IBM
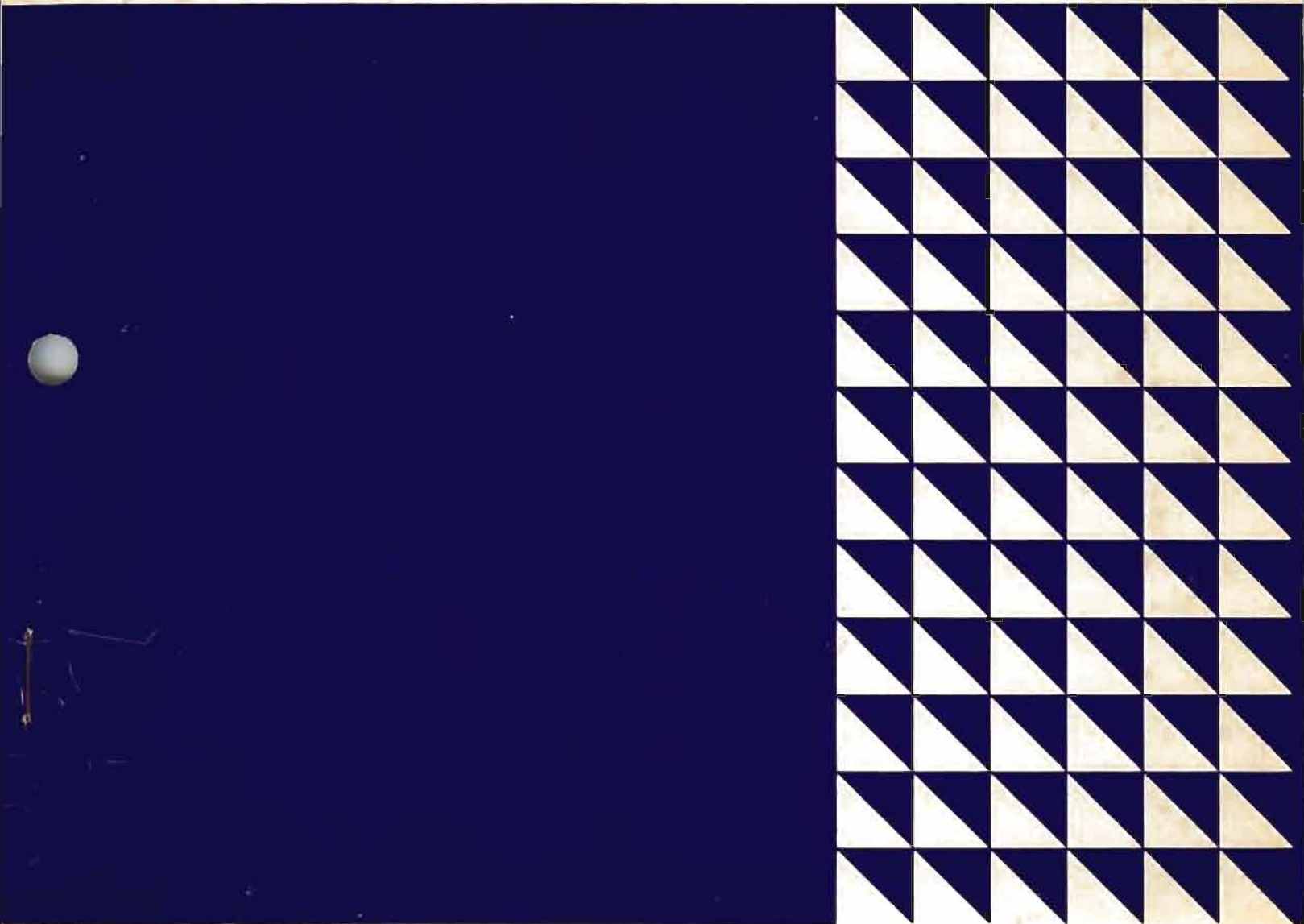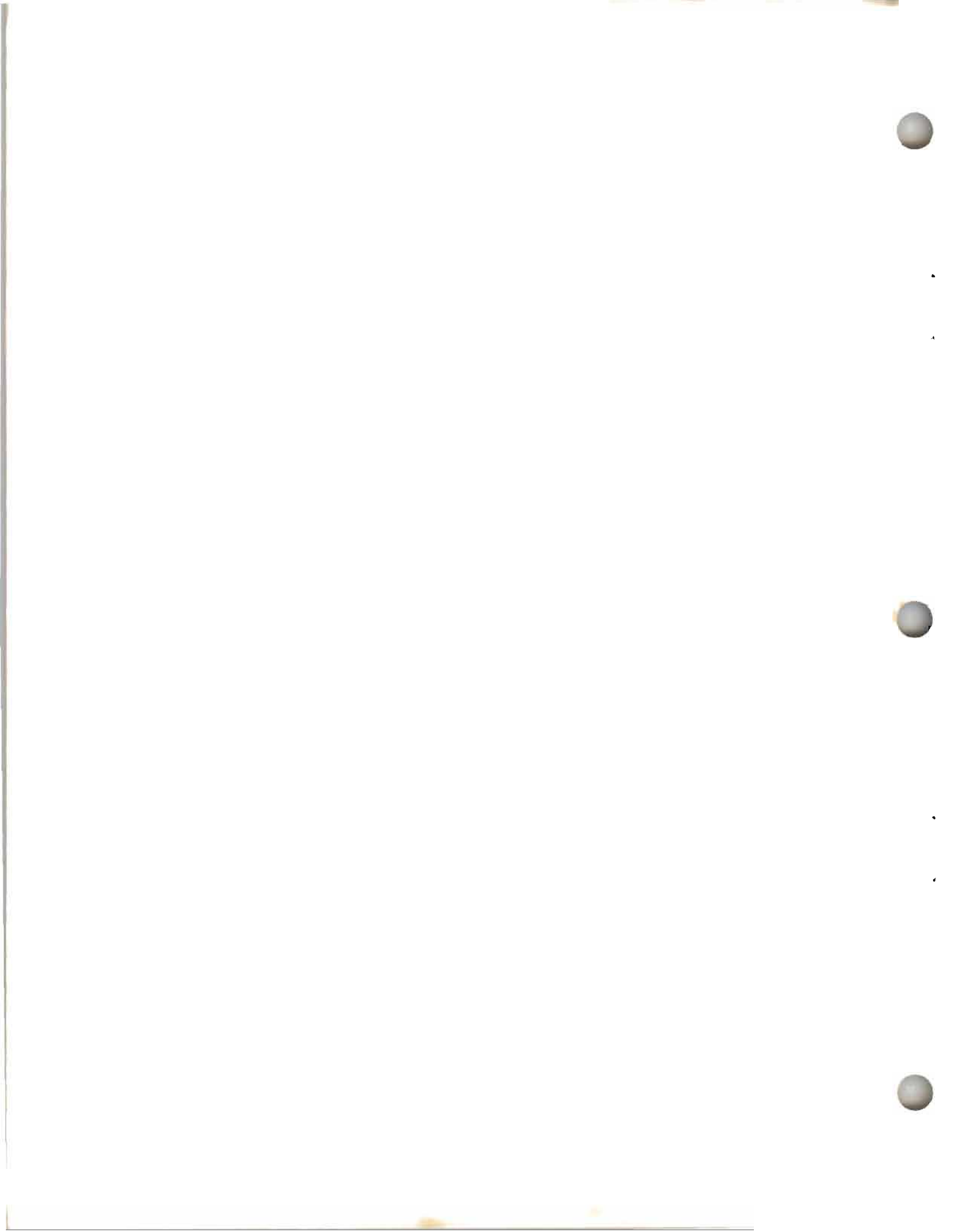
Introduction to JES3

Materials of Instruction

Student Materials

IBM

Introduction to JES3

Materials of Instruction

Student Materials

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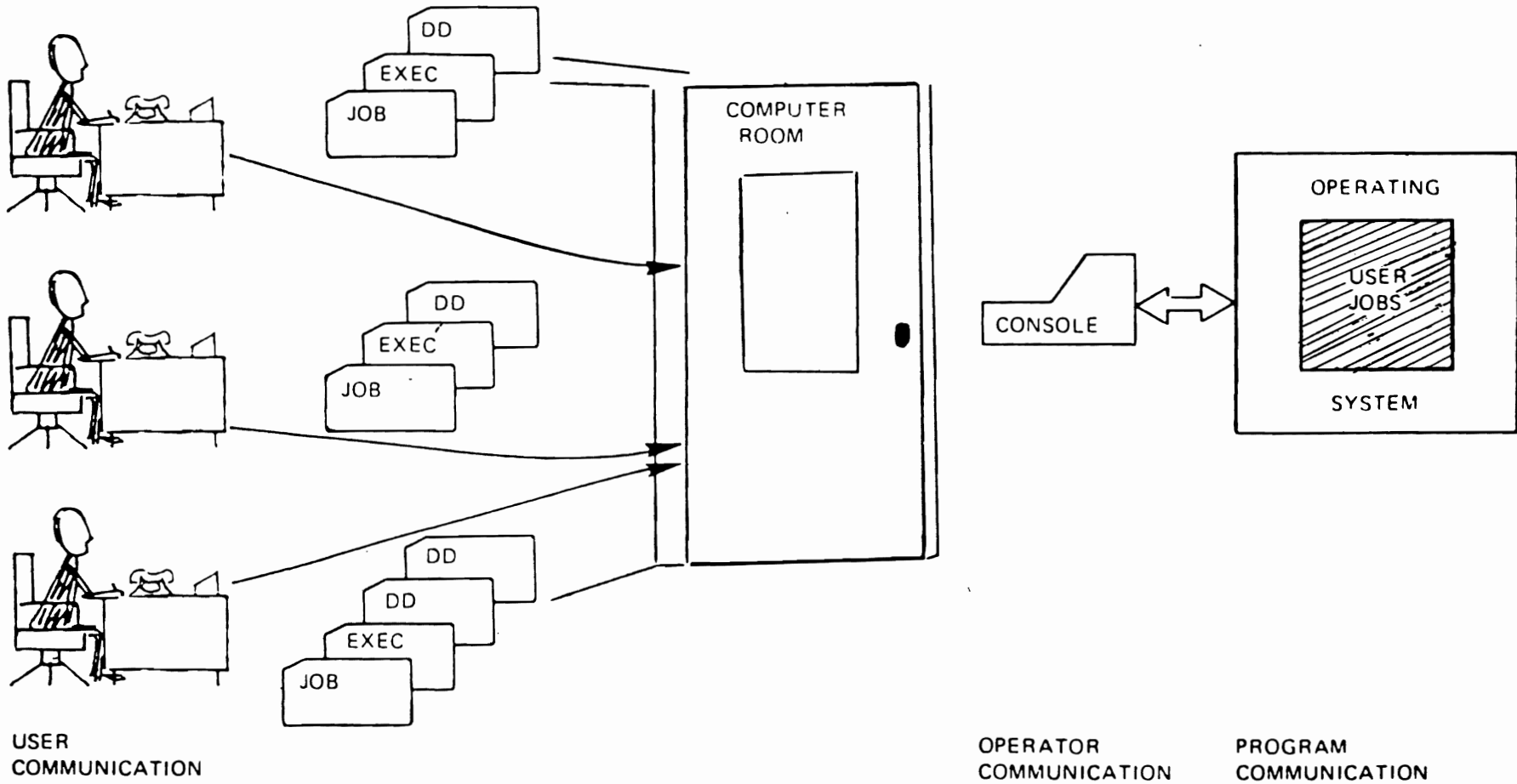
OPERATING SYSTEM COMMUNICATION

DD
EXEC
JOB

DD
EXEC
JOB

DD
DD
EXEC
JOB

COMPUTER
ROOM

CONSOLE

OPERATING

USER
JOBS

SYSTEM

USER
COMMUNICATION

OPERATOR
COMMUNICATION

PROGRAM
COMMUNICATION

OPERATING SYSTEM EVOLUTION

MFT

SYSTEM AREA				
J O B A	J O B B	R D R	W T R	W T R
NUCLEUS				

MVT

SYSTEM AREA				
J O B A	J O B B	R D R	W T R	W T R
NUCLEUS				

SYSTEM AREA			
HASP – ASP (RDR) (WTR)	J O B A	J O B B	J O B C
NUCLEUS			

SYSTEM AREA				
HASP – ASP (RDR) (WTR)	J O B A	J O B B	J O B C	J O B D
NUCLEUS				
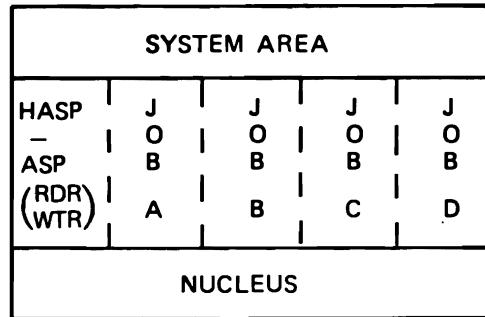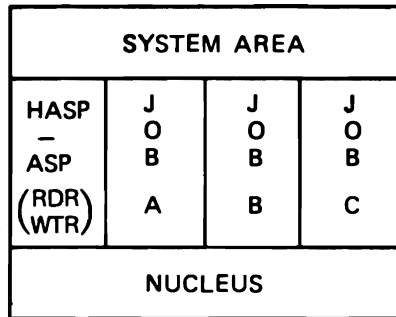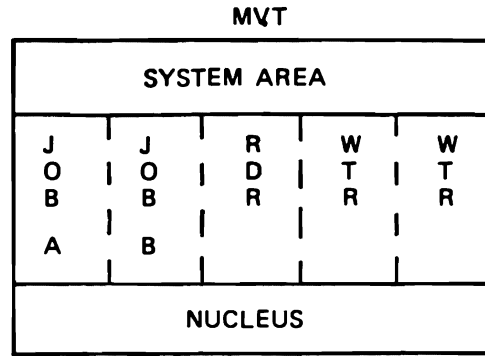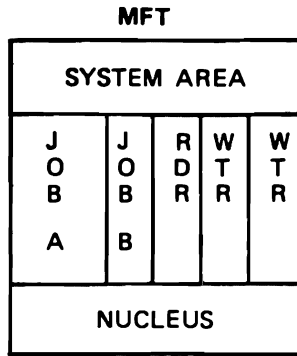
H.1.2

