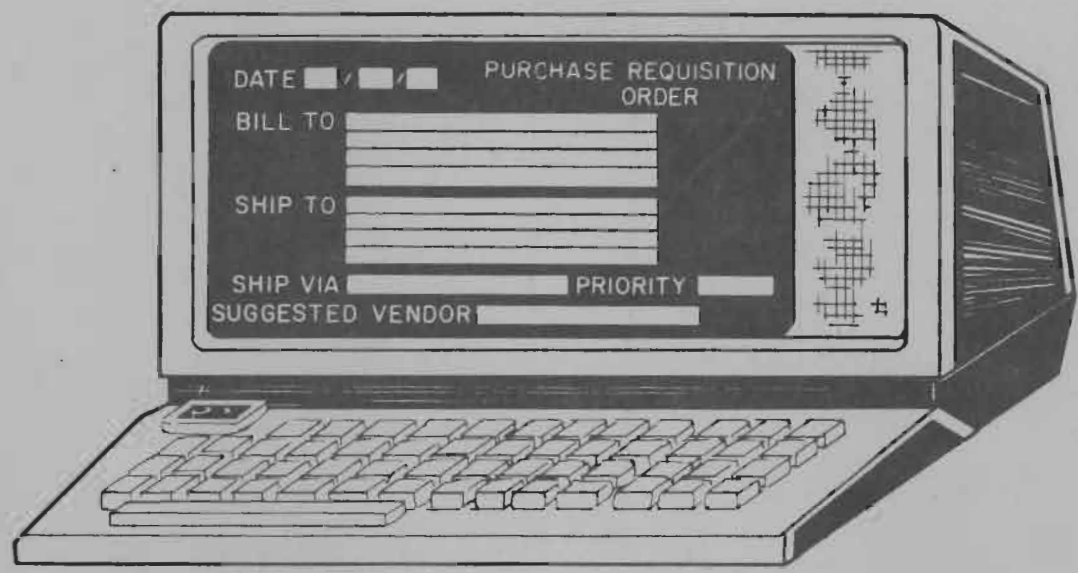


J. HUBBARD

# HEWLETT-PACKARD 3000

## SYSTEM MANAGEMENT AND OPERATION



ORDER NUMBERS:  
WORKBOOK ..... 22802-90001  
SLIDE SET ..... 22802-90002  
PRINT MASTERS ..... 22802-90003  
INSTRUCTOR GUIDE ... 22802-90004

PRINTED IN U.S.A. APRIL 1977

**HP Computer Museum**  
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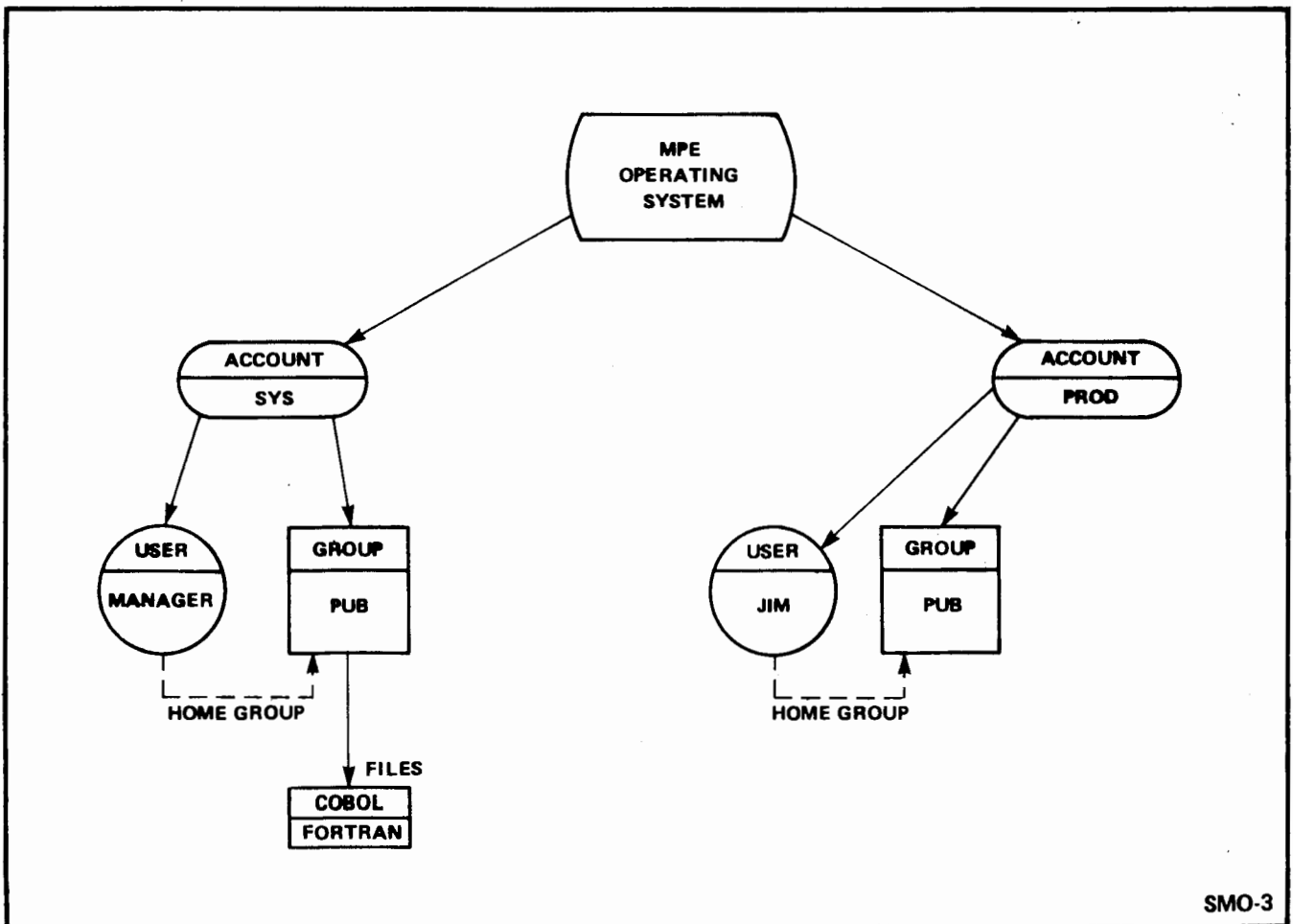
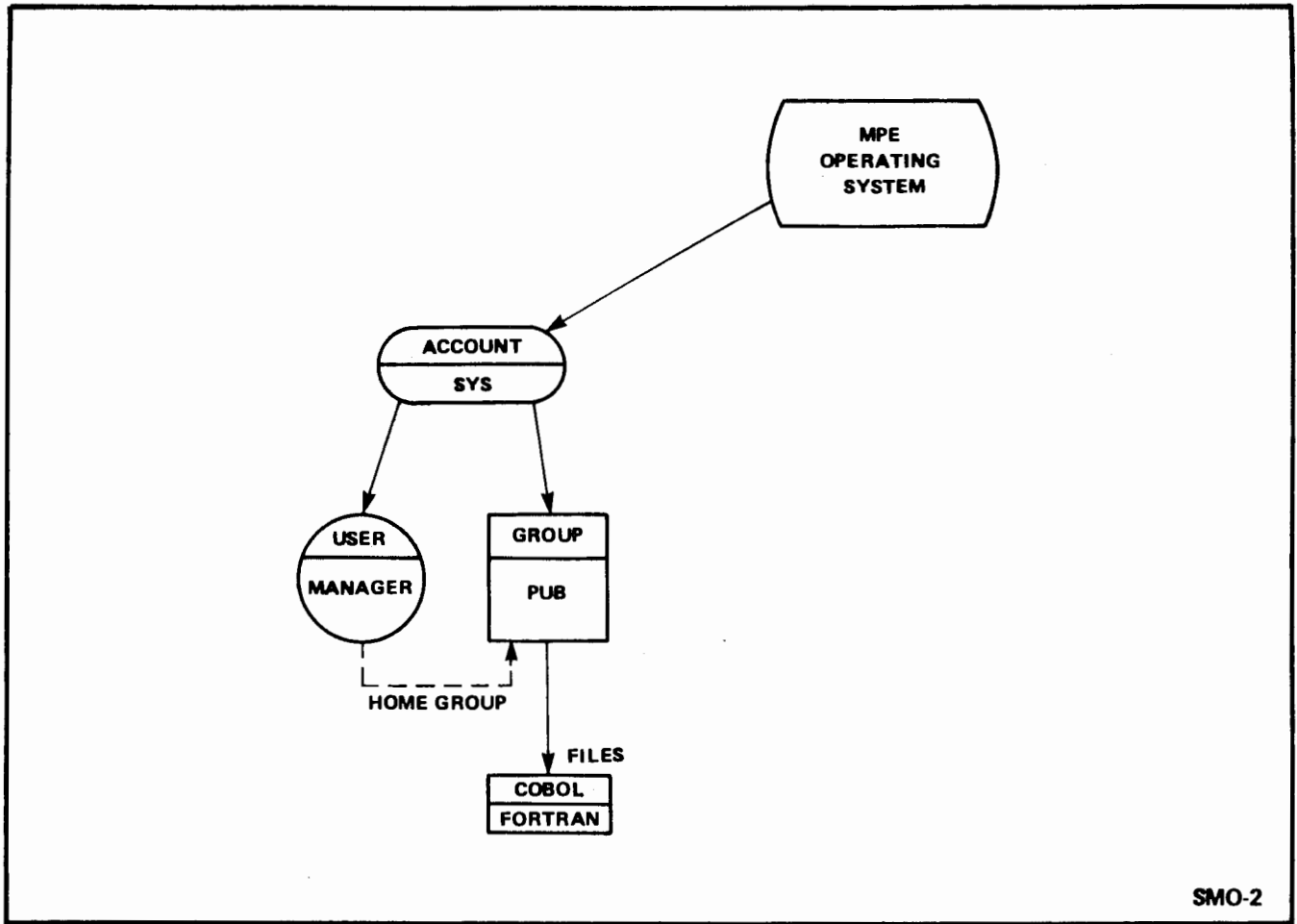
**For research and education purposes only.**

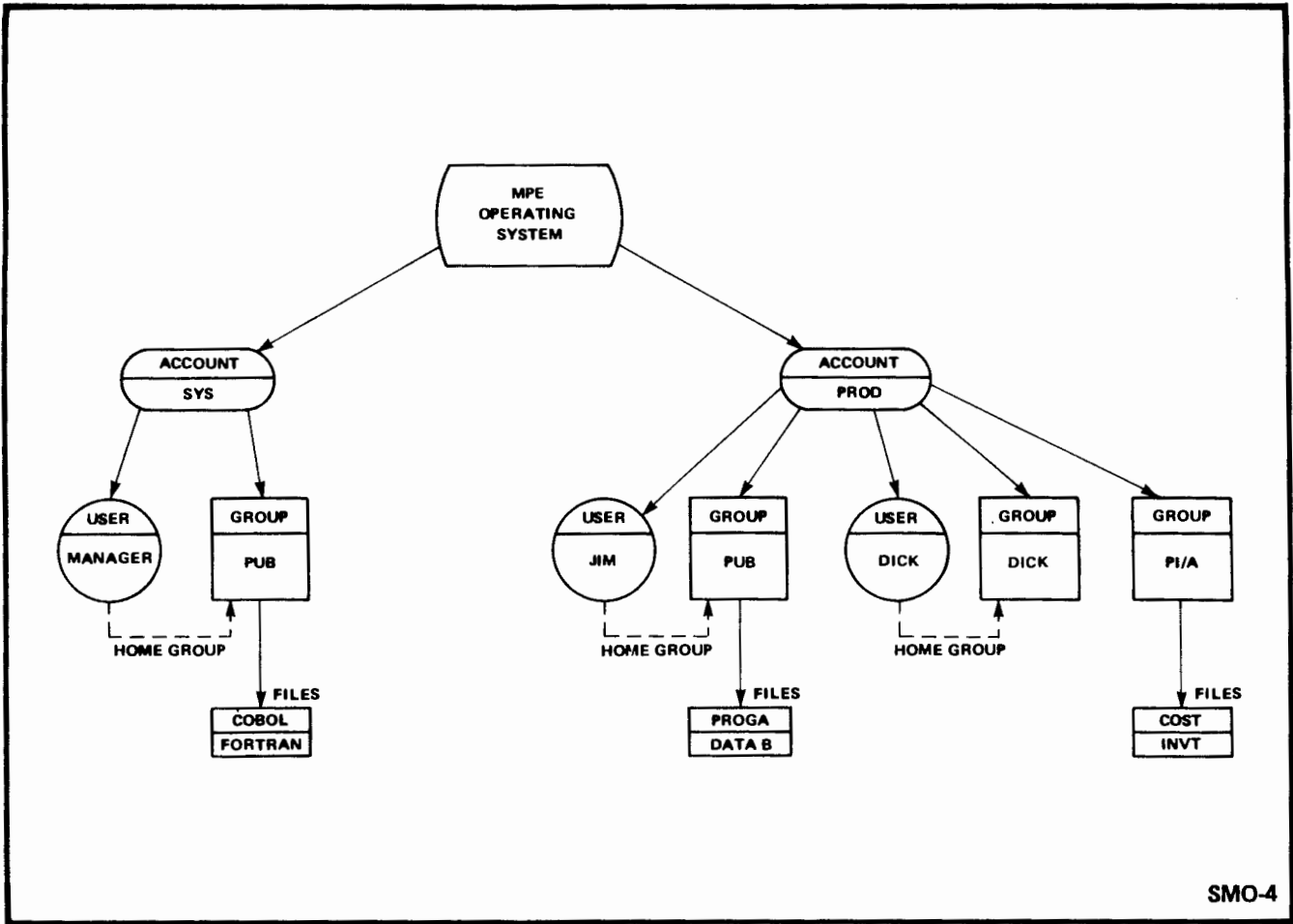


**ACCOUNTS STRUCTURE**

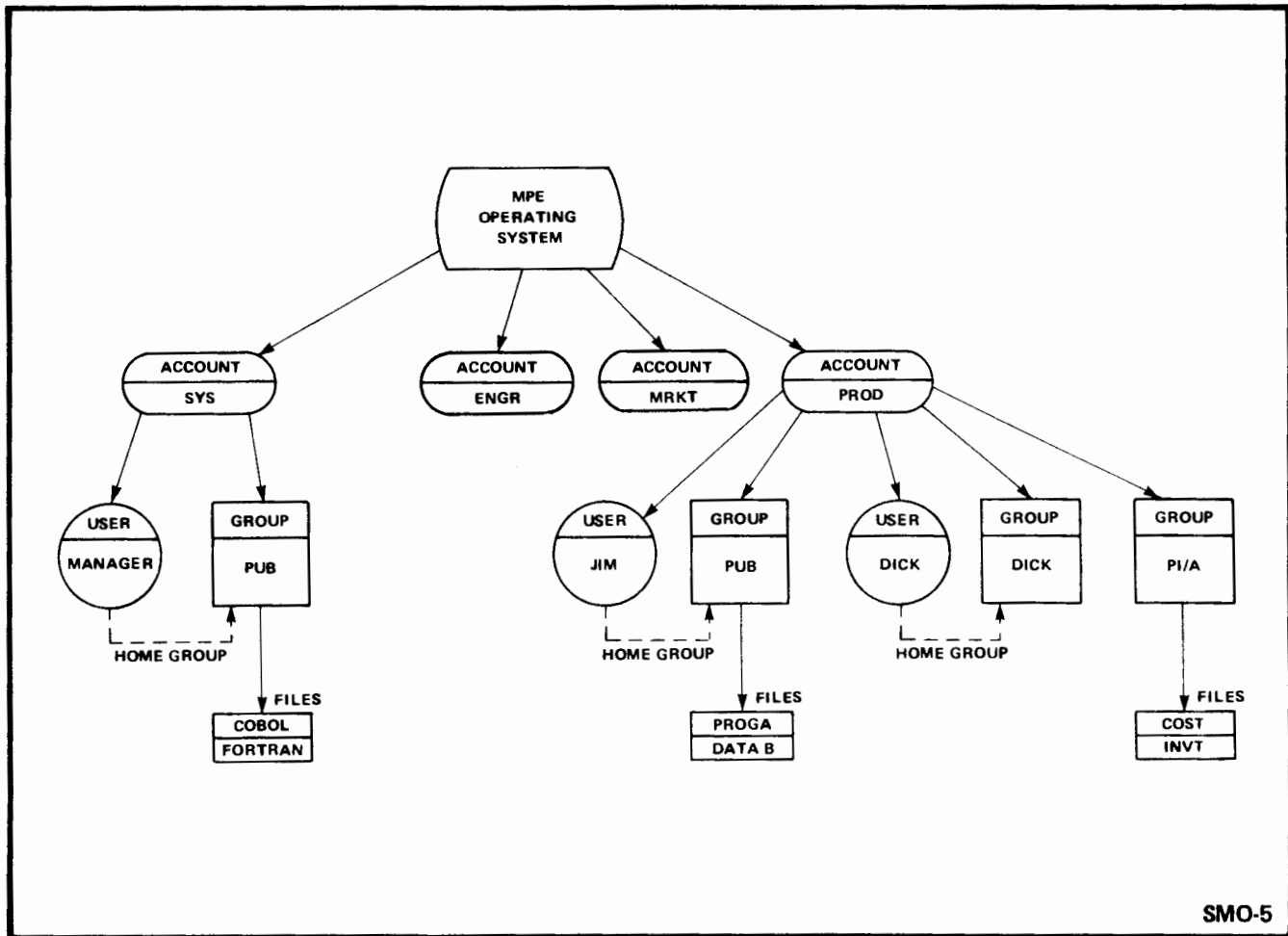




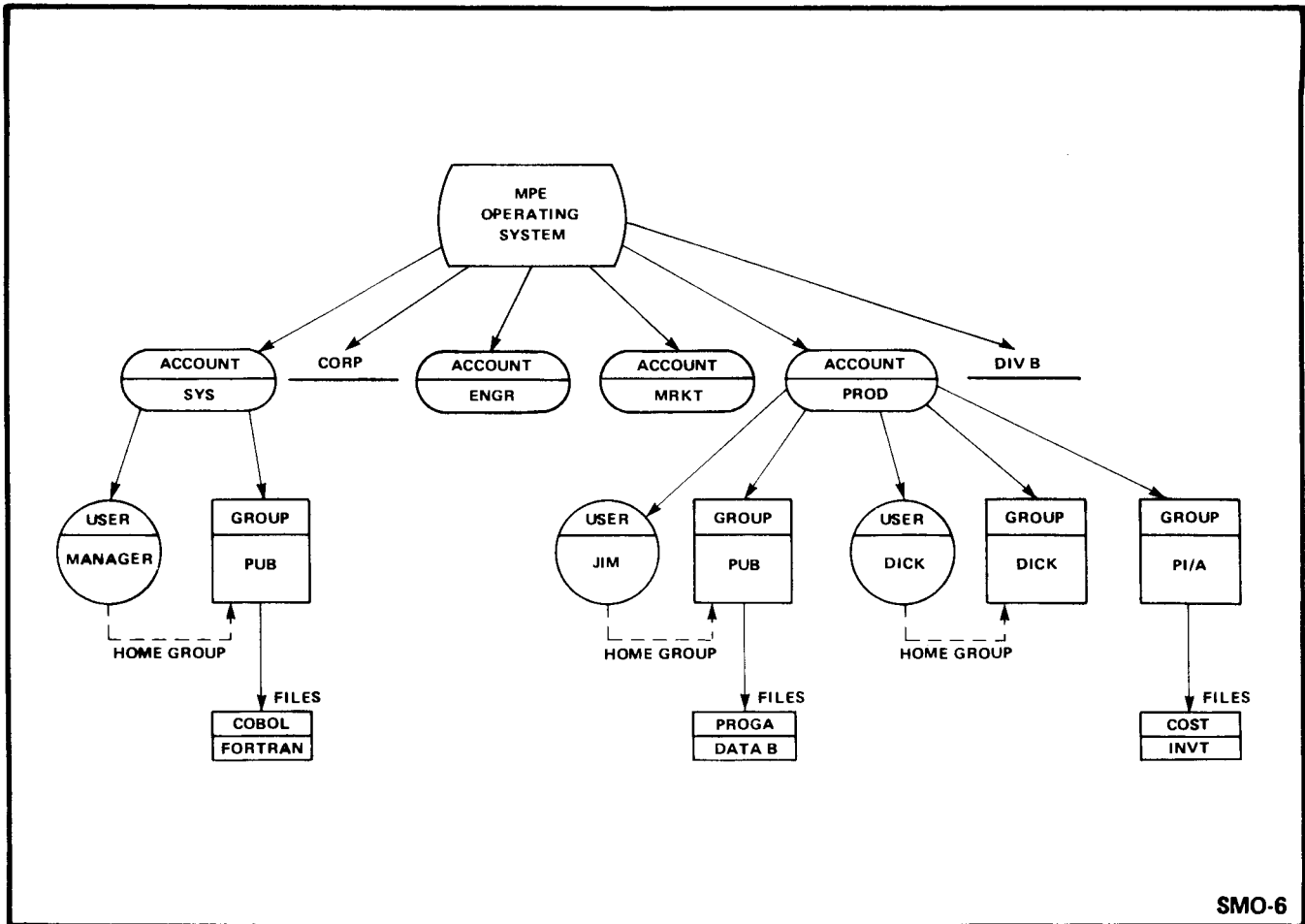




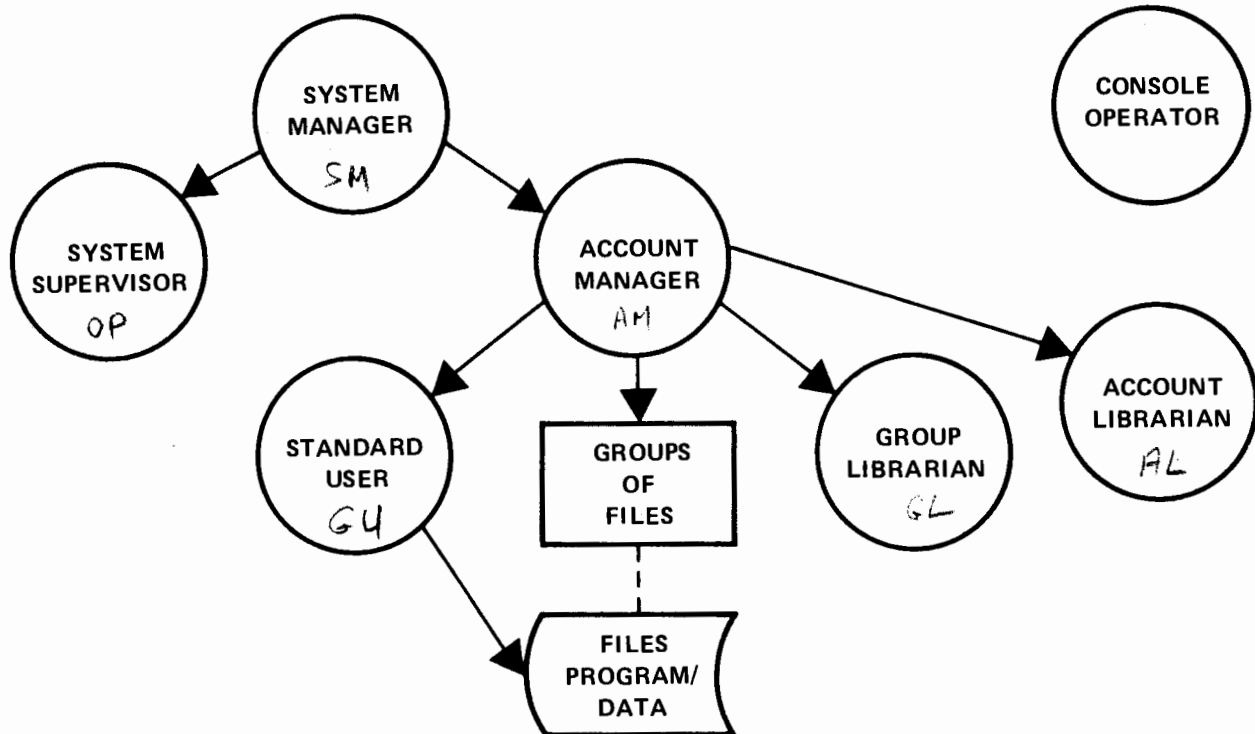
SMO-4



SMO-5



# SYSTEM USERS



SMO-7

# SYSTEM MANAGER FUNCTIONS

- \* CREATE NEW ACCOUNTS
  - \* MODIFY ACCOUNT CAPABILITY/STATUS
    - \* DELETE ACCOUNTS
      - \* LIST ACCOUNTS/GROUPS/USERS
        - \* LIST FILES
          - \* OBTAIN ACCOUNT REPORTS
            - \* STORE/RESTORE ANY FILE

SMO-8



# CREATING NEW ACCOUNTS

```
:NEWACCT acctname,mgrname  
/;PASS=[password] /  
/;FILES=[filespace] /  
/;CPU=[cpu] /  
/;CONNECT=[connect] /  
/;CAP=[capabilitylist] /  
/;ACCESS=[fileaccess] /  
/;MAXPRI=[subqueue name] /  
/;LOCATTR=[localattribute] /
```

```
:NEWACCT WXYZ,ABC
```

