and executed. This account has TECO V35 and is one of the most current releases. This is the version of TECO maintained by the TECO SIG.

1979 - Fall   - San Diego

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------------------------------------------------------------------

[342,002] TECO

         TECO is a very versatile and powerful text editor.  It is a  character
         oriented editor and has many possible commands, including a full range
         of macro-type commands that allow TECO command files to be written and
         executed.   This  account  has TECO V35 and is one of the most current
         releases.  This is the TECO maintained by the TECO SIG.

         1980 - Spring - Chicago

------------------------------------------------------------------

[342,034] TECO

         TECO is a very versatile and powerful text editor.  It is a  character
         oriented editor and has many possible commands, including a full range
         of macro-type commands that allow TECO command files to be written and
         executed.  This account has TECO V34.

         1979 - Spring - New Orleans

------------------------------------------------------------------

[342,100] SMAC
[342,100] TPARS

         This account contains  several  submissions.   SMAC  is  the  original
         version  of  SUPMAC.   TPARS  is  the  original  version  of  TPARS, a
         finite-state, table-driven parser.  The account  also  has  some  Teco
         macros.

         1977 - Fall   - San Diego

------------------------------------------------------------------

[342,200] TECO

         TECO is a very versatile and powerful text editor.  It is a  character
         oriented editor and has many possible commands, including a full range
         of macro-type commands that allow TECO command files to be written and
         executed.  This account contains TECO V28 and V29.

         1977 - Fall   - San Diego
         1978 - Spring - Chicago

------------------------------------------------------------------

[342,234] TECO
         TECO is a very versatile and powerful text editor.  It is a  character
         oriented editor and has many possible commands, including a full range
         of macro-type commands that allow TECO command files to be written and
         executed.  This account has TECO V34.
```

```
                  1979 - Spring - New Orleans

------------------------------------------------------------------

[342,300] TECO

         TECO is a very versatile and powerful text editor.  It is a  character
         oriented editor and has many possible commands, including a full range
         of macro-type commands that allow TECO command files to be written and
         executed.  This account has TECO V28 and V29.

         1977 - Fall   - San Diego
         1978 - Spring - Chicago

------------------------------------------------------------------

[342,334] TECO

         This account has the general TECO users manual.   This  manual  covers
         almost all the versions of TECO and is current for V34 of RSX TECO.

         1979 - Spring - New Orleans

------------------------------------------------------------------

[343,100] RTV

         This account has a RSX-11M emulator for RT-11 V2.4.

         1977 - Fall   - San Diego

------------------------------------------------------------------

[344,001] KMS FUSION SUBMISSIONS

         This account has general information about the [344,*]  UIC's.   These
         accounts  have submissions from KMS FUSION, which are some of the best
         stuff on the tape.

         1978 - Fall   - San Francisco
         1979 - Spring - New Orleans
         1979 - Fall   - San Diego
         1980 - Spring - Chicago
         1980 - Fall   - San Diego
         1981 - Spring - Miami

------------------------------------------------------------------

[344,002] HELP FILES

         This account has HELP files for many different parts of RSX-11M.   The
         files are more extensive than the Digital distribution.

         1979 - Spring - New Orleans
         1979 - Fall   - San Diego
```

[344,005] COMMAND FILES

This account has various command files for RSX-11M Indirect MCR. They include an SPR generator and various compile-load-go command files.

1979 - Fall   - San Diego

[344,007] COMMAND FILES

This account has indirect command files to catalog backups in an orderly fashion.

1979 - Spring - New Orleans
1979 - Fall   - San Diego

[344,010] ACCOUNT
[344,010] MAIL
[344,010] WHO

This account has several submissions:

o ACCOUNT is a set of programs and system patches to implement disk and terminal accounting for RSX-11M.

o MAIL is a RSX-11M mail system.

o WHO is a MCR command to display the current terminal users and their tasks status.

1978 - Fall   - San Francisco

[344,020] BATCH
[344,020] FCSRES COMMAND FILES
[344,020] VTDRV

This account has several submission for RSX-11M:

o BATCH is a RSX-11M V3.1 batch implementation. It is based on VTDRV.

o FCSRES COMMAND FILES are task build command files for almost all of the RSX-11M utilities modified for support of a FCS resident library. This has the effect of making each utility smaller, both in core and disk, and faster.

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o VTDRV is a RSX-11M virtual terminal driver. It allows a program to act like a terminal and provide RLB and WLB support.

1978 - Fall   - San Francisco
1979 - Spring - New Orleans
1979 - Fall   - San Diego

[344,024] FCSRES COMMAND FILES

FCSRES COMMAND FILES are task build command files for almost all of the RSX-11M privilege tasks modified for support of a FCS resident library. This has the effect of making each utility smaller, both in core and disk, and faster.

1979 - Spring - New Orleans
1979 - Fall   - San Diego
1980 - Spring - Chicago

[344,030] CVL
[344,030] FRAG
[344,030] SPQ
[344,030] TRUNC

This account has four programs:

o CVL is a utility to patch disk's headers. CVL allows almost all of the parameters established by INI to be changed.

o FRAG is a utility to output the free space on a disk.

o SPQ is a MCR command to list the print receive queue.

o TRUNC is a utility to truncate files to their EOF.

1978 - Fall   - San Francisco

[344,040] ACCOUNT
[344,040] CCL
[344,040] CPULOG
[344,040] HELP PATCHES
[344,040] IND PATCHES
[344,040] MAIL
[344,040] TRUNC
[344,040] WHO

This account has a variety of submissions for RSX-11M V3.2. Included in the account are the following:

110

o ACCOUNT is a RSX-11M disk and terminal accountting package. Included are the necessary patch files for RSX-11M.

o CCL is a powerful extension to the MCR facility. CCL is implemented as a MCR catch-all task and supports both internal commands and user implemented commands based on definition files.

o CPULOG is a RSX-11M system utilization monitor.

o HELP PATCHES is a patch so a question mark (?) will cause HELP to list all keywords at that level.

o IND PATCHES are a set of correction files to Digital's Indirect MCR to correct errors and implement parameter passing.

o MAIL is a RSX-11M mail system.

o TRUNC is an utility to truncate files to their EOF.

o WHO is a MCR command to display the current terminal users and their task status.