VIRTUAL OPERATING SYSTEMS

MFT

NON-VIRTUAL

SYSTEM AREA		
HASP – ASP		
NUCLEUS		

MVT

SYSTEM AREA		
HASP – ASP		
NUCLEUS		

VS1

VIRTUAL

	SYSTEM AREA		
JES1			
	NUCLEUS		

VS2 RELEASE 1

SYSTEM AREA		
HASP – ASP		
NUCLEUS		

MVS

SYSTEM AREA
JES3
NUCLEUS

H.1.3

MVS/JES

SYSTEM AREA					
MASTER SCHEDULER	AUXILIARY STORAGE MANAGER	JES	USER J O B A	USER J O B B	USER J O B C
NUCLEUS					
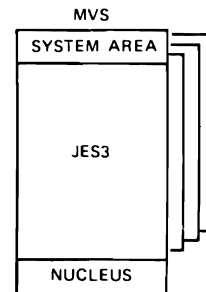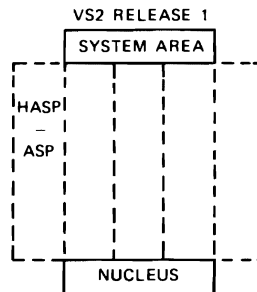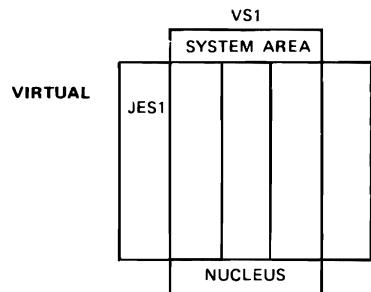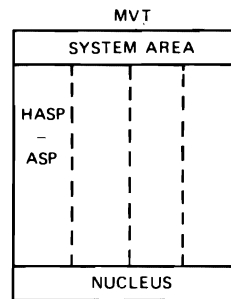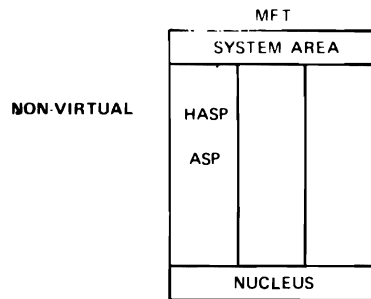
JOB ENTRY SUBSYSTEM

- FUNCTIONS
  - SYSTEM INPUT SOURCE
  - SYSTEM OUTPUT FACILITY
  - TOTAL JOB AWARENESS
- MVS JOB ENTRY SUBSYSTEM
  - JES2 (HASP)
  - JES3 (ASP)

MVS HARDWARE SUPPORT

145	155-II	158	158 MP·
	165-II	168	168 MP

SINGLE CPU ENVIRONMENT	MULTIPLE CPU ENVIRONMENT
MVS	MVS
	MVS
MVS/JES SYSTEM	MVS/JES SYSTEM

H.1.6
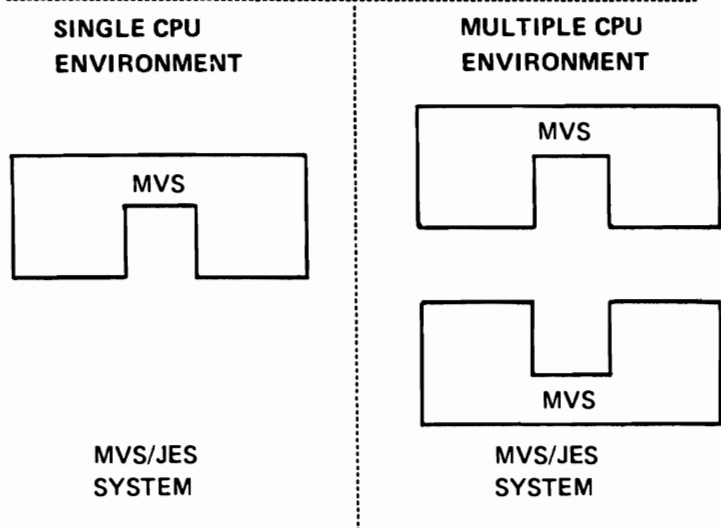
CONFIGURATION FLEXIBILITY

UNIPROCESSORS   JOBS }[   ]{ OUTPUT

TIGHTLY COUPLED MP

LOOSELY COUPLED MP   CTC
                            SPOOL

COMBINATIONS

GLOBAL JES3

LOCAL JES3

JOB

INPUT

JOB

OUTPUT

CTC

SPOOL

CTC

CTC

LOCAL JES3

H.2.2

JES3 ASP SUPPORT

LOCAL JES3

GLOBAL JES3

CTC

SPOOL

CTC

CTC

CTC

CTC

ASP V3.1
OS/MVT
"MAIN"

ASP V3.1
VS2/REL 1
"MAIN"

LOCAL JES3
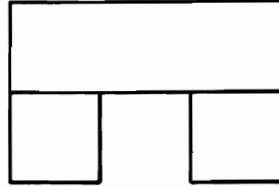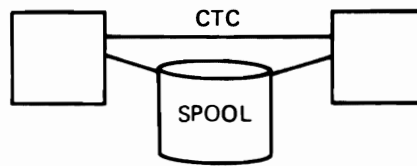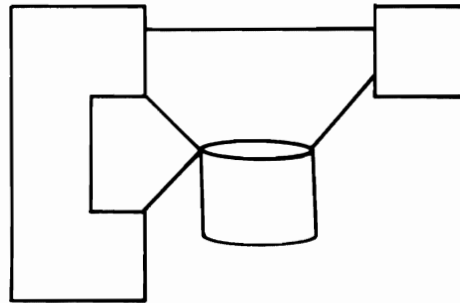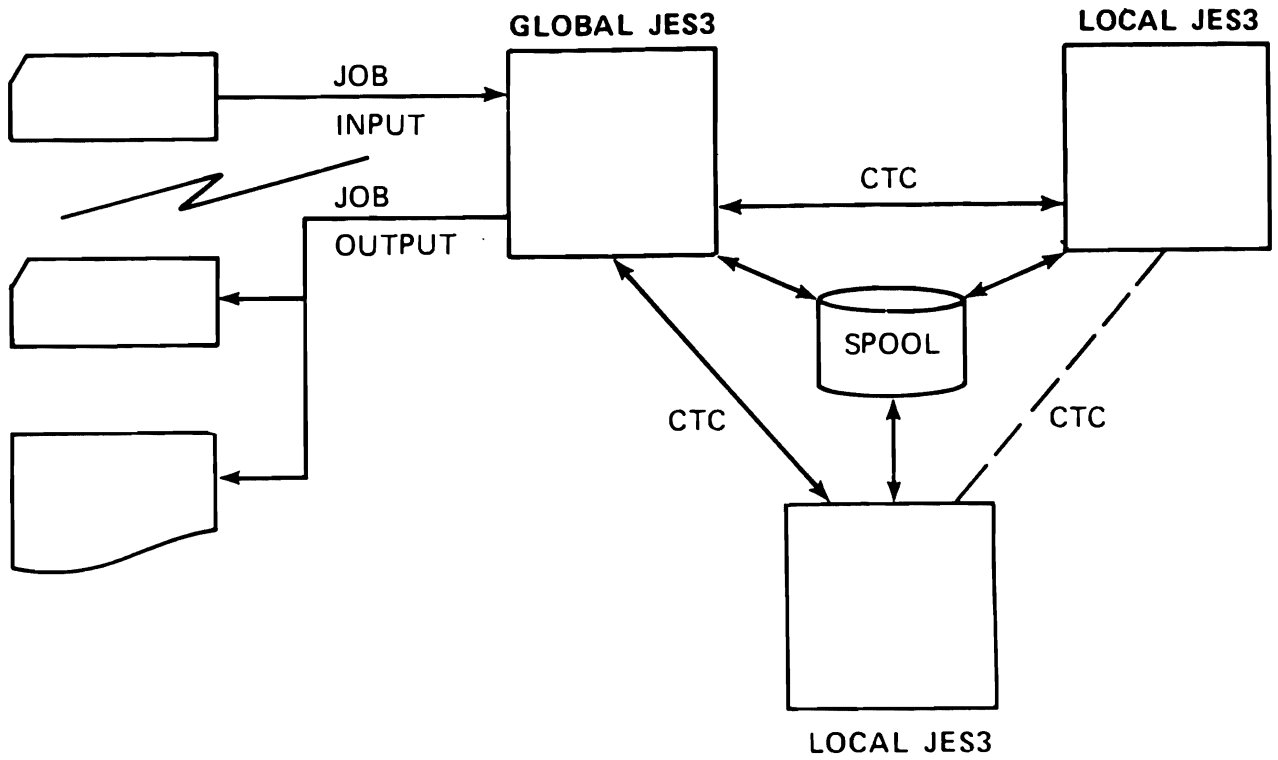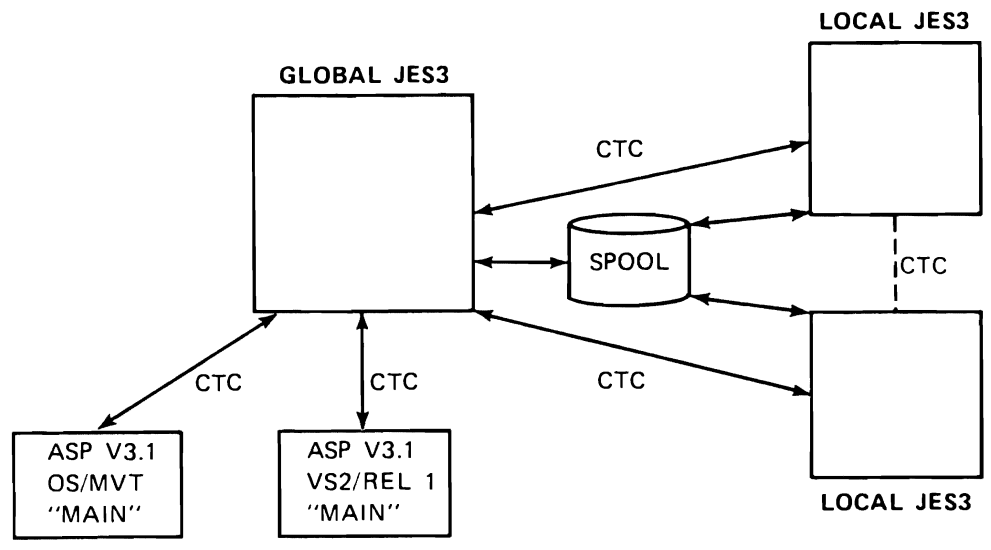
H.2.3

MEMORY ORGANIZATION

GLOBAL

	MVS SYSTEM AREA		
MASTER SCHEDULER	AUXILIARY STORAGE MANAGER	JES3	USER ADDRESS SPACES
	MVS NUCLEUS		

CPU A

LOCAL

	MVS SYSTEM AREA		
MASTER SCHEDULER	AUXILIARY STORAGE MANAGER	JES3	USER ADDRESS SPACES
	MVS NUCLEUS		

CPU B

H.2.4

JES3 CONFIGURATION

SHARED TAPE OR DIRECT ACCESS DEVICES

TAPE DEVICES

PUNCHES

PRINTERS

GLOBAL

STORAGE

CONSOLE

LOCAL

STORAGE

CONSOLE

CPU   CPU

CPU

CHANNEL-TO-CHANNEL ADAPTER

READERS

CONSOLE

RJP

CONSOLE

DIRECT ACCESS DEVICES

SHARED SPOOL VOLUMES

CONSOLE

H.2.5

JES3 STRUCTURE

```
                    ┌──────────────┐
                    │     MVS      │
                    │    SYSTEM    │
                    │    AREA      │
  ┌────────┬────────┼──────────────────────────────────────────┐
  │ M      │ A   S  │            JES3                           │
  │ A   S  │ U   T  │                                           │
  │ S   C  │ X   O  │  DSP 1     DSP 2     DSP 3     DSP 4      │
  │ T   H  │ I   R  │                                           │
  │ E   E  │ L   A  │    ↓                   ↓                  │
  │ R   D  │ I   G  │                                    ↓      │
  │     U  │ A   E  │              ↓                            │
  │     L  │ R      │                                           │
  │     E  │ Y   M  │    ↓                                      │
  │     R  │     A  │                                           │
  │        │     N  │  ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─     │
  │        │     A  │              JES3 NUCLEUS                 │
  │        │     G  │                                           │
  │        │     E  │                                           │
  │        │     R  │                                           │
  └────────┴────────┼──────────────┬──────────────────────────┘
                    │     MVS      │
                    │   NUCLEUS    │
                    └──────────────┘
```