SMO-9

# LIST ACCOUNT ATTRIBUTES

```
:LISTACCT [ @  
          accountname ] /.listfile /
```

```
:LISTACCT WXYZ
```

```
A= WXYZ  
053530 054532 020040 020040 003015 003014 070003 000600 WXYZ.....P...  
000000 000000 020040 020040 020040 020040 000000 000000 .....  
077777 177777 000000 000000 077777 177777 000000 000000 .....  
077777 177777 002525 000226 000000 .....U....
```

SMO-10

# ALTERING ACCOUNTS ATTRIBUTES

```
:ALTACCT acctname  
[;PASS={password}]  
[;FILES={filespace}]  
[;CPU={cpu}]  
[;CONNECT={connect}]  
[;CAP={capabilitylist}]  
[;ACCESS=fileaccess]  
[;MAXPRI={subqueueuname}]  
[;LOCATTR={localattribute}]
```

SMO-11





# TO DELETE AN ACCOUNT

```
:PURGEACCT acctname
```

```
:PURGEACCT WXYZ  
ACCT WXYZ TO BE PURGED? YES
```

SMO-12

# ACCOUNT MANAGER FUNCTIONS

-  CREATE NEW GROUPS/USERS
-  MODIFY GROUP/USER ATTRIBUTES
-  DELETE GROUPS/USERS
-  LIST GROUPS/USERS
-  OBTAIN ACCOUNT REPORT
-  LIST GROUP FILES
-  STORE/RESTORE ACCOUNT FILES

SMO-13

## CREATING NEW GROUPS

```
:NEWGROUP  groupname  
             [;PASS=[password] ]  
             [;CAP=[capabilitylist] ]  
             [;FILES=[filespace] ]  
             [;CPU=[cpu] ]  
             [;CONNECT=[connect] ]  
             [;ACCESS=[fileaccess] ]
```

SMO-14

# LIST GROUP ATTRIBUTES

```
:LISTGROUP [ groupname  
                  groupname . acctname  
                  (@)  
                  (@ . acctname)  
                  (@ . @) ] /.listfile/
```

```
:LISTGROUP PUB.WXYZ
```

```
G= ..PUB  
050125 041040 020040 020040 003016 020040 020040 020040 PUB.....  
020040 000000 000000 077777 177777 000000 000000 077777 .....  
177777 000000 000000 077777 177777 020143 015006 000600 .....C....  
000000 ..
```

SMO-15

# ALTERING GROUP ATTRIBUTES

```
:ALTGROUP groupname  
          ;/PASS=|password|/  
          ;/CAP=|capabilitylist|/  
          ;/FILES=|filespace|/  
          ;/CPU=|cpu|/  
          ;/CONNECT=|connect|/  
          ;/ACCESS=|fileaccess|/
```

SMO-16

# to delete a group

```
:PURGEGROUP    groupname  
:PURGEGROUP    ABC  
GROUP         ABC TO BE PURGED? YES
```

SMO-17

## *CREATING NEW USERS*

```
:NEWUSER      username  
                [/;PASS=|password|]  
                [/;CAP=|capabilitylist|]  
                [/;MAXPRI=|subqueueenamel]  
                [/;LOCATTR=|localattribute|]  
                [/;HOME=|homegroupnamel]
```

SMO-18

# LIST USER ATTRIBUTES

```

:LISTUSER [ username
            username . acctname
            @
            @ . acctname
            @ . @ ] [,listfile]

```

:LISTUSER ABC.WXYZ

```

U= ABC
040502 041440 020040 020040 070003 000600 000000 000000 ABC.....P.....
020040 020040 020040 020040 050125 041040 020040 020040 .....PUB.....
000000 000226 000000 .....
:

```

# ALTERING USER ATTRIBUTES

```

:ALTUSER username
           [;PASS=[password]]
           [;CAP=[capabilitylist]]
           [;MAXPRI=[subqueueenamel]]
           [;LOCATTR=[localattribute]]
           [;HOME=[homegroupname]]

```

# TO DELETE A USER

```
:PURGEUSER      username  
:PURGEUSER      JOE  
USER JOE        TO BE PURGED? YES
```

## ACCOUNT STRUCTURE WORKSESSION

An in-house service bureau of a small manufacturing company provides both batch and interactive capabilities to different users within the company. The Data Processing Manager (the only user on the system with System Manager (SM) capability) wants to account for system resources used by each of the company's departments:

- Manufacturing (including Production and Inventory Control)
- Research and Development
- Administrative (including Personnel and Accounting)
- Marketing

In addition, some accounting is to be done within each department:

Manufacturing has a very large Inventory Control data base, and wants to keep it in a separate group, while the maintenance programs reside in another group.

Research and Development is working on two program development projects, and wants to keep track of the CPU elapsed time used on each project individually.

Administrative Services wants to separate Personnel records (in the form of a data base) from the Accounting department's payroll, order-entry programs, and data bases.

Marketing has no specific requirements, but does have information about all salesmen, sales, and orders in a data base, so that weekly reports of activity can be generated.

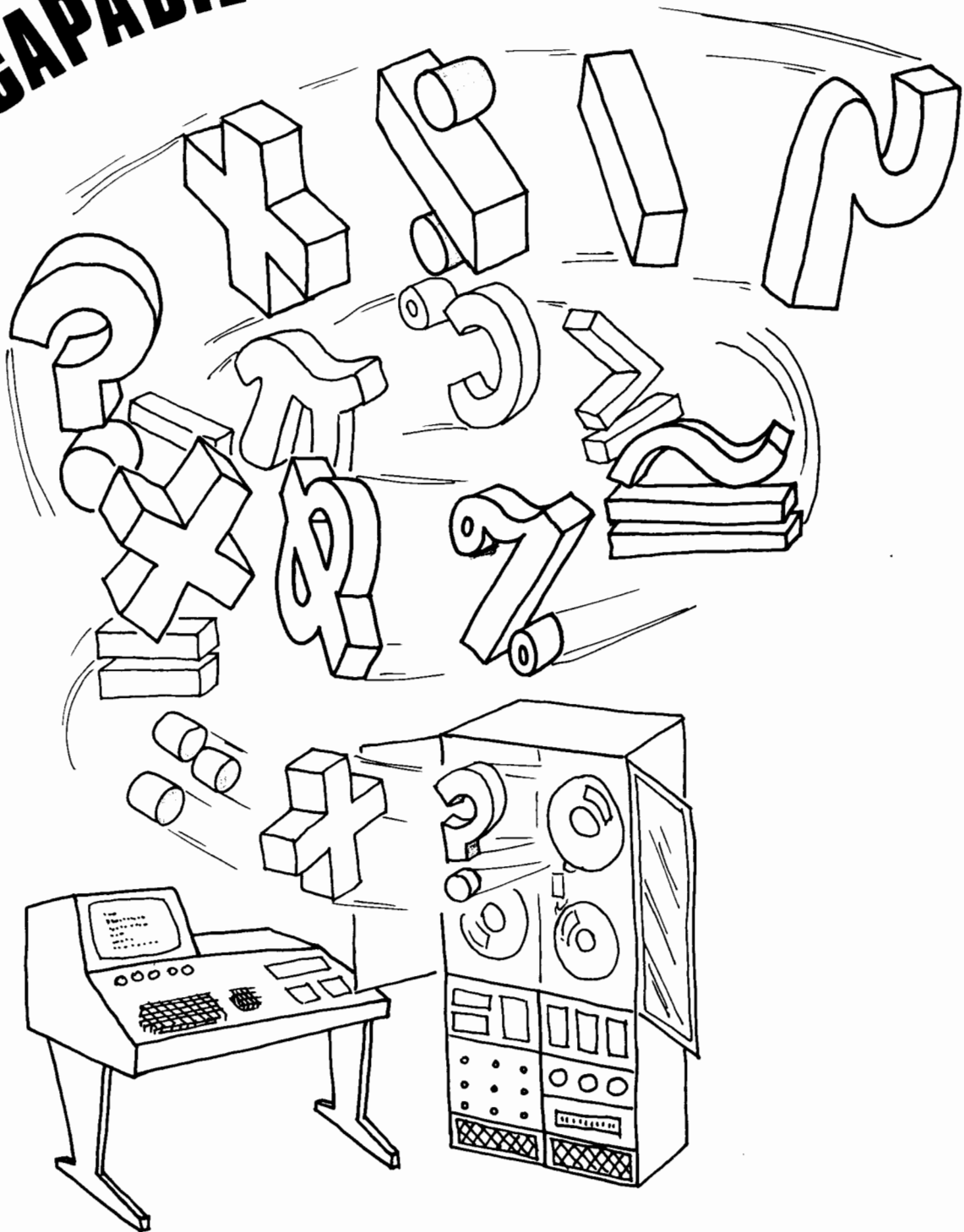
Pretend that you are the Data Processing Manager, and create an account structure which would serve each department of the company, based in the needs stated above.

(Optional)

Create several new users in each account, making sure that a record can be kept of how long each one is logged on the system, and how much CPU time each uses.

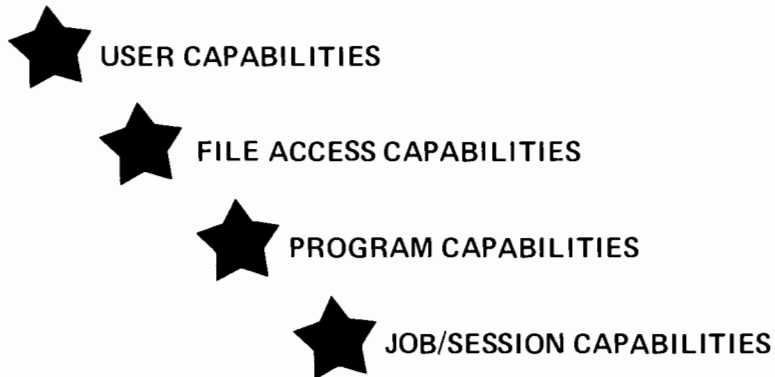


# CAPABILITIES





# CAPABILITY SETS



SMO-23

## USER CAPABILITIES

- SM — SYSTEM MANAGER
- AM — ACCOUNT MANAGER
- OP — SYSTEM SUPERVISOR
- AL — ACCOUNT LIBRARIAN
- GL — GROUP LIBRARIAN
- DI — DIAGNOSTICIAN

SMO-24

# FILE ACCESS CAPABILITIES



SF - SAVE FILE



ND - NON-SHARABLE DEVICES

SMO-25

# SAVE FILE CAPABILITY



NEEDED TO SAVE FILES



CHECKED AT FILE CLOSE




SMO-26

## *EXAMPLES OF SAVING FILES*

- \* BUILD COMMAND
- \* SAVE COMMAND
- \* RESTORE COMMAND
- \* FCLOSE INTRINSIC (PERMANENT)
- \* TEXT EDITOR KEEP
- \* BASIC INTERPRETER SAVE
- \* BASIC INTERPRETER CREATE

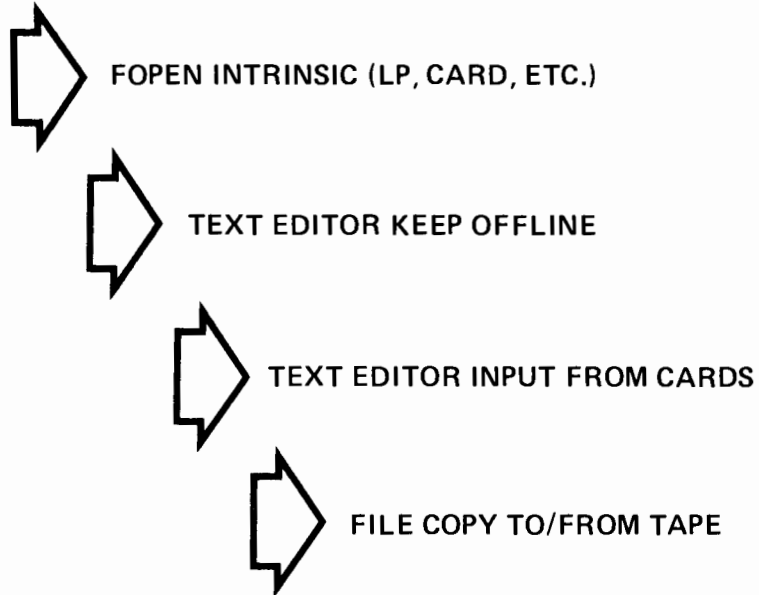
SMO-27

## *NON-SHARABLE DEVICE CAPABILITY*

-  NEEDED TO UTILIZE DEVICES OTHER THAN DISC
-  USER HAS COMPLETE CONTROL OF DEVICE
-  CHECKED WHEN DEVICE ALLOCATED

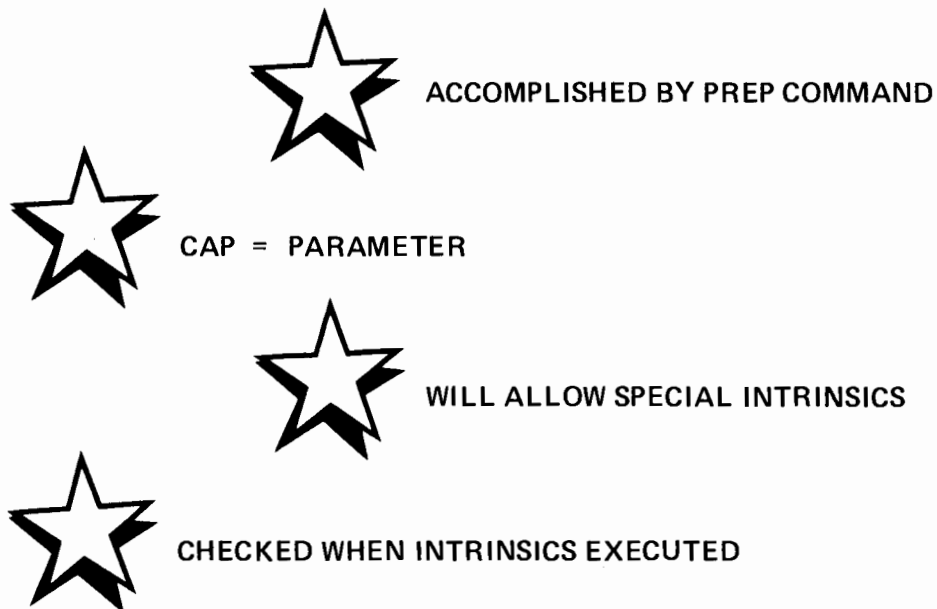
SMO-28

# EXAMPLES OF NON-SHARABLE DEVICE ACCESS



SMO-29







# *PROGRAM CAPABILITIES*



SMO-30

# CAPABILITIES

## PROGRAM

	<b>DS</b>	EXTRA DATA SEGMENTS
	<b>PH</b>	PROCESS HANDLING
	<b>PM</b>	PRIVILEGED MODE
	<b>MR</b>	MULTIPLE RINS
	<b>IA</b>	INTERACTION EXECUTION
	<b>BA</b>	BATCH EXECUTION

SMO-31

# DS CAPABILITY

- ▶ ALLOWS FOR EXTRA DATA SEGMENTS
- ▶ TEMPORARY DATA STORAGE
- ▶ WILL BE PURGED AT END OF PROCESS OR JOB

## DS INTRINSICS

GETDSEG      DMOVOUT

FREEDSEG    ALTDSEG

DMOVIN

SMO-32

# PM CAPABILITY

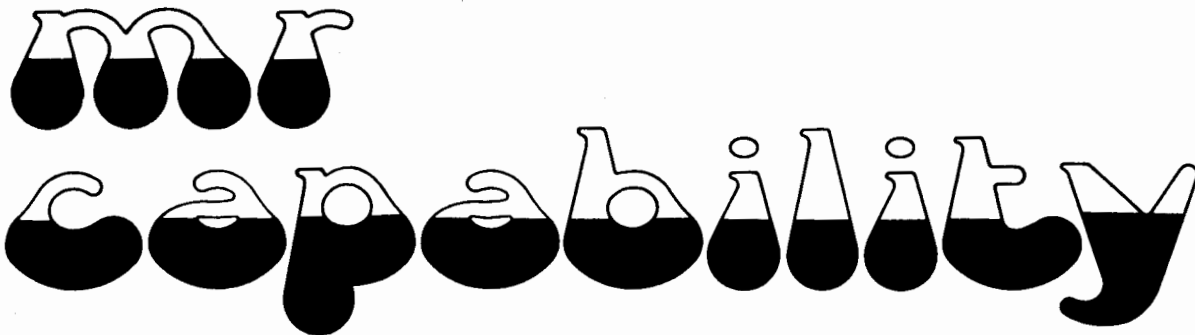
- \* USERS RUN IN PRIVILEGED MODE
- \* SAME CAPABILITY AS MPE
  - ▶ UNCALLABLE INTRINSICS
  - ▶ SYSTEM TABLES
  - ▶ PRIVILEGED CPU INSTRUCTION SET
- \* TEMPORARILY OR PERMANENTLY PRIVILEGED
- \* PROCESS CAN BE SCHEDULED IN MASTER QUEUE

## PM INTRINSICS

GETPRIVMODE	CREATE*
GETUSERMODE	GETPRIORITY*
SWITCH DB	(*-CERTAIN PARAMS)

NOTE: YOUR SYSTEM IS NOT SUPPORTED WHILE YOU USE PM.

SMO-33



MULTIPLE GLOBAL RINS



POSSIBILITY OF DEADLOCKS

SMO-34



## PH CAPABILITY

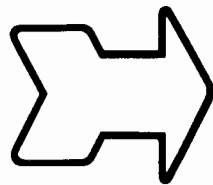
- ALLOWS PROCESS CREATION
- ALLOWS PROCESS DELETION
- ALLOWS PROCESS SUSPENSION AND CREATION
- ALLOWS INTER-PROCESS COMMUNICATION

## PH INTRINSICS

CREATE	GETORIGIN
TERMINATE	MAIL
KILL	SENDMAIL
ACTIVATE	RECEIVEMAIL
SUSPEND	GETPRIORITY
	FATHER
	GETPROCINFO
	GETPROCID

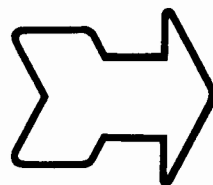
SMO-35

## JOB / SESSION CAPABILITIES



IA

INTERACTIVE



BA

BATCH

SMO-36

# CAPABILITY CLASS CHECKS



LOGON TIME

USER CANNOT EXCEED ACCOUNT



PREP TIME

PROGRAM CANNOT EXCEED USER



RUN TIME

PROGRAM CANNOT EXCEED GROUP

CERTAIN INTRINSICS NEED EXTRA CAPABILITY

SMO-37

# CAPABILITY LIST PARAMETER



CAP =



IA OR BA MUST BE SPECIFIED



ACCOUNT AUTOMATICALLY GIVEN AM



SM CANNOT BE REMOVED FROM "SYS" ACCOUNT



USER CAPABILITY CANNOT EXCEED ACCOUNT'S AT NEWUSER  
OR RUN TIME



GROUP CAPABILITY CANNOT EXCEED ACCOUNT AT NEWGROUP



MAX GROUP CAP = IA,BA,PM,DS,PH,MR

SMO-38



# WHERE CAPABILITIES APPLY?

CAPABILITIES	WHERE APPLICABLE?			
	USER	PROGRAM FILE	GROUP	ACCOUNT
<u>FILE ACCESS</u> SF=save files ND=use non-sharable devices	SF,ND (default), limits users.	Not relevant, if a program tries to save a file, user running program is checked	Not relevant	SF,ND Sets limits for all account users.
<u>USER CAPS</u> SM=system man. AM=acct. man. AL=acct. libr. GL=group libr. DI=diagnostics OP=sys. superv.	All apply. Defaults are none. Gives ability to use special commands.	Not relevant, if a program tries to alter an account, user is checked.	Not relevant.	All apply. Defaults are AM, AL, GL. Sets limits for all acct. users.
<u>PROGRAM CAPS</u> PH=process hdl. DS=data segm. MR=multi RINS. PM=priv. mode	All apply. Limits ability of user to PREP prog-files with these capabilities, but not to run progs. Default:none	All apply Limits intrinsic Calls of program assigned by PREP(CAP=) Default:none	All apply. Limits prog. files in the group. Default:none	All apply. Limit program files and users in the account. Default:none
<u>JOB CAPS</u> IA=interactive access BA=batch access	Both apply. Limits ability to logon. HELLO requires IA, JOB requires BA. Default:IA,BA. Must have one.	Both apply. Must exist but do not limit any actions. Default:IA,BA.	Both apply. Limits caps of program files in the group. Default:IA,BA	Both apply. Limit users and program files in account. Default:IA,BA
<u>LOCAL ATTRIBUTES</u>	Program can use to classify a user.	Not relevant.	Not relevant.	Limits maximum assigned to user.

# LISTDIR2 PROGRAM

- ⇒ WILL LIST FILE SECURITY ATTRIBUTES
- ⇒ WILL LIST CAPABILITIES OF ACCOUNTS/GROUPS/USERS
- ⇒ WILL LIST PASSWORD *Security Attributes*
- ⇒ WILL LIST PRIORITY
- ⇒ WILL LIST LIMITS

# LISTDIR2 HELP

:RUN LISTDIR2.PUB.SYS

LISTDIR (CU.09)  
TYPE 'HELP' FOR AID

>HELP

CONTROL-Y MAY BE TYPED ANYTIME TO STOP THE OUTPUT  
FROM ANY COMMAND.

COMMAND SYNTAX IS:

```
LISTACCT [<ASET>] [,<LISTFILE>] [;PASS]
LISTGROUP [<GSET>] [,<LISTFILE>] [;PASS]
LISTUSER [<USET>] [,<LISTFILE>] [;PASS]
LISTSEC <FSET> [,<LISTFILE>] [;PASS]
LISTF <FSET> [,<LISTFILE>] [;PASS] [;MAP]
HELP [<LISTFILE>]
EXIT
```

<ASET> IS AN ACCOUNT NAME OR @.

<GSET> IS A GROUP NAME, OPTIONALLY QUALIFIED BY AN  
ACCOUNT NAME; OR @, OPTIONALLY QUALIFIED BY  
AN <ASET>.

EXAMPLES: LISTGROUP MYGROUP.MYACCT  
LISTGROUP @.MYACCT  
LISTGROUP @.@

<FSET> IS A FILE NAME, OPTIONALLY QUALIFIED BY A  
GROUP AND ACCOUNT NAME; OR @, OPTIONALLY  
QUALIFIED BY A <GSET>.

CONTINUE? (Y/N)Y

EXAMPLES: LISTF MYFILE.MYGROUP.MYACCT  
LISTF @.MYGROUP

<LISTFILE> IS ANY VALID FILE DESIGNATOR, PRECEDED BY  
AN ASTERISK TO BACK-REFERENCE A :FILE  
COMMAND. WITHOUT AN ASTERISK, THE FILE  
DESIGNATOR MUST BE AN EXISTING TEMPORARY  
OR PERMANENT FILE.

EXAMPLE: LISTACCT @, \*PRINTER

"PASS" PERMITS ACCOUNT AND SYSTEM MANAGERS TO DISPLAY  
PASSWORDS, LOCKWORDS, CREATOR ID'S, AND FILE DISC  
ADDRESSES. THE CREATOR OF A FILE IS ALSO PERMITTED  
TO DISPLAY DISC ADDRESSES AND THE CREATOR ID.

"MAP" PERMITS THE FILE CREATOR AND ACCOUNT AND SYSTEM  
MANAGERS TO DISPLAY THE FILE EXTENT MAP.