```
1978 - Fall   - San Francisco
1979 - Spring - New Orleans
1979 - Fall   - San Diego
1980 - Spring - Chicago
1981 - Spring - Miami
```

[344,041] CPULOG
[344,041] TSKLOG

CPULOG and TSKLOG are CPU utilization monitoring tasks for RSX-11M.

1979 - Fall   - San Diego

[344,042] SPY

SPY is an accounting package for RSX-11M V3.1 that monitors CPU and terminal usage on a periodical basis.

1979 - Spring - New Orleans

[344,043] CKP
[344,043] CVL
[344,043] FRAG
[344,043] GREP
[344,043] HALT
[344,043] HOLES

[344,043] LIST
[344,043] POOL
[344,043] PUSH
[344,043] RMC
[344,043] SPQ
[344,043] TCF
[344,043] TIMESET

This account has a variety of RSX-11M utility programs and system tools. It includes the following:

o CKP is a RSX-11M system program to check for stopped programs without any I/O and checkpoint them.

o CVL is a RSX-11M utility to allow disk volume labels and parameters to be modified. CVL can modify most of the parameters setup by INI.

o FRAG is a utility to list to the free disk spaces by size histogram.

o GREP is a utility to search a set of files for a specified pattern. This version is corrected to run on RSX-11M.

o HALT is a MCR command to halt a program.

o HOLES is a disk utility that outputs the free space on a disk.

o LIST is a utility to output a file to a terminal. It is optimized for terminal I/O.

o POOL is a RSX-11M system tool to monitor pool usage. When free pool reaches a threshold, POOL prompts at the system console for the name of a program to abort to free pool.

o PUSH is a RSX-11M system tool to force all tasks in GEN to checkpoint.

o RMC is a MCR command to force a MCR command line on another terminal.

o SPQ is a MCR command to list the current print receive queue.

o TCF is a utility to output characters to the terminal. It takes octal input and is useful for setting up special terminal modes.

o TIMESET is a program to set the time of a TCU-100 or TCU-150.

```
1979 - Spring - New Orleans
1979 - Fall   - San Diego
1980 - Spring - Chicago
1980 - Fall   - San Diego
```

[344,044] RMDEMO

RMDEMO is a system display program for RSX-11M. This is the source
for the RSX-11M V3.1 version. The new RSX-11M V3.2 version is
distributed by Digital and is much better (table-driven, etc).

1979 - Fall   - San Diego
1980 - Spring - Chicago

[344,045] BATCH
[344,045] PIM
[344,045] VTDRV

This account has three submissions, all related to implementing batch
processing on RSX-11M. Included in the account are the following:

o BATCH is a batch job processor. Included in the package are
  submission utilties and an interface into the RSX-11M queue
  manager facility.

o PIM is a "Procedure Interpreter" that is a replacement for
  Indirect MCR.

o VTDRV is a virtual terminal driver for RSX-11M. It allows one
  program to act like a terminal for another program. VTDRV is used
  by the BATCH submission.

1979 - Spring - New Orleans
1979 - Fall   - San Diego
1980 - Spring - Chicago
1980 - Fall   - San Diego

[344,050] BACKUP
[344,050] CCL
[344,050] FAST BP2
[344,050] QUEUE
[344,050] VTDRV

This account has a variety of submissions. It includes the initial
version of CCL and supporting routines. In the account are the
following:

o BACKUP is a set of programs for performing automatic incremental
  backups and restores.

o CCL is a powerful extension to the MCR facility. CCL is
  implemented as a MCR catch-all task and supports both internal and
  user implemented commands based on definition files.

o FAST BP2 is documentation on how to improve the performance of
  Basic-Plus-2 program task building.

o QUEUE is a set of programs that implement disk based queues.

o VTDRV is a device driver that provides a virtual terminal facility
  for RSX-11M

1978 - Fall   - San Francisco
1980 - Spring - Chicago

[344,051] CKP
[344,051] KMS DOCUMENTATION
[344,051] LDLIBS

This account has documentation on the KMS Fusion accounting package.
It also has the notes from Jim Downward's RSX-11M performance analysis
presentations. Another entry is LDLIBS, a set of subroutines to
automatically load resident libraries as needed by tasks. CKP is a
system utility to checkpoint tasks.

1980 - Spring - Chicago
1980 - Fall   - San Diego
1981 - Spring - Miami

[344,052] QMG DOCUMENTATION

This account has documentation on the RSX-11M V3.2 print queue
manager. In particular, it has the format of the messages sent
between the various queue programs.

1980 - Fall   - San Diego

[344,060] CCL

CCL is a powerful extension to the MCR facility. CCL is implemented
as a MCR catch-all task and supports both internal commands and user
defined commands based on definition files.

1979 - Spring - New Orleans
1979 - Fall   - San Diego
1980 - Spring - Chicago
1980 - Fall   - San Diego
1981 - Spring - Miami

[344,061] CCL

CCL is a powerful extension to the MCR facility. CCL is implemented
as a MCR catch-all task and supports both internal commands and user
defined commands based on definition files. This is probably the
place to get the best version of CCL to use.

1981 - Spring - Miami

[344,065] KMS ACCOUNTING
[344,065] SCH

This account has the KMS FUSION accounting package. This account has
one of the best available accounting packages for RSX-11M. It also as
a MCR task, SCH, which allows on-line modification of the RSX-11M
round-robin and disk swapping parameters.

1979 - Fall   - San Diego
1980 - Spring - Chicago
1981 - Spring - Miami

[344,066] DSKMON
[344,066] LOAD
[344,066] SNPSHT

This account has three entries related to the KMS FUSION performance
analysis package. Included in the account are the following:

o DSKMON is a program to check the busy bit of the disk SCB once
   every tic and log disk activity.

o LOAD is a command file to simulate terminal activity. It can be
   used to study performance while changing system parameters.

o SNPSHT is a program to examine system parameters and output them
   as them as variables for an indirect command file.

1980 - Fall   - San Diego

[344,070] MAIL

MAIL is a version of the Mark Johnson MAIL system. This account
includes the full set of sources.

1979 - Fall   - San Diego

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[344,100] KMS MISCELLANEOUS

This account has various KMS FUSION submissions. However, more recent
versions of the submissions can be found in other [344,*] accounts.

1977 - Fall   - San Diego
1978 - Spring - Chicago

[345,001] MISCELLANEOUS

This account has disclaimers about the software found in the [345,*]
accounts. These submissions are from the Atomic Energy of Canada.

1978 - Spring - Chicago

[345,002] GRAPHC

GRAPHC is a set of subroutines to simplify the use of the Versatec
1100A printer/plotter. Each routine performs a single, well-defined
function.

1978 - Spring - Chicago

[345,003] RSX-11D IND

This account has a modified version of Indirect MCR for RSX-11D. The
following features have been added:

o All symbols are global.

o Multiple copies of ...AT. may be run.

o Compute bound tasks do not keep ...AT. from running

o Lower case characters are permitted.

o Leading blanks are permitted in command lines.

1978 - Spring - Chicago

[345,004] COMMAND FILES

This account has command files for various operations. The files work
with the version of Indirect MCR in [345,3]. Inlcuded in the account

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are files for compile-load-go execution, directory cleanup, and DECtape file backup.

1978 - Spring - Chicago

[345,005] RATFOR
[345,005] TIMER

This account has a version of RATFOR (Rational Fortran). RATFOR is a language which is implemented as a Fortran preprocessor and adds structured programming constructs to Fortran. The account also has a RATFOR version of TIMER. TIMER is a subroutine to measure Fortran program performance.

1978 - Spring - Chicago

[345,007] HPE

HPE is a program that provides an interface between a HP2640A terminal and a RSX-11D system. The program is primarily intended to support the block-mode editing feature of the HP2640A. The program passes blocks from a source file to the terminal's memory where they can be editted. At the user's request, the block of data is then written to the output file.

1978 - Spring - Chicago

[345,010] HPP

HPP is a program which will output files produced using the HP2460A terminal to the Versatec 1100A printer/plotter. It supports the special characters created on the terminal.

1978 - Spring - Chicago

[345,011] LST

LST is a program which formats listings for documentation. A standard header is printed at the top of each page and the margins are adjusted to center the listings on the page. The program is optimized for the Versatec 1100A but should easily be modified for other printers.

1978 - Spring - Chicago

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[345,012] RSX-11D COOKBOOK

The RSX-11D COOKBOOK is a document which emulates the RSX-11M pocket reference card. However, it is more specific and includes information on utilities, task builder, and Fortran IV Plus.

1978 - Spring - Chicago

[345,013] HPXFR

HPXFR is a program to transfer data between a PDP-11 and a Hewlett-Packard 9820A calculator using terminal lines.

1978 - Spring - Chicago

[346,100] ACP MANUAL
[346,100] BINCMP
[346,100] CONCATENATED EXECUTIVE
[346,100] ERROR PACKAGE
[346,100] LOADABLE XDT
[346,100] SIG TAPE DOCUMENTATION
[346,100] VIRTUAL DISK
[346,100] VIRTUAL TERMINAL

This account has a variety of RSX-11M submissions. Included in the account are the following:

o ACP MANUAL is a manual that descibes how to write a user written ACP. The appendices also include descriptions of FCS internals and Files-11 QIO formats.

o BINCMP is a Fortran program that performs a binary compare of two files. It is primarily used for comparing crash dumps to virgin systems to check for modified code problems.

o CONCATENATED EXECUTIVE is a set of command files and TECO macros that generate a concatenated RSX-11M executive listing. This listing is an exact copy of the executive and includes a complete cross-reference of the executive.

o ERROR PACKAGE is a set of macros and associated subroutines for processing directive, QIO, FCS, and user errors. The package supports the use of the QIOSYM.MSG message file and output Fortran-like error messages.

o LOADABLE XDT is a version of XDT that is can be loaded and unloaded into a partition as it is needed. This save XDT from taking up executive pool space.

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o SIG TAPE DOCUMENTATION is what you are reading. It includes this
document and sorted directories of all previous SIG tapes.

o VIRTUAL DISK is a package that lets you create a disk on a disk.
A virtual disk is a contigious file of any size on a real disk.
The package translates all disk I/O performed to the virtual disk
into the real disk block number. Virtual disks enjoy all the
functionality of real disks and can be used to package disks
structures so programmers and projects do not get in each other's
way.

o VIRTUAL TERMINALS is a package that implements virtual terminals
between two RSX-11M systems or RSX-11M and DECsystem-10's. The
package uses DECNET for communications and implements
pseudo-terminals for RSX-11M. The pseudo-terminals are true TTDRV
terminals and could be used for other purposes, like a batch
system.

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1978 - Spring - Chicago
1979 - Spring - New Orleans
1980 - Spring - Chicago
1980 - Fall  - San Diego
1981 - Spring - Miami
```