H.2.6

JES3 JOB FLOW


```
   JOB ─────▶ INPUT                                   ─ ─ ─ GLOBAL

   JCL
   SYSIN ───▶ CONVERSION ───▶ JCL ERROR              ─ ─ ─ GLOBAL
              INTERPRETATION

                             FETCH/MOUNT
              MAIN DEVICE  ─ ─ ─                       ─ ─ ─ GLOBAL
              SCHEDULING

              GENERALIZED
              JOB                                      ─ ─ ─ GLOBAL
              SELECTION

              JOB EXECUTION                                  LOCAL
                                                     ─ ─ ─   OR
                                                             GLOBAL

   SYSOUT ──▶ OUTPUT                                  ─ ─ ─ GLOBAL

              PURGE                                   ─ ─ ─ GLOBAL
```

GLOBAL FUNCTIONS

JOB
INPUT

```
          GLOBAL ──────── LOCAL
            │      CTC      │
 JOB        │              │
 OUTPUT     │            SPOOL ┊ CTC
            │      CTC    │
            │            LOCAL
```

- JES3 IS THE JOB ENTRY SUBSYSTEM IN ALL INTERCONNECTED SYSTEMS
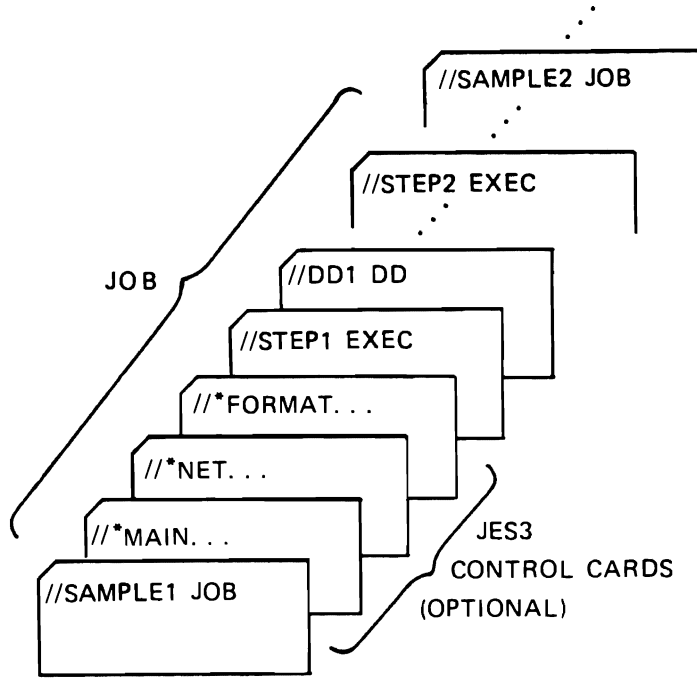
    GLOBAL   · ACTIVE
    LOCAL   : PASSIVE

- GLOBAL CONTROLS JES3 COMPLEX

    INPUT/OUTPUT
    OPERATOR INTERFACE
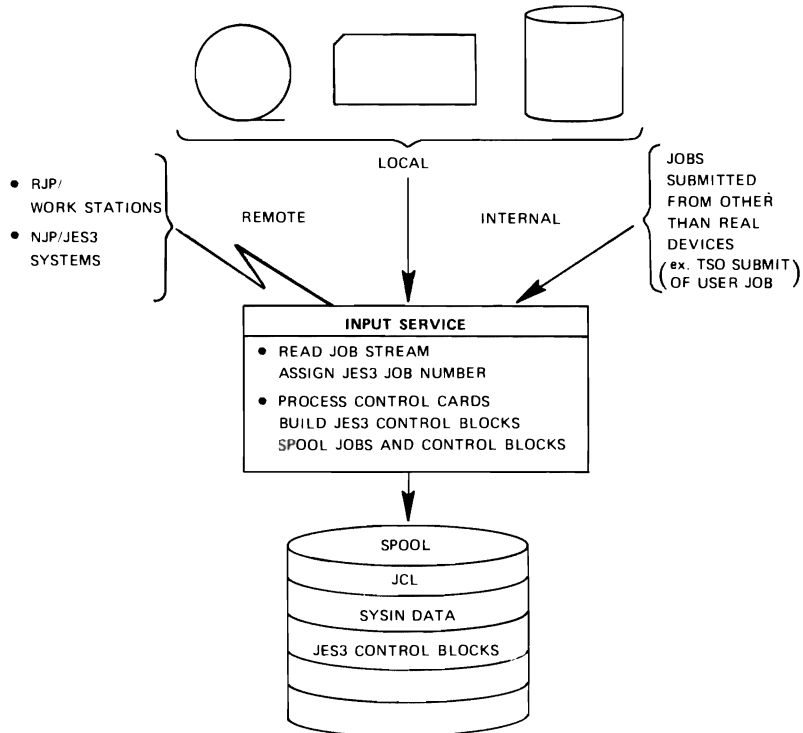   JOB SELECTION   '
    VOLUME MOUNTING

- CTC USED FOR CONTROL INFORMATION
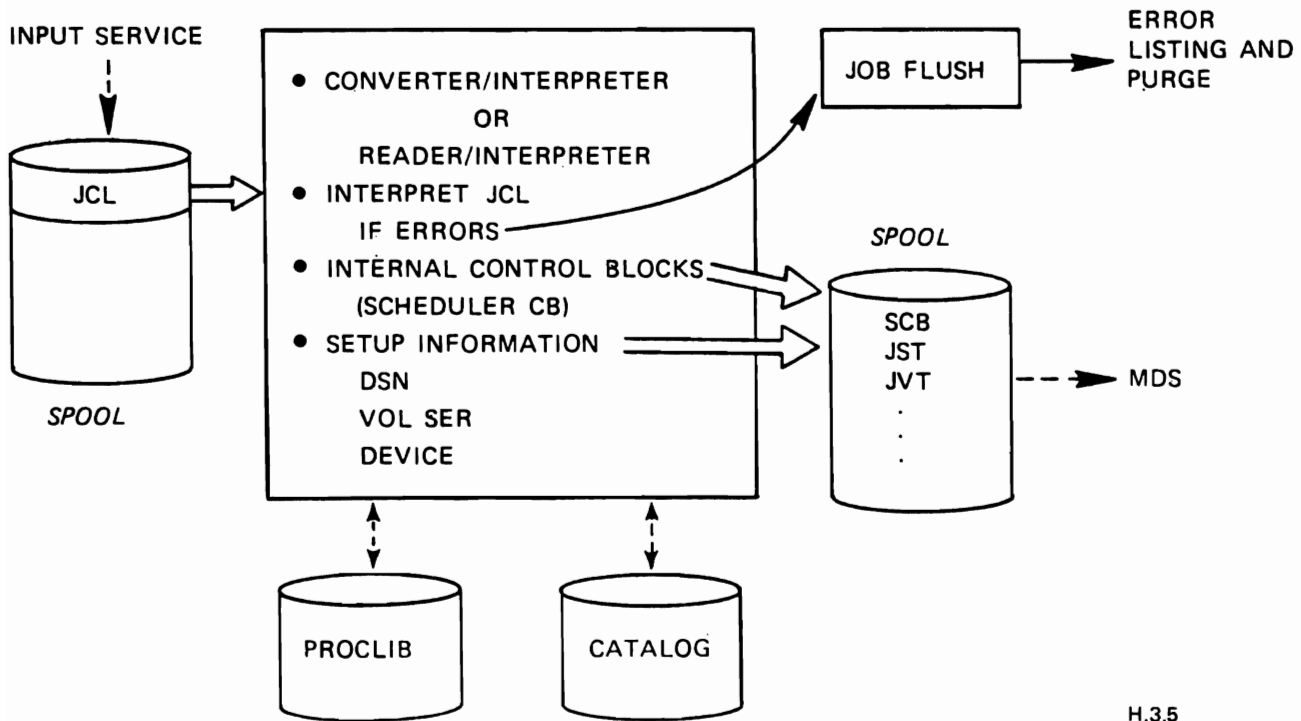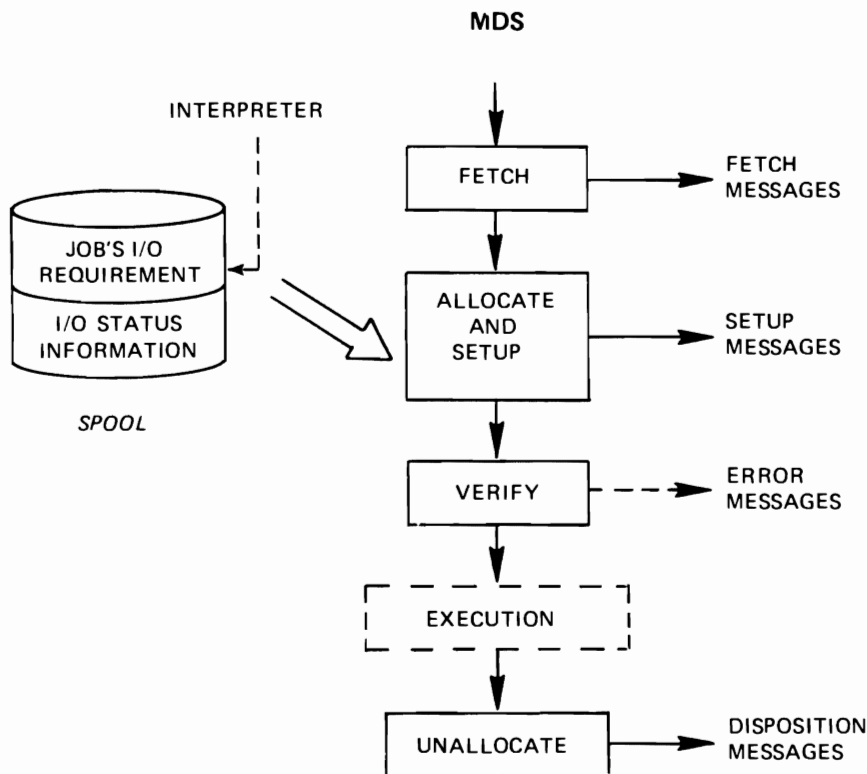- JOB DATA DIRECT TO AND FROM SHARED SPOOL

H.3.2

INPUT JOB STREAM

//SAMPLE2 JOB

//STEP2 EXEC

//DD1 DD

//STEP1 EXEC

//*FORMAT...

//*NET...

//*MAIN...

//SAMPLE1 JOB

JOB

JES3 CONTROL CARDS (OPTIONAL)

H.3.3

INPUT SERVICE

LOCAL

REMOTE   INTERNAL

- RJP/ WORK STATIONS
- NJP/JES3 SYSTEMS

JOBS SUBMITTED FROM OTHER THAN REAL DEVICES (ex. TSO SUBMIT OF USER JOB)

INPUT SERVICE

- READ JOB STREAM
  ASSIGN JES3 JOB NUMBER
- PROCESS CONTROL CARDS
  BUILD JES3 CONTROL BLOCKS
  SPOOL JOBS AND CONTROL BLOCKS

SPOOL

JCL

SYSIN DATA

JES3 CONTROL BLOCKS

H.3.4

INTERPRETER SERVICE

INPUT SERVICE

ERROR
LISTING AND
PURGE

JOB FLUSH

JCL

SPOOL

- CONVERTER/INTERPRETER
  OR
  READER/INTERPRETER
- INTERPRET JCL
  IF ERRORS
- INTERNAL CONTROL BLOCKS
  (SCHEDULER CB)
- SETUP INFORMATION
  DSN
  VOL SER
  DEVICE

SPOOL

SCB
JST
JVT
.
.
.

MDS

PROCLIB

CATALOG

H.3.5

MDS

INTERPRETER

FETCH

FETCH
MESSAGES

JOB'S I/O
REQUIREMENT

I/O STATUS
INFORMATION

SPOOL

ALLOCATE
AND
SETUP

SETUP
MESSAGES

VERIFY

ERROR
MESSAGES

EXECUTION

UNALLOCATE

DISPOSITION
MESSAGES

H.3.6

GMS

JOB PRIORITY
PROCESSOR AFFINITY
I/O–CPU BALANCE

JOB QUEUE

JOB 10 . . .
JOB 11 . . .
JOB 12 . . .