>EXIT

END OF PROGRAM

# LISTDIR2 OUTPUT

:RUN LISTDIR2

LISDIR (CU,09)  
TYPE "HELP" FOR AID

>LISTACCT WXYZ

\*\*\*\*\*

ACCOUNT: WXYZ

DISC SPACE: 0(S)

PASSWORD: \*\*

CPU TIME: 0(SEC)

LOC ATTR: %0

CONNECT TIME: 0(MIN)

SECURITY--READ: AC

DISC LIMIT: UNLIMITED

WRITE: AC

CPU LIMIT: UNLIMITED

APPEND: AC

CONNECT LIMIT: UNLIMITED

LOCK: AC

MAX PRI: 150

EXECUTE: AC

GRP INX PTR: %174

USR INX PTR: %173

CAP: AM,AL,GL,ND,SE,IA,BA

SMO-42

# LISTDIR2 OUTPUT

>LISTUSER ABC.WXYZ

\*\*\*\*\*

USER: ABC.WXYZ

HOME GROUP: PUB

PASSWORD: \*\*

MAX PRI: 150

LOC ATTR: %0

LOGON CMT: 0

CAP: AM,AL,GL,ND,SE,IA,BA

>LISTGROUP PUB.WXYZ

\*\*\*\*\*

GROUP: PUB.WXYZ

DISC SPACE: 0(S)

PASSWORD: \*\*

CPU TIME: 0(SEC)

SECURITY--READ: ANY

CONNECT TIME: 0(MIN)

WRITE: AL,GU

DISC LIMIT: UNLIMITED

APPEND: AL,GU

CPU LIMIT: UNLIMITED

LOCK: AL,GU

CONNECT LIMIT: UNLIMITED

EXECUTE: ANY

FILE INX PTR: %175

SAVE: AL,GU

CAP: IA,BA

>EXIT

END OF PROGRAM

SMO-43

# LISTDIR2 OUTPUT

:RUN LISTDIR2

LISTDIR (CU.09)  
TYPE 'HELP' FOR AID

>LISTF ABC.PUB.WXYZ;PASS;MAP

\*\*\*\*\*

FILE: ABC.PUB.WXYZ

FCODE: 0	FOPTIONS: BINARY, FIXED
BLK FACTOR: 1	CREATOR: ABC
REC SIZE: 256(B)	LOCKWORD:
BLK SIZE: 128(W)	SECURITY--READ: ANY
EXT SIZE: 128(S)	WRITE: ANY
# REC: 0	APPEND: ANY
# SEC: 128	LOCK: ANY
# EXT: 1	EXECUTE: ANY
MAX REC: 1023	**SECURITY IS ON
MAX EXT: 8	COLD LOAD ID: %0
# LABELS: 0	CREATED: SAT, 6 MAR 1976
MAX LABELS: 0	MODIFIED: SAT, 6 MAR 1976
DISC DEV #: 2	ACCESSED: SAT, 6 MAR 1976
DISC TYPE: 0	LABEL ADR: %160120
DISC SUBTYPE: 3	SEC OFFSET: %1
CLASS :DISC	FLAGS: NO ACCESS
FCB VECTOR: %0	
EXT MAP: %100160120	

>LISTF ABC

\*\*\*\*\*

FILE: ABC.PUB.WXYZ

FCODE: 0	FOPTIONS: BINARY, FIXED
BLK FACTOR: 1	CREATOR: **
REC SIZE: 256(B)	LOCKWORD: **
BLK SIZE: 128(W)	SECURITY--PEAD: ANY
EXT SIZE: 128(S)	WRITE: ANY
# REC: 0	APPEND: ANY
# SEC: 128	LOCK: ANY
# EXT: 1	EXECUTE: ANY
MAX REC: 1023	**SECURITY IS ON
MAX EXT: 8	COLD LOAD ID: %0
# LABELS: 0	CREATED: SAT, 6 MAR 1976
MAX LABELS: 0	MODIFIED: SAT, 6 MAR 1976
DISC DEV #: 2	ACCESSED: SAT, 6 MAR 1976
DISC TYPE: 0	LABEL ADR: **
DISC SUBTYPE: 3	SEC OFFSET: %1
CLASS :DISC	FLAGS: NO ACCESS
FCB VECTOR: %0	

# RESET ACCOUNT TOTALS

: RESETACCT

▶ SYSTEM MANAGER ONLY

▶ CAN RESET CPU AND/OR CONNECT TIME

: RESETACCT ACCTNAME, CPU

: RESETACCT @, CONNECT

SMD-45

# REPORT ACCOUNT/GROUP TOTALS

● FILE SPACE

● CPU SECONDS

● CONNECT MINUTES

▶ SM – ANY OR ALL ACCOUNTS/GROUPS

▶ AM – ANY OR ALL GROUPS

▶ USER – LOGON GROUP

: REPORT GROUP.ACCT,LISTFILE

SMD-46



ACCOUNT /GROUP	FILES-SPACE-SECTORS		CPU-SECONDS		CONNECT-MINUTES	
	COUNT	LIMIT	COUNT	LIMIT	COUNT	LIMIT
ACCOUNT1	17381	**	20	**	4	**
/BASIC	229	**	0	**	0	**
/COBOL	179	**	0	**	0	**
/CONTRIB	0	**	0	**	0	**
/FORTRAN	475	**	0	**	0	**
/GAMES	656	**	0	**	0	**
/GROUP	0	**	0	**	0	**
/IMAGE	4655	**	20	**	4	**
/MPE	681	**	0	**	0	**
/PUB	9422	**	0	**	0	**
/SPL	435	**	0	**	0	**
/SUBSYST	424	**	0	**	0	**
/SYSUTIL	225	**	0	**	0	**
ALBERT	101	5000	0	**	0	**
/PUB	101	5000	0	**	0	**

SMO-47

```

1  IJOB MANAGER.SYS;PRI=CS
2  IPURGE REPORTF
3  IBUILD REPORTF;REC=17,30,,BINARY
4  IREPORT @.
5  IFILE REPORTF,OLD
6  IREPORT @.@,*REPORTF
7  IRUN FCOPY.PUB.SYS
8  FROM=REPORTF;TO=;CHAR;OCIAL
9  EXIT
10 !EOD
11 !EOJ

```

SMO-48

```

FILE REPORTF.PUB.SYS RECORD NUMBER 0
000000: 00002 040503 041517 052510 052061 00000 041745 077777 177777 000000 000024 077777 ..ACCOUNT1..C.....
000014: 177777 00000 000004 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 1
000000: 00001 041101 051511 041440 020040 00000 000345 077777 177777 000000 000000 077777 ..BASIC .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 2
000000: 00001 041517 041117 046040 020040 00000 000263 077777 177777 000000 000000 077777 ..COBOL .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 3
000000: 00001 041517 047124 051111 041040 00000 000000 077777 177777 000000 000000 077777 ..CONTRIB .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 4
000000: 00001 043117 051124 051101 047040 00000 000733 077777 177777 000000 000000 077777 ..FORTRAN .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 5
000000: 00001 043501 046505 051440 020040 00000 001220 077777 177777 000000 000000 077777 ..GAMES .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 6
000000: 00001 043522 047525 050040 020040 00000 000000 077777 177777 000000 000000 077777 ..GROUP .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 7
000000: 00001 044515 040507 042440 020040 00000 011057 077777 177777 000000 000024 077777 ..IMAGE .../.....
000014: 177777 00000 000004 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 8
000000: 00001 046520 042440 020040 020040 00000 001251 077777 177777 000000 000000 077777 ..MPE .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 9
000000: 00001 050125 041040 020040 020040 00000 022316 077777 177777 000000 000000 077777 ..PUB ..S.....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 10
000000: 00001 051520 046040 020040 020040 00000 000663 077777 177777 000000 000000 077777 ..SPL .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 11
000000: 00001 051525 041123 054523 052040 00000 000650 077777 177777 000000 000000 077777 ..SUBSYST .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 12
000000: 00001 051531 051525 052111 046040 00000 000341 077777 177777 000000 000000 077777 ..SYSUTIL .....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 13
000000: 00002 040514 041105 051124 020040 00000 000145 000000 011610 000000 000000 077777 ..ALBERT ...E.....
000014: 177777 00000 000000 077777 177777

FILE REPORTF.PUB.SYS RECORD NUMBER 14
000000: 00001 050125 041040 020040 040040 00000 000145 000000 011610 000000 000000 077777 ..PUB ...E.....
000014: 177777 00000 000000 077777 177777

```

# DIRECTORY WORK SESSION

1. LIST THE COMMANDS NEEDED TO CREATE THE ACCOUNTS, USERS, AND GROUPS DESCRIBED BELOW.

## 1st ACCOUNT:

The manager of the CLASS account is TEACHER. There are three groups beginning (NEOPHYTE), intermediate (INTER), and advanced (ADVANCE).

Beginning students will have batch access to the computer but can not save files or use magnetic tape.

Intermediate students will have batch and interactive access to the computer, be able to save files and use magnetic tape.

Advanced students will additionally be able to create processes and use extra data segments.

In addition to the manager there are three users BILL a beginner student, STAN an intermediate student, and JIM an advanced student.

## 2nd ACCOUNT:

The manager of the COMSCI account is GRAD. This account has all but system manager capability.

The manager password is PROTECT and the account password is DEPT. SMO-50

2. For each user check (✓) the commands he can use.

## COMMANDS

USERS	BUILD	EDITOR LIST OFFLINE	FILE	SAVE	NEWACCT	RUN\$OLDPASS	RUN MYPGM	ALLOCATE	REPORT	REPORT @	REPORT @ . @	LISTF	LISTF,-1	DATA	HELLO	JOB
	GRAD	✓	✓	✓	✓	✓	✓			✓	✓		✓		✓	✓
TEACHER	✓	✓		✓		✓	✓		✓			✓		✓	✓	✓
JIM	✓	✓	✓			✓	✓		✓			✓		✓	✓	✓
STAN	✓	✓	✓	✓		✓	✓		✓			✓		✓	✓	✓
BILL			✓			✓	✓		✓			✓				✓

# DIRECTORY LAB

1. Create a new account with your last name as the account name and your first name as account manager, with IA, BA, ND capability only.
2. Use the LISTDIR2 program to obtain a listing of the account, user, and group capabilities.
3. Logon and BUILD a temporary file.
4. Build a permanent file (note message).
5. Determine, possibly using LISTDIR2, where the problem is.
6. Correct the problem.
7. Report the current accounting information for all accounts (note messages).
8. Report current accounting information for your account.
9. Use the LISTACCT command to list your account. Find each item listed by LISTDIR2 program.

Step 9 is optional

# DIRECTORY QUIZ

1. How many characters in an account name, file name, user name, password or lockword.
  - a. 16
  - b. 8
  - c. 20
  - d. 35
  
2. An account can be structured so that a user process could execute in which of the following queues?
  - a. BS
  - b. CS
  - c. DS
  - d. Any of the above. ✓
  
3. A user with account manager or system supervisor capability can create new accounts.
  - a. True
  - b. False ✓
  
4. The accumulated connect time.
  - a. Can never be changed
  - b. Can be RESET by the system manager. ✓
  - c. Can be changed using the ALTACCT command. ✓
  - d. b & c above.
  
5. To allow one group in an account greater CPU time, while not changing the others.
  - a. Use the RESETACCT command specifying CPU
  - b. Use the ALTGROUP command increasing the CPU time limit. ✓
  - c. Can not be done
  
6. Changes in a group, user, account capabilities become effective
  - a. Immediately
  - b. The next day
  - c. At the next logon ✓
  - d. Never
  
7. The list file for the report command must be ASCII
  - a. True
  - b. False ✓
  
8. The account and user local attribute contain \_\_\_\_\_ bits.
  - a. 16
  - b. 32 ✓
  - c. 48
  - d. 0

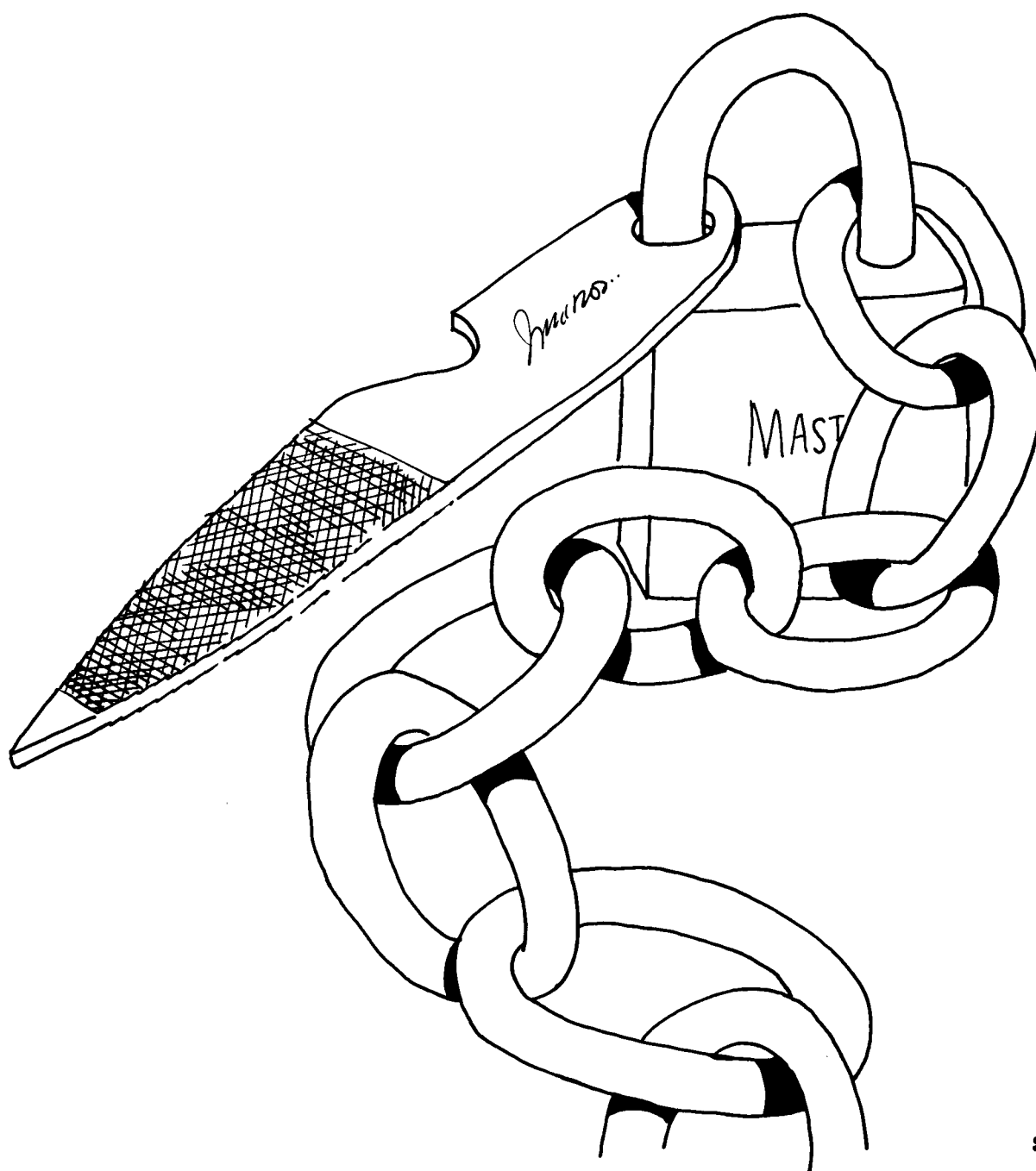
## DIRECTORY QUIZ (CONT'D)

9. Which capabilities will "give away the system"?

- a. OP
- b. SM ✓
- c. PM
- d. IA
- e. MR
- f. PH

(MAY BE MORE THAN ONE)

# FILE SECURITY







# METHODS OF FILE SECURITY FOR OPEN FILES

FILE LOCKING



FOPEN INTRINSIC PARAMETER



FULLY EXCLUSIVE



SEMI EXCLUSIVE



DYNAMIC LOCKING



RIN



FLOCK-FUNLOCK INTRINSICS



LOGICAL LOCK ONLY



L ACCESS REQUIRED

SMO-57

# METHODS OF FILE SECURITY FOR CLOSED FILES



PASSWORDS



CHECKED AT LOGON



ACCOUNT-GROUP-USER LEVELS



LOCKWORDS



FOR FILES



CHECKED AT FOPEN TIME



PROGRAM RESIDENT



FILE SECURITY



USER ATTRIBUTES CHECKED



TYPES OF ACCESS DESIRED CHECKED

SMO-58

# FILE SECURITY RULES



USERS CAN CREATE FILES ONLY IN THEIR ACCOUNT

ONLY CR CAN MODIFY A FILE'S SECURITY

IF LOCKWORD IS PRESENT IT IS ALWAYS REQUIRED

AM HAVE UNLIMITED FILE ACCESS TO THEIR ACCOUNT

SM HAS UNLIMITED FILE ACCESS BUT CAN SAVE ONLY IN HIS OWN ACCOUNT

RELEASE ALLOWS UNLIMITED FILE ACCESS

RELEASE DOES NOT MODIFY FILE SECURITY SETTINGS

*CR, AM, SM, RELEASE, UNTIL CR HAS CONTROL*

SMO-59

# LEVELS OF FILE SECURITY



ACCOUNT



GROUP



FILE

SMO-60

# TYPES OF FILE ACCESS

- ★ W   ▶ WRITE
- ★ A   ▶ APPEND
- ★ L   ▶ LOCK
- ★ R   ▶ READ
- ★ X   ▶ EXECUTE

---

★ S

▶ SAVE (GROUP LEVEL ONLY)

SMO-61

## USER

## ATTRIBUTES CHECKED

## FOR FILE SECURITY

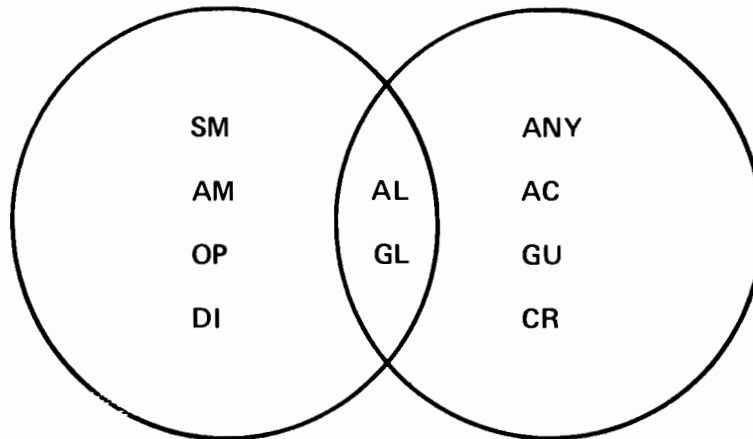
- ANY   ⇨ SYSTEM USER
- AC   ⇨ ACCOUNT MEMBER
- AL   ⇨ ACCOUNT LIBRARIAN
- GU   ⇨ GROUP USER
- GL   ⇨ GROUP LIBRARIAN
- CR   ⇨ CREATOR OF FILE

SMO-62

# USER CAPABILITIES AND FILE SECURITY

USER CAPABILITIES

SECURITY ACCESS ATTRIBUTES



SMO-63

## FILE ACCESS DETERMINING STEPS IN



USER CATEGORIES ARE DETERMINED



CATEGORIES ARE COMPARED TO ACCOUNT, GROUP AND FILE  
SECURITY MATRICES TO PRODUCE ACCESS MASKS




THREE ACCESS MASKS ARE LOGICALLY ANDED

SMO-64


# ACCOUNT LEVEL SECURITY

 USER  
ANY, AC

 ACCESS TYPE  
R, X, W, A, L

SMO-65

# *GROUP LEVEL SECURITY*

 USER  
ANY, AC, GU, AL, GL

 ACCESS TYPE  
R, X, S, W, A, L

SMO-66

# file level security



USER

ANY, AC, GU, AL, GL, CR



ACCESS TYPE

R, X, W, A, L

SMO-67

## STANDARD USER DEFAULT ACCESS



UNLIMITED ACCESS



ALL FILES IN LOGON GROUP



ALL FILES IN HOME GROUP



R AND X ACCESS ONLY



ALL FILES IN HIS PUB GROUP



ALL FILES IN PUB.SYS



NO ACCESS



ALL OTHER FILES IN SYSTEM

SMO-68

# **DEFAULT FILE SECURITY SETTINGS**

**\* ACCOUNTS (OTHER THAN SYS)**

(R, X, W, A, L:AC)

**\* GROUPS (OTHER THAN PUB)**

(R, X, S, W, A, L:GU)

**\* FILES**

(R, X, W, A, L:ANY)

SMO-69

# **SYS ACCOUNT AND PUB GROUP DEFAULTS**

**\* SYS ACCOUNT**

(R, X:ANY;A, W, L:AC)

**\* PUB GROUPS**

(R, X:ANY, A, W, L, S:AL, GU)

SMO-70

# FILE LEVEL SECURITY DEFAULTS



FCLOSE WITH SECURITY CODE=0

(R, X, W, A, L:ANY)



FCLOSE WITH SECURITY CODE=1

(R, X, W, A, L:CR)

SMO-71



FOR ACCOUNTS AND GROUPS



LIMITS TYPE OF ACCESSORS

ACCESS  
PARAMETER

## COMMANDS

:NEWACCT

:ALTACCT

:NEWGROUP

:ALTGROUP

;ACCESS=(R,X:ANY;A,W,L,S:AL,GU)

SMO-72



# COMMANDS TO MODIFY SECURITY



ACCOUNT FILES

:ALTACCT



GROUP FILES

:ALTGROUP



FILES

:ALTSEC

:RELEASE

:SECURE

:RENAME (LOCKWORDS)

SMO-73

\*\*\*\*\*

ACCOUNT: WXYZ

DISC SPACE: 0(S)

CPU TIME: 0(SEC)

CONNECT TIME: 0(MIN)

DISC LIMIT: UNLIMITED

CPU LIMIT: UNLIMITED

CONNECT LIMIT: UNLIMITED

MAY PRI: 150

GRP INX PTR: %2215

USR INX PTR: %2214

CAP: AM,AL,GL,ND,SF,IA,BA

PASSWORD: \*\*

LOG ATTR: %0

SECURITY--READ: AC

WRITE: AC

APPEND: AC

LOCK: AC

EXECUTE: AC

SMO-74

\*\*\*\*\*

USER: ABC.WXYZ

HOME GROUP: PUB

PASSWORD: \*\*

MAX PRI: 150

LOC ATTR: %0

LOGON CNT: 0

CAP: AM,AL,GL,ND,SF,IA,BA

SMO-75

\*\*\*\*\*

GROUP: PUB.WXYZ

DISC SPACE: 0(S)

PASSWORD: \*\*

CPU TIME: 0(SEC)

SECURITY--READ: ANY

CONNECT TIME: 0(MIN)

WRITE: AL,GU

DISC LIMIT: UNLIMITED

APPEND: AL,GU

CPU LIMIT: UNLIMITED

LOCK: AL,GU

CONNECT LIMIT: UNLIMITED

EXECUTE: ANY

FILE INX PTR: %2216

SAVE: AL,GU

CAP: IA,BA

SMO-76

\*\*\*\*\*  
FILE: ABC.PUB.WXYZ

FCODE: 0  
FLK FACTOR: 1  
REC SIZE: 256(B)  
BLK SIZE: 128(W)  
EXT SIZE: 128(S)  
# PEC: 0  
# SEC: 128  
# EXT: 1  
MAX PEC: 1023  
MAX EXT: 8  
# LABELS: 0  
MAX LABELS: 0  
DISC DEV #: 2  
DISC TYPE: 0  
DISC SUBTYPE: 3  
CLASS :DISC  
FCB VECTOR: %0

FOPTIONS: BINARY, FIXED  
CREATOR: \*\*  
LOCKWORD: \*\*  
SECURITY--READ: ANY  
WRITE: ANY  
APPEND: ANY  
LOCK: ANY  
EXECUTE: ANY  
\*\*SECURITY IS ON  
COLD LOAD ID: %0  
CREATED: TUE, 22 JUN 1976  
MODIFIED: TUE, 22 JUN 1976  
ACCESSED: TUE, 22 JUN 1976  
LABEL ADR: \*\*  
SEC OFFSET: %1  
FLAGS: NO ACCESS

SMO-77

# FILE ACCESS SUMMARY SHEET

USER NAME . ACCOUNT . GROUP = **ABC.WXYZ.PUB**  
 USER CAPABILITIES = **SF,ND,OL,AL,AM,TA,BA**  
 FILE NAME . GROUP . ACCOUNT = **ABC.PUB.WXYZ**

USER/FILE ATTRIBUTES = **ANY AC AL GU GL CR**

	ACCOUNT SECURITY		GROUP SECURITY				FILE LEVEL SECURITY						
	ANY	AC	ANY	AC	AL	GU	GL	ANY	AC	AL	GU	GL	CR
Read		X	X					X					
Write		X			X	X		X					
Append		X			X	X		X					
Lock		X			X	X		X					
Execute (X)		X	X					X					

USER/ACCESS

R	X
W	X
A	X
L	X
X	X

AND

R	X
W	X
A	X
L	X
X	X
S	X

AND

R	X
W	X
A	X
L	X
X	X

=

FINAL USER/  
FILE ACCESS

R	X
W	X
A	X
L	X
X	X
S	X

SMO-78

\*\*\*\*\*

FILE: ABC.PUB.WXYZ

```

SECURITY--READ:    AC
(ACCT)  WRITE:    AC
        APPEND:   AC
        LOCK:     AC
        EXECUTE:  AC
    
```

```

SECURITY--READ:    ANY
(GROUP)  WRITE:    AL, GU
        APPEND:   AL, GU
        LOCK:     AL, GU
        EXECUTE:  ANY
        SAVE:     AL, GU
    
```

```

SECURITY--READ:    ANY
(FILE)   WRITE:    ANY
        APPEND:   ANY
        LOCK:     ANY
        EXECUTE:  ANY
    
```

```

FCCODE:  Ø
CREATOR: **
LOCKWORD: **
**SECURITY IS ON
    
```

FOR ABC.WXYZ: READ, WRITE, APPEND, LOCK, EXECUTE

SMO-79

# FILE ACCESS SUMMARY SHEET

USER NAME . ACCOUNT , GROUP = ABC.WXYZ, PUB  
 USER CAPABILITIES = SF, ND, GL, AL, AM, IA, BA  
 FILE NAME . GROUP . ACCOUNT = FCOPY.PUB.SYS

USER/FILE ATTRIBUTES = ANY AC AL GU GL CR

ACCOUNT SECURITY		GROUP SECURITY				FILE LEVEL SECURITY				
<u>ANY</u> AC		<u>ANY</u> AC	AL	GU	GL	<u>ANY</u> AC	AL	GU	GL	CR
Read	X	X				X				
Write		X				X				
Append			X			X				
Lock			X			X				
Execute (X)	X	X				X				
			X			X				