[346,101] CDA SEMINAR

This account has all material prepared for the RSX-11M Crash Dump
Analysis seminar given at the Spring 1981 symposium (Miami). Included
in the account is a copy of the work book used, sample programs that
crash the system in known ways, and all current patches to the
executive crash module and CDA.

1981 - Spring - Miami

[347,100] ADS
[347,100] CVL
[347,100] LOG
[347,100] SRD

This account has various submissions for RSX-11M. Included in the
account are the following:

o ADS is a program to preallocate the crash dump file on the disk.
Also included is a patch to the crash module to dump to this file.

o CVL is a utility to change the volume label of a disk.

o LOG is a program to log all terminal I/O to a file. Also included
is a patch to the terminal driver to interface to LOG.

o SRD is a directory utility with a wide range of file selection
options including wild-character names and creation date. SRD
outputs sorted directories and also has directory write-back and
selective delete options.

1978 - Spring - Chicago

[350,001] APPLICON SUBMISSION

This account has the documentation for the submissions in [350,2] and
[350,3].

1978 - Fall - San Francisco

[350,002] ODT

This account has a version of ODT that is modified for invisible
startup. ODT can be built into a task is a disabled state and turned
on with a one-line ZAP when program debugging is needed.

1978 - Fall - San Francisco

[350,003] DDT

This account has a version of DDT that is modified for invisible
startup. DDT can be built into a task in a disabled state and turned
on with a one-line ZAP.

1978 - Fall - San Francisco

[350,100] DDT
[350,100] ODT

This account has versions of DDT and ODT that include the invisible
startup mode. Also, the version of DDT is modified for use in RSX-11M
systems.

1978 - Spring - Chicago

[350,101] MIP

MIP is a magtape file copy program. It supports wild-card file
specifications and will write from disk to tape and tape to disk.

1978 - Spring - Chicago

[351,100] PCPCIO
[351,100] TTDRV PATCHES

This account has modifications to the RSX-11M V3.1 terminal driver for
full-duplex I/O support. It also has a interprocessor virtual
terminal progran, PCPCIO, that is based on the modified terminal
driver.

1978 - Spring - Chicago

[351,101] SRD

SRD is a directory utility with a wide range of file selection options
including wild-character names and creation date. SRD outputs sorted
directories and also has directory write-back and selective delete
options. This version has several bugs corrected.