SPOOL

GMS

SY1   SY2   SY3

JOB 10

I/O DEVICES

H.3.7

EXECUTION SERVICE.

CTC

ASP MAIN

JES3

S
P
O
O
L

SYSIN

JES3

SYSOUT

ASP MAIN

CTC

JOB
EXECUTION

MONITORING
• ABNORMAL CONDITION
• OUTPUT LIMIT

H.3.8

OUTPUT SERVICE

GLOBAL JES3   **LOCAL JES3**

CTC

"X COMPLETE"

JOB X

PRINT

PUNCH

RJP

- OUTPUT SELECTION CRITERIA
- SPUN–OFF DATA SETS
- OUTPUT ROUTING
- ASYNCHRONOUS PRINT/PUNCH

PURGE

SPOOL		• RECLAIM SPACE		SPOOL
JOB X		• SMF		
		• REMOVE JOB		

SMF

H.3.10

```
        STANDARD              NON-STANDARD

      ┌─────────┐            ┌─────────┐
      │  INPUT  │            │  INPUT  │
      └─────────┘            └─────────┘
           │                      │
  ─ ─ ─ ─ ─│─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─│─ ─ ─ ─ ─
           ▼                      ▼
      ┌─────────┐            ┌─────────┐
      │ C/I,R/I │            │ C/I,R/I │
      └─────────┘            └─────────┘
           │                      │
           ▼                      ▼
  ┌─────────────────┐    ┌─────────────────┐
  │      MAIN       │    │      MAIN       │
  │                 │    │                 │
  │  ┌───────────┐  │    │  ┌───────────┐  │
  │  │    MDS    │  │    │  │    MDS    │  │
  │  ├───────────┤  │    │  ├───────────┤  │
  │  │    GMS    │  │    │  │    GMS    │  │
  │  ├───────────┤  │    │  ├───────────┤  │
  │  │ EXECUTION │  │    │  │ EXECUTION │  │
  │  └───────────┘  │    │  └───────────┘  │
  └─────────────────┘    └─────────────────┘
           │                      │
           ▼                      ▼
      ┌─────────┐            ┌─────────┐
      │ OUTPUT  │            │ OUTPUT  │
      └─────────┘            └─────────┘
           │                      │
           │                      ▼
           │              ┌─────────────┐
           │              │ ┌─────────┐ │
           │              │ │  PLOT   │ │
           │              │ └─────────┘ │
           │              └─────────────┘
           │                      │
           ▼                      ▼
      ┌─────────┐            ┌─────────┐
      │  PURGE  │            │  PURGE  │
      └─────────┘            └─────────┘
```
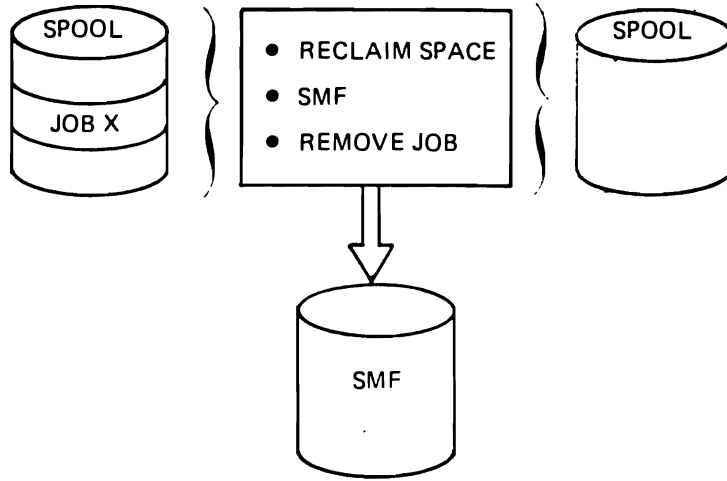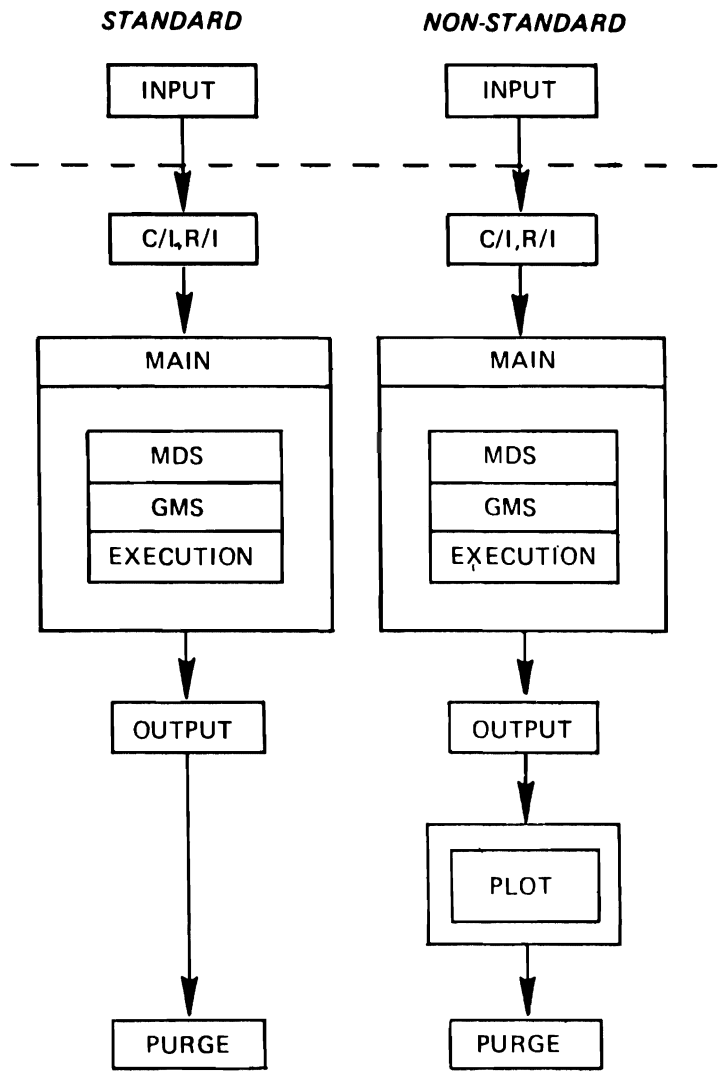
INITIALIZATION PROCESS
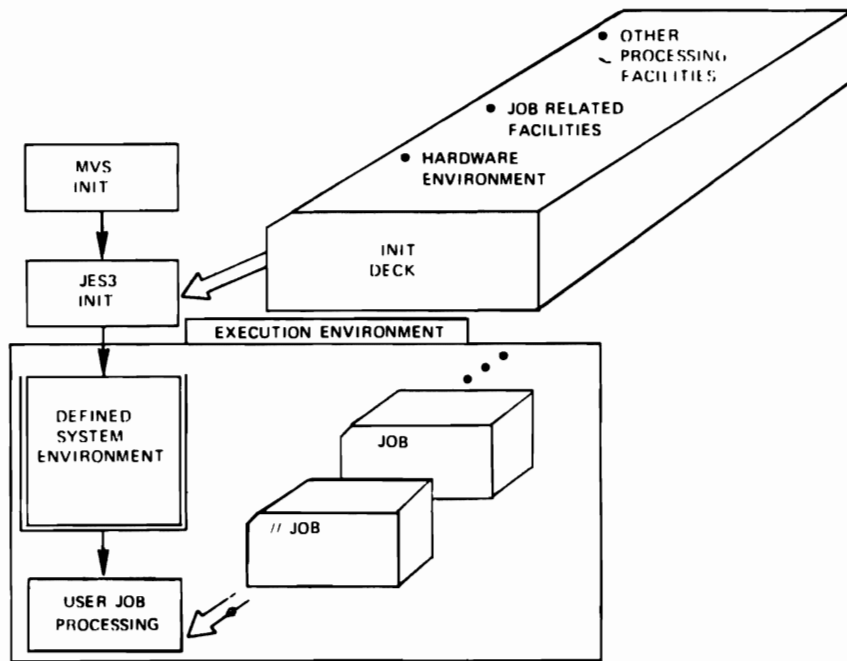
CONFIGURATION DEFINITION

- PROCESSOR

    GLOBAL/LOCAL/ASP MAIN

    MVS/SVS/MVT

- SPOOL

    NUMBER OF VOLUMES

    FORMATTING OF NEW VOLUMES

    BAD TRACK EXCLUSION

- IODEVICE MANAGEMENT

    JES3 DEVICE ON GLOBAL

    EXECUTION DEVICE ON GLOBAL OR LOCAL

- CONSOLES

H.4.2

JOB RELATED FACILITIES

FEATURES AND OPTIONS	JOB PROCESSING

INPUT	READ 5 JOBS	◄ — — — INPUT
INTERPRETER	USE PRIVATE PROCLIB	◄ — — — INTERPRETATION
SETUP	HIWATER MARK	◄ — — — SETUP
SCHEDULING	BEST I/O RATE THEN PRIORITY	◄ — — — GMS
EXECUTION	IF OUTPUT EXCEEDS LIMIT, PLS 'CANCEL'	◄ — — — EXECUTION
OUTPUT	FIVE COPIES	◄ — — — OUTPUT
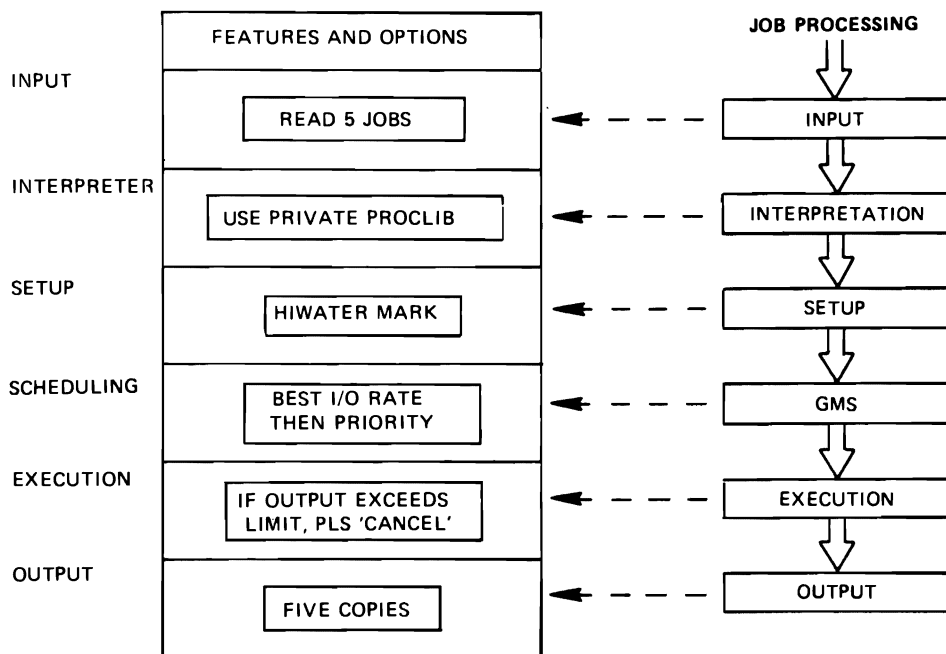
H.4.3

REMOTE JOB PROCESSING (RJP)
NETWORK JOB PROCESSING (NJP)
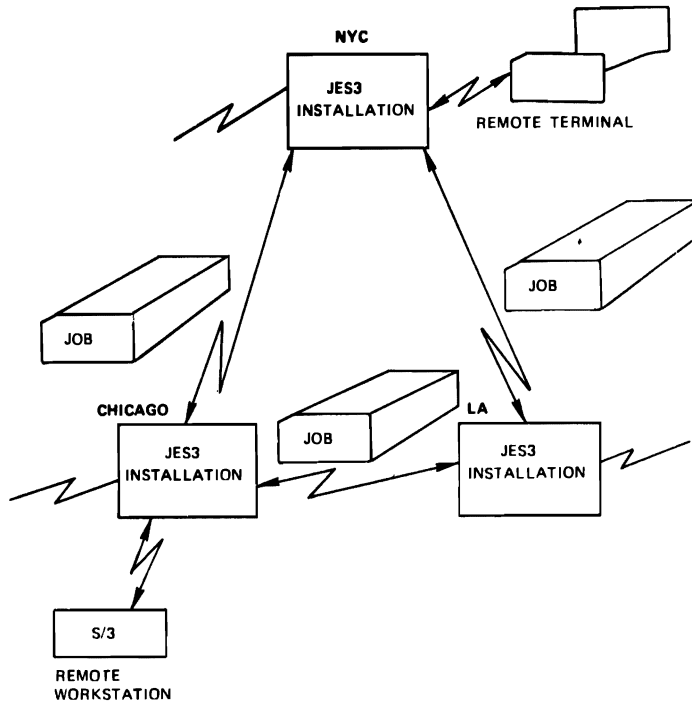
H.4.4

PROCESSOR

GLOBAL	LOCAL	ASP MAIN
MVS	MVS	VS2R1,MVT
A,B,E	A,B,C,G	A,E,F

A — COMPILE WORK, HIGH I/O RATE
B — TEST, LESS THAN 5 MINUTES
C — PRODUCTION, HEAVY CPU REQUIREMENT
E — NON SETUP, MAXIMUM 5000 PRINT LINES
F — NON MVS JOB
G — NORMAL PRODUCTION WORK