USER/ACCESS

R	X
W	
A	
L	
X	X

AND

R	X
W	
A	
L	
X	X
S	

AND

R	X
W	X
A	X
L	X
X	X

=

FINAL USER/  
FILE ACCESS

R	X
W	
A	
L	
X	X
S	

SMO-80

\*\*\*\*\*  
FILE: FCOPY.PUB.SYS

SECURITY--READ: ANY  
 (ACCT) WRITE: AC  
 APPEND: AC  
 LOCK: AC  
 EXECUTE: ANY

SECURITY--READ: ANY  
 (GROUP) WRITE: AL, GU  
 APPEND: AL, GU  
 LOCK: AL, GU  
 EXECUTE: ANY  
 SAVE: AL, GU

SECURITY--READ: ANY  
 (FILE) WRITE: ANY  
 APPEND: ANY  
 LOCK: ANY  
 EXECUTE: ANY

FCODE: PROG  
 CREATOR: \*\*  
 LOCKWORD: \*\*  
 \*\*SECURITY IS ON

FOR ABC.WXYZ: READ, EXECUTE

SMO-81

# FILE ACCESS SUMMARY SHEET

USER NAME, ACCOUNT, GROUP = ABC.WXYZ, PUB  
 USER CAPABILITIES = SE, ND, GL, AL, AM, IA, BA  
 FILE NAME, GROUP, ACCOUNT = P09P131A.HP30131.SUPPORT

USER/FILE ATTRIBUTES = ANY AC AL GU GL CR

ACCOUNT SECURITY		GROUP SECURITY				FILE LEVEL SECURITY					
	<u>ANY</u> AC	<u>ANY</u> AC	AL	GU	GL	<u>ANY</u> AC	AL	GU	GL	CR	
Read	X			X		X					
Write	X			X		X					
Append	X			X		X					
Lock	X			X		X					
Execute (X)	X			X		X					



SMO-82

```

*****
FILE: P09P131A.HP30131.SUPPORT

SECURITY--READ:      AC
  (ACCT)  WRITE:     AC
          APPEND:    AC
          LOCK:      AC
          EXECUTE:   AC

SECURITY--READ:      GU
  (GROUP)  WRITE:     GU
          APPEND:    GU
          LOCK:      GU
          EXECUTE:   GU
          SAVE:      GU

SECURITY--READ:      ANY
  (FILE)   WRITE:     ANY
          APPEND:    ANY
          LOCK:      ANY
          EXECUTE:   ANY

                                FCODE:  PROG
                                CREATOR: **
                                LOCKWORD: **
                                **SECURITY IS ON

FOR ABC.WXYZ: NO ACCESS ALLOWED
    
```

SMO-83

# FILE ACCESS SUMMARY SHEET

USER NAME.ACCOUNT.GROUP = ABC.WXYZ.PUB  
 USER CAPABILITIES = SEND, GL, AL, AM, IA, BA  
 FILE NAME.GROUP.ACCOUNT = LOG0220.PUB.SYS

USER/FILE ATTRIBUTES = ANY AC AL GU GL CR

	ACCOUNT SECURITY		GROUP SECURITY				FILE LEVEL SECURITY						
	<u>ANY</u>	AC	<u>ANY</u>	AC	AL	GU	GL	<u>ANY</u>	AC	AL	GU	GL	CR
Read	X		X										X
Write		X			X	X							X
Append		X			X	X							X
Lock		X			X	X							X
Execute (X)	X		X			X							X

USER/ACCESS

R	X
W	
A	
L	
X	X

AND

R	X
W	
A	
L	
X	X
S	

AND

R	
W	
A	
L	
X	

=

FINAL USER/  
FILE ACCESS

R	
W	
A	
L	
X	
S	

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\*\*\*\*\*  
FILE: LOG0220.PUB.SYS

SECURITY--READ: ANY  
(ACCT) WRITE: AC  
APPEND: AC  
LOCK: AC  
EXECUTE: ANY

SECURITY--READ: ANY  
(GROUP) WRITE: AL, GU  
APPEND: AL, GU  
LOCK: AL, GU  
EXECUTE: ANY  
SAVE: AL, GU

SECURITY--READ: CR  
(FILE) WRITE: CR  
APPEND: CR  
LOCK: CR  
EXECUTE: CR

FCODE: 0  
CREATOR: \*\*  
LOCKWORD: \*\*  
\*\*SECURITY IS ON

FOR ABC.WXYZ: NO ACCESS ALLOWED

SMO-85

# **FILE SECURITY WORK SESSION**

## **FILE SECURITY FOR DIRECTORY WORK SESSION**

Change the default security assigned to the CLASS account to a security structure that will allow the account manager to save files in all groups. In addition, modify the security structure so that intermediate and advanced students have exclusive full access to their home group with read and execute access to the PUB group. Implement the scheme without the use of group passwords.

The CLASS account structure is described previously in the Directory worksession.



# FILE SECURITY LAB

1. Add two users to your account, one called SHARE and the other NOSHARE with each having a private group. Assign capabilities to the users and file security to the groups such that:
  - A) SHARE'S files may be read and executed by all account members but modified and created only by himself.
  - B) NOSHARE'S files can only be accessed and created by himself.
2. Logon to user NOSHARE and try to FCOPY information into an existing file in SHARE'S private GROUP. Note the error and use LISTDIR2 (LISTSEC) to verify the security violation.
3. (Optional) Create a user in your account called SPY who can gain all accesses to SHARE'S and NOSHARE'S files. Do not give SPY the AM capability. Keep the same restrictive accesses for all other users.





# SYSTEM LOGGING



# LOGGING COMPONENTS



LOG FILES



LOG BUFFERS



LOG PROCESS

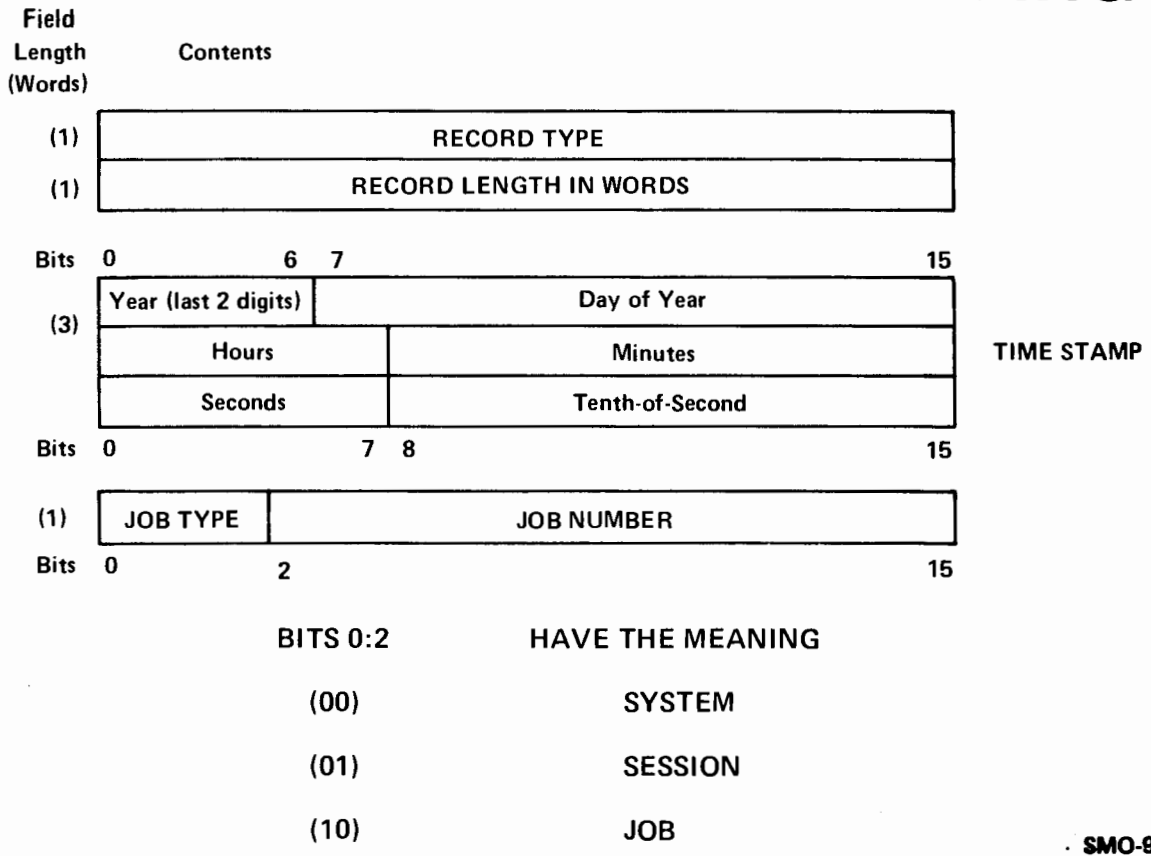
SMO-90

# LOGGING RECORDS

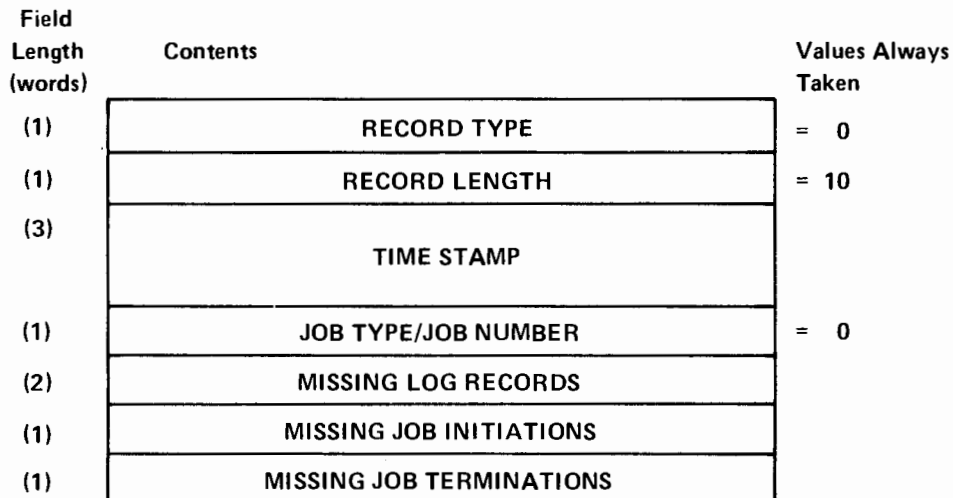
- ☆ JOB INITIATION
- ☆ JOB TERMINATION
- ☆ PROCESS TERMINATION
- ☆ FILE CLOSE
- ☆ LOG ERRORS
- ☆ HEADER/SHUTDOWN
- ☆ POWER FAIL
- ☆ SPOOLER DONE
- ☆ LINE DISCONNECTION
- ☆ LINE CLOSE
- ☆ I/O ERROR RECORD

SMO-91

# LOG RECORD HEADING



# LOG ERROR RECORD (TYPE 0)



# HEAD RECORD (TYPE 1)

Field Length (words)	Contents	Values Always Taken	
(1)	RECORD TYPE	= 1	
(1)	RECORD LENGTH	= 17	
(3)	TYPE STAMP		
(1)	JOB TYPE/JOB NUMBER	= 0	
System Number }	(1)	UPDATE LEVEL	
	(1)	FIX LEVEL	
	(1)	CORE SIZE	
	(1)	AVAILABLE CST SIZE	
	(1)	AVAILABLE DST SIZE	
	(1)	AVAILABLE PCB SIZE	
	(1)	IOQ SIZE	
	(1)	TRL SIZE	
	(1)	ICS SIZE	
	(1)	(RESERVED)	
	(1)	MAX # OF CONCURRENT RUNNING JOBS/SESSIONS	

SMO-94

# JOB INITIATION RECORD (TYPE 2)

Field Length (words)	Contents	Values Always Taken
(1)	RECORD TYPE	= 2
(1)	RECORD LENGTH	= 29
(3)	TIME STAMP	
(1)	0 JOB TYPE   1 2   JOB NUMBER	15
(4)	USER NAME	
(4)	ACCOUNT NAME	
(4)	JOB NAME	
(4)	LOGON GROUP NAME	
(1)	INPUT LOGICAL DEVICE NUMBER	
(1)	OUTPUT LOGICAL DEVICE NUMBER	
(2)	reserved	
(2)	CPU TIME LIMIT	
(1)	0 INPRI   7 8   reserved	15

SMO-95

# JOB TERMINATION RECORD (TYPE 3)

Field Length (words)	Contents	Values Always Taken						
(1)	RECORD TYPE	= 3						
(1)	RECORD LENGTH	= 12						
(3)	TIME STAMP							
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">0</td> <td style="width: 15%; text-align: center;">JOB TYPE</td> <td style="width: 5%; text-align: center;">1</td> <td style="width: 5%; text-align: center;">2</td> <td style="width: 70%; text-align: center;">JOB NUMBER</td> <td style="width: 5%; text-align: center;">15</td> </tr> </table>	0	JOB TYPE	1	2	JOB NUMBER	15	
0	JOB TYPE	1	2	JOB NUMBER	15			
(1)	MAXIMUM PRIORITY							
(1)	NUMBER OF CREATIONS							
(2)	CPU TIME IN SECONDS							
(2)	ELAPSED TIME IN MINUTES							

SMO-96

# PROCESS TERMINATION RECORD (TYPE 4)

Field Length (words)	Contents	Values Always Taken						
(1)	RECORD LENGTH	= 4						
(1)	RECORD TYPE	= 11						
(3)	TIME STAMP							
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">0</td> <td style="width: 15%; text-align: center;">JOB TYPE</td> <td style="width: 5%; text-align: center;">1</td> <td style="width: 5%; text-align: center;">2</td> <td style="width: 70%; text-align: center;">JOB NUMBER</td> <td style="width: 5%; text-align: center;">15</td> </tr> </table>	0	JOB TYPE	1	2	JOB NUMBER	15	
0	JOB TYPE	1	2	JOB NUMBER	15			
(1)	# OF PROGRAM FILE SEGMENTS							
(1)	# OF SL SEGMENTS (non MPE)							
(1)	MAXIMUM STACK SIZE EVER							
(1)	MAXIMUM DATA SEGMENT SIZE EVER							
(1)	CUMULATIVE TOTAL OF VIRTUAL STORAGE							

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# FILE CLOSE RECORD (TYPE 5)

Field Length (words)	Contents	Values Always Taken						
(1)	RECORD TYPE	= 5						
(1)	RECORD LENGTH	= 28						
(3)	TIME STAMP							
(1)	<table border="1"> <tr> <td>0</td> <td>JOB TYPE</td> <td>1</td> <td>2</td> <td>JOB NUMBER</td> <td>15</td> </tr> </table>	0	JOB TYPE	1	2	JOB NUMBER	15	
0	JOB TYPE	1	2	JOB NUMBER	15			
(14)	FILENAME							
		(Reserved)						
(1)	<table border="1"> <tr> <td>0</td> <td>DISPOSITION</td> <td>7</td> <td>8</td> <td>DOMAIN</td> <td>15</td> </tr> </table>	0	DISPOSITION	7	8	DOMAIN	15	
0	DISPOSITION	7	8	DOMAIN	15			
(2)	# of SECTORS ALLOCATED							
(1)	<table border="1"> <tr> <td>0</td> <td>DEVICE TYPE</td> <td>7</td> <td>8</td> <td>DEVICE NUMBER</td> <td>15</td> </tr> </table>	0	DEVICE TYPE	7	8	DEVICE NUMBER	15	
0	DEVICE TYPE	7	8	DEVICE NUMBER	15			
(2)	# of RECORDS PROCESSED							
(2)	# of BLOCKS PROCESSED							

# SHUT-DOWN RECORD (TYPE 6)

Field Length (words)	Contents	Values Always Taken												
(1)	RECORD TYPE	= 6												
(1)	RECORD LENGTH	= 9												
(3)	TIME STAMP													
(1)	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 10px; text-align: center;">0</td> <td style="width: 100px; text-align: center;">JOB TYPE</td> <td style="width: 10px; text-align: center;">1</td> <td style="width: 10px; text-align: center;">2</td> <td style="width: 100px;"></td> <td style="width: 100px; text-align: right;">15</td> </tr> <tr> <td colspan="6" style="text-align: center;">JOB NUMBER</td> </tr> </table>	0	JOB TYPE	1	2		15	JOB NUMBER						= 0
0	JOB TYPE	1	2		15									
JOB NUMBER														
(1)	# of JOBS													
(1)	# of SESSIONS													
(1)	(reserved)	= 0												

SMO-99

# POWER FAIL RECORD (TYPE 7)

Field Length (words)	Contents	Values Always Taken		
(1)	RECORD TYPE	= 7		
(1)	RECORD LENGTH	= 7		
(3)	TIME STAMP			
(1)	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 100px; text-align: center;">JOB TYPE</td> <td style="width: 100px; text-align: center;">JOB NUMBER</td> </tr> </table>	JOB TYPE	JOB NUMBER	
JOB TYPE	JOB NUMBER			
(1)	(RESERVED)	= 0		

SMO-100

# SPOOLER'S SPOOFLE DONE LOG RECORD (TYPE 8)

Field Length (Words)	Field Name	=
(1)	Record Type	8
(1)	Record Length	31
(3)	Time Stamp	
(1)	Job Type/Job Number	0
(4)	User Name	
(4)	Acct Name	
(4)	Job Name	
(4)	File Name	
(1)	Job Type/Job Number	
(1)	<div style="display: flex; justify-content: space-between; align-items: center;"> <span style="font-size: small;">0 = input spooler 1 = output spooler</span> <span style="font-size: small;">0 I/O 1</span> <span style="font-size: small;">Device File Id</span> <span style="font-size: small;">15</span> </div>	
(1)	<div style="display: flex; justify-content: space-between; align-items: center;"> <span style="font-size: small;">0</span> <span style="font-size: small;">Device Type</span> <span style="font-size: small;">7 8</span> <span style="font-size: small;">Spooler #</span> <span style="font-size: small;">15</span> </div>	
(1)	<div style="display: flex; justify-content: space-between; align-items: center;"> <span style="font-size: small;">Numcopies</span> <span style="font-size: small;">Outpri</span> </div>	
(2)	# Records Processed	
(2)	# Sectors Used	
(1)	<div style="display: flex; justify-content: space-between; align-items: center;"> <span style="font-size: small;">0</span> <span style="font-size: small;">Completion Code</span> <span style="font-size: small;">7 8</span> <span style="font-size: small;">reserved</span> <span style="font-size: small;">14 15</span> </div>	

Number of copies left to print →

1 = OK  
 <> 1 = Spooler I/O error

# LINE DISCONNECTION LOG RECORD (TYPE 9)

FIELD LENGTH (WORDS)	CONTENTS	VALUES ALWAYS TAKEN						
(1)	RECORD TYPE	= 9						
(1)	RECORD LENGTH	= 43						
(3)	TIME STAMP							
(1)	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 10px; text-align: center;">0</td> <td style="width: 10px; text-align: center;">1</td> <td style="width: 10px; text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">JOB TYPE</td> <td colspan="2" style="text-align: center;">JOB NUMBER</td> </tr> </table>	0	1	2	JOB TYPE	JOB NUMBER		15
0	1	2						
JOB TYPE	JOB NUMBER							
(1)	LOGICAL DEVICE NUMBER							
(2)	TIME OF CONNECTION OR OPEN							
(2)	#OUTPUT DATA TRANSFERS							
(2)	#INPUT DATA TRANSFERS							
(1)	#RECOVERABLE LINE ERRORS (MODULO 2 <sup>16</sup> )							
(1)	#IRRECOVERABLE LINE ERRORS (MODULO 2 <sup>16</sup> )							
(9)	LOCAL ID SEQUENCE							
(9)	REMOTE ID SEQUENCE							
(10)	PHONE NUMBER OF REMOTE							

# LINE CLOSE LOG RECORD (TYPE 10)

FIELD LENGTH (WORDS)	CONTENTS	VALUES ALWAYS TAKEN										
(1)	RECORD TYPE	= 10										
(1)	RECORD LENGTH	= 14										
(3)	TIME STAMP											
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 10px;">0</td> <td style="text-align: center; width: 10px;">1</td> <td style="text-align: center; width: 10px;">2</td> <td style="text-align: center;">JOB NUMBER</td> <td style="text-align: center; width: 10px;">15</td> </tr> <tr> <td colspan="3" style="text-align: center;">JOB TYPE</td> <td></td> <td></td> </tr> </table>	0	1	2	JOB NUMBER	15	JOB TYPE					
0	1	2	JOB NUMBER	15								
JOB TYPE												
(1)	LOGICAL DEVICE NUMBER											
(3)	TIME STAMP OF OPEN											
(4)	DRIVER NAME											

SMO-103

# I/O ERROR RECORD LOG RECORD (TYPE 11)

FIELD LENGTH WORDS	CONTENTS	VALUES ALWAYS TAKEN															
(1)	RECORD TYPE	= 11															
(1)	RECORD LENGTH	= 20															
(3)	TIME STAMP																
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">0</td> <td style="width: 10%; text-align: center;">JOB</td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 10%; text-align: center;">2</td> <td style="width: 60%;"></td> <td style="width: 10%; text-align: center;">15</td> </tr> <tr> <td></td> <td style="text-align: center;">TYPE</td> <td></td> <td></td> <td style="text-align: center;">JOB NUMBER</td> <td></td> </tr> </table>	0	JOB	1	2		15		TYPE			JOB NUMBER					
0	JOB	1	2		15												
	TYPE			JOB NUMBER													
(1)	HARDWARE ERROR STATUS																
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">A</td> <td style="width: 5%; text-align: center;">S</td> <td style="width: 5%; text-align: center;">D</td> <td style="width: 5%; text-align: center;">Y</td> <td style="width: 5%; text-align: center;">W</td> <td style="width: 5%; text-align: center;">B</td> <td style="width: 5%; text-align: center;">C</td> <td style="width: 5%; text-align: center;">F</td> <td style="width: 5%; text-align: center;">M</td> <td style="width: 5%; text-align: center;">P</td> <td style="width: 5%; text-align: center;">L</td> <td style="width: 5%; text-align: center;">R</td> <td style="width: 5%; text-align: center;">T</td> <td style="width: 5%; text-align: center;">/</td> <td style="width: 5%; text-align: center;">G</td> </tr> </table>	A	S	D	Y	W	B	C	F	M	P	L	R	T	/	G	
A	S	D	Y	W	B	C	F	M	P	L	R	T	/	G			
(1)	LOGICAL DEVICE NUMBER																
(1)	MISCELLANEOUS (DRIVER DEFINED) DATA																
(1)	TARGET DATA SEGMENT (SEE DISCUSSION BELOW)																
(1)	TARGET DATA ADDRESS WITHIN DATA SEGMENT																
(1)	DRIVER FUNCTION CODE																
(1)	TRANSMISSION COUNT (NEGATIVE IF IN BYTES)																
(1)	DRIVER DEFINED PARAMETER #1																
(1)	DRIVER DEFINED PARAMETER #2																
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">0</td> <td style="width: 60%; text-align: center;">PROCESS PCB NUMBER</td> <td style="width: 10%; text-align: center;">7</td> <td style="width: 20%; text-align: center;">STAT QUALIFIER</td> <td style="width: 10%; text-align: center;">STAT</td> </tr> </table>	0	PROCESS PCB NUMBER	7	STAT QUALIFIER	STAT											
0	PROCESS PCB NUMBER	7	STAT QUALIFIER	STAT													
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">/</td> <td style="width: 30%; text-align: center;">SUBTYPE</td> <td style="width: 10%; text-align: center;">7</td> <td style="width: 10%; text-align: center;">8</td> <td style="width: 40%; text-align: center;">DEVICE TYPE</td> <td style="width: 10%; text-align: center;">15</td> </tr> </table>	/	SUBTYPE	7	8	DEVICE TYPE	15										
/	SUBTYPE	7	8	DEVICE TYPE	15												
(1)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">0</td> <td style="width: 60%; text-align: center;">UNIT NUMBER</td> <td style="width: 10%; text-align: center;">7</td> <td style="width: 10%; text-align: center;">8</td> <td style="width: 10%; text-align: center;">DRT</td> <td style="width: 10%; text-align: center;">15</td> </tr> </table>	0	UNIT NUMBER	7	8	DRT	15										
0	UNIT NUMBER	7	8	DRT	15												

SMO-104

# CREATION OF LOGGING SYSTEM TAPE

:FILE MYDUMP;DEV=TAPE  
:SYSDUMP \*MYDUMP

ANY CHANGES? Y ◀ **Must answer "y"**

SYSTEM ID = HP32002A.00.74.?

MEMORY SIZE = 192.?

I/O CONFIGURATION CHANGES?

SYSTEM TABLE CHANGES?

MISC CONFIGURATION CHANGES?