1978 - Spring - Chicago

[352,001] FTIO

This account has documentation on the FTIO package (see [352,100]).
It also has other submissions, including the following:

o CONSOLE is a program to replace repeated records with a message
   and count. This is useful to eliminate such things as device not
   ready messages before printing the console logs.

o DISKUSAGE is a program and command file that summarizes disk space
   usage by UIC (number of files, blocks used, and blocks allocated)
   and compares the allocation to preset limits.

o FT is a tape utility program for determining tape record size and
   copying foreign tapes.

o NASA SUBROUTINES are a collection of various routines:

   * ASCEBD converts ASCII to EBCDIC.
   * BINHEX converts binary to hexidecimal characters.
   * DAYFLD returns the ASCII daye-of-the-week given the numeric
     day.
   * DAYWK converst from day of the year to month, day, and day of
     the week. It also has an entry for the reverse.
   * EBCASC converts EBCDIC to ASCII.
   * FPCONV converts between IBM 360/370 and PDP-11 floating point
     notation.

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* MOVE has string manipulation and block move routines.
* SWABI swaps bytes

o TAPCVT is a program for making tape-to-tape or disk-to-tape
   copies.

1978 - Fall   - San Francisco

[352,002] TALK

TALK is a terminal emulation program that allows a terminal on a
RSX-11M V3.2 system to communicate with another system over a single
line interface. It has a terminal mode and bi-directional file
transfers.

1981 - Spring - Miami

[352,003] XMDRV

XMDRV is a RSX-11D DMC-11 device handler.

1981 - Spring - Miami

[352,100] ERRMES
[352,100] FTIO

FTIO is a set of Fortran callable subroutines for reading IBM
unformatted tapes (NL or SL) in both variable and fixed block format.
It can also write IBM compatible fixed block tapes. ERRMES is a
routine to read QIOSYM.MSG and output the correct message for
directive and I/O errors.

1978 - Spring - Chicago
1978 - Fall   - San Francisco

[353,100] CPU
[353,100] FSTM
[353,100] GEN
[353,100] MTLIB
[353,100] QIOSYS
[353,100] TALK
[353,100] TAPE
[353,100] UCOM

This account has a variety of submission written for IAS V2.0. The

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account has the following in it:

o CPU is a task to monitor CPU usage and produce a 24-hour histogram.

o FSTM is a set of Fortran callable subroutines to interface to the subtasking features of IAS. It includes the following routines:

   * CHAIN declares a successor to the current program. The successor will be run when the current task exits.
   * RUNST intiates a subtask and optionally sends a message to it.
   * ABRTST aborts a subtask.
   * WEVNST waits for a subtask event, such as exit.
   * RSTTST reads the subtask status.
   * TERMST reads the subtask termination status.
   * SUSPST suspends a subtask.
   * RSUMST resumes a subtask.
   * STEVST sets a local event flag for a subtask.
   * SNDMES sends a message between parents and subtasks.
   * RCVMES receives a message.

o GEN is a task to monitor GEN partition usage and produce a 24-hour histogram.

o MTLIB is a set of Fortran callable subroutines for magtape I/O.

   * ATTACH attaches a tape unit and initializes its characteristics.
   * DTTAPE detaches a tape unit.
   * RDTAPE reads a logical tape record.
   * WRTAPE writes a logical tape record.
   * WEOF writes a end-of-file mark.
   * TREWND rewinds the tape.
   * TOFLIN rewinds the tape and marks it offline.
   * SPBTAP spaces blocks on the tape.
   * SPFTAP spaces files on the tape.

o QIOSYS is a Fortran module to define system I/O parameters.

o TASK is an inner-terminal communication tasks. It supports setup by user names.

o TAPE is a magtape utility program for reading and writing tapes in a variety of foreign formats.

o UCOM is a task to monitor another task and produce a PC histogram.

1978 - Spring - Chicago

[354,100] LANDER
[354,100] LEVELS
[354,100] LISTR
[354,100] PONG
[354,100] SCANER
[354,100] SEND
[354,100] STREK

This account has a variety of submissions. It includes the following:

o LANDER is a Lunar Lander game.

o LEVELS is a IAS system task that display a variety of system status.

o LISTR is a utility that outputs a set of files to the line-printer without banner pages.

o PONG is a CRT ping-pong game.

o SCANER is a cursor controled editor.

o SEND is an IAS utility for sending messages between two terminals.

o STREK is a version of Star Trek.

1978 - Spring - Chicago

[355,001] MULTI-TASKER INDEXES
[355,001] SRD PATCHES

This account has keyword-in-context indexes for the 1978, 1979, and 1980 Mutil-Tasker editions. The KWIC indexes are input to the program in [340,20]. The SRD PATCHES correct problems with the SRD in [365,1].

1980 - Spring - Chicago

[355,002] BM
[355,002] DUMP
[355,002] ERROR
[355,002] FIDDLE
[355,002] SPQ
[355,002] STRMACS
[355,002] USAGE

This account has a variety of submissions for RSX-11M. Included in the account are the following:

o BM is a program to find free blocks on a disk and output a histogram of the available space in terms of size.

o DUMP is a utility program to dump files by records in octal, ASCII, and RAD50.

o ERROR is a set of macros and associated subroutines for processing QIO and FCS errors.

o FIDDLE is a program to toggle bit masks in the index file.

o SPQ is a MCR command to list the print receive queue. It is modified to output the UIC as well as the file name.

o STRMACS is a set of macros that provides structured programming constructs for Macro-11.

o USAGE is a program to produce disk usage reports.

1979 - Spring - New Orleans

[357,001] SEALUG SUBMISSIONS

This account has information on the [357,*] UIC's. These accounts have submissions from the PDP-11 Seaboard Local User's Group (SEALUG).

1979 - Fall   - San Diego
1980 - Spring - Chicago
1980 - Fall   - San Diego
1981 - Spring - Miami

[357,011] XREF

XREF is a Fortran cross reference utility. This version is an updated submission taken from the [300,24] version.

1979 - Fall   - San Diego

[357,012] DISOBJ

DISOBJ is a disassembler for object modules or libraries. It produces the macro source code from the object file. This version is an update submission of the [300,23] DISOBJ.

1979 - Fall   - San Diego
1980 - Spring - Chicago

[357,013] DKTAB
[357,013] GETTT
[357,013] IND PATCHES
[357,013] MCR PATCHES
[357,013] RMDEMO PATCHES
[357,013] RSX-11M PATCHES
[357,013] SYE PATCHES
[357,013] SYSGEN PATCHES
[357,013] TTDRV PATCHES

This account has a variety of patches for RSX-11M V3.2. Many are concerned with powerfail recovery and Unibus switches. In addition, GETTT is a F4P program to output terminal characteristics and DKTAB is a program which adds the proper table entries to make a DK3 for a system which has only DK0 to DK2 generated. It is included mostly to serve as an example of how such a program would be written. The following is a breif description of the patches in this account.

o RSX-11M Executive

   * CRASH - Reduced size for our combination (CDA with console stack dump).