H.4.5
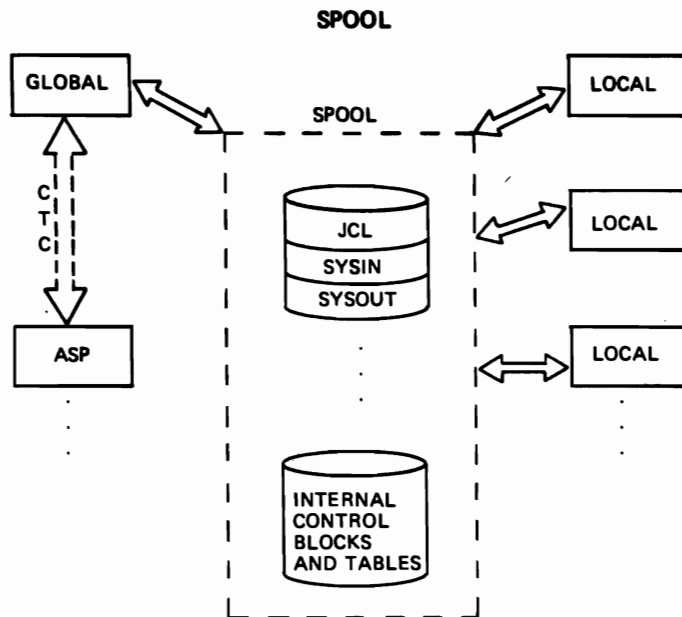
SPOOL

- DEVICE 3330/3340
- UP TO 31 VOLUMES
- SPOOL FORMATTING
- BAD TRACKS EXCLUSION

H.4.6

JES3 MANAGED DEVICES
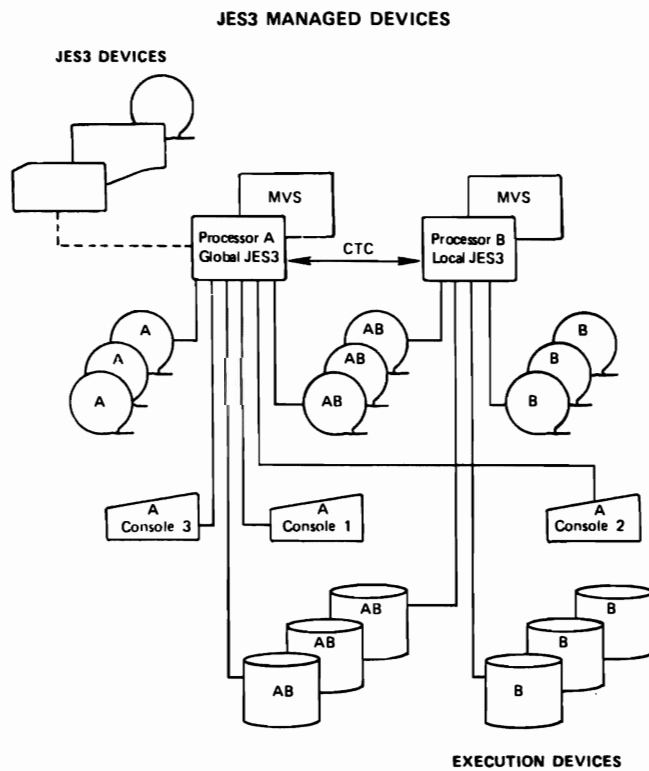
EXECUTION DEVICES

H.4.7

JES3 DEVICE MANAGEMENT

- JES3 MANAGED DEVICES

  - FUNCTION
    - JES3 DEVICES
    - EXECUTION DEVICES

  - TYPE
    - UNIT RECORD
    - GRAPHIC
    - TAPE
    - DASD

- JES3 MANAGEMENT

  - DEVICE STATUS
  - ALLOCATION
  - DEALLOCATION

CONSOLE FUNCTIONS
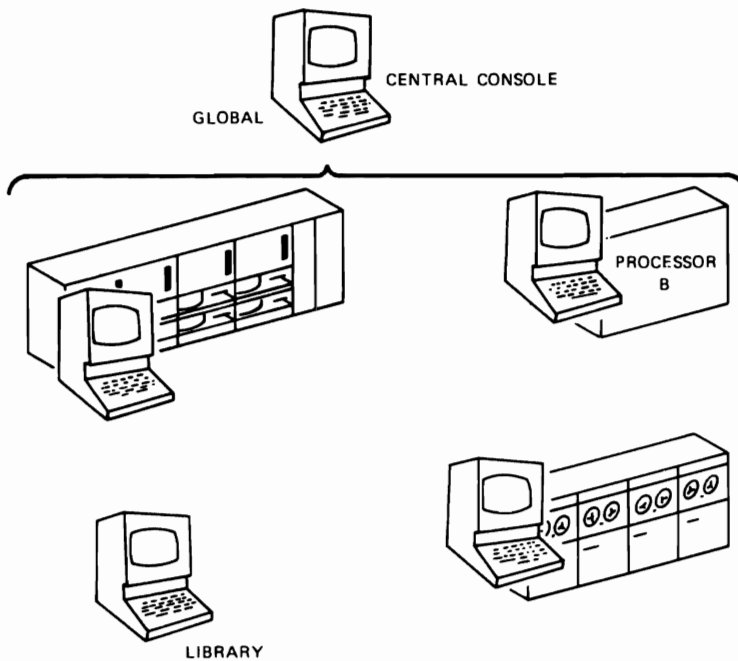
INPUT SERVICE FEATURES

- TYPE OF DEVICE

    UNIT RECORD
    TAPE
    DASD
    REMOTE TERMINAL
    TSO (SUBMIT)
    INTERNAL READER

- BATCH SIZE BY OPERATOR

- OPERATION CONTROL BY OPERATOR

    START
    STOP
    INQUIRY
    MODIFY

C/I, R/I FEATURES

- MULTIPLE ACTIVE C/I, R/I
- PRIVATE PROCEDURE LIBRARY
- FREQUENT PROCEDURE USAGE
- DYNAMIC CATALOG MOUNTING

JES3 DEVICE ALLOCATION

TRADITIONAL ALLOCATION

- ALLOCATION BY JOBSTEP
- DEVICES UNAVAILABLE (WAIT OR CANCEL)
- HELD RESOURCES (DATASETS, INITIATOR, ETC.)

JES3 ALLOCATION

- ALLOCATION BY JOB
- PRIOR TO JOB EXECUTION
- RESOURCES NOT HELD
- EARLY DEVICE RELEASE

JES3 SETUP

JOB

- ALL REQUIRED DEVICES
- NO MOUNTING/DEMOUNTING

HIGH WATERMARK (HWS)

- MINIMUM REQUIRED DEVICES
- FEWER DEVICES THAN "JOB"

EXPLICIT

- USER SPECIFIED
- COMPROMISE OF "JOB" AND "HWS"

MAIN DEVICE SCHEDULING (SETUP)
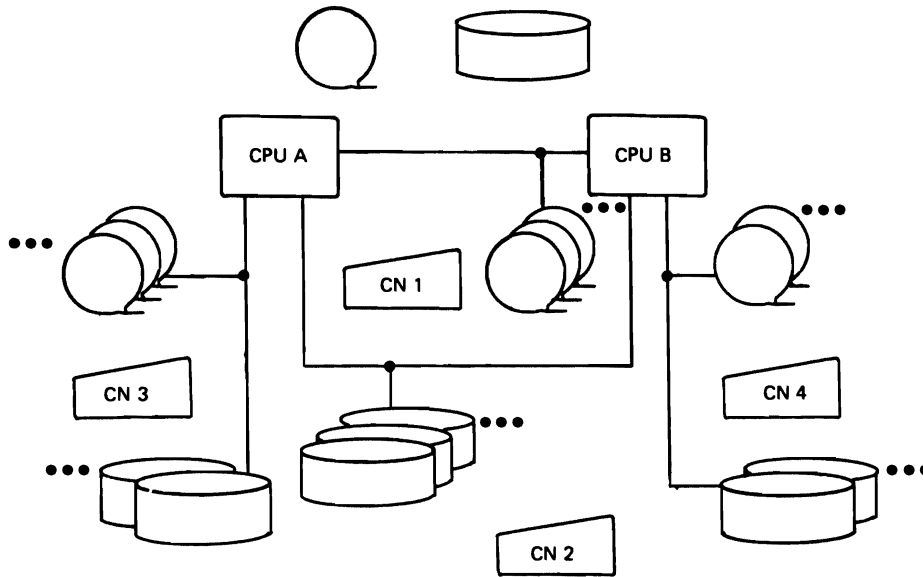
- FETCH and MOUNT messages
- VERIFICATION WHEN DEVICE READIED
- EARLY DEVICE RELEASE
- DEVICE POOLING

H.4.14

GENERALIZED JOB SELECTION

JOB QUEUE

?
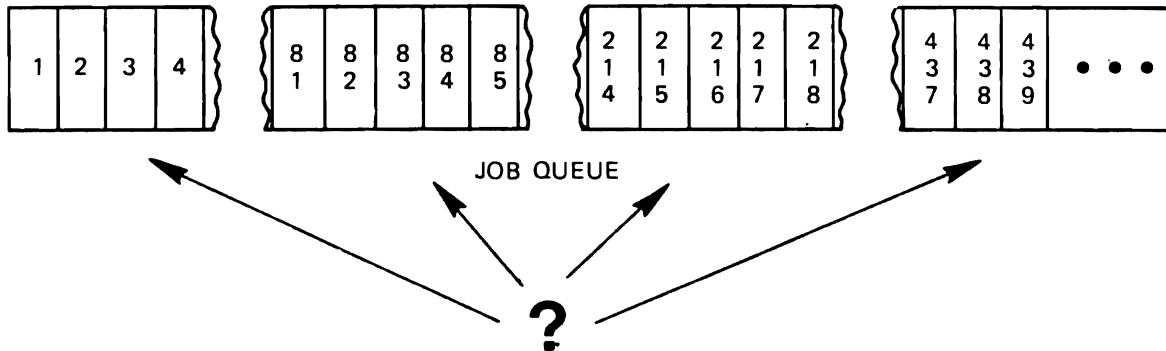
WHICH JOB SHOULD RUN NEXT?

- CONTROL OF WORKLOAD
- MAXIMIZE THRUPUT
- TIMELINESS OF CRITICAL OUTPUT
- OPTIMUM USE OF RESOURCES
- PERFORMANCE

i.e. HOW SHOULD "SELECTION" WORK?

H.4.15

GENERALIZED JOB SELECTION

- PRIORITY
- PROCESSOR DEPENDENCY
- LOGICAL STORAGE SIZE
- MIX OF CLASSES
- MIX OF IO/CPU USAGE
- INITIATOR AVAILABILITY
- SEQUENCING OF RELATED JOBS
- DEADLINES FOR SPECIFIC JOBS

H.4.16

JES 3 TUNING
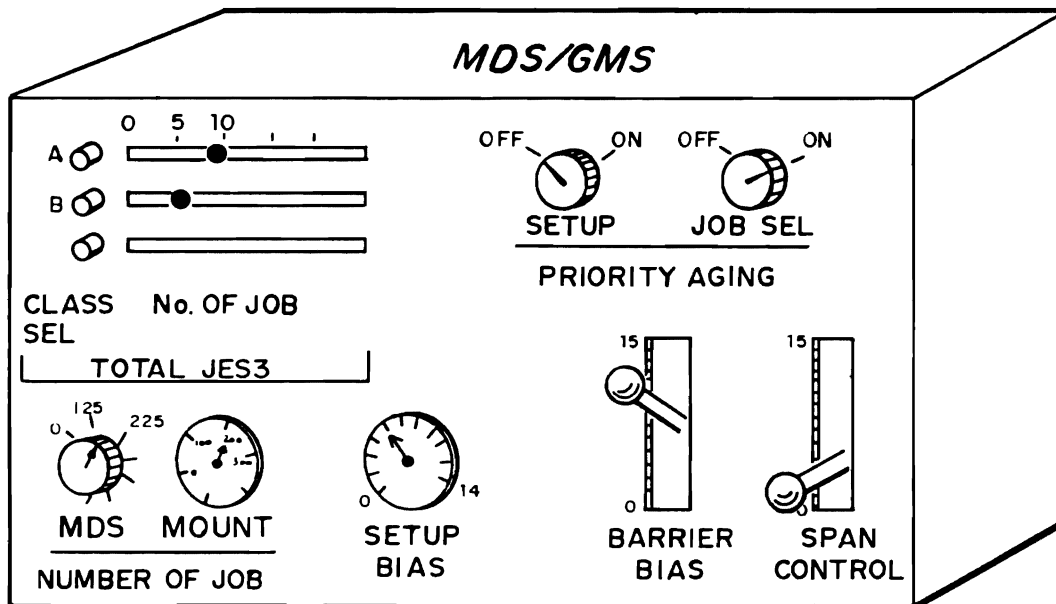
H.4.17

JES3
ADVANCED SCHEDULING TECHNIQUES

- DEPENDENT JOB CONTROL
- DEADLINE SCHEDULING
- NETWORK JOB PROCESSING

DEPENDENT JOB CONTROL

NETID=MONTHEND
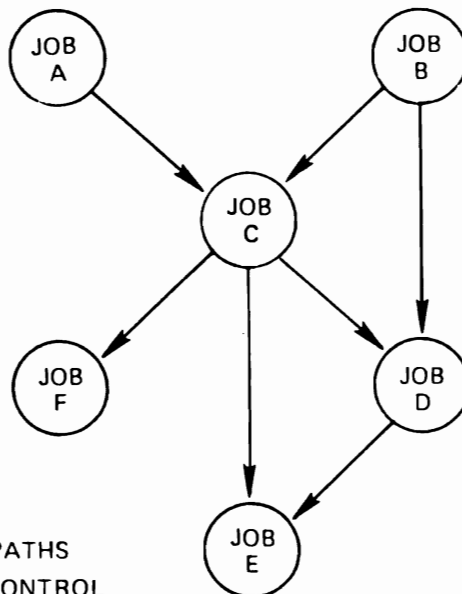
- DJC NETWORKS
- NORMAL/ABNORMAL PATHS
- OPERATOR INQUIRY/CONTROL
- EARLY RELEASE VIA WTO