LOGGING CHANGES? Y ◀ **Must answer "y"**

LIST LOGGING STATUS? Y

TYPE	EVENT	STATUS
1	LOGGING ENABLED	ON ◀ <b>Type 1 must be on to enable logging</b>
2	JOB INITIATION	OFF
3	JOB TERMINATION	OFF
4	PROCESS TERMINATION	OFF
5	FILE CLOSE	OFF
6	SYSTEM SHUTDOWN	OFF
7	POWER FAIL	ON
8	SPOOLING	OFF
9	LINE DISCONNECTION	OFF
10	LINE CLOSE	OFF
11	I/O ERROR	ON

STATUS CHANGES? Y ◀ **To change answer "y"**

ENTER TYPE , ON/OFF? 6, ON ◀ **Enter "n, on" to turn on**

ENTER TYPE , ON/OFF? ◀ **Will terminate change**

LIST LOGGING STATUS? Y

TYPE	EVENT	STATUS
1	LOGGING ENABLED	ON
2	JOB INITIATION	OFF
3	JOB TERMINATION	OFF
4	PROCESS TERMINATION	OFF
5	FILE CLOSE	OFF
6	SYSTEM SHUTDOWN	ON
7	POWER FAIL	ON
8	SPOOLING	OFF
9	LINE DISCONNECTION	OFF
10	LINE CLOSE	OFF
11	I/O ERROR	ON

LOG FILE RECORD SIZE (SECTORS) = 2.?

LOG FILE SIZE (RECORDS) = 1023.?

DISC ALLOCATION CHANGES?

SCHEDULING CHANGES?

SEGMENT LIMIT CHANGES?

SYSTEM PROGRAM CHANGES?

SYSTEM SL CHANGES?

ENTER DUMP DATE?

END OF SUBSYSTEM

:

# LOGGING COMMANDS

## CONSOLE

## SESSION TERMINAL

HP32000B.00.Y  
WHICH OPTION <COLDSTART/RELOAD/UPDATE>? COL  
LOAD MAP?  
ANY CHANGES?  
DATE?  
9/11/73  
TIME?  
10:31  
ST/10:31/LOG FILE NUMBER 17 ON  
\*WELCOME\*

COLD START FROM  
LOGGING TAPE

- INITIATE SESSION

hello manager.sys  
SESSION NUMBER = #S1  
TUE, SEP 11, 1973, 10:31 AM  
HP32000B.00.y

ST/10:31/#S1/LOGON FOR: MANAGER.SYS ON LDEV#17

- SHOW # OF CURRENT  
LOG FILE  
- SWITCH TO NEXT LOG FILE

:showlog  
LOG FILE LOG0017 IS 0% FULL  
:switchlog  
LOG FILE LOG0017 IS 0% FULL  
- NEW LOG FILE NUMBER

ST/10:32/LOG FILE NUMBER 18 ON

:showlog  
LOG FILE LOG0018 IS 0% FULL  
:switchlog  
LOG FILE LOG0018 IS 0% FULL  
- NEW LOGFILE NUMBER

ST/10:32/LOG FILE NUMBER 19 ON

- SWITCH TO LOG FILE #20

:build log0020  
:switchlog  
LOG FILE LOG0019 IS 0% FULL

ST/10:34/LOG FILE NUMBER 20 ERROR # 100. LOGGING SUSPENDED -NO GO

- CORRECT CONDITION AND  
RESUME LOGGING

:purge log0020  
:resumelog

ST/10:35/LOG FILE NUMBER 20. LOGGING RESUMED  
ST/10:35/LOG FILE NUMBER 20 ON



- ★ SUPPORTED UTILITY
- ★ SIMPLE MNEMONIC LIST OF LOG FILES
- ★ DEFAULT OUTPUT TO LP

# LISTLOG2 PROGRAM



:RUN LISTLOG2.PUB.SYS

SMO-107

```

:RUN LISTLOG2.PUB.SYS

LIST LOG FILE PROGRAM VERSION 00.00 2/20/76
ENTER FIRST AND LAST LOG FILE TO BE ANALYZED
FIRST?2842
LAST?2842
ENTER EVENTS TO BE PRINTED
TYPE NO.      EVENT
 0 LOG FAILURE
 1 SYSTEM UP
 2 JOB INITIATION
 3 JOB TERMINATION
 4 PROCESS TERMINATION
 5 FILE CLOSE
 6 SYSTEM SHUTDOWN
 7 POWER FAILURE
 8 SPOOLING LOG RECORD
 9 LINE DISCONNECTION
10 LINE CLOSE
11 I/O ERRORS
ENTER EVENT NUMBERS SEPARATED BY COMMAS
11
DO YOU WANT TO PURGE LOG FILES?NO
DO YOU WISH TO RUN AGAIN(Y OR N)?NO

END OF PROGRAM
:

```

SMO-108



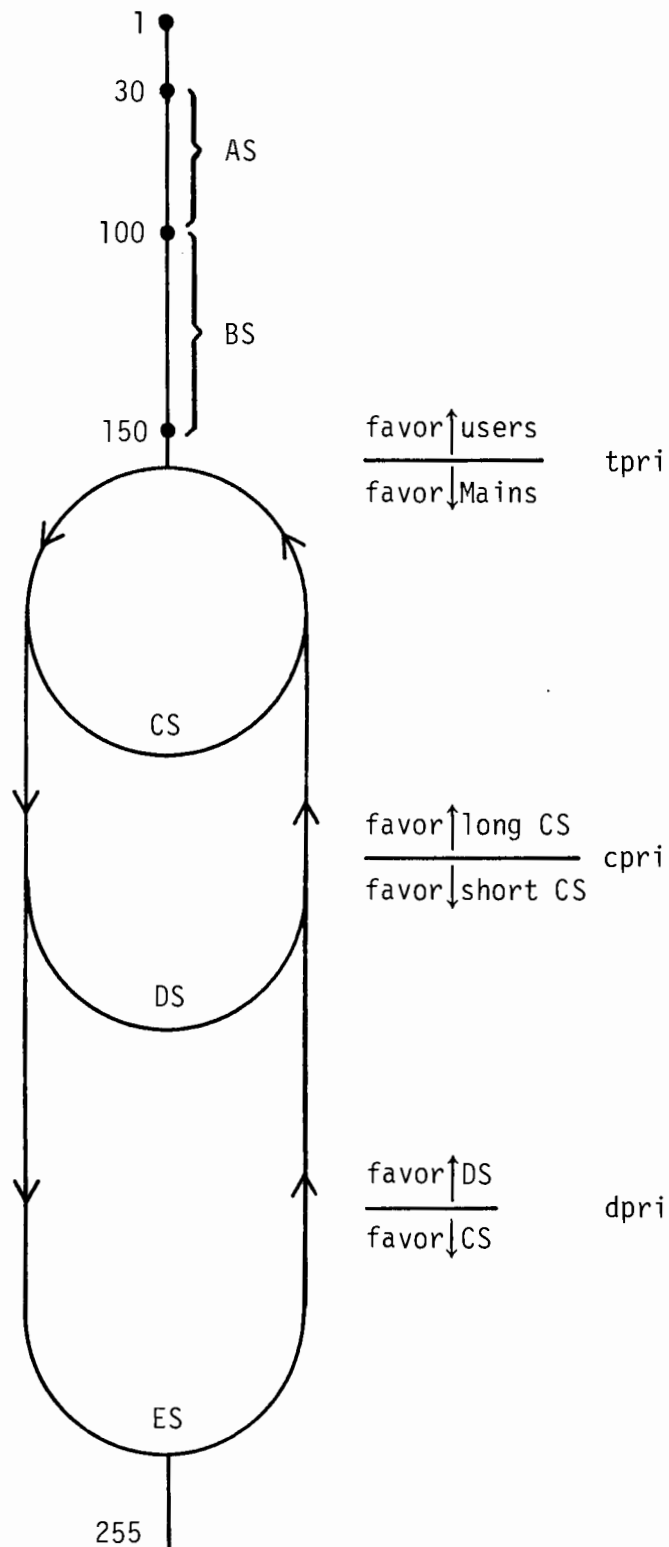
# LOGGING WORKSESSION

Using the data in the logging files, would it be possible to bill accounts for the following things:

1. Elapsed time on batch jobs? /N (not accumulated in directory like session time, so not in a :REPORT)
2. Use of a particular subsystem, such as COBOL or BASIC? /N  
On a per minute basis? Y/N
3. Number of disc seeks issued? Y/N
4. Number of times mag tape unit was used? /N
5. Number forms changes on printer? Y/N
6. Number of programs run with data stacks greater than 10000 words? /N
7. Number of tapes mounted by operator? Y/N
8. Amount of temporary disc space used? /N
9. Total disc space used times the amount of time it was used? Y/N
10. Jobs run during different shifts charged differently? /N



# MPE/3000 QUEUE STRUCTURE



# SHOWQ COMMAND

Permitted by the Console Operator or System Supervisor

:SHOWQ

DORMANT			WAITING			RUNNING		
Q	PIN	JOBNUM	Q	PIN	JOBNUM	Q	PIN	JOBNUM
L	4		L	13		C	M21	#S11
L	6		L	5				
L	11		L	10				
L	14		L	12				
			L	3				
			C	M20	#S12			
			L	16				
			L	7				
			L	15				
			L	17				

15 PROCESSES; 500 QUANTUM, 152 TPRI, 160 CPRI, 180 DPRI

:

The PIN is the process identification number; the same number you type in = REPLY.

There is one M process for each job or session.

L AS or BS  
C CS  
D DS  
E ES  
M Main  
U User

# QUANTUM COMMAND

`:QUANTUM [quantum[, [tpri] [, [cpri] [, [dpri] ] ] ] ]`

quan = 0 – 32,767 milliseconds

tpri = 150–250

cpri = 150–250

dpri = 150–250

# EXERCISE FOR SHOWQ COMMAND

!SHOWQ

DORMANT			WAITING			RUNNING		
Q	PIN	JOBNUM	Q	PIN	JOBNUM	Q	PIN	JOBNUM
L	3		L	9		C	M31	#S275
L	4		L	12		D	M44	#J14
L	6		C	U46	#S282	D	M26	#J15
L	7		C	U39	#S279	E	U25	#J16
L	8		L	5				
L	10		C	M40	#S283			
L	13		C	U24	#S235			
C	M25	#S221	C	M48	#S282			
C	M32	#S219	L	14				
C	M37	#S243	C	M28	#S248			
C	U38	#S243	C	U36	#S248			
C	M45	#S235	L	11				
			L	16				
			C	M22	#S279			
			C	M23	#S281			
			E	M32	#J16			

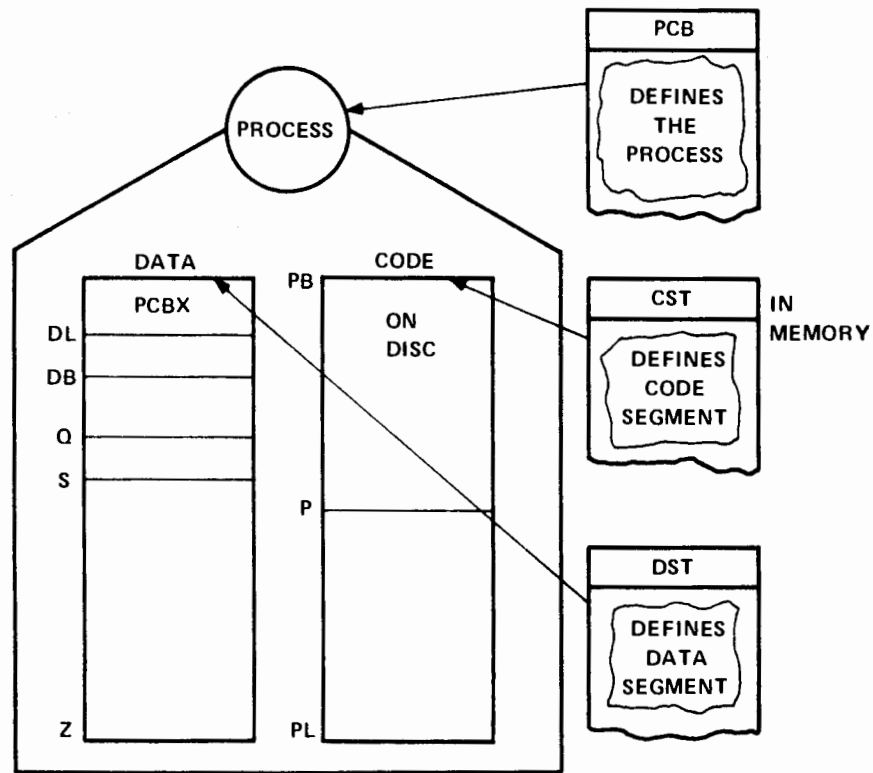
32 PROCESSES; 500 QUANTUM, 152 TPRI, 160 CPRI, 180 DPRI

1. What is the time quantum? *500*
2. What job is in the ES subqueue? *#J16*
3. How many processes are contending for the CPU? *4*
4. How many job/session main process are suspended or running? *9*
5. How many jobs or sessions are in the BS or AS subqueue? *13*
6. How many user processes are there? *6*
7. How many nonsystem processes are there in each subqueue?

AS            DS  
 BS            ES  
 CS



# PROCESS COMPONENTS AND TABLES



Note: ...

# ALLOCATE COMMAND

```
:allocate program,free
ERR 228 k
UNABLE TO OBTAIN CST ENTRIES
:
```

The HP 3000 Subsystems (SPL, BASIC, etc.) are program files and can be allocated. This table shows the number of CST entries used by each subsystem (as of 5/1/75):

SPL	30	
FORTTRAN	21	
BASIC	26	(BASIC also pulls in 24 external segments, some of which may not already be allocated)
COBOLA	28	
COBOLB	31	(Running a COBOL program pulls in the COBOL library, but compiling it does not)
Segmenter (PREP)		
SEG DVR	1	
SEG PROC	10	
EDITOR	15	
SYSDUMP	5	
FCOPY	5	
SORTB	1	
RPG	22	
BASICOMP	18	
QUERY	12	
Image		
DB DRIVER	1	
DB DUMP	1	
DB LOAD	1	
DB SCHEMA	5	
DB STORE	1	
DB UNLOAD	1	
DB UTIL	1	

# JOBPRI COMMAND

max.                      default  

$$:JOBPRI \left\{ \begin{array}{c} O \\ CS \\ DS \\ ES \end{array} \right\} \left[ \begin{array}{c} [ CS ] \\ [ DS ] \\ [ ES ] \end{array} \right]$$

:JOBPRI DS,DS

The following chart is intended to assist System Supervisors in configuring their systems for maximum performance. The chart assumes that all large subsystems have been modified or :PREPped to exhibit BA capability only.

INTERACTIVE USERS	=LIMIT JOBS	:JOBPRI DEFAULT	MAX
0-2	3	CS	0
2-4	2	DS	CS
5-6	2	DS	DS
7-16	1	DS	DS
Over 16	1	DS	DS

SMO-119

## LAB QUEUES/VIRTUAL MEMORY

**OBJECTIVE** To familiarize the student with the system supervisor commands dealing with subqueues and virtual memory program allocation.

1. Log onto a terminal under your assigned user and account.
2. What is the time quantum?  
Change the time quantum to 2000 milliseconds? Verify. Change it back.
3. What is tpri, cpri, dpri?
4. How many processes are not in memory?  
(i.e. have no memory resources.)
5. Allocate and deallocate the BASIC Interpreter and SYSDUMP. Comments?

SMO-120



# SYSDUMP FUNCTIONS



## BACK-UP

- COPY MPE ONLY
- COPY MPE PLUS ACCOUNTING STRUCTURE
- COPY MPE, ACCOUNTS, PLUS FILES THAT HAVE BEEN ALTERED SINCE A RECENT DATE
- COPY MPE, ACCOUNTS AND ALL FILES

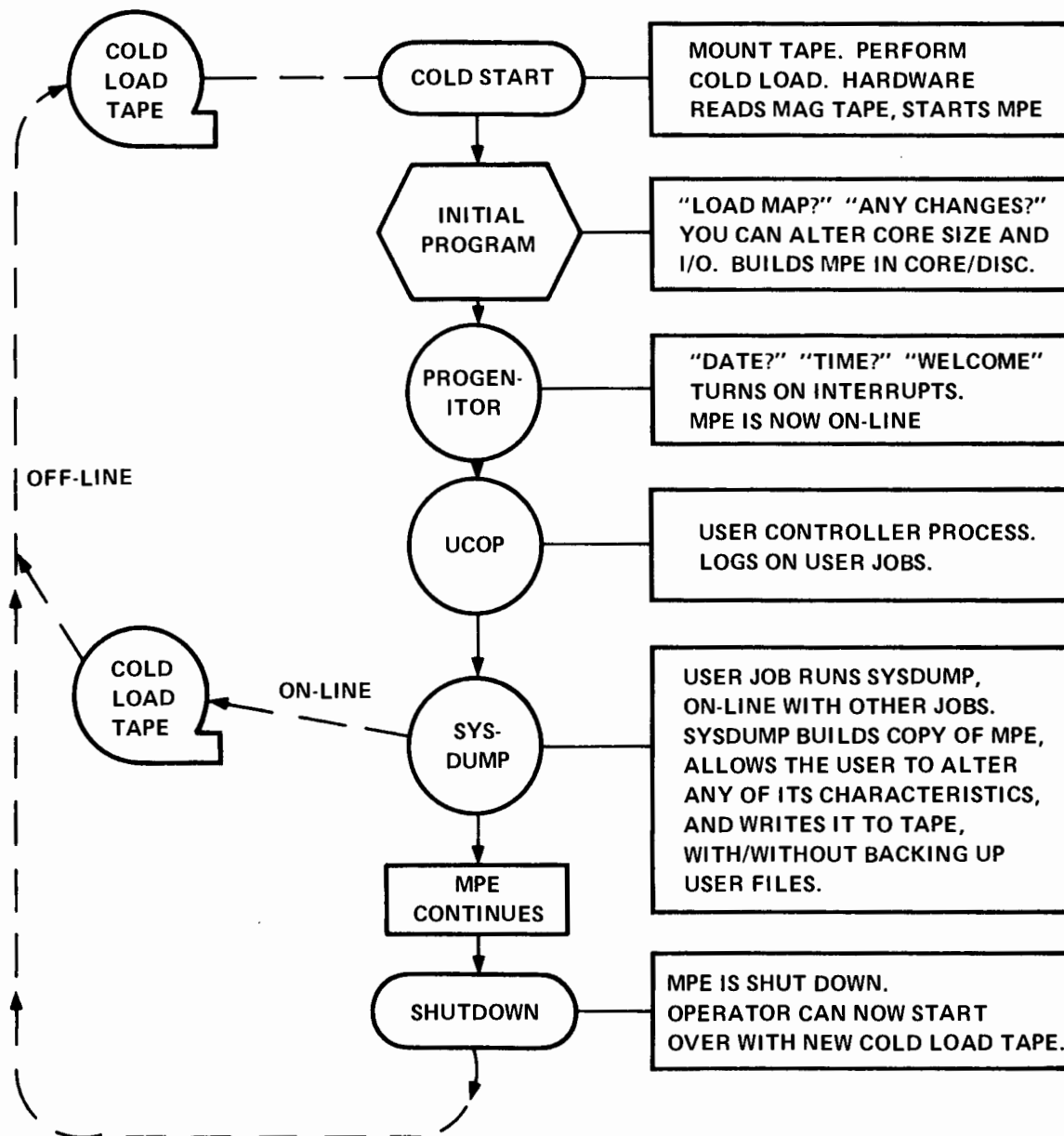


## SYSTEM CHANGES

- I/O CONFIGURATION CHANGES
- TIME QUANTUM, LIMITS, ETC.

LISTING THE SL (SYSTEM LIBRARY)

# WHENCE COMETH MPE? AND WHO IS SYSDUMP?



# USING SYSDUMP TO MAKE A COPY OF MPE ONLY:



:sysdump \*t

ANY CHANGES? (cr)  
ENTER DUMP DATE? (cr)



END OF SUBSYSTEM  
:

DO THIS AFTER PERFORMING AN UPDATE OF A NEW MPE VERSION SO THAT  
YOU WILL HAVE AN UP-TO-DATE COPY OF THE SYSTEM.

# USING SYSDUMP TO COPY MPE PLUS THE ACCOUNTING STRUCTURE:



:sysdump \*t,\* lp

ANY CHANGES?  
ENTER DUMP DATE? 1/1/99  
LIST FILES DUMPED? yes

**\*\*ENTER A FUTURE DATE\*\***

END OF SUBSYSTEM  
:

A LIST OF FILES IS PRINTED ON \*LP;

IT SHOULD BE EMPTY.

FILES DUMPED = 0

FILES NOT DUMPED = 0

# USING SYSDUMP TO COPY MPE, ACCOUNTS, PLUS ALL FILES ALTERED SINCE A RECENT DATE:



:sysdump \*t,\* lp

ANY CHANGES?

ENTER DUMP DATE? 10/12/73 ←

LIST FILES DUMPED? yes

END OF SUBSYSTEM

:

1. THE DATE ENTERED SHOULD BE THE DAY OF THE LAST COMPLETE BACK-UP OF THE SYSTEM.
2. USE =LOGOFF AND =WARN TO CLEAR THE SYSTEM BEFORE RUNNING SYSDUMP. THE LIST OF FILES DUMPED IS PRINTED ON \*LP, GIVING THE FULLY QUALIFIED NAME, LDN of DISC, AND SECTOR ADDRESS. IF SOME FILES WERE NOT DUMPED, IT IS BECAUSE THEY WERE BUSY; THIS IS NOTED ON LIST.

SMO-124



# LIST OF FILES DUMPED BY SYSDUMP, IN ALPHABETIC ORDER BY ACCOUNT

FILES DUMPED = 242

FILE	.GROUP	.ACCOUNT	LDN	ADDRESS
STARTREK	.CYAN1	.DOP	2	%210020
LAB3B	.PUB	.GREEN	2	%44
LAB3BPF	.PUB	.GREEN	2	%131
LAB4BPF	.PUB	.GREEN	2	%137
LAB4BSF	.PUB	.GREEN	2	%337
LAB4BUF	.PUB	.GREEN	2	%426
LAB5BPF	.PUB	.GREEN	2	%737
LAB5BSF	.PUB	.GREEN	2	%1137
LAB5BUF	.PUB	.GREEN	2	%1226
LANGPF51	.PUB	.GREEN	2	%1626
TEXTPF5	.PUB	.GREEN	2	%1650
DEFNSRC	.PUB	.JFC	2	%2050
MESSAGE	.PUB	.JFC	2	%2125
	.			
	.			
	.			
	.			
	.			
	.			
SR	.PUB	.UT	2	%42547
SR1	.PUB	.UT	2	%42747
MONITS	.PUB	.WILLITS	2	%43147
MONITSOS	.PUB	.WILLITS	2	%43277
DFW	.PUB	.WINN	2	%43405
LOOKER	.PUB	.WINN	2	%43466

FILES NOT DUMPED = 0

# USING SYSDUMP TO BACK OFF ALL FILES:

TO MAKE SURE THAT FILES ARE NOT BUSY, USE =LOGOFF ON CONSOLE TO CLEAR SYSTEM.



:sysdump \*t,\*lp

ANY CHANGES?  
ENTER DUMP DATE? 0 ◀  
LIST FILES DUMPED? yes

END OF SUBSYSTEM

:

AN ALPHABETIC LIST OF FILES DUMPED APPEARS ON \*LP.

SMO-126

## SYSDUMP VERSUS STORE/RESTORE

### \*SIMILARITIES:

STORE TAPE FORMAT IS COMPATIBLE WITH SYSDUMP COLD LOAD FORMAT:

1. YOU CAN RESTORE FILES FROM A SYSDUMP BACK-UP TAPE BECAUSE RESTORE SKIPS FIRST TWO FILES.
2. YOU CANNOT COLDSTART FROM A STORE TAPE BECAUSE MPE IS NOT ON THE TAPE, ONLY TWO EOF MARKS.

### \*DIFFERENCES:

STORE DOESN'T COPY MPE.

STORE CAN COPY SELECTIVELY BY ACCOUNT/GROUP, BUT SYSDUMP CAN'T.

STORE CANNOT SELECT FILES BY LAST ALTERATION DATE, BUT SYSDUMP CAN.