   * EXDBT - Corrected stack overflow check. Allow CRASH access to M.M. fault registers.

   * INITL - Modify 11/70 memory CSR table. Remove device offline messages.

   * PANIC - Remove unused code.

   * PARTY - Allow TKTN to display memory parity CSR'S. Modify 11/70 memory CSR table.

   * POWER - Re-verify online devices on power-up. Modify 11/70 memory CSR table. Enable cache and stack limit registers.

   * SSTSR - Save M.M. fault registers for TKTN.

   * DKDRV - Modify not-ready wait technique to wait up to 10 seconds in 1 second increments rather than up to 15 seconds in 5 second increments.

   * MTDRV - Lengthen timeout periods for reads, writes, spaces. Unimplement powerfail "feature".

o Full Duplex Terminal Driver

   * TTDAT - Added terminal types: ADM3A, ADDS, Tektronix. Added cursor positioning types.

* TTSUB - Use S2.HFF to choose "VT" expansion (like IAS). Added cursor positioning types.

* TTYL - Modified DL-11 record startup procedure (required for use with ABLE Quadrasync).

o MCR

* BROAD - Provide global def for START, CMPBLK to allow TKB GBLPAT's

* LDFIN - Allow error logging drivers to have two vectors.

* UNLCTL - Allow error logging drivers to have two vectors. Unload data base with driver (see caution in source code).

* DEVOV - Display UCB address in device listing (useful for on-line patching of "LOA"ded device tables by XDT.

* FLAOV - Correct 3 problems in FLA command.

* INDOPN - J G Downward's patch for 2 consecutive .OPENs or .TESTFILEs.

* INIMAG - Eliminate TKB error messages.

* MCROV - Allow STOP/UNSTOP commands in single user systems.

* M11OV - Record mounts in error log for non-M-plus systems (at last you can identify which disc had the errors).

* PAROV - Provide a BUSY status of a partition (tells you whether or not you loaded a common partition).

* SAVSUB - Modify memory size calculation. Remove device offline messages. Modify 11/70 memory CSR table.

* SDSFDT - Added terminal types to FDT.

* SPRFDT - Added terminal types to FDT.

* TASOV - Add optional taskname.

* TKTN - Display memory parity CSR's if parity error. Print KT11 registers on segment faults. Correct sense of time stamp conditional.

o REDEMO

* REMAP - Use proper EIS conditional.

* RMDRIV - Use write pass all. Allow split binary/decimal addressing between row and column (required for ADDS terminals).

* V1HCHA - New decimal flag for use with RMDRIV,

* HLINIT - Reduce listing size.

* MDCOM - Modified device list.

* TERMID - Added terminal types.

* V52CHA - Replaced bad comment.

* ADDCHA - ADDS terminal routines.

* ADMCHA - ADM3A terminal routines.

* T06CHA - Tektronix 4006 routines.

* LPTCHA - Line printer routines.

o SYE

* M1145P - Correct output of memory parity CSR address and contents.

* MUNDEF - Revised output for non-DEC devices.

o SYSGEN Command Files

* SYSGEN - Install MAC with increment to speed phase one on baseline.

* SGNEXC - Some conditionals added for 11/45's and better.

* SYGEN2 - Install TKB with increment to speed phase two on baseline. Correct size of LDRPAR after LOADR correction.

* SYGEN3 - Transfer to system disc with /CO. Cleanup at end of SYSGEN3. Allow maps on disc as in SYSGEN2.

* BLDUMD - Allow colon after map device name.

1979 - Fall   - San Diego
1980 - Spring - Chicago

[357,014] SETTCU

SETTCU is a task to set the time in a TCU-130 and set the system time using the TCU.

1979 - Fall   - San Diego
1980 - Spring - Chicago

[357,015] VOTRAX PACKAGE

This account has routines and tasks for using a VOTRAX speech synthesizer under RSX-11M.

1979 - Fall   - San Diego

[357,016] ERRPKG PATCHES
[357,016] POOLFL PATCHES

This account has patches to two submissions on past SIG tapes. The ERRPKG patches corrects an error in the error handling package found in [346,100]. The POOFL patches updates the POOLFL program in [301,31] for RSX-11M V3.2.

1980 - Spring - Chicago

[357,020] EVF
[357,020] FIX

This account has two submissions. EVF is an MCR command to manipulate the global event flags. FIX is a program to unlock files and reset the EOF.

1980 - Fall   - San Diego

[360,001] ARAP SUBMISSIONS

This account has general information about the [360,*] UIC's. These accounts are submissions from the Aeronautical Research Associates of Princeton.

1979 - Spring - New Orleans
1980 - Spring - Chicago
1981 - Spring - Miami

[360,200] ARAP SUBROUTINES

This account has the sources and object library for the ARAP library. This library is needed for the other [360,*] accounts. Included in the library are routines for Fortran access to the FDB and CSI and various character manipulation and I/O routines.

1979 - Spring - New Orleans
1980 - Spring - Chicago

[360,205] BACKUP PROCEDURES

This account has indirect MCR and PDS command files for backuping up and initializing disks.

1979 - Spring - New Orleans

[360,210] F4PRES
[360,210] FDUMP
[360,210] LBN
[360,210] RECOVER
[360,210] RESET
[360,210] VOLID
[360,210] WHOMM

This account has a variety of programs, written for IAS.

o F4PRES is the ARAP version of a 4 KW Fortran IV Plus resident library.

o FDUMP is a file dumper that outputs octal, ASCII, and RAD50 dumps.

o LBN is a disk utility to mark bad blocks.

o RESET is a file utility to reset the EOF of locked files.

o VOLID is a disk utility to change volume ID's.

o WHOMM is a system utility to report the current user of a tape drive.

1979 - Spring - New Orleans
1981 - Spring - Miami

[360,212]

    VAXNET is a program to allow virtual terminal access over asynchronous line between an IAS system and a VAX. It also supports a file transfer mode.

    1981 - Spring - Miami

[360,213]

    UND is a program to read Fortran listings and output undefined variables.

    1981 - Spring - Miami

[360,214] C36

    C36 is a conditional Fortran pre-processor that converts Fortran sources to both IBM and CDC machines. It has the ability to handle conditional logic for code specific to a machine.