DEADLINE SCHEDULING

- DEADLINE TYPES

    HOW CRITICAL
    "AGEING" RATE

- BY CLOCK TIME

- BY ELAPSED TIME

BY 10:00, MONDAY
PLEASE

- AUTOMATICALLY MONITORED

- OPERATOR NOTIFICATION

H.4.20

EXECUTION MONITORING

AUTOMATIC FAILURE PROCEDURE

- CANCEL
- HOLD
- PRINT
- RESTART

OUTPUT VOLUME LIMIT (CARDS/LINES)

- CANCEL
- DUMP
- WARNING

H.4.21

OUTPUT PROCESSING
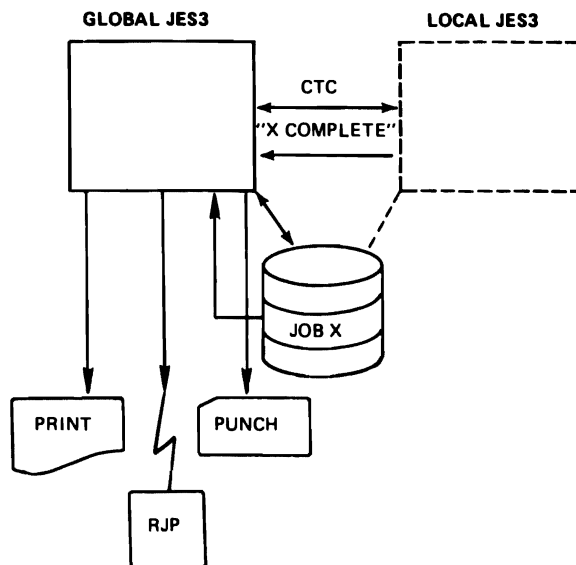
- ASYNCHRONOUS PRINT/PUNCH
- DESTINATION BY GROUP, STATION, DEVICE
- OUTPUT SELECTION BY LINES, FORMS, DESTINATION,...
- SPUN–OFF DATA SETS
- SMF

H.4.22

PRINT SERVICE

- MINIMIZE OPERATOR INTERVENTION
     OR
  USE FIRST DEVICE

- PRINTER CHECKPOINTS
     AND
  RESTART

- SPECIAL FORMS, PRINT TRAINS, ETC.

- MULTIPLE COPIES

PUNCH SERVICE

- SPECIAL CARD FORMS

- MULTIPLE COPIES

H.4.23

REMOTE JOB PROCESSING

RJP TERMINAL   RJP TERMINAL

JES 3
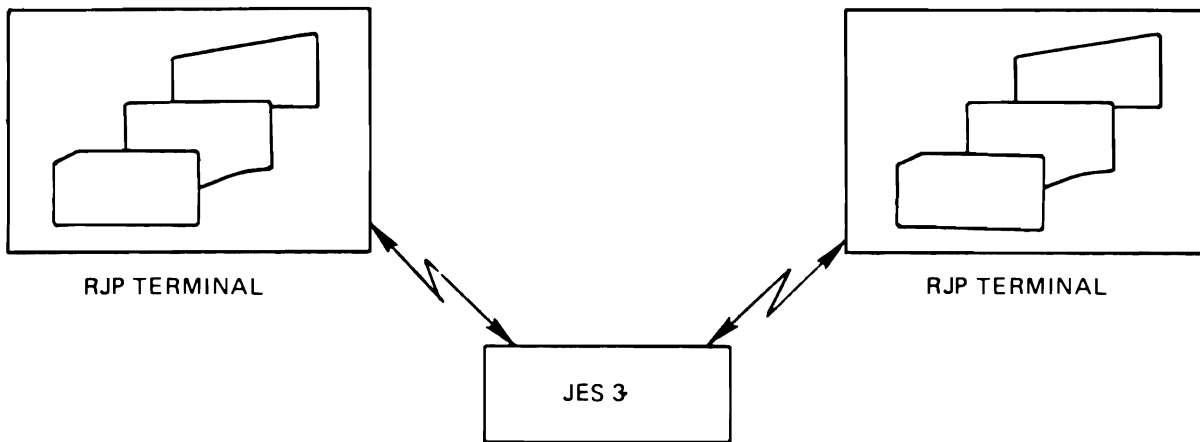
- LOGICAL EXTENTION OF READER/PRINTER/CONSOLE AT LOCAL FACILITY
- NONPROGRAMMABLE (2770, 2780) AND PROGRAMMABLE (S/3, S/370) TERMINAL
- INTERLEAVING MODE
- PASSWORD PROTECTION
- REMOTE CONSOLE SUPPORT
- REMOTE OPERATOR CONTROL

H.4.24

NETWORK JOB PROCESSING

JES3 GLOBAL   JOB   JES3 GLOBAL
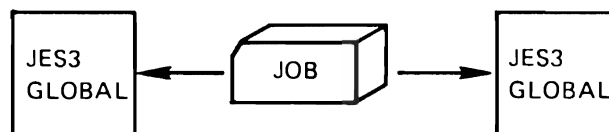
- JES3–to–JES3

- ENTIRE JOB OR PORTION OF IT

- OPERATOR INITIATED

- PROGRAMMER INITIATED

H.4.25

JES3 CONTROL CARDS

SPECIFIED BY THE USER FOR:

    – SPECIALIZED CONTROL OF A JOB
        (EX: NON-STANDARD JOB)

    – OVERRIDING INSTALLATION DEFAULTS
        (EX. PRINTER FORMS)

    – INVOKING OPTIONAL JES3 FACILITIES
        (EX. DEPENDENT JOB CONTROL)
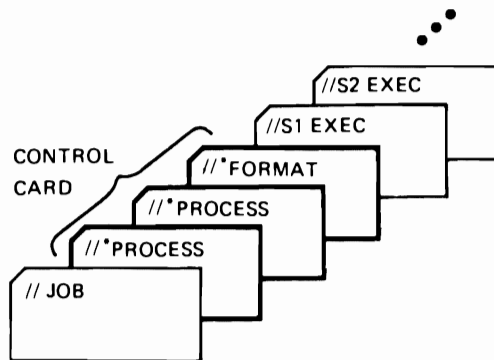
H.5.1

CONTROL CARD TYPES

//*MAIN	– PROCESSING OPTIONS
//*FORMAT	– OUTPUT OPTIONS
//*DATASET	– INPUT STREAM DATA SET
//*PROCESS	– NON-STANDARD JOB
//*NET	– DEPENDENT JOB CONTROL
//*OPERATOR	– OPERATOR MESSAGE
//*PAUSE	– HALT INPUT READER
//*command	– COMMAND EXECUTION

H.5.2

PROCESSING OPTIONS

//*MAIN

- PROCESSOR DEPENDENCIES
- OVERRIDE SYSTEM STANDARDS
- JOB RELATED ATTRIBUTES
    - DEADLINE SCHEDULING
    - FETCH
    - I/O ACTIVITY

EXAMPLE

```
//FIRST   JOB ...
//*MAIN   SYSTEM=JLOCAL,TYPE=VS2,CLASS=LOWIO,ORG=TESTGP

//SECOND JOB ...
//*MAIN   SYSTEM=SY1,LINES=(20,CANCEL),IORATE=HIGH,
                 JOBSTEP=CHKPNT,PROC=02

//THIRD   JOB ...
//*MAIN   SYSTEM=ANY,FAILURE=CANCEL,FETCH=MYDD
   .
   .
   .
   .
//MYDD    DD   DSN=MYDATA,UNIT=3330,VOL=SER=MY3330,              H.5.3
                 DISP=OLD
```

DEADLINE SCHEDULING

ENHANCE A JOB'S OPPORTUNITY FOR SCHEDULING
BY A SPECIFIED DEADLINE TIME

UP TO 36 DIFFERENT DEADLINE TYPES

USER SPECIFIES DEADLINE TIME AND TYPE

INIT CARD EXAMPLE

```
DEADLINE B=(+3,2H,+1,30M)
          ↙  ↙  ↓  ↘   ↘
        TYPE PRTY LEAD [PINC INT]
```

USER EXAMPLE

```
//*MAIN DEADLINE=(1000,B)
                  ↙   ↓
                TIME TYPE [DATE|REL,CYCLE]        H.5.4
```

DEADLINE SCHEDULING

DEADLINE, A=(10,1H,+1,30M)
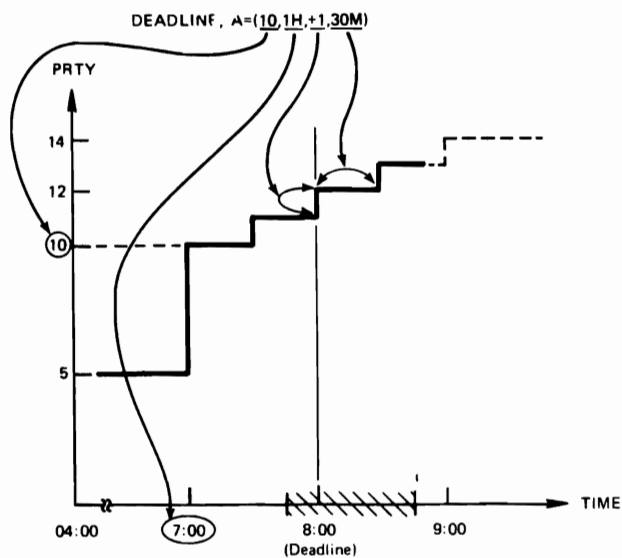
//*MAIN, . . . DEADLINE=(800,A,032575)

(SUPPOSE JOB STARTED 7:40 AND FINISHED 8:45)

H.5.5

NON-STANDARD JOBS

//*PROCESS

INCLUSION OF PROCESS CARD(S) DEFINES A NON-STD JOB
USER MUST SPECIFY EACH FUNCTION, EXCEPT PURGE, WHICH
   IS TO PROCESS THE JOB
SOME CARDS ARE SEQUENCE DEPENDENT

EXAMPLE

```
//EXAM5  JOB . . . . . . .
//*PROCESS CI
//*PROCESS MAIN
//*PROCESS OUTSERV
//*FORMAT PR,DDNAME=DATA1, . . . . . . .
//*PROCESS PLOT                          (A USER WRITTEN DSP)
PARM1,PARM2,PARM3, . . . . . . .
//*ENDPROCESS
//        EXEC  PGM=MYPGM
//DATA1  DD   SYSOUT=A
//DATA2  DD   SYSOUT=P
//INPUT   DD   . . . . . . . . . . .
```

H.5.6

DEPENDENT JOB CONTROL

//*NET

DEFINE A JOB WITHIN A NETWORK OF JOBS

SPECIFY THE RELATIONSHIPS OF THE DEPENDENT JOBS

ACCT NET
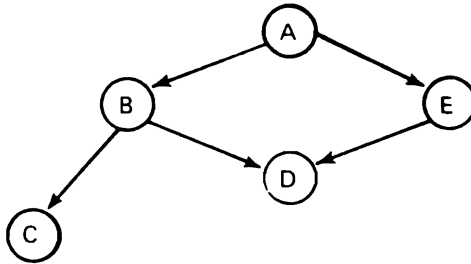
EXAMPLE ON NEXT VISUAL FOR THIS NODE DIAGRAM

DEPENDENT JOB CONTROL

DJC EXAMPLE

```
//A   JOB . . . . . . . . . .
//*NET HC=0,RL=(B,E),ID=ACCT
         .
         .

//B   JOB . . . . . . . . . .
//*NET HC=1,RL=(C,D),ID=ACCT
         .
         .

//C   JOB . . . . . . . . . .
//*NET HC=1,ID=ACCT
         .
         .

//D   JOB . . . . . . . . . .
//*NET HC=2,ID=ACCT
         .
         .

//E   JOB . . . . . . . . . .
//*NET HC=1,RL=(D),ID=ACCT
```

IN-STREAM DATA

//*DATASET

- ALLOW USER TO SUPPLY SET OF IN-STREAM DATA FOR SPECIAL USAGE
- OS JCL IS ALLOWED IN THE DATA
- DATA MAY BE PROCESSED BY EITHER AN OS JOB OR A DSP:

> A SINGLE TIME, OR
> MULTIPLE TIMES

```
//*DATASET    DDNAME=MYPRINT
             data cards
//*ENDDATASET
//*PROCESS OUTSERV
//*FORMAT     PR,DDNAME=MYPRINT,COPIES=5
```

JOB OUTPUT CONTROL

//*FORMAT

ADDITIONAL OR OVERRIDE CONTROL OF OUTPUT.