SMO-127

# USING SYSDUMP TO PERMANENTLY CHANGE A TIME-SLICE:



```
:SYSDUMP *T,*LP
```

```
ANY CHANGES? Y ◀  
SYSTEM ID = HP32002A.00.74.?  
MEMORY SIZE = 192.?  
I/O CONFIGURATION CHANGES?  
SYSTEM TABLE CHANGES?  
MISC CONFIGURATION CHANGES?  
LOGGING CHANGES?  
DISC ALLOCATION CHANGES?  
SCHEDULING CHANGES? Y ◀  
TIME QUANTUM = 300.? 500 ◀  
TERMINAL PRIORITY = 152.?  
CS PRIORITY LIMIT = 160.?  
DS PRIORITY LIMIT = 180.?  
SEGMENT LIMIT CHANGES?  
SYSTEM PROGRAM CHANGES?  
SYSTEM SL CHANGES?  
ENTER DUMP DATE?
```

```
END OF SUBSYSTEM
```

```
:
```

```
:QUANTUM COMMAND ONLY CHANGES THE TIME-SLICE UNTIL THE  
NEXT COLD LOAD.
```

SMO-128

```
:SYSDUMP *T,*LP
```

```
ANY CHANGES? Y ◀  
SYSTEM ID = HP32002A.00.74.?  
MEMORY SIZE = 192.?  
I/O CONFIGURATION CHANGES?  
SYSTEM TABLE CHANGES?  
MISC CONFIGURATION CHANGES?  
LOGGING CHANGES?  
DISC ALLOCATION CHANGES?  
SCHEDULING CHANGES?  
SEGMENT LIMIT CHANGES? Y ◀  
MAX # OF CONCURRENT RUNNING PROGRAMS = 48.?  
MAX CODE SEG SIZE = 6144.? 16000 ◀  
MAX # OF CODE SEGMENTS/PROCESS = 50.? 100 ◀  
MAX STACK SIZE = 31232.?  
MAX EXTRA DATA SEG SIZE = 16384.?  
MAX # OF EXTRA DATA SEGMENTS/PROCESS = 4.?  
STD STACK SIZE = 800.?  
SYSTEM PROGRAM CHANGES?  
SYSTEM SL CHANGES?  
ENTER DUMP DATE?
```

```
END OF SUBSYSTEM
```

```
:
```

```
THIS ALLOWS LARGER CODE SEGMENTS AND EXTRA DATA SEGMENTS,  
BUT WILL DEGRADE THE MULTIPROGRAMMING PERFORMANCE OF MPE.
```

SMO-129

# USING SYSDUMP TO CHANGE DEFAULT LIMITS TO ADMIT TO SPECIAL PROGRAMS:

# USING SYSDUMP TO ADD SEGMENTS TO SL. PUB. SYS

Segments can be permanently allocated and made CORE-RESIDENT

:SYSDUMP \*T

ANY CHANGES? Y ◀  
SYSTEM ID = HP32002A.00.74.?  
MEMORY SIZE = 192.?  
I/O CONFIGURATION CHANGES?  
SYSTEM TABLE CHANGES?  
MISC CONFIGURATION CHANGES?  
LOGGING CHANGES?  
DISC ALLOCATION CHANGES?  
SCHEDULING CHANGES?  
SEGMENT LIMIT CHANGES?  
SYSTEM PROGRAM CHANGES?  
SYSTEM SL CHANGES? Y ◀

LIST LIBRARY?  
DELETE SEGMENT?  
REPLACE SEGMENT?  
ADD SEGMENT? Y ◀

S=system code.  
C=core-resident.  
P=perm. allocated.

ENTER SEGMENT NAME , USLFILE NAME [,S/C/P]  
? FPREFIXSEG,TESTUSL,C ◀ **ADDING A CORE RESIDENT SEGMENT**

FPREFIXSEG           116  
NAME                    STT   CODE   ENTRY   SEG  
FPREFIX                1       0       0  
SEGMENT LENGTH                    4

ENTER SEGMENT NAME , USLFILE NAME [,S/C/P]  
?  
LIST LIBRARY?  
ENTER DUMP DATE?

END OF SUBSYSTEM

:

NOTE: New segments will show up in the LOAD MAP if the coldload tape produced by this is loaded.

# :SYSDUMP LAB

1. Copy the USL file SMUSL.PUB.SYS to your account.
2. Using SYSDUMP prepare to generate a new system. Use \$NULL for the tape file parameter.
3. Add a line printer HP30108A and a card reader HP30106A to the I/O configuration.

	DRT	LDN
Line printer	—	—
Card reader	—	—

The DRT'S will be determined by your instructor.

Each device will be initially spooled. The card reader will be JOB and DATA accepting with this line printer for its output device.

The device class CARD or LP will not be used for these devices.

4. Add the device class XLP for all line printers.
5. Change the number of I/O queues taking into consideration the added devices that are spooled.
6. List the current global RINS.
7. Enable logging for job/session initiation and termination only.
8. Change the directory size to allow 20 accounts, 10 groups per account, 5 users per account, 200 files per group.

See appendix E of the SYSTEM MANAGER/SYSTEM SUPERVISOR MANUAL.

9. Make the starting time quantum 1500 milliseconds.
10. Make sure that the maximum code and data segment sizes will be allowed on the system.
11. Add the segment FREFIXSEG from the USL in step 1 to the System Segmented Library.
12. Only a copy of the new system is required.
13. If you use \$NULL SYSDUMP will now abort due to the lack of a tape file.



# BACKUP METHODS

- I. NONE AT SYSTEM LEVEL USE :STORE, :RESTORE FOR CRITICAL ACCOUNTS AND FILES.
- II. FULL SYSTEM BACKUP EACH DAY.
- III. FULL SYSTEM BACKUP ONCE A WEEK THEN FROM THAT DAY ALL OTHER DAYS.
- IV. FULL SYSTEM BACKUP ONCE A WEEK THEN FROM PREVIOUS DAY ALL OTHER DAYS.

BACKUP METHOD

	I	II	III	IV
CARDS NEEDED FOR ACCOUNT GENERATION	X			
NUMBER OF TAPES TO RELOAD	1	1	2	MANY
LONG BACKUP		X	ONCE A WEEK EACH DAY LONGER THAN PREVIOUS UNTIL FULL	ONCE A WEEK
MANY TAPE REQUEST	X			
OPERATOR DATE ERROR CAUSE LOSE OF BACKUP.			X	X

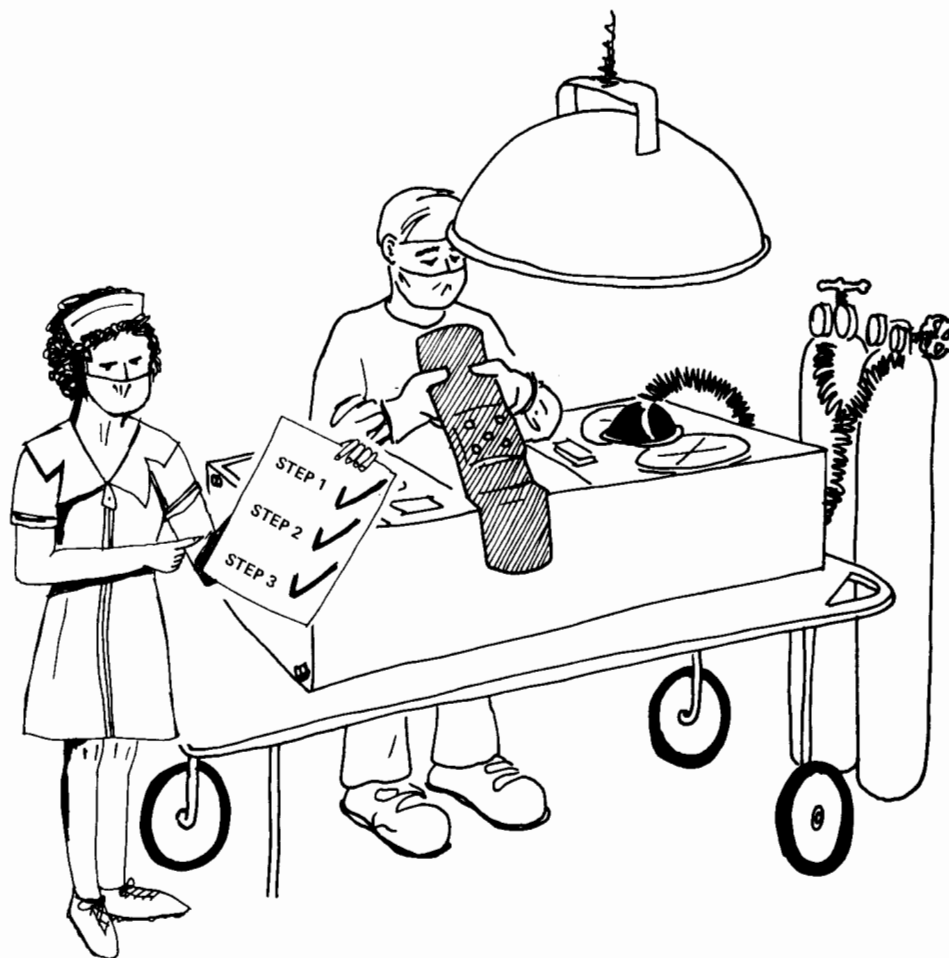
<u>WEEK</u>	<u>DAY</u>	PARTIAL		FULL	
		A	B	X	Y
1	MON	X			
1	TUE		X		
1	WED	X			
1	THU		X		
1	FRI			X	
2	MON	X			
2	TUE		X		
2	WED	X			
2	THU		X		
2	FRI				X

NEED AT LEAST TWO TAPES FOR BACKUP  
 (DO NOT WRITE OVER THE CURRENT BACKUP)

MAY NEED TO EXTRACT TAPES FOR OFFLINE STORAGE AT REGULAR  
 INTERVALS.



# **Creating Standard Operating Procedures**





# SYSTEM OPERATOR RESPONSIBILITIES AND PROCEDURES

- A. Prepare system for back-up.
  - 1. Put system maintenance sign on door.
  - 2. Clean tape heads.
  - 3. On Friday only:
    - Remove date card and replace with Ø for the date.
    - Add a : RESETACCT @ card after : REPORT@.@ card.
  - 4. Put cards in reader daily job deck.
  
- B. Clear system of users.
  - 1. =WARN @; SYSTEM WILL SHUT DOWN AT time FOR BACKUP.  
  
Time is current plus 2 minutes.
  - 2. Now or in 2 minutes depending on active jobs use = LOGOFF.
  
- C. Run Daily Job Deck
  - 1. Start card reader.
  - 2. Respond to tape request with unit number for current day tape.
  - 3. Tidy up lab area.
  - 4. Check paper and card supplies. If low, notify System Manager.
  - 5. Supply extra reels of tape if needed. LABEL EACH.
  - 6. When complete.
    - a. Label the file listing with date and lab then add to lab records.
    - b. Label the Report with date and lab then add to SM Records.
    - c. Enter date and tape used in BACKUP LOG.
  - 7. Demount tape; be sure any extras are labeled.
  - 8. Use = LOGON.
  
- D. Replace tape and deck in cabinets and lock.  
On Friday only:
  - Replace date card with the current date.
  - Remote : RESETACCT @ card.
  
- E. Take down sign.

# DAILY JOB FILE

```
1 :JOB MANAGER.SYS;HIPRI
2 :FILE T=DUMPTAPE;DEV=TAPE
3 :SYSDUMP *T
4 NO
5 5/2/75
6 YES
7 :EOD
8 :REPORT @. @
9 :RUN FREE2
10 :EOD
11 :ALLOCATE EDITOR
12 :ALLOCATE FCOPY
13 :ALLOCATE SEGPROC
14 :ALLOCATE LISTEQ2
15 :EOJ
```

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## SYSTEM MANAGER RECORDS

- Tape inventory
- Unsupported programs
- Supported software
- Security and backup
- Stored file listings (backup)
- : REPORT, listing of account building deck.

## DECKS TO MAINTAIN SYSTEM BACKUP

- Master account structure (major reload deck or file)
- Daily backup deck or file

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# MAJOR RELOAD FILE

```
1      :JOB MANAGER.SYS
2      :ALTACCT SYS;MAXPRI=BS
3      :ALTUSER MANAGER; &
4      :MAXPRI=BS
5      :NEWGROUP OUR;CAP=PH,DS,MR,PM,IA,BA
6      :CONTINUE
7      :NEWACCT ACCOUNT1,MGR;ACCESS=(A,L,R,X,W:ANY);&
8      :CAP=IA,BA,SF,ND,PH,PM,MR,DS,AL,OP,AM,GL
9      :CONTINUE
10     :NEWACCT ALBERT,ED;FILES=5000
11     :CONTINUE
12     :NEWACCT JONES,DICK &
13     :CAP=IA,BA,SF,ND,PH,PM,MR,DS,AL,OP,AM,GL
14     :EOJ
15     :JOB MGR.ACCOUNT1
16     :NEWGROUP BASIC;CAP=IA,BA;ACCESS=(R,X,L,S,W,A:ANY)
17     :NEWGROUP COBOL;CAP=IA,BA;ACCESS=(R,X:ANY;L,S:ANY;W,A:ANY)
18     :NEWGROUP FORTRAN;CAP=IA,BA;ACCESS=(R,X:ANY;L,S:ANY;W,A:ANY)
19     :NEWGROUP IMAGE;CAP=IA,BA;ACCESS=(R,X:ANY;L,S:ANY;W,A:ANY)
20     :NEWGROUP MPE;CAP=IA,BA,MR,DS,PH,PM;ACCESS=(R,X,L,S,W,A:ANY)
21     :NEWGROUP SPL;CAP=IA,BA;ACCESS=(R,X:ANY;L,S:ANY;W,A:AL)
22     :ALTGROUP PUB;CAP=IA,BA,MR,PH,PM;ACCESS=(R,L,X,S,W,A:ANY)
23     :EOJ
24     :JOB DICK.JONES
25     :CONTINUE
26     :NEWGROUP DICK;&
27     :ACCESS=(R,A,W,L,X,S:GU)
28     :CONTINUE
29     :ALTUSER DICK;&
30     :HOME=DICK
31     :CONTINUE
32     :NEWGROUP ANOVA
33     :CONTINUE
34     :NEWGROUP B
35     :CONTINUE
36     :NEWGROUP BASIC
37     :CONTINUE
38     :NEWGROUP CHESS
39     :CONTINUE
40     :NEWGROUP COBOL
41     :EOJ
42     :JOB MANAGER.SYS;HIPRI
43     :FILE TAPE1;DEV=TAPE
44     :FILE TAPE2;DEV=TAPE
45     :RESTORE *TAPE1;;SHOW
46     :RESTORE *TAPE2;;SHOW;KEEP
47     :ALTACCT SYS;PASS=MUSK
48     :EOJ
```

# SYSTEM MANAGER PROCEDURES

## UPDATE MPE

- Perform UPDATE with a loadmap
- Add back instillation segments to SL.PUB.SYS from SYSSLUSL.PUB.SYS
- Create new coldload tape

## UPDATE SUBSYSTEMS AND OTHER PROGRAMS

- Add or replace on system
- Set up security for file
- Update system manager documentation

## CHANGING SYSTEM ACCOUNT PASSWORD

- Change password in a session check that it is correct before logging off
- Change password on daily job deck or file
- Enter into log book

## DAILY RECORDS

- Log dump date or FULL and password each day.

## CREATING NEW ACCOUNTS

- Determine the full account structure needed
- Create a card deck or Editor file to implement the account structure
- Run the JOB
- Add to major reload deck or file
- All temporary accounts are labeled on top of creation section so they can be found and removed when the account is purged

## GROUP OR USER CHANGES

### ACCOUNT MANAGERS

- Notify system manager of all changes in groups or users

### SYSTEM MANAGER

- When notified by account manager of changes in groups or users in an account make corresponding changes in the major reload deck or file.

# SYSTEM MANAGER PROCEDURES (CONT'D)

## ACCOUNT CHANGES

In a session make changes (recommend a hard copy device)  
Make corresponding changes in major reload deck

## PURGING ACCOUNTS

In session purge account (If error then logoff the user and purge the account again)  
Remove cards from major reload deck or file

## RELOAD FROM TAPE (directory OK)

Use the most recent dump tape and do a RELOAD  
When requested supply tape of previous Friday or full dump  
depending on installation back up

## MAJOR RELOAD

Reload from tape with only system or NULL option of RELOAD  
Run major reload deck to create accounts  
Back-up tape 1 is most recent one  
Back-up tape 2 is previous Friday's or full dump tape  
Password is MUSK set by last job in deck

## ADDING INSTALLATION SEGMENTS TO SL.PUB.SYS

Copy segments to SYSSLUSL.PUB.SYS  
Add segments to SL.PUB.SYS  
Do a :SYSDUMP to maintain the new segments in SL.PUB.SYS

# UP POWER AND DOWN: RECOMMENDED SEQUENCE

=SHOWJOB

JOBNUM	STATE	IPRI	JIN	JLIST	INTRODUCED	JOB NAME
#S1	EXEC		26	26	WED 2:15P	FIELD.SUPPORT
#S2	EXEC		27	27	WED 2:15P	FIELD.SUPPORT

2 JOBS:

Ø INTRO  
Ø WAIT; INCL Ø DEFERRED  
2 EXEC; INCL 2 SESSIONS  
JOBFENCE= Ø; JLIMIT= 6; SLIMIT= 4Ø

=WARN@; SYSTEM GOING DOWN FOR MAINTENANCE IN 5 MINUTES

=SHUTDOWN

ST/14:16/#S1/LOGOFF  
ST/14:16/#S2/LOGOFF  
ST/14:16/ALL JOBS LOGGED-OFF  
SHUT

## TO POWER DOWN ENTIRE SYSTEM

1 – Open CPU Door

2 – Set "SYSTEM DC POWER" switch to STANDBY

NOTE: At this point a printed circuit board may be removed without damage. AC power should be shut down only when absolutely required.

3 – Go to rear of rightmost system bay, and working from right to left turn off all "AUXILIARY SYSTEM POWER" circuit breakers. Turn off "MAIN SYSTEM POWER" circuit breaker last.

## FOR POWER UP

Reverse the above sequence.

NOTE: Whenever SYSTEM DC POWER is removed the moving head disc's will perform a head load cycle which will take about 2 minutes.

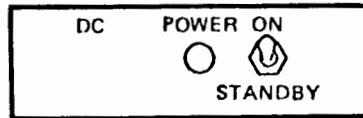
When system disc's are "ON LINE" perform a "COOLSTART" or "COLDLOAD" operation to restore normal operations.

NOTE: If there are no I/O configuration changes it is not necessary to do a =SHUTDOWN and then a coolstart. The power fail mechanism will recover automatically.

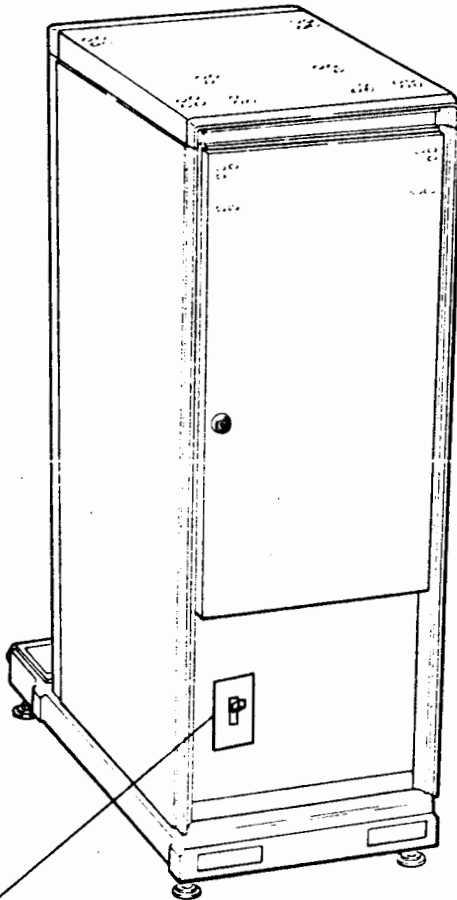


# LOCATION OF POWER SWITCH ON HP 3000

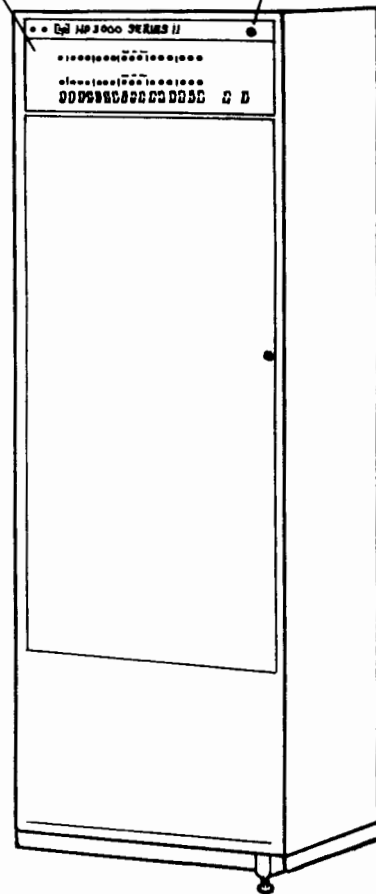
(INSIDE DOOR)  
SYSTEM DC POWER



EMERGENCY OFF SWITCH  
(DO NOT USE THIS SWITCH  
UNLESS IT IS AN EMERGENCY)

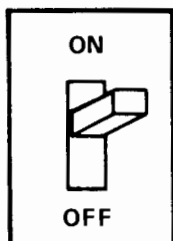


REAR VIEW



FRONT VIEW

MAIN SYSTEM POWER



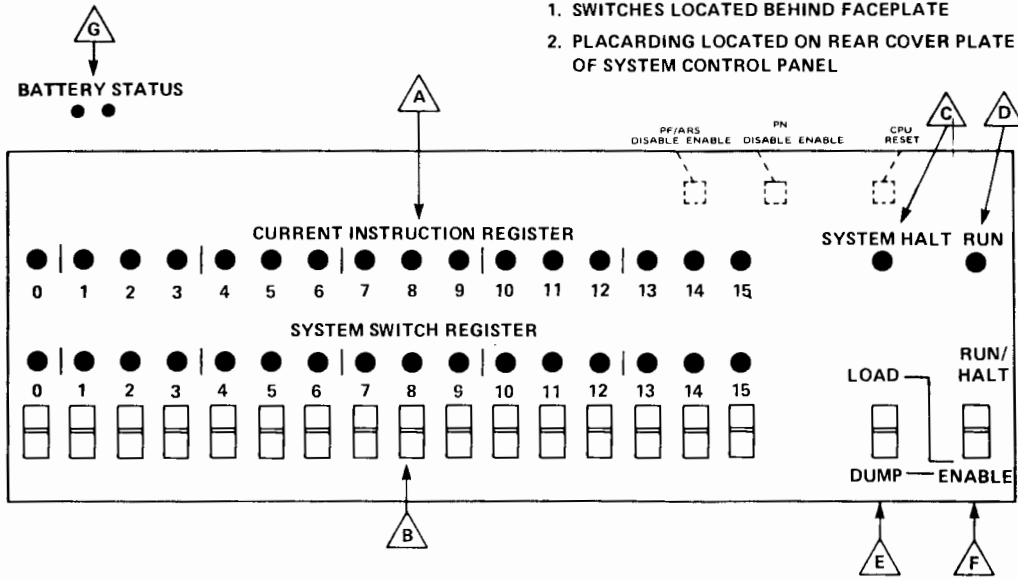
USE THIS CIRCUIT BREAKER TO  
CONTROL AC POWER TO THE  
SYSTEM

NOTE: OTHER BAYS HAVE  
SIMILAR BREAKERS.