    1981 - Spring - Miami

[360,215] DSM
[360,215] DSX

    DSM is a set of programs to perform disk quota management for IAS systems. The task DSM is run once-a-day and checks for accounts which are over quota. Any such accounts are flaged and warning messages output when the user logs in. If accounts stay over-quota, the package will attempt file purges and loss of privileges. DSX is a utility to associate the blocks in a file to cylinders/tracks/sectors.

    1980 - Spring - Chicago
    1981 - Spring - Miami

[360,216] QX

    QX is a IAS task which provides extended information on the print queues. The information includes print time and pages, expansion of concatenated queue requests and print time for defered requests.

    1980 - Spring - Chicago

[360,217] KPS

    KPS is a keypunch-type editor. It simulates the function of a keypunch including drum cards and the 'DUP' key. The command syntax is similar to EDI.

    1980 - Spring - Chicago

[360,220] BAN

    BAN is a program to allow users to generate their own print banners. The generated banner can be queued with the user listings.

    1979 - Spring - New Orleans

[360,230] SFS

    SFS is a utility program to search a list of Fortran sources for variables and output the lines each variable occurs in.

    1979 - Spring - New Orleans
    1991 - Spring - Miami

[360,240] SSD

    SSD is a program that will pseudo-sense switches to programs, allowing run-time control of timesharing tasks.

    1979 - Spring - New Orleans
    1980 - Spring - Chicago

[360,245] SPY

    SPY is an IAS system utility which will output and update system status to CRT's. This version has two different pages, one for CPU activity and one for timesharing tasks status.

    1980 - Spring - Chicago
    1981 - Spring - Miami

[361,001] BATTELLE SUBMISSIONS

    This account has general information on the [361,*] UIC's. These

accounts have submissions from BATTELLE.

1980 - Fall   - San Diego

[361,200] DALLOC

DALLOC is a IAS disk management/quota package.

1980 - Fall   - San Diego

[361,201] SALLOG

SALLOG is a IAS system program that takes periodic snapshots of system
activity. The account also includes analysis programs for the data
collected by SALLOG.

1980 - Fall   - San Diego

[361,202] ACC

ACC is an enhanced version of "WHO" that has many switches for
selecting various types of users, like "BATCH", "DIALUP", etc.

1980 - Fall   - San Diego

[361,203] ACCOUNTNG

This account has a package of IAS utilities for   implementing
chargeback accounting.

1980 - Fall   - San Diego

[361,212] BATTELLE SUBROUTINES

This account has the subroutine library used at BATTELLE. Included in
the account are routines for device and file management, string
manipulation, date/time functions, subtasking control, and
miscellaneous routines. Included in the submission are the following
modules:

    Command Parsing

 * GETCMD gets the PDS command line.

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Conversion

* ACNVT converts an integer to ASCII.
* FCNVT converts a ASCII string to a floating number
* ICNVT converts a ASCII string to a binary number.
* CVTUIC converts an ASCII UIC to binary.

    Data Manipulation

* MOVEB moves arrays or variables byte-by-byte.
* SWAPB swaps variables or arrays byte-by-byte.
* SWAPW swaps variables or arrays word-by-word.

    Date/Time

* ADOW returns the ASCII day-of-the-week.
* AMON returns the ASCII month.
* CVTDAT converts ASCII date to binary and vice-versa.
* CVTTIM converts ASCII time to binary and vice-versa.
* DAYTIM returns the current date, time, and day-of-the-week.
* GETTIM returns the system time parameters.
* HAPO converts Gregorian to HAPO and vice-versa.
* JULIAN converts Gregorian to Julian and vice-versa.
* WKDAY returns the day-of-the-week for a specific day.

    File I/O

* ATTACH attaches a device
* DETACH detaches a device
* DELETE deletes a file by name.
* FILNAM generates a filename string.
* GETFDB gets the Fortran FDB address.
* GETSIZ gets the number of blocks allocated to a file.
* GETUIC gets the current UIC.
* GETVER gets the open file's version number.
* NOLOCK opens a file with no lock bit.
* PROTEC sets the default file protection and ownership.
* RENAME renames a file.
* REOPEN reopens a file using the Fortran FDB.

    Fortran OTS

* CHKPRV checks if task is running from a privilege account.
* EXITWS exits with status.
* GETUSR gets the username who is logged into the terminal.

    String Parsing

* COMPAR compares two ASCII strings.
* COMPRS compress an ASCII string.
* CONCAT concatenates two ASCII strings.
* FILL pads a string with trailing spaces.
* LENGTH returns the length of a string.

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```
*  LFJUST left justifies a string.
*  LOCASE converts upper case characters in a string to lower case.
*  LOCATE finds the position in a string of a substring.
*  RTJUST right justifies a string.
*  STRIP removes trailing spaces.
*  UPCASE converts lower case characters in a string to upper case.
```

   Task Control

```
*  SUBRTT spawns a real-time subtask.
*  SUBTSK spawns a timesharing subtask.
```

   Terminal I/O

```
*  PROMPT issues a read with prompt QIO.
*  RDTTY issues a read QIO to the terminal.
*  WRTTY issues a write QIO to the terminal.
```

   1980 - Fall   - San Diego

[361,300] MAGTAP

   This account has primitives and utilities for implementing an
   ANSI-proposed standard for magtape data exchange. The implementation
   is designed to allow researcg laboratories to exchange data via
   9-track tapes.

   1979 - Spring - New Orleans

[362,300] PLAS DOCUMENTATION

   This account has documentation and sample command files and tasks for
   demonstrating the use of PLAS and memory-resident overlays.

   1979 - Spring - New Orleans

[363,300] AFT
[363,300] ASG
[363,300] BLK
[363,300] CANALL
[363,300] COMP
[363,300] COREANL
[363,300] CPY
[363,300] CTLIMP
[363,300] DAC
[363,300] DIRDL
[363,300] FIL
[363,300] FRC

[363,300] FRG
[363,300] GREP
[363,300] LP
[363,300] NOLOCK
[363,300] PRECIS
[363,300] PRFCS
[363,300] READTAPE
[363,300] SRD
[363,300] STF
[363,300] TAPEIMAGE
[363,300] TAPUTL
[363,300] TRANSLATE
[363,300] TRUNC
[363,300] VOL
[363,300] XON
```

   This account has a wide variety of submissions that apply mostly to
   IAS. Included in the account are the following:

   o  AFT is a utility which finds all files on a disk created or
      modified after a given date and time.

   o  ASG is a task to assign luns for a non-installed task.

   o  BLK is a utility to find which file a physical block is allocated
      in.

   o  CANALL is a task to cancel all scheduled request for a task.

   o  CPY is a multi-block, single-buffer fast disk-to-disk copy
      program.