> DESTINATION
> FORMS, CARRIAGE, TRAIN

SPECIAL HANDLING FOR:

> NETWORK JOB PROCESSING
> TIME SHARING OPTION

EXAMPLE

```
//EXAM2     JOB  . . . . . .
//*FORMAT PR,DDNAME=OUTPUT,FORMS=ABCD,COPIES=4
//STEP1     EXEC  . . . . . . .
//INPUT     DD  . . . . . . .
//OUTPUT    DD  SYSOUT=C
//INPUT2    DD  . . . . . . . .
```

JES3 CONSOLE ENVIRONMENT

FUNCTIONAL CONSOLES

MCS — GLOBAL — ASP MAIN

LOCAL — MCS   LOCAL — MCS

H.6.1

JES3 CONFIGURATION

SHARED TAPE OR
DIRECT ACCESS DEVICES

TAPE DEVICES

PUNCHES

PRINTERS

GLOBAL

CONSOLE

LOCAL

CONSOLE

STORAGE

STORAGE

CPU   CPU

CPU

CHANNEL-TO-CHANNEL
ADAPTER

READERS

CONSOLE

RJP

CONSOLE

DIRECT ACCESS DEVICES

CONSOLE

SHARED SPOOL VOLUMES
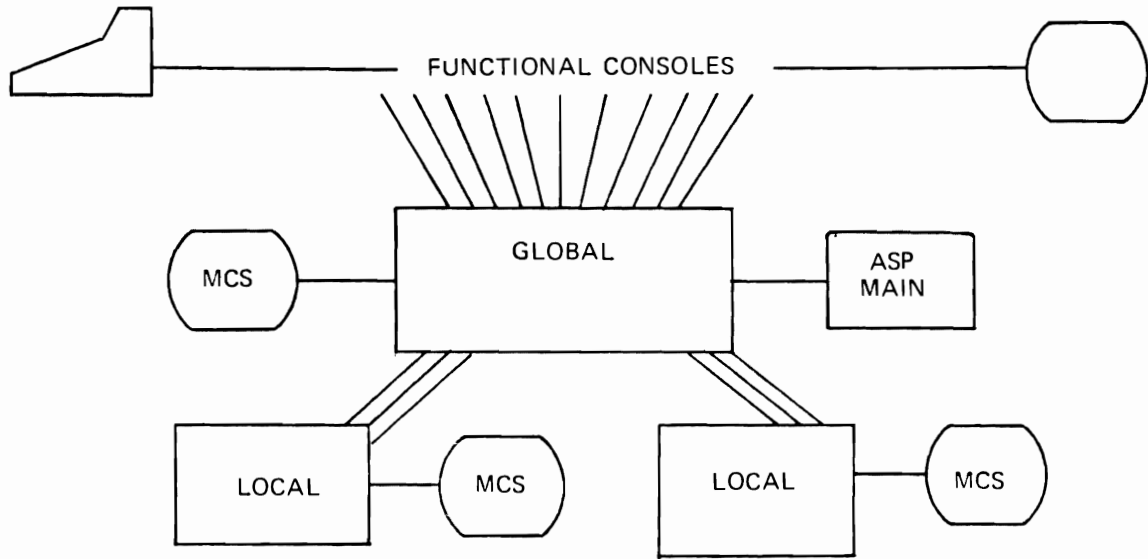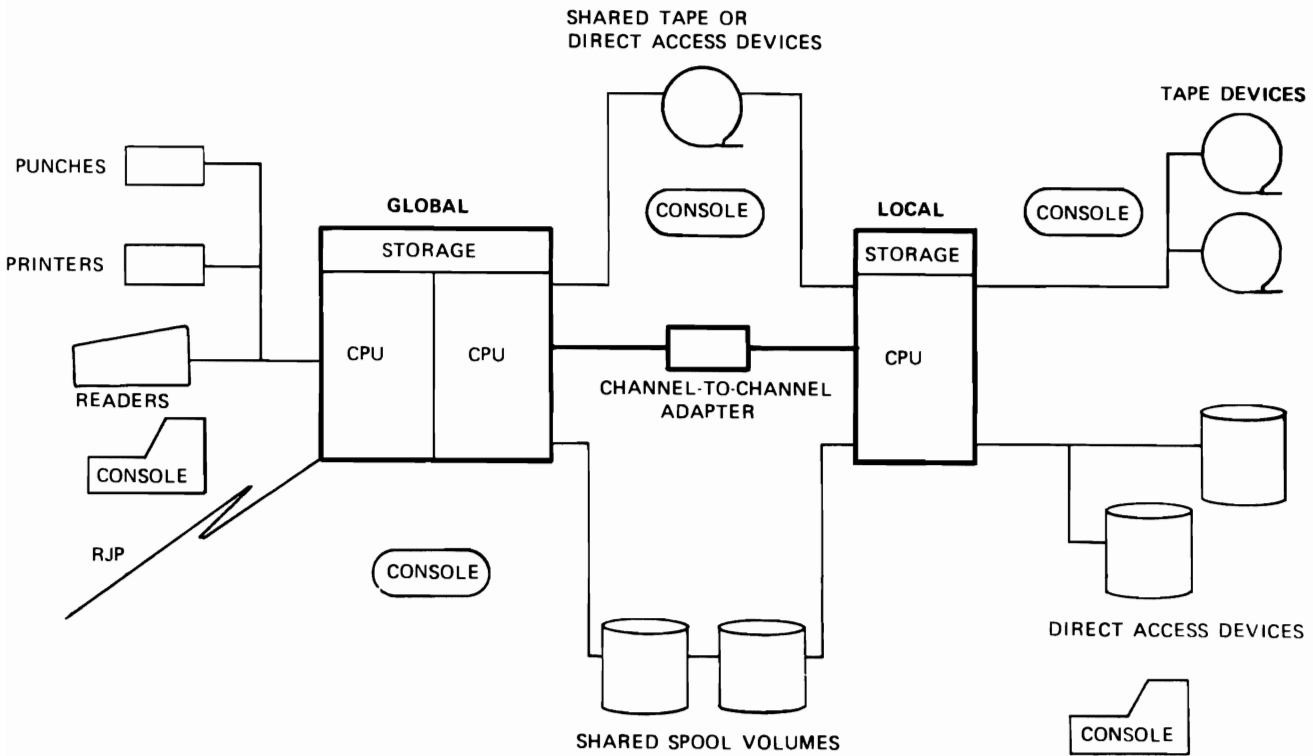
H.6.2

COMMAND/MESSAGE CHARACERISTICS

JES3 FUNCTIONAL
CONSOLES
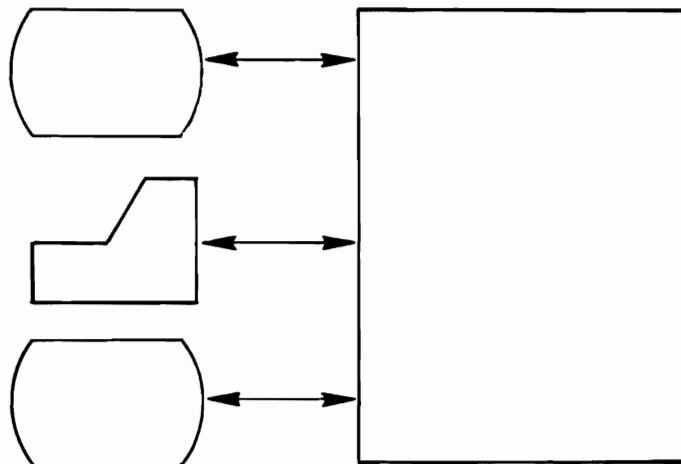
GLOBAL

COMMANDS

- FORMAT (*,8)
- CONSOLE AUTHORITY
- MULTIPLE COMMANDS/LINE
- LOGICAL BACKSPACE

MESSAGES (RESPONSES)

- MESSAGE ROUTING
- MESSAGE FORMAT — IAT3011
- SYSTEM ACTIVITY LOGGING
- ACTION MESSAGE (*)

H.6.3

GLOBAL INITIALIZATION

{
MVS IPL
{
START JES3

IEF403I JES3   STARTED   TIME-HH.MM.SS

*nn IAT3011 SPECIFY JES3 START TYPE=(L H W WA OR C)

    REPLY

*nn IAT3012 JES3 SELECT INISH ORIGIN (N M= OR U=)

    REPLY
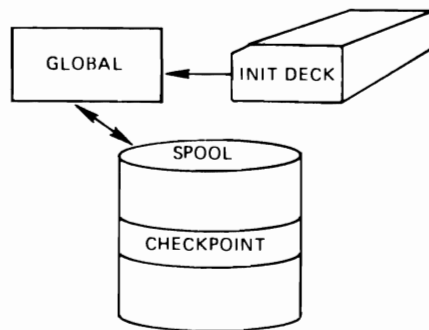
H.6.4

LOCAL INITIALIZATION

{
MVS IPL
{
START JES3

IEF403I JES3 — STARTED — TIME=HH.MM.SS

*nn IAT3011 SPECIFY JES3 START TYPE=(L H W WA OR C)

REPLY (ALWAYS L)
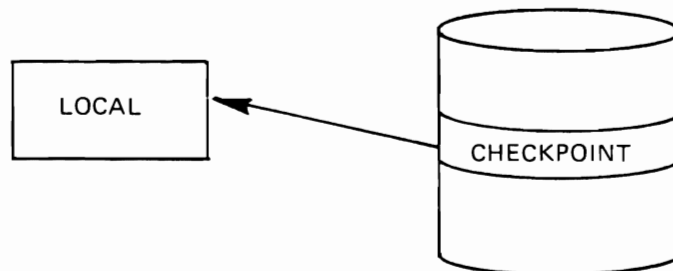
H.6.5

SYSTEM COMMANDS			JES3 COMMANDS	
CANCEL	C	.	*CALL	*X
CHNGDUMP	CD		*CANCEL	*C
CONTROL	K		*DELAY	*D
DISPLAY	D		*DISABLE	*H
DUMP			*DUMP	
HALT	Z		*ENABLE	*N
LOG	L		*ERASE	*E
MODE			*FAIL	
MODIFY	F		*FREE	
MONITOR	MN		*INQUIRY	*I
MOUNT	M		*MESSAGE	*Z
MSGRT	MR		*MODIFY	*F
QUIESCE			*RESTART	*R
REPLY	R		*RETURN	
RESET	E		*SEND	*T
SEND	SE		*START	*S
SET	T		*SWITCH	
START	S		*VARY	*V
STOP	P			
STOPMN	PM			
STOPTR	PT			
SWAP	G			
SWITCH	I			
TRACE	--			
TRACK	TR			
UNLOAD	U			
VARY	V			
WRITELOG	W			

H.6.6

OPERATOR CONTROL CAPABILITIES

INQUIRY (*I)	MODIFY (*F)
JOB QUEUE	
PRIORITY	√
ACTIVE	
BACKLOG	
SETUP	√
I/O DEVICES	√
RJP LINES	√
TERMINALS	√
ERROR STATISTICS	
CONSOLE	
PFK	√
MSG ROUTING TABLE	√
OUTSTANDING REPLY	
GMS SPECIFICATIONS	√
DJC NET	√
DEADLINE STATUS	√
OUTPUT QUEUE	√
DSP USE COUNT	√

H.6.7

JES3/MCS CONSOLES

A	JES3 ONLY	C
B	JES3/MCS GLOBAL	D

A   JES3 ONLY   C   JES3/MCS GLOBAL/LOCAL

B   JES3/MCS GLOBAL   D   MCS ONLY
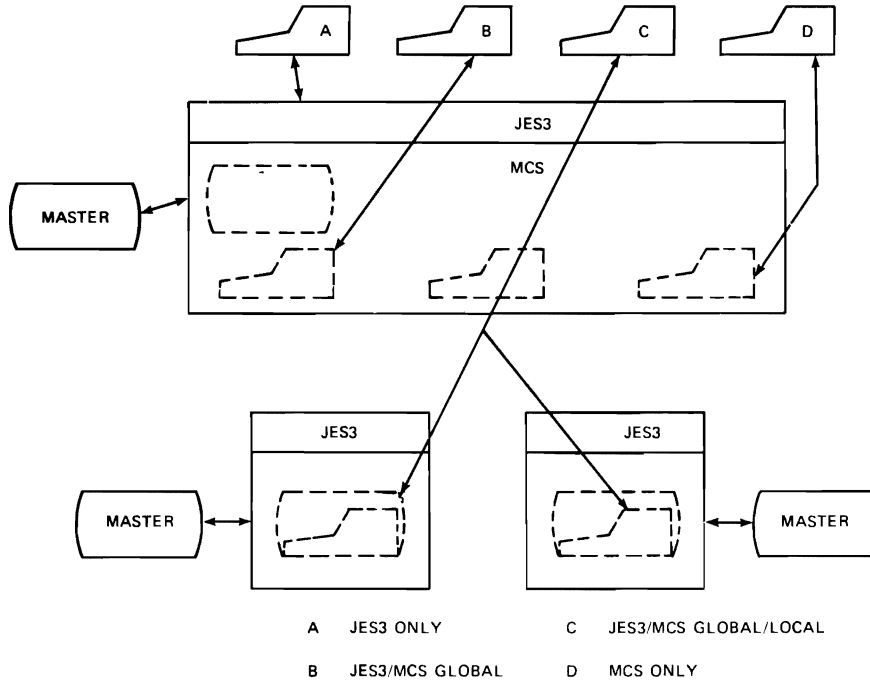
H.6.8

BACKGROUND UTILITIES

GLOBAL
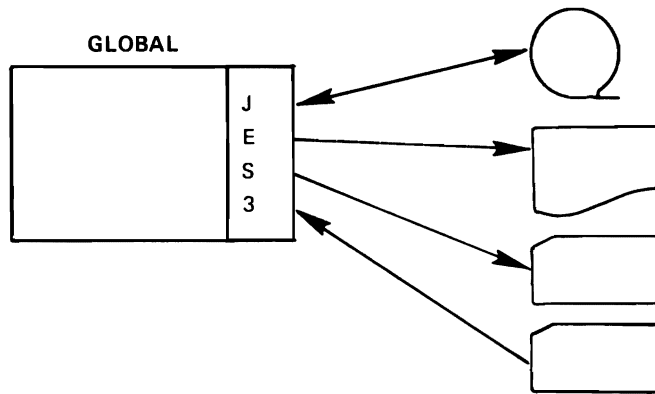
CARD-TO-CARD
CARD-TO-PRINTER   *CALL,CC,IN=RD1,OUT=PU1
CARD-TO-TAPE
DUMP JOB   *S,CC
TAPE DUMP
TAPE LABEL
TAPE-TO-CARD
TAPE-TO-PRINTER
TAPE-TO-TAPE   H.6.9

JES3 CONSOLE SUMMARY

- FUNCTIONAL CONSOLES
- COMMUNICATION WITH ALL PROCESSORS
- BOTH JES3/SYSTEM COMMANDS
- EXTENSIVE COMMAND CAPABILITY
- BACKGROUND UTILITIES

H.6.10

MIGRATION AID

ASP SUPPORT   **GLOBAL**

ASPAID DSP		*JESAID DSP*
MVS SELECTION	CTC	JES3 PROCESSING
• CLASS		• INPUT
• POINT OF ORIGIN		• EXECUTION
• USER SELECTED		• OUTPUT
• EXIT ROUTINE		

H.7.1

JES3 EXITS

MISCELLANEOUS

| "CALL" COMMAND (1) |
| TSO (1) |
| CONSOLES (2) |

JOB FLOW

| JES3 INITIALIZATION (1) |

| INPUT SERVICE (5) | — | INTERPRET (12) | — | SETUP (1) | — | OUTPUT SERVICE (5) |
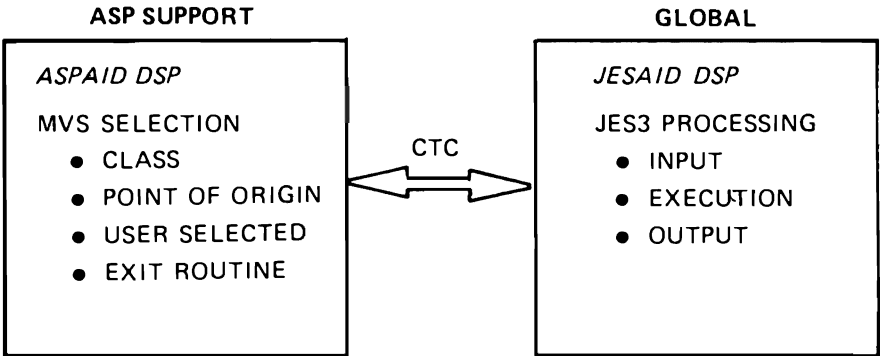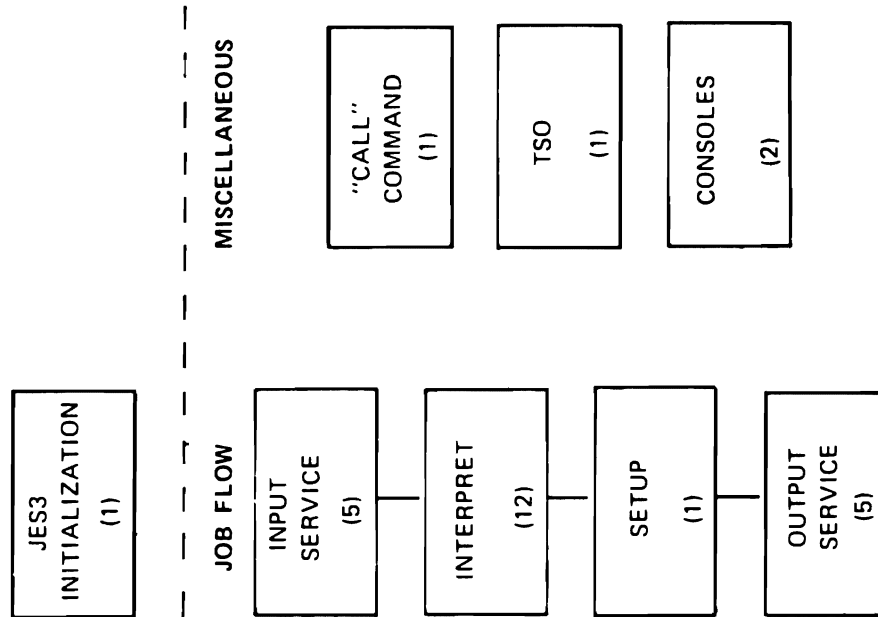
H.7.2

SMF RECORDS

- INITIALIZATION
- MAIN DEVICE SCHEDULING
- OUTPUT SERVICE
- PURGE
- REMOTE JOB PROCESSING
- TERMINATION

H.7.3

JES3 RECOVERY

GLOBAL

LOCAL

JES3	USER

JES3	USER

DSI ENVIRONMENT

JES3 FAILSOFT

```
                    JES3

        DSP1    DSP2    DSP3
```
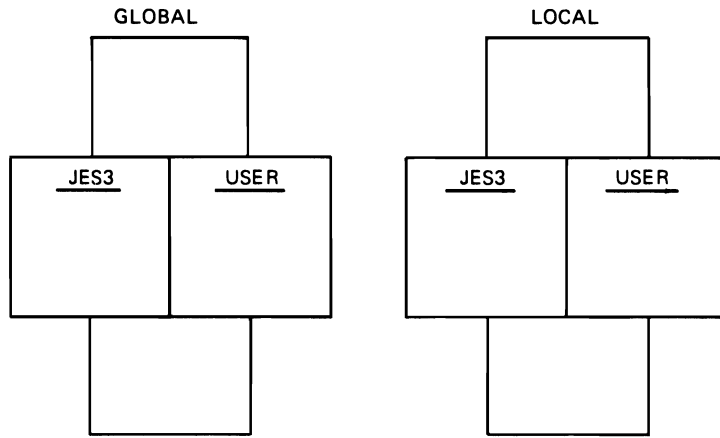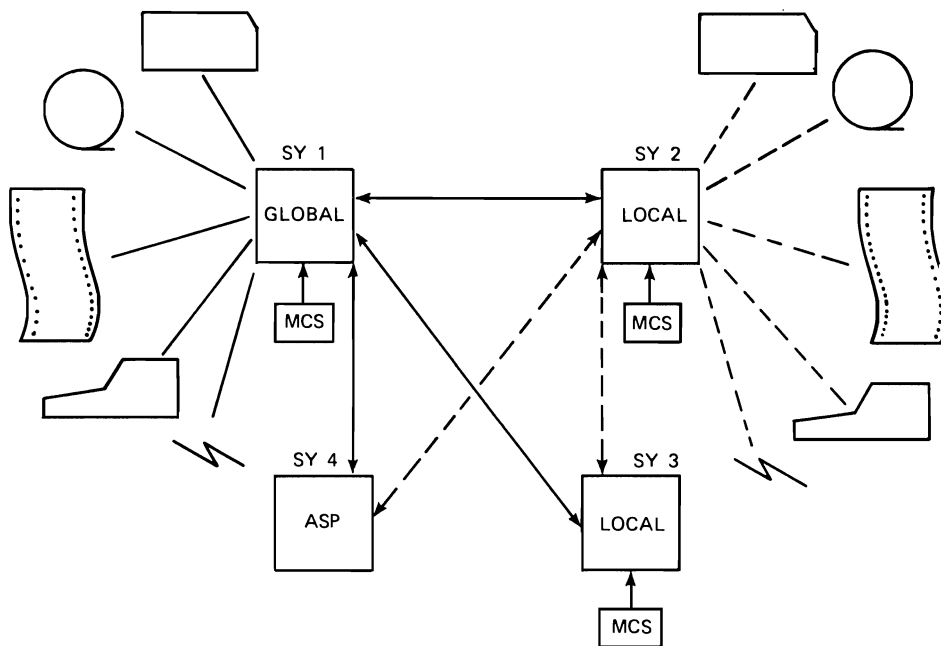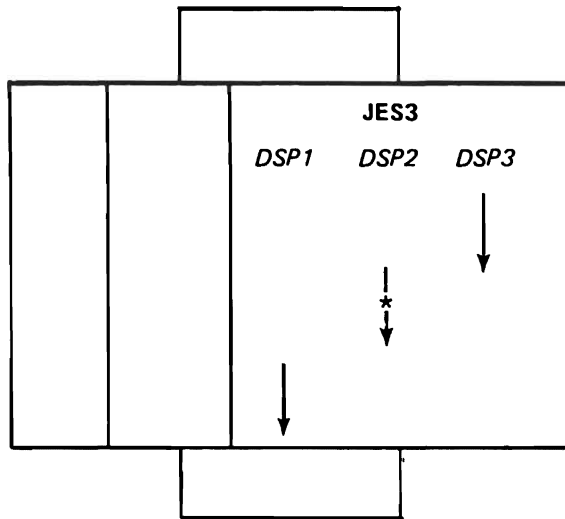
FAILSOFT PROCESSING

- FAILURE LOGOUT
- OPERATOR MESSAGE
- RECOVERY ATTEMPTED
  - DSP CONTINUES
  - DSP TERMINATED
- JES3 PROCESSING
  CONTINUES

SERVICE AIDS

- CONSOLE TEST
- CONTROL BLOCK PRINT
- DISPLAY DJC TABLES
- DISPLAY JES3 JOB QUEUE STATUS
- EVENT TRACE FACILITY
- INTERPRETER DEBUG FACILITY
- JES3 ABEND DUMPS
- JCL TEST FACILITY
- JOB SETUP TABLE TEST
- RJP LINE SNAP FACILITY

USER WRITTEN DSPs
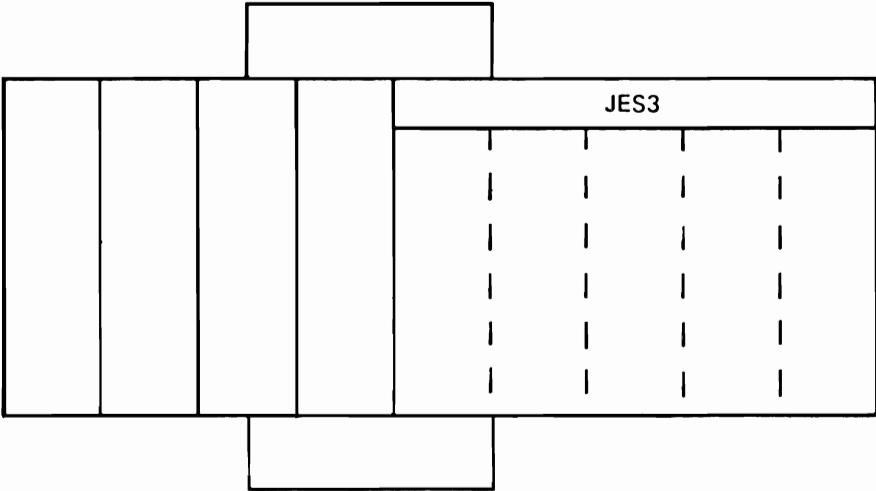