# CONTROLS AND INDICATORS, HP 3000 CONTROL PANEL

NOTE:

1. SWITCHES LOCATED BEHIND FACEPLATE
2. PLACARDING LOCATED ON REAR COVER PLATE OF SYSTEM CONTROL PANEL



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# SOURCE OF MPE/3000 SYSTEM COMPONENTS

MPE/3000 COMPONENT	WARMSTART	COOLSTART	UPDATE	COLDSTART	RELOAD
MPE Programs, System Library	disc	disc	tape	tape	tape
I/O & System Configurations	disc	disc	disc	tape	tape
Accounting Info, File Directory, Volume Table & User Files	disc	disc	disc	disc	tape
Spoofiles & Jobs	disc	—	—	—	—

HP 32002A.00.00  
WHICH OPTION <WARMSTART/COOLSTART>? WARM  
LOAD MAP?  
DATE?  
5/20/75  
TIME?  
6:10  
TUE, MAY 20, 1975, 6:10 AM?  
ST/6:10/SP#5/SPOOLED IN  
ST/6:10/SP#12/SPOOLED OUT  
ST/6:10/SP#6/SPOOLED OUT  
10/6:10/LDEV#5 NOT READY  
\*WELCOME\*  
=SHOWJOB  
NO SUCH JOB(S)  
JOBFENCE= 14; JLIMIT= 0; SLIMIT= 0  
=SHOWOUT  
NO SUCH FILE(S)  
OUTFENCE= 14  
=LIMIT 3,16  
=JOBFENCE 0  
=OUTFENCE 1  
=STREAMS 10

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HP 32002A.00.00  
WHICH OPTION <WARMSTART/COOLSTART>? COO  
LOAD MAP?  
ANY CHANGES?  
DATE?  
5/20/75  
TIME?  
6:13  
TUE, MAY 20, 1975, 6:13 AM?  
ST/6:13/SP#5/SPOOLED IN  
ST/6:13/SP#6/SPOOLED OUT  
ST/6:13/SP#12/SPOOLED OUT  
10/6:13/LDEV#5 NOT READY  
\*WELCOME\*  
=SHOWJOB  
NO SUCH JOB(S)  
JOBFENCE= 0; JLIMIT= 3; SLIMIT= 16  
=SHOWOUT  
NO SUCH FILE(S)  
OUTFENCE=1  
=STREAMS 10

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HP 32002A.00.00  
WHICH OPTION <COLDSTART/RELOAD/UPDATE>? COLD  
LOAD MAP?  
ANY CHANGES?  
DATE?  
5/20/75  
TIME?  
6:21  
TUE, MAY 20, 1975, 6:21 AM?  
ST/6:21/SP#5/SPOOLED IN  
ST/6:21/SP#6/SPOOLED OUT  
ST/6:21/SP#12/SPOOLED OUT  
10/6:21/LDEV#5 NOT READY



=SHOWJOB  
NO SUCH JOB(S)  
JOBFENCE= 0; JLIMIT= 3; SLIMIT= 16

=SHOWOUT  
NO SUCH FILE(S)

OUTFENCE=1  
=STREAMS 10

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# ELEMENTS OF COMMAND FORMAT

Leading equal sign:	is the prompt character output by MPE.
Command name:	is shown in CAPITAL LETTERS, contains no blanks, is delimited by a non-alphabetic character (usually a blank).
Parameters:	are shown in CAPITAL LETTERS IN REGULAR TYPE when they are literal information that you always enter exactly as shown; are shown in <i>lower-case italics</i> when they are variable parameters to be replaced by information that you must supply.
Positional parameters:	have significance implied by positional order after command name; use adjacent commas (or semicolons where required) to indicate omitted parameter(s) as follows:  =COMMANDNAME p1, ,p3 (from middle of list) =COMMANDNAME ,p2,p3 (from beginning of list) =COMMANDNAME p1 (from end of list)
Keyword parameters:	are separated by semicolons and can appear in any order.
Mixed parameters:	positional parameters are to be given first; first keyword indicates end of positional list.
Optional parameters:	[A] "A" may be included [A B] "A" or "B" may be included {A B} "A" or "B" must be included [A B] "A" and/or "B" may be included in any order

## SYSTEM DIALOGUE

User input is underlined: NEW NAME? ALPHA1

# CONSOLE COMMAND ERRORS

**\*INVALID\***

The causes for this are usually one of the following:

1. Syntax error
2. Too many or not enough parameters
3. Illegal number or name
4. Undefined command
5. The action requested is not consistent with the present environment



# CONSOLE OPERATOR COMMANDS

COMMAND NAME	DESCRIPTION	PAGE NO.
=ABORTIO	Aborts all pending I/O requests for a device.	3-4
=ABORTJOB	Aborts a job or session.	3-5
=ACCEPT	Permits the device to accept job/sessions and/or data.	3-7
=ALTFILE	Alters attributes of output spooling files.	3-8
=ALTJOB	Alters attributes of waiting jobs or sessions.	3-9
=BREAKJOB	Suspends an executing job.	3-11
=DELETE	Deletes any ready devicefile.	3-12
=DOWN	Removes a device from normal system use.	3-13
=GIVE	Assigns a =DOWNed device to the diagnostics.	3-14
=HEADOFF	Stops HEADER/TRAILER output to a device.	3-15
=HEADON	Resumes HEADER/TRAILER output to a device.	3-16
=JOBFENCE	Defines acceptable input priorities.	3-17
=LIMIT	Limits the number of concurrently running jobs/sessions.	3-18
=LOGOFF	Aborts all executing non-HIPRI jobs/sessions and prevents further log-ons.	3-19
=LOGON	Enables job/session processing following =LOGOFF.	3-20
=OUTFENCE	Defines acceptable priorities for output spooled files.	3-21
=RECALL	Displays all console =REPLY messages pending.	3-22
=REFUSE	Disallows jobs/sessions and/or data on a designated device.	3-23
=REPLY	Replies to pending requests.	3-24
=RESUMEJOB	Resumes a suspended job.	3-26
=SESSION	Permits the console to be used for a session.	3-27
=SHOWDEV	Displays information for a particular device, a class of devices, or all devices.	3-28
=SHOWIN	Displays status information about input device-files.	3-30
=SHOWJOB	Displays the status of current jobs/sessions.	3-33
=SHOWOUT	Displays status information about output device-files.	3-36
=SHOWQ	Displays scheduling information and processes currently defined in the system.	3-39
=SHOWTIME	Prints the current date and time.	3-41
=SHUTDOWN	Initiates shut down of MPE.	3-42
=SPOOL	Initiates spooling of an input/output device.	3-43
=STREAMS	Enables or disables the user's ability to submit job/session and/or data streams.	3-50
=TAKE	De-assigns a =GIVEn device from diagnostics.	3-51
=TELL	Sends a message to jobs/sessions.	3-52
=UP	Allows a =DOWNed device to function again.	3-54
=WARN	Sends a urgent message to jobs/sessions.	3-55
=WELCOME	Defines the welcome message.	3-57

# TYPES OF OPERATOR COMMANDS

## Job/Session Commands

- =ABORTJOB
- =ACCEPT
- =ALTJOB
- =BREAKJOB
- =JOBFENCE
- =LIMIT
- =LOGOFF
- =LOGON
- =REFUSE
- =RESUMEJOB
- =SESSION
- =SHOWJOB
- =SHOWQ

## Device/Devicefile Commands

- =ABORTIO
- =ALTFILE
- =DELETE
- =DOWN
- =GIVE
- =HEADOFF
- =HEADON
- =OUTFENCE
- =SHOWDEV
- =SHOWIN
- =SHOWOUT
- =SPOOL
- =STREAMS
- =TAKE
- =UP

## Message Commands

- =RECALL
- =REPLY
- =SHOWTIME
- =TELL
- =WARN
- =WELCOME

# CONSOLE OPERATOR MESSAGES

FORMAT NO.	FORMAT
0	? prefix/time/PIN/message reply type
1	Δ prefix/time/message
2	? prefix/time/# $\left\{ \begin{matrix} J \\ S \end{matrix} \right\}$ number/PIN/message reply type
3	Δ prefix/time/# $\left\{ \begin{matrix} J \\ S \end{matrix} \right\}$ number/message

## PREFIXES:

ST (status)

IO (input/out)

MS (message from user)

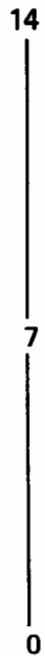
# CONSOLE OPERATOR MESSAGE COMMANDS

COMMAND NAME	DESCRIPTION	PAGE NO.
=RECALL	Displays all console =REPLY messages pending.	3-22
=REPLY	Replies to pending requests.	3-24
=SHOWTIME	Prints the current date and time.	3-41
=TELL	Sends a message to jobs/sessions.	3-52
=WARN	Sends a urgent message to jobs/sessions.	3-55
=WELCOME	Defines the welcome message.	3-57

# CONSOLE OPERATOR JOB/SESSION COMMANDS

COMMAND NAME	DESCRIPTION	PAGE NO.
=ABORTJOB	Aborts a job or session	3-5
=ACCEPT	Permits the device to accept job/sessions and/or data.	3-7
=ALTJOB	Alters attributes of waiting jobs or sessions.	3-9
=BREAKJOB	Suspends an executing job.	3-11
=JOBFENCE	Defines acceptable input priorities.	3-17
=LIMIT	Limits the number of concurrently running jobs/sessions.	3-18
=LOGOFF	Aborts all executing non-HIPRI jobs/sessions and prevents further log-ons.	3-19
=LOGON	Enables job/session processing following =LOGOFF.	3-20
=REFUSE	Disallows jobs/sessions and/or data on a designated device.	3-23
=RESUMEJOB	Resumes a suspended job.	3-26
=SESSION	Permits the console to be used for a session.	3-27
=SHOWJOB	Displays the status of current jobs/sessions.	3-33
=SHOWQ	Displays scheduling information and processes currently defined in the system.	3-39

JOBFENCE



USER SPECIFIED INPRI



JOBFENCE = 14 ALL USER 13-1 DEFERED

" = 7 USER 7-1 DEFERED

" = 0 USER CANNOT DEFER

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NON RESTART JOB

```

:JOB USER.ACCOUNT
:SPL XYZS
:SAVE $OLDPASS, XYZU
:PREP XYZU, $NEWPASS
:SAVE $OLDPASS, XYZ
:RUN XYZ
:EOJ

```

RESTART JOB

```

:JOB USER.ACCOUNT;RESTART
:SPL XYZS
:PURGE XYZU
:SAVE $OLDPASS, XYZU
:PREP XYZU, $NEWPASS
:PURGE XYZ
:SAVE $OLDPASS, XYZ
:RUN XYZ
:EOJ

```

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# JOB MANAGEMENT

=LIMIT [ NUMBR JOBS ] [ , NUMBR SESSIONS ]

=JOBFENCE INPUTPRIORITY 0 ≤ INPUTPRIORITY ≤ 14  
LARGER NUMBERS MORE RESTRICTIVE

=SHOWJOB [ #JNNN  
#SNNN  
STATUS  
ID [ ; STATE ]  
STATE [ ; ID ] ]

ID ≡ [ JOB = { @ J  
@ S  
[ JSNAME, ] USER.ACCOUNT  
@, USER.ACCOUNT  
[ @, ] @.ACCOUNT } ] ]

STATE ≡ [ INTRO  
WAIT [ , N ]  
[ , D ]  
EXEC ]

N = NON-DEFERRED  
D = DEFERRED

:SHOWJOB

JOBNUM	STATE	IPRI	JIN	JLIST	INTRODUCED	JOB NAME
#S6	EXEC		55	55	TUE 8:37A	DAVID.EICHER
#S20	EXEC		27	27	TUE 9:21A	IMAGE.TRAINING
#S7	EXEC		22	22	TUE 8:39A	MITCHELL,S12.TRAINING
#S13	EXEC		44	44	TUE 9:12A	MANAGER.SCR
#S21	EXEC		23	23	TUE 9:31A	DICK.SLEGHT
#S10	EXEC		21	21	TUE 8:54A	JOVES,S10.TRAINING
#S22	EXEC		43	43	TUE 9:31A	MGR.USERSLIB
#J6	EXEC		5S	6S	TUE 9:32A	LOGALL,MANAGER.SYS
#S17	EXEC		35	35	TUE 9:18A	ART.STC
#J7	EXEC		5S	6S	TUE 9:32A	MANAGER.SYS
#S23	EXEC		41	41	TUE 9:32A	MANAGER.SCR
#J8	EXEC		5S	6S	TUE 9:32A	MANAGER.SYS

12 JOBS:

0 INTRO

0 WAIT; INCL 0 DEFERRED

12 EXEC; INCL 9 SESSIONS

0 SUSP

JOBFENCE= 0; JLIMIT= 3; SLIMIT= 16

:SHOWJOB JOB=@J

JOBNUM	STATE	IPRI	JIN	JLIST	INTRODUCED	JOB NAME
#J18	EXEC		5S	6S	TUE 9:39A	LOGALL,MANAGER.SYS
#J19	WAIT:1	13	5S	6	TUE 9:39A	MANAGER.SYS
#J20	WAIT:2	13	5S	6	TUE 9:39A	MANAGER.SYS
#J21	INTRO	13	5S	6	TUE 9:39A	MANAGER.SYS

4 JOBS (DISPLAYED):

1 INTRO

2 WAIT; INCL 0 DEFERRED

1 EXEC; INCL 0 SESSIONS

0 SUSP

JOBFENCE= 0; JLIMIT= 1; SLIMIT= 16



=ALTJOB     $\left\{ \begin{array}{l} \#JNNN \\ \#SNNN \end{array} \right\}$      $\left[ ;INPRI = PRIORITY \right]$      $\left[ ;OUTDEV = \begin{array}{l} LDEV \\ CLASS \end{array} \right]$   
 =BREAKJOB    #JNNN                       $0 \leq PRIORITY \leq 14$   
 =RESUMEJOB    #JNNN  
 =ABORTJOB     $\left\{ \begin{array}{l} \#JNNN \\ \#SNNN \end{array} \right\}$   
 =STREAMS     $\left\{ \begin{array}{l} LDEV \\ OFF \end{array} \right\}$   
 =WELCOME

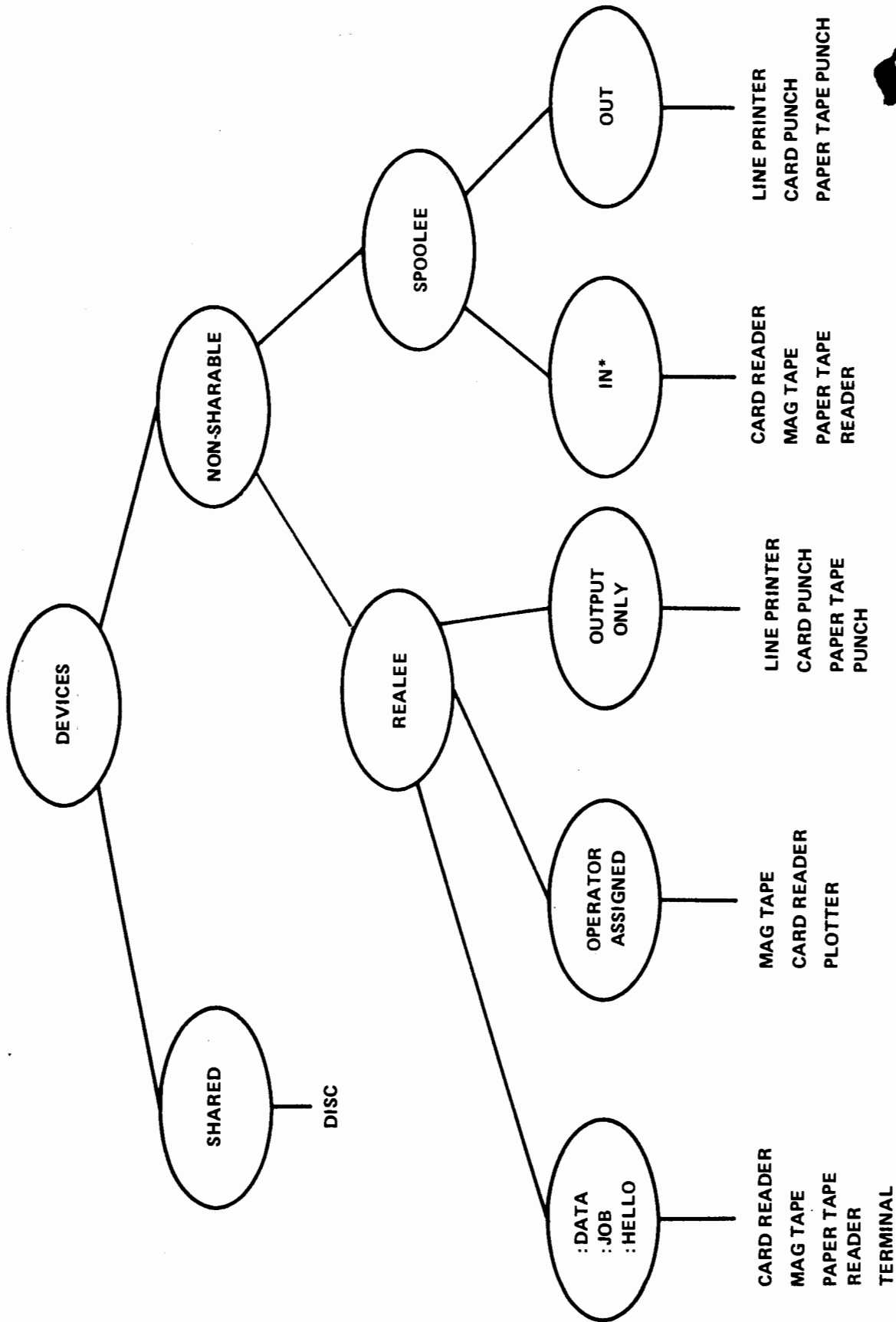
# TYPE LINE 1 OF MESSAGE (CR)

# TYPE ADDITIONAL LINES (CR)

# (CR)

# CONSOLE OPERATOR DEVICE/DEVICEFILE COMMANDS

COMMAND NAME	DESCRIPTION	PAGE NO.
=ABORTIO	Aborts all pending I/O requests for a device.	3-4
=ALTFILE	Alters attributes of output spooling files.	3-8
=DELETE	Deletes any ready devicefile.	3-12
=DOWN	Removes a device from normal system use.	3-13
=GIVE	Assigns a =DOWNed device to the diagnostics.	3-14
=HEADOFF	Stops HEADER/TRAILER output to a device.	3-15
=HEADON	Resumes HEADER/TRAILER output to a device.	3-16
=OUTFENCE	Defines acceptable priorities for output spooled files.	3-21
=SHOWDEV	Displays information for a particular device, a class of devices, or all devices.	3-28
=SHOWIN	Displays status information about input device-files.	3-30
=SHOWOUT	Displays status information about output device-files.	3-36
=SPOOL	Initiates spooling of an input/output device.	3-43
=STREAMS	Enables or disables the user's ability to submit job/session and/or data streams.	3-50
=TAKE	De-assigns a =GIVEn device from diagnostics.	3-51
=UP	Allows a =DOWNed device to function again.	3-54



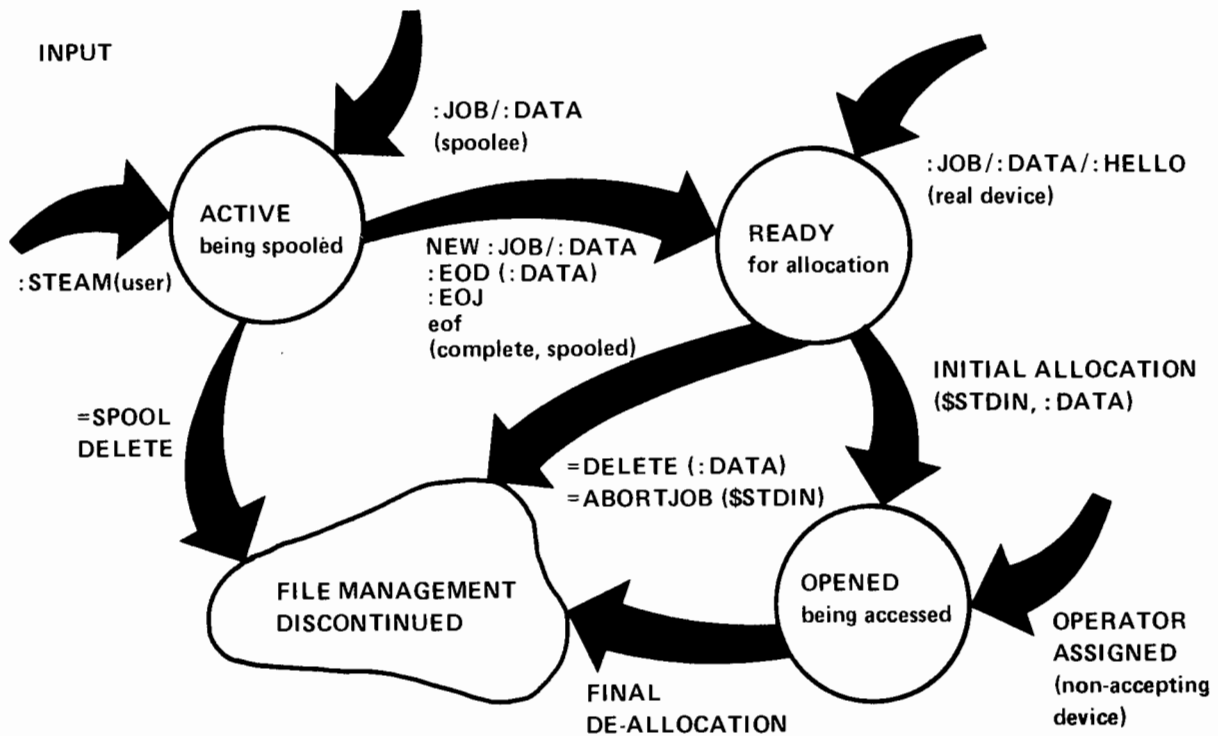
\*MUST BE DATA AND/OR JOB ACCEPTING

=SHOWDEV

LDEV	AVAIL	OWNERSHIP
1	DISC	Ø FILES
2	DISC	18 FILES
3	A AVAIL	
5	A SPOOLED	SPOOLER IN
6	SPOOLED	SPOOLER OUT
7	AVAIL	
8	AVAIL	
9	AVAIL	
10	J AVAIL	
15	AVAIL	
20	A AVAIL	
21	A AVAIL	
22	A AVAIL	
23	A UNAVAIL	#S77: 4 FILES
24	A AVAIL	
25	A UNAVAIL	#S69: 4 FILES
26	A UNAVAIL	#S76: 3 FILES
27	A AVAIL	
28	A AVAIL	
29	A AVAIL	
30	A AVAIL	
33	A AVAIL	
34	A AVAIL	
35	A AVAIL	

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## DEVICEFILE STATES



SMO-162

# INPUT SPOOLING:

```
=SPOOL      LDEV      { ,STARTIN
                        [,STOP1] [,DELETE] }

=SHOWIN    [ #INNN
              STATUS
              ITEM [; ITEM [; ITEM]] ]      NO DUPLICATE ITEM
                                                KEYWORDS (ITEM
                                                SHOWN BELOW)

ITEMS:     [DEV = LDEV]   [JOB = { @J
                               @S
                               #JNNN
                               #SNNN } ] [ ACTIVE
                                         READY
                                         OPENED ] [ SP ]

=DELETE    #INNN
```

SMO-163

=SHOWIN

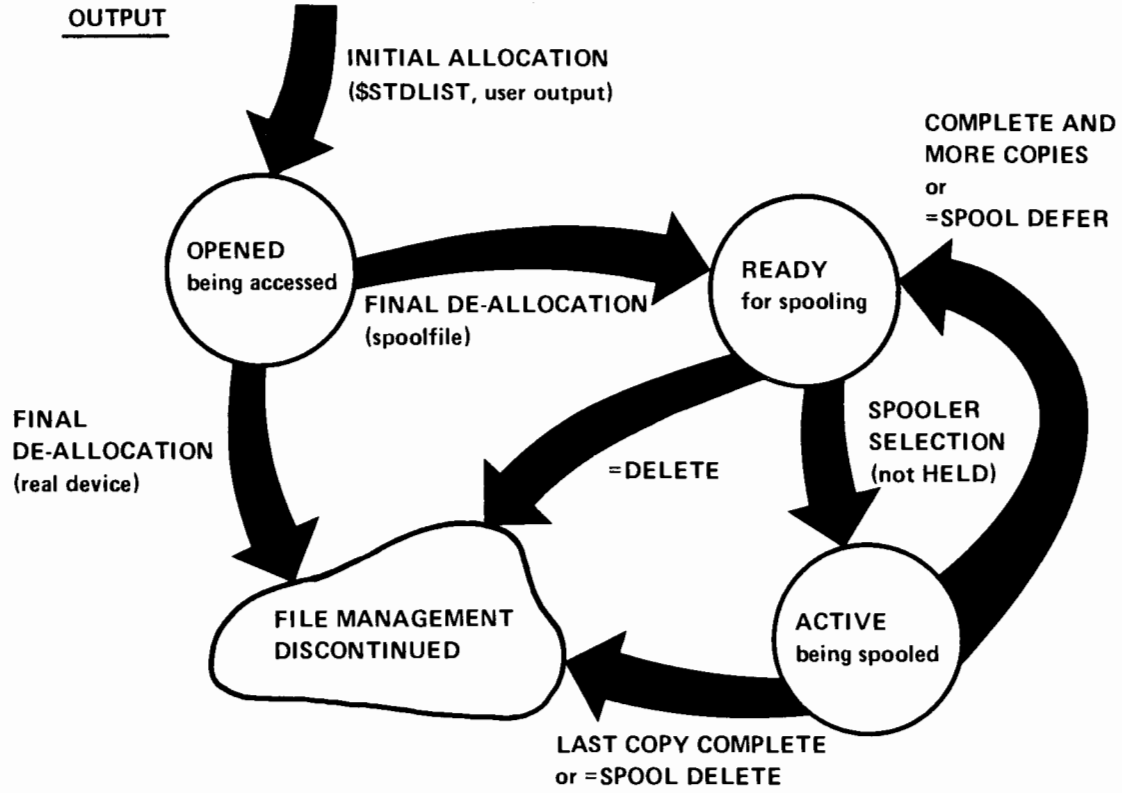
DEV/CL	DFID	JOB/NUM	FNAME	STATE	FRM	SPACE	RANK	PRI	#C
23	#I102	#S77	\$STDIN	OPENED					
25	#I89	#S09	\$STDIN	OPENED					
26	#I101	#S70	\$STDIN	OPENED					
5	#I104		MYCARDS	READY					4
			MANAGER.SCR						
5	#I105		CARDS2	READY					4
			MANAGER.SCR						

5 FILES:

```
0 ACTIVE
2 READY; INCL 2 SPOOFLES, 0 DEFERRED
3 OPENED; INCL 0 SPOOFLES
2 SPOOFLES: 3 SECTORS
```

SMO-164

OUTPUT



# OUTPUT SPOOLING:

=SPOOL      LDEV       $\left\{ \begin{array}{l} [ ,STARTOUT \\ [ ,RESUME \\ [ ,STOP \\ [ ,WAIT \end{array} \right\} \quad \left[ \begin{array}{l} ,RESET \\ ,DELETE \\ ,DEFER \end{array} \right] \quad \left[ \begin{array}{l} ,OPENQ \\ ,SHUTQ \end{array} \right\}$

=SHOWOUT       $\left[ \begin{array}{l} \#ONNN \\ STATUS \\ ITEM [; ITEM [; ITEM]] \end{array} \right]$       NO DUPLICATE ITEM  
KEYWORDS (ITEMS  
SHOWN BELOW)

ITEMS:       $\left[ \begin{array}{l} DEV = \left\{ \begin{array}{l} LDEV \\ CLASS \end{array} \right\} \end{array} \right]$        $\left[ \begin{array}{l} JOB = \left\{ \begin{array}{l} @J \\ @S \\ \#JNNN \\ \#SNNN \end{array} \right\} \end{array} \right]$        $\left[ \begin{array}{l} ACTIVE \\ READY \left[ \begin{array}{l} ,N \\ ,D \end{array} \right] \\ OPENED \end{array} \right]$        $\left[ \begin{array}{l} SP \end{array} \right]$

=DELETE      #ONNN

=OUTFENCE      OUTPUTPRIORITY       $0 \leq \text{OUTPUTPRIORITY} \leq 14$   
LARGER NUMBERS MORE  
RESTRICTIVE

=ALTFILE      #ONNN       $\left\{ \begin{array}{l} [;OUTPRI = PRIORITY] \\ [;COPIES = NUMBER] \\ \left[ \begin{array}{l} LDEV \\ CLASS \end{array} \right] \end{array} \right\}$

=SHOWOUT

DEV/CL	DFID	JOBNUM	FNAME	STATE	FRM	SPACE	RANK	PRI	#C
LP	#0227	#576	L	READY		16	1	13	1
23	#0224	#577	\$\$IDLIST	OPENED					
25	#0198	#569	\$\$IDLIST	OPENED					
26	#0223	#576	\$\$IDLIST	OPENED					

4 FILES:

0 ACTIVE  
1 READY; INCL 1 SPOOFLES, 0 DEFERRED  
3 OPENED; INCL 0 SPOOFLES  
1 SPOOFLES: 16 SECTORS

OUTFENCE= 0

SMO-167

OUTFENCE

14  
|  
7  
|  
1

USER SPECIFIED OUTPRI

13  
|  
9  
|  
6  
|  
1

OUTFENCE = 14 ALL USER 13-1 DEFERED

" = 7 USER 7-1 DEFERED

SMO-168



AT FOPEN OR PRINT SELECTION FOR A FORMS SPOOFLE THE FORMS MESSAGE IS PRINTED AND THE LOGICAL DEVICE NUMBER REQUESTED.

10/12:26/23/FORMS: THIS IS A TEST FOR FORMS  
? 10/12:26/23/SP#6/ LDEV# FOR #S40: FORMTEST ON LP (NUM)  
=REPLY 23,6

THE HEADER AND FIRST ALIGNMENT LINE ARE NOT PRINTED.

A DIALOG THEN TAKES PLACE UNTIL THE FORMS ARE ALIGNED.

? 10/12:26/23/LDEV#6 FORMS ALIGNED OK? (Y/N)  
=REPLY 23,N  
? 10/12:26/23/LDEV#6 FORMS ALIGNED OK? (Y/N)  
=REPLY 23,N  
? 10/12:26/23/LDEV#6 FORMS ALIGNED OK? (Y/N)  
=REPLY 23. YES

AFTER THE "YES" REPLY THE FILE IS PRINTED.

STANDARD FORMS ARE THEN REQUESTED FOR THE NEXT FILE THAT DOES NOT HAVE FORMS

10/12:29/23/STANDARD FORMS  
? 10/12:29/23/SP#6/ LDEV# FOR #S40;L ON LP (NUM)  
=REPLY 23,6

A REPLY IS REQUIRED TO CONTINUE LINE PRINTER USE.

# HEADER

		PAGE					
ALIGNMENT LINES	{	..... 1 .....	..... 2 .....	..... 3 .....	..... 4 .....	..... 5 .....	
		..... 1 .....	..... 2 .....	..... 3 .....	..... 4 .....	..... 5 .....	
		..... 1 .....	..... 2 .....	..... 3 .....	..... 4 .....	..... 5 .....	THE ALIGNMENT LINE WILL BE REPEATED FOR EACH NO REPLY.
THIS IS LINE NUMBER				1	PROGRAM OUTPUT		
THIS IS LINE NUMBER				2			
THIS IS LINE NUMBER				3			
THIS IS LINE NUMBER				4			
THIS IS LINE NUMBER				5			
THIS IS LINE NUMBER				6			
THIS IS LINE NUMBER				7			
THIS IS LINE NUMBER				8			
THIS IS LINE NUMBER				9			
THIS IS LINE NUMBER				10			
THIS IS LINE NUMBER				11			
THIS IS LINE NUMBER				12			
THIS IS LINE NUMBER				13			
THIS IS LINE NUMBER				14			
THIS IS LINE NUMBER				15			
THIS IS LINE NUMBER				16			
THIS IS LINE NUMBER				17			
THIS IS LINE NUMBER				18			
THIS IS LINE NUMBER				19			
THIS IS LINE NUMBER				20			

# INPUT

Hold DATA files in READY with  
 =SPOOL 1dev, WAIT, DEFER or  
 =OUTFENCE nn

↑  
I/P + O/P  
Device Files

Device or  
Device Files

Job Device  
Files ↓

DEVICE	ACTIVE	READY	OPENED
=UP =DOWN =GIVE =TAKE =ABORTIO =ACCEPT =REFUSE	=SPOOL STARTIN STOP DELETE	=DELETE	
INTRODUCED			
		WAIT	EXECUTE
		=ALTJOB	

Hold JOBS in READY  
 =LIMIT  
 =JOBFENCE

## STATUS & CONTROL

=SHOWIN  
 =SHOWOUT  
 =SHOWDEV

=OUTFENCE  
 =STREAMS

=SHOWJOB  
 =HEADON  
 =HEADOFF

=LIMIT  
 =JOBFENCE

# OUTPUT

DELETED	OPENED	READY	ACTIVE	DEVICE
=SPOOL OPENO SHUTO =ALTFILE		=DELETE	=SPOOL STARTOUT STOP WAIT RESUME DELETE DEFER RESET	=UP =DOWN =GIVE =TAKE =ABORTIO
				NOT DEFINED

# HOW TO READ: CARDS

(TO PREPARE A BATCH JOB TAPE)

= REFUSE 5

= SPOOL 5, STOP

= ABORTIO 5

Put cards in reader

Reset (card will not be read)

EOF on reader (generates hardware eof when last card is read)

```
: FILE C;DEV=CARD
: FILE T=MYNAME;DEV=TAPE; REC=40.1,F,ASCII
: RUN FCOPY.PUB.SYS
FROM=*C; TO=*T
```

? IO C ON CARD

= REPLY pin,5

? IO MYNAME ON TAPE

= REPLY pin,7

NUMBER OF RECORDS PROCESSED xxxxx

EXIT

:

When  
finished

= ACCEPT 5

= SPOOL 5, STARTIN

SMO-172

# STEPS IN UTILIZING BATCH JOB TAPE

- \* CONFIGURE SYSTEM TO ACCEPT JOB TAPE
- \* CREATE JOB STREAM WITHOUT COLON USING EDITOR
- \* INSERT COLONS WITH EDITOR
- \* KEEP JOB STREAM UNBLOCKED ON TAPE
- \* REPLY TO DEVICE ID MESSAGE
- \* LOAD TAPE ON JOB ACCEPTING TAPE UNIT

SMO-173

# ERROR ANALYSIS

## PROBLEM

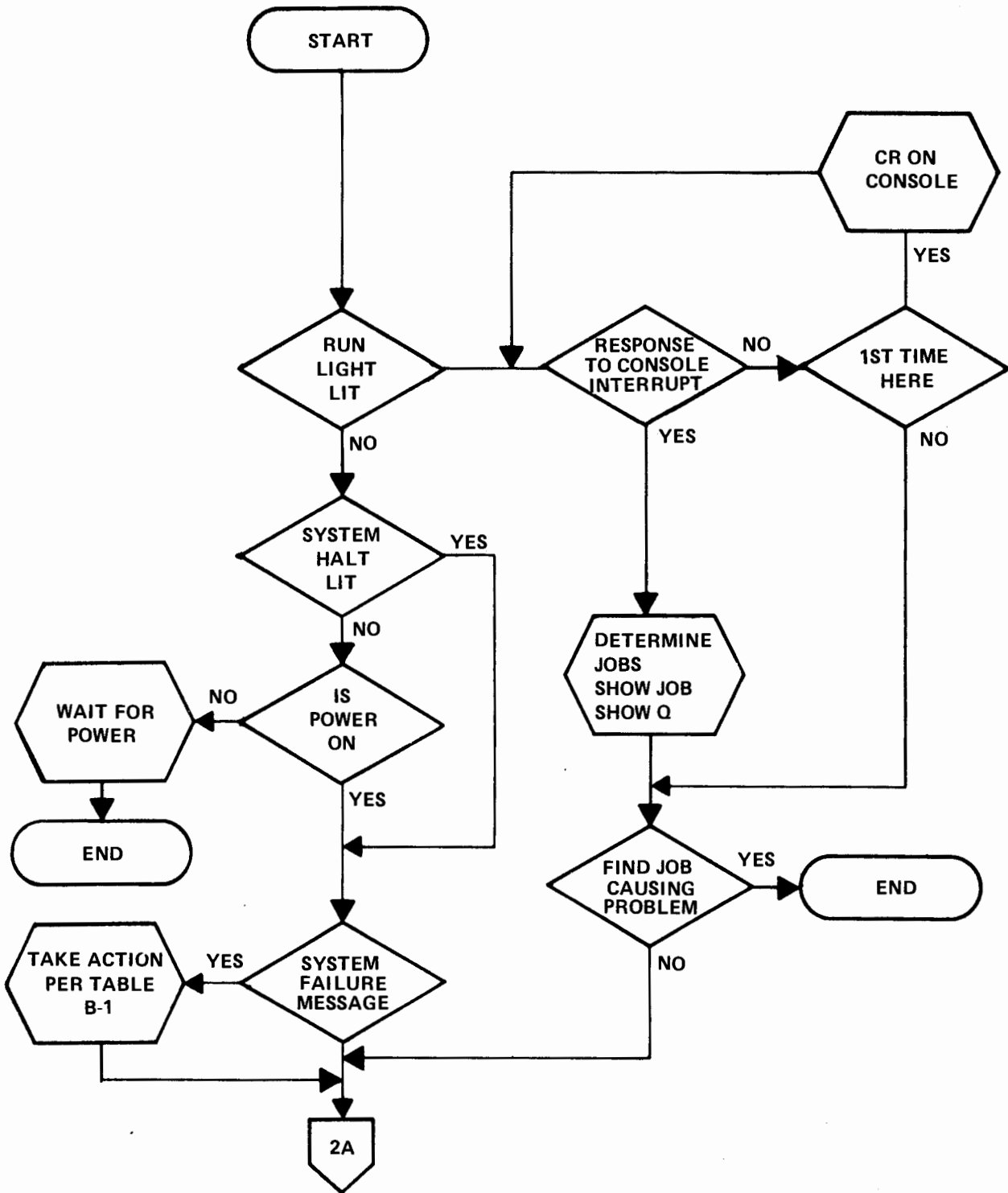


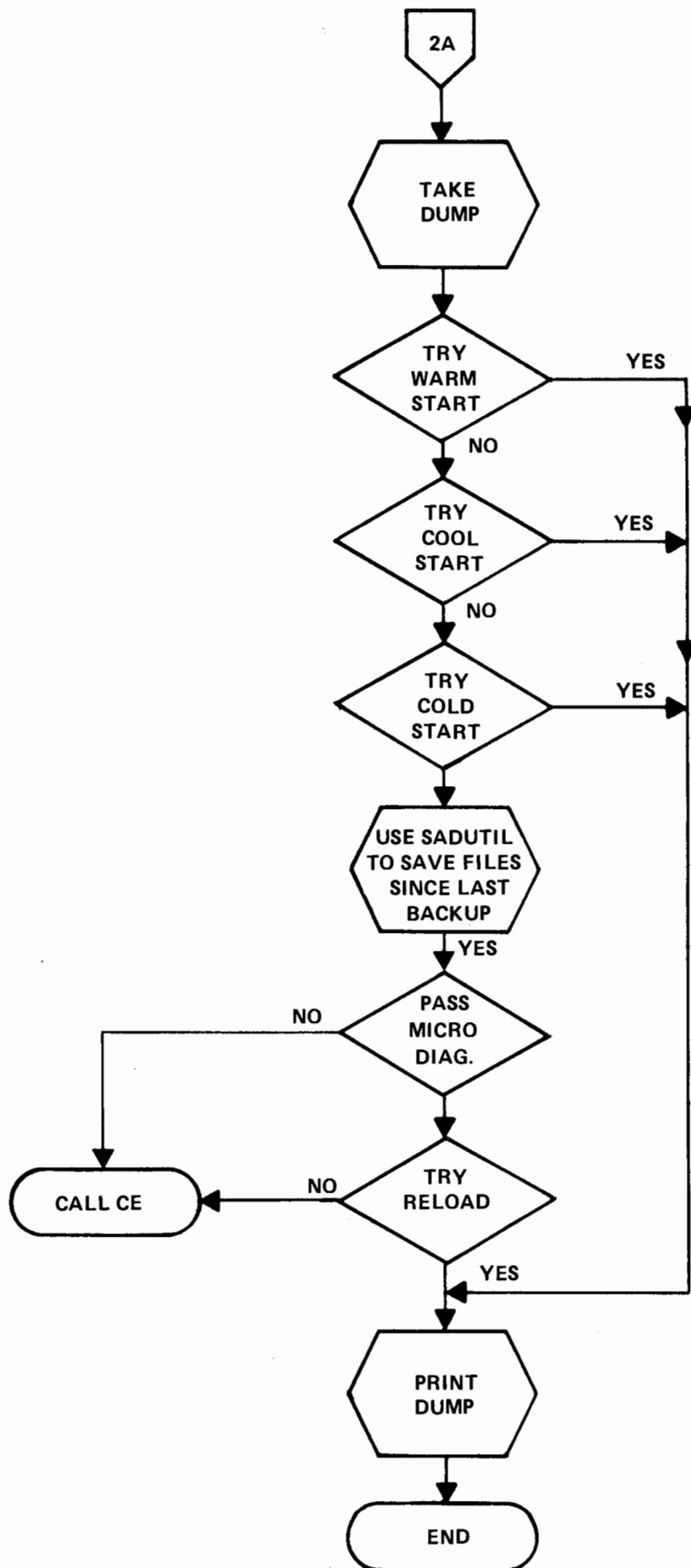
NO RESPONSE ON ONE OR MORE TERMINALS



NEGLIGIBLE THROUGHPUT

# ERROR ANALYSIS FLOWCHART





# COLD DUMP

## . WHEN

SYSTEM CRASHED

SYSTEM HALT

## . HOW

1. MOUNT A TAPE ON UNIT 0 OF THE MAGNETIC TAPE DRIVE THAT IS CONFIGURED AS THE DUMP DEVICE (IT IS USUALLY THE TAPE DRIVE IN DRT 6).
2. IF YOU HAVE AN AUXILLARY CONTROL PANEL, SET THE MCU INTRPT FREEZE SWITCH TO THE INHIBIT POSITION (DOWN), OTHERWISE GO TO STEP 3.
3. IF THE COMPUTER IS IN THE RUN STATE, PRESS THE RUN/HALT SWITCH. IF THE COMPUTER DOES NOT HALT, BE SURE THE PANEL IS ENABLED (CHECK THE PANEL DSBL-ENBL SWITCH) THEN PRESS THE CPU RESET SWITCH.
4. WHILE PRESSING (AND HOLDING) THE ENABLE SWITCH, PRESS THE DUMP SWITCH; OCTAL 2006 WILL APPEAR IN THE SYSTEM SWITCH REGISTER.
5. IF THE COMPUTER HALTS WITH THE CORRECT NUMBER FOR YOUR MEMORY SIZE APPEARING IN THE CURRENT INSTRUCTION REGISTER, THE DUMP IS COMPLETED. IF THE COMPUTER DOES NOT HALT WITH THE CORRECT ADDRESS, MOUNT ANOTHER TAPE AND GO TO STEP 4.

## . DISPOSITION

PRINT DUMP BY :RUN DPAN2.PUB.SYS



# CREATE SADUTIL COLD LOAD TAPE

:RUN SDUPII.PUB.SYS

3000 DIAGNOSTIC UTILITY PROGRAM (SDUP)D417A.00.00

DO YOU WANT INSTRUCTIONS?  
ANSWER 'YES' OR 'NO'

YES  
THE DIAGNOSTIC UTILITY PROGRAM (SDUP30) IS A PROGRAM  
THAT CONVERTS DIAGNOSTIC PROGRAM FILES TO A COLD LOADABLE TAPE  
THIS TAPE WILL BE USED TO COLD LOAD STAND-ALONE DIAGNOSTICS.  
THERE ARE 2 TYPES OF STAND-ALONE DIAGNOSTICS

TYPE 1 IS A CPU DIAGNOSTIC WHICH HAS ONLY ONE SEGMENT AND  
USES A SIMPLIFIED LOADER

TYPE 2 IS A STAND-ALONE DIAGNOSTIC WHICH MAY HAVE MORE  
THAN ONE SEGMENT AND WILL BE LOADED WITH A RELOCATING LOADER.  
THIS TYPE DIAGNOSTIC MAY ALSO HAVE DIALOGUE TO THE SYSTEM CONSOLE.

THE PROGRAM WILL REQUEST DIAGNOSTIC TYPE  
REPLY '1' FOR CPU OR '2' FOR STANDALONE  
THE PROGRAM WILL REQUEST THE NAME OF THE PROGRAM FILE  
REPLY WITH THE NAME OF THE PROGRAM FILE  
TYPE ANY CHARACTER TO CONTINUE

IF YOU WANT TO USE THE PRECONFIGURATION OPTIONS  
TYPE A ';' AFTER THE PROGRAM NAME  
A '/' TERMINATES THE PROGRAM INPUT PHASE

# CREATE SADUTIL COLD LOAD TAPE (Cont'd)

INPUT DIAGNOSTIC TYPE

2

PROGRAM NAME?

SADUTIL.PUB.SYS

PROGRAM NAME?

/

INPUT DRT OF THE LINE PRINTER

A CARRIAGE RETURN ASSUMES NO LINE PRINTER

14

INPUT LINE PRINTER TYPE

MODELS-2607A,2613A,2617A,AND2618A ARE TYPE 0

MODELS 2610A,AND2614A ARE TYPE 1

A CARRIAGE RETURNS ASSUMES TYPE = 0

0

MOUNT TAPE ON TAPE UNIT

TAPE REQUEST HAS BEEN ISSUED

OPERATOR MUST NOW REPLY TO REQUEST

1 SADUTIL.PUB.SYS

LOGICAL SEG	PHYSICAL SEG	PB
000005	000003	010000
000000	000004	023701
000001	000005	030226
000002	000006	034523
000003	000007	043550
000004	000010	047711
000006	000011	050546

END OF PROGRAM

:

# SAVE FILES WITH SADUTIL ON MAG TAPE

HP3000/30 DISC UTILITY (A.00.00)  
DEVICE CONFIGURATION CHANGES? Y  
PRINTER DRT? 14  
TYPE? 0  
LIST LOGICAL DEVICES? Y  
LDEV DRT UNIT TYPE SUBTYPE  
-----

DISC CONFIGURATION CHANGES? Y  
LOGICAL DEVICE? 1  
DRT? 4  
UNIT? 0  
TYPE? 0  
SUBTYPE? 6  
LOGICAL DEVICE? 2  
DRT? 5  
UNIT? 0  
TYPE? 0  
SUBTYPE? 3  
LOGICAL DEVICE?  
LIST LOGICAL DEVICES? Y  
LDEV DRT UNIT TYPE SUBTYPE  
-----

1	4	0	0	6
2	5	0	0	3

ENTER FUNCTION: SAVE  
MOUNT TAPE WITH WRITE RING ON MAG. TAPE UNIT 0 OF DRT 6  
FILE NAME (OR LDEV#,%SECTOR ADDRESS)? X.PUB.SYS  
DATE?

X .PUB .SYS 2 %312343  
FILE NAME (OR LDEV#,%SECTOR ADDRESS)?

ENTER FUNCTION: STOP  
END OF PROGRAM.

## TO PRECONFIGURE USING SDUP II

DB+1      CONTAINS CONFIGURATION OF 1ST DISC  
DB+2      CONTAINS CONFIGURATION OF 2D DISC  
.  
.  
.  
DB+16     CONTAINS CONFIGURATION OF 16TH DISC

### CONFIGURATION BREAKDOWN OF DB+1-DB+16

.(0:8)      = DRT  
.(8:4)      = SUBTYPE  
.(12:4)     = UNIT

IT IS ASSUMED THAT THE TYPE IS 0 (MOVING HEAD DISC). THIS MEANS THAT IF YOU WANT TO CONFIGURE A FIXED HEAD DISC IT MUST BE DONE WHEN COMING UP WITH THE SADUTIL COLD LOAD TAPE.

# RECOVER FILES FROM SADUTIL SAVE TAPE

:RUN RECOVER2

\*\*RECOVER/30 (A0.00) \*\*

WISH TO KEEP EXISTING COPIES OF FILES (Y/N)?N

X .PUB .SYS 2 00200425011

IS THERE ANOTHER RECOVERY TAPE (Y/N)? N

END OF PROGRAM

:

## CONSOLE OPERATOR LAB I

- 1) Set up a job (cards or editor file) using the :SHOWJOB, :SHOWDEV, :SHOWIN, :SHOWOUT commands with ";INPRI=4; OUTCLASS=,4" on the :JOB record.
- 2) Before submitting the job use the =SHOWIN, =SHOWOUT, =SHOWJOB STATUS commands.  
  
Determine the current JOBFENCE AND OUTFENCE.
- 3) Set the JOBFENCE so the job will not start when introduced.
- 4) Set the OUTFENCE so the job output will be deferred.
- 5) Alter the INPRI from the operator console so the job may start.
- 6) Determine the output file ID and change to 2 copies.
- 7) Alter the OUTPRI such that the output starts listing.
- 8) When the job starts listing stop the line printer by physically taking it offline.
- 9) Using the =SPOOL command, defer the job listing.
- 10) Alter the job list file so it will now start printing but only one copy. (only one console command is needed)
- 11) Stop the spooler for the card reader.
- 12) Start the card reader spooler.
- 13) Try any other console operator commands that you would like. (Please leave the system operational no LOGOFF OR SHUTDOWN commands and leave the fences as you found them.)

# SUPPORT ACCOUNT

1. USER: FIELD, ALL CAPABILITIES.
2. GROUP: ONE FOR EACH PRODUCT, ETC.  
STORAGE FOR PRODUCT FILES.
3. OTHER GROUPS:

## GROUPS IN SUPPORT ACCOUNT

HP 30126	CALCOMP Plotter
HP 30130	RJE
HP 30131	RJE Drivers
HP 30301	RTE Programmable Controller
HP 30361	BCS Programmable Controller
HP 32002	MPE
HP 32100	SPL
HP 32101	BASIC Interpreter
HP 32102	FORTRAN
HP 32103	BASIC Interpreter
HP 32104	RPG
HP 32150	BUILDINT
HP 32201	EDITOR
HP 32205	Scientific Library
HP 32206	DEL
HP 32211	Compiler Library
HP 32212	FCOPY
HP 32213	COBOL
HP 32214	SORT/MERGE
HP 32215	IMAGE
HP 32216	QUERY
HP 32222	TRACE
HP 32223	XA2100
HP 32226	XL2100
HP 32230	Diagnostics
HP 32900	SIS
HP 32901	SAS
PUB	
UPGRADE	



# MASTER INSTALLATION TAPE

## Files in Products Group

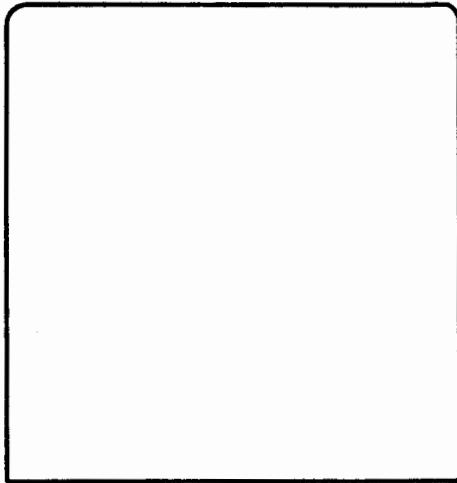
P00PnnnA	Program file
U00UnnnA	USL file
J00JnnnA	Job file
M00MnnnA	Maintance file
I00InnnA	SL Install
INSTRUCT	Instructions on installation
TOOTnnnA	Test File
N00NnnnA	Official Current release level information

nnn Last 3 digits of product number

00 Is incremented if there is more than one of a type of file

CUSTOMER

HP



SALESMEN

SE (SYSTEM ENG) SYSTEM APPLICATIONS

CE (CUSTOMER ENG) SYSTEM MAINTENANCE  
AND REPAIRS

HP 3000 USERS GROUP

USERS LIB

EDUCATIONAL USERS GROUP

SMO-189

SE (SYSTEMS ENGINEERS)

SYSTEM APPLICATIONS

HOW TO USE IT

CE (CUSTOMER ENGINEER)

SYSTEM MAINTENANCE & REPAIR

SMO-190

CE SYSTEM MAINTENANCE & REPAIR

SYSTEM RECORDS.

SUPPORT LOG

UPDATE (HARDWARE AND SOFTWARE)

**SMO-191**