   o  COMP is a binary compare program.

   o  COREANL is a set of tasks for dumping and analysis of task dumps.

   o  CTLIMP is a Fortran callable subroutine to setup a file for
      implied carriage control rather than Fortran carriage control.

   o  DAC is a disk accounting utility.

   o  DIRDL is a subroutine to issue a directive and handle no-pool
      errors.

   o  FRC is a task which will force an input line into another
      terminal's input buffer.

   o  FIL is a utility to unlock files and reset the EOF.

   o  FRG is a utility which list fragmentation of a disk.

   o  GREP is a pattern search program.

o  LP is a multiple line printer handler for IAS/RSX-11D.

o  NOLOCK is a Fortran callable subroutine to  open  a  file  without
   locking.

o  PRECIS is a utility program to dump magtapes.

o  PRFCS is a subroutine to output FCS error  codes,  using  with  MO
   handler or the QIOSYM.MSG file.

o  READTAPE is a utility to read large blocked tapes

o  SRD is a file directory utility that  outptus  sorted  directories
   and has a wide variety of file section options.

o  STF is a task which will force a MCR command on another terminal.

o  TAPEIMAGE is a utility to read unlabled tapes directly to  a  disk
   file.

o  TAPUTL is a utility  to  perform  various  tape  manipluations  on
   foreign magtapes.

o  TRANSLATE is a utility to translate  RT-11  format  tapes  to  RSX
   format.

o  TRUNC is a utility to truncate files to their EOF.

o  VOL is a utility to display and modify disk volume labels.

o  XON is a utility program to force a Q at a terminal to unlock it.

1979 - Spring - New Orleans

------------------------------------------------------------------

[364,001] U. OF CINCINNATI SUBMISSIONS

This account has information on the [364,*] UIC's.  These accounts are
submissions from the University of Cincinnati.

1980 - Spring - Chicago

------------------------------------------------------------------

[364,020] SEMAPHORE DIRECTIVES

This account has patches to the RSX-11M  executive  to  add  semaphore
directives.   These  directives  provide serial access to resources in
RSX-11M.

1980 - Spring - Chicago

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------------------------------------------------------------------

[364,044] FFL

FFL is a fast FLX program.  It will read all the files specified  from
a  FLX  tape in a single pass instead of multiple passes.  It can read
the files to their corresponding UIC's on a disk or to a  single  UIC.
It can also create non-existent directories.

1980 - Spring - Chicago

------------------------------------------------------------------

[365,001] SRD

SRD is a directory utility with a wide range of file selection options
including  wild-character names and creation date.  SRD outputs sorted
directories and also has directory  write-back  and  selective  delete
options.   This  is  the  version  of  SRD  maintained by the Files-11
working group and is probably the best version located on the tapes.

1979 - Fall   - San Diego
1980 - Fall   - San Diego

------------------------------------------------------------------

[366,200] SEE
[366,200] TASKER

This account has two  submissions.   TASKER  is  an  IAS  utility  for
examining  and patching IAS task image files.  SEE displays the status
of an IAS system on a VT-series terminal.  It outputs and updates  the
time,  number  of  free nodes, size of largest GEN hole, and contents of
the ATL and MRL.  It can also sound  warnings  when  system  resources
become low.

1980 - Spring - Chicago

------------------------------------------------------------------

[367,001] ICA
[367,001] QTDRV
[367,001] SEE

QTDRV is a RSX-11M device driver that intercepts I/O packets sent to a
device and sends a copy to task RCVQIO to be  logged.  The original I/O
packet is forwarded to the device.  SEE and  ICA  dump  256  bytes  of
memory.  SEE works on the system memory and ICA operates on crash dump
files.

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[370,001] PLOT
[370,001] SIGN
[370,001] TALK
[370,001] TAPE
[370,001] TSHEET
[370,001] UP1
[370,001] WHOTT
[370,001] WP

The account has a variety of submissions designed for RSX-11M Plus systems:

o  PLOT is a routine for outputting plots to the Diablo 1750 terminal.

o  SIGN is a sign generation program.

o  TALK is a inter-terminal communications program.

o  TAPE is a general purpose tape copy program.

o  TSHEET is a program to keep track of work time and output timesheets.

o  UP1 is a Fortran program to analyize data collected by SRF (Gejac Inc.)

o  WHOTT is a program that returns the terminal number in its exit status (useful for indirect command files).

o  WP is a text processing system based on EDT V2.0 and Runoff. This is menu driven and uses a VT52 or VT100 terminal.


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1981 - Spring - Miami

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[370,010] BADBLK
[370,010] CNV
[370,010] DDSC
[370,010] DEMO
[370,010] DP0DCF
[370,010] DSKCPY
[370,010] DSKFX
[370,010] DSKID
[370,010] DSKLST
[370,010] KODAK SUBROUTINES
[370,010] NEWFIL
[370,010] REDRCT

This account has several different submissions written for IAS.

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Included in the account are the following submissions.

o  BADBLK is a replacement for Digital's BAD. It will flag marginal sectors without the need to have ERRLOG running on the system.

o  CNV is a message utility that establishes a link between two terminals.

o  DDSC is a replacement for Digital's DSC. It prompts for all values necessary to initialize the new disk, places the index file and all directories in the middle of the disk, and works much faster than DSC.

o  DEMO is a modified version of Digital's DEMO.

o  DP0DCF sets the DCF characteristics of DP0:. This is necessary for the disk utilities to work.

o  DSKCPY is a replacement for Digital's PRESRV. It can preserve the output disk's label and is much faster than PRESRV.

o  DSKFX is a program that will patch file headers.

o  DSKID scans the PUD tables and outputs all disk drivers that are mounted foreign and their pack labels.

o  The KODAK SUBROUTINES are a collection of routines oriented for commerical applications. They also include VT-series terminal handling routines and magtape routines. Included are the following routines. Note, there are many other routines which are not listed below which are of less general usage. In particular are zone-handling routines and packing and unpacking routines which are oriented for commercial applications.

   Date/Time

 *  JULIAN computes the day of the week and year.

   Error Handling

 *  FILERR gives a descriptive error message for file I/O errors.

   File I/O

 *  ATTACH attaches a device.
 *  DELETE deletes the file open on the LUN.
 *  GETTI gets the phyisical terminal number.
 *  NOLOCK opens a file with no locking set.

   Magtape I/O

 *  MTDEN sets the tape drive density.
 *  MTRDR reads a record from the tape.

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* MTREW rewinds the tape and leaves it online.
* MTRWU rewinds the tapes and leaves it offline.
* MTSKF skips files (tape marks) on the tape.
* MTSKR skips records on the tape.
* MTWTM writes a tape mark (EOF) on the tape.
* MTWTR writes a recprd to the tape.
* HDRMT writes ANSI "HDR1" and "HDR2" labels.
* EOFMT writes ANSI "EOF1" and "EOF2" labels.
* VOLMT writes the ANSI standard label as the first record on a tape.

Mathematical (Integer Arithmatic)

* AD performs a double-precision integer add.
* SD performs a double-precision integer subtract.
* ASIDI adds a single-precision integer to a double-precision integer.
* SSIDI subtracts a single-precision integer from a double-precision integer.
* DD divides a double-precision integer by a single-precision integer.
* DDRND is division with rounded quotient and remainder.
* DDWD divides a double-precision integer by a double-precision integer.
* DFIX converts a real*4 variable to double-precision integer.
* DPFIX converts a real*8 variable to double-precision integer.
* DFLT converts a double-precision integer to real*4 format.
* DISGN performs a sign test on a double-precision integer.
* MD multiples a double-precision integer by a double-precision integer.
* MDII converts a double-precision integer to a single-precision integer.
* MIDI converts a single-precision integer to a double-precision integer.
* SDABS subtracts two double-precision integers and returns the absolute value.

Sorting

* DSORT performs an in-core sort of records in a file.
* GSORT performs an in-core sort of arrays.
* ISORT performs an in-core sort of arrays. It does not move the elements but fills in another array with the sorted array subscripts.

Terminal I/O (VT-series CRT's)

* BELL rings the "bell" on a terminal.
* DOWN moves the cursor down on a CRT.
* EEOL erases to the end of the current line.
* EEOS erases to the end of the screen.
* EGM enters graphics mode.
* ENHM enters hold-screen mode.

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* EXHM exits hold-screen mode.
* HOLD enters or exits hold-screen mode depending on the call flag.
* HOME moves the cursor to the home position and clears the screen.
* RTNCSR returns the cursor to the beginning of the current line.
* SPACE spaces the cursor on the current line.
* TAB moves the cursor to the next tab position.
* UP moves the cursor up one line.
* VSPOT moves the cursor to a specified position.
* XGM exits graphics mode.

o NEWFILE is a utility that will create files with specified attributes and size and zero the file.

o REDRCT allows redirection of IAS print queues without requiring a dismount of the spooling disk.


1980 - Fall   - San Diego

--------------------------------------------------------------------

[370,020] CMD
[370,020] COPYDV
[370,020] DIARY
[370,020] FIND
[370,020] FMB
[370,020] GAB
[370,020] PIPLST
[370,020] PUG
[370,020] TIMIT
[370,020] TPP
[370,020] VIRTUAL DISKS


This account has a variety of submissions. Included in the account are the following items:

o CMD is a Indirect MCR command file that takes a prototype command sequence, prompts for variables, and executes the sequence. It will loop until a control-Z is typed. If the prototype command does not have any variables, CMD will ask for a loop count.

o COPYDV is an image mode, disk-to-disk copy. It will copy any format disks. For example, it can copy RT-11 disk to virtual disks for backup purposes.

o DIARY is a personal log keeper that timestamps all entries.

o FIND is a disk utility to find which file a logical block belongs to.

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o  FMB is a file recovery utility that copies files from a garbaged volume to another disk and ignores most I/O errors.

o  GAB is a half-duplex terminal message program. One person talks until a control-C and then the other person begins.

o  PIPLST is a system of command files and TECO macros that reformat directory listings into a 5 column format.

o  PUG is a file utility to find all locked and zero-length files and optionally delete them.

o  TIMIT is a set of Fortran programs for processing RSX-11M Plus accounting data.

o  TTP is a tape transfer program that supports tape to disk, disk to tape, and tape to tape transfers. It supports many different format tapes and has many options.

o  VIRTUAL DISK is an update of the virtual disk package for RSX-11M Plus.

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1981 - Spring - Miami

----------------------------------------------------------------------

[370,030] CA
[370,030] HCG
[370,030] HCS
[370,030] LANGLEY SUBROUTINES
[370,030] SETS
[370,030] TVG

This is a large submission, mostly related to Tektronix graphics. The package includes plot routines, view graph makers, and a complete character generator system. Included in the account are the following:

o  CA is an implementation of a MCR catch-all task.

o  HCG is a utility to generate or edit characters using a Tektronix graphics tablet. It produces files suitable for use with HCS.

o  HCS is a character generator that uses Hershey character sets to general many different styles of characters. It allows complete specification of character size and orientation.

o  LANGLEY SUBROUTINES is a number of Fortran-callable subroutines. In particular, are a complete set of routines for Tektronix graphics. Included in the library are the following routines:

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Date/Time

* JULIAN returns the current Julian date.

Fortran OTS

* NOTSER disables error processing for the given error.
* ONFATL causes the supplied user routine to be called on a fatal Fortran OTS error.

Graphics

* ABSPLT moves the cursor using absolute cooridinates.
* AXES draws and annotates linear axis.
* BARPLT outputs a bar plot.
* BAXES generates a 1/3 octave band center frequency X-axis.
* BELL rings the bell on the plotting device.
* CALPLT plots on the screen in scale inches.
* COMMON is a Fortran common that must be included with the plotting routines.
* DSHPLT outputs dashed lines.
* ERASE clears the screen.
* ERRMSG outputs an error message to the user terminal.
* ERRPLT outputs a set of error symbols.
* GIN inputs graphic data from Tektronix terminal.
* HCGEN outputs the specified characters using the HCS facility.
* HCMAG sets the scaling factor.
* HCSIZE calculates the size of characters to be generated by HCGEN.
* HCUSE selects the character set to use.
* HCWADJ changes the relative width between characters.
* HLABEL outputs labels.
* HOME moves the cursor to the home position.
* LAXES outputs and annotates logarithic axis.
* LEGEND generates a legend for a plot.
* NTSP unscales data from plots.
* PSEUDO assigns a logical unit to the specified terminal.
* PSTN scales data for plotting.
* RITA plots a series of lines and points.
* SCALE scales a linear axis.
* SIZEUP sets the character size and orientation.
* SVCTR sets the terminal writing mode.
* SYMBOL plots a symbol at a specified location.
* WHERE returns to current location of the cursor.

Mathematical

* GSFT does a slow Fourier transform on a set of points.
* INTDER caculates either the first or second order interpolation with dierivative.
* LNCZS performs a Lanczos sigma smoothing interpolation with derivative.
* MRF use modified regula falsi to find a root of the user supplied function.

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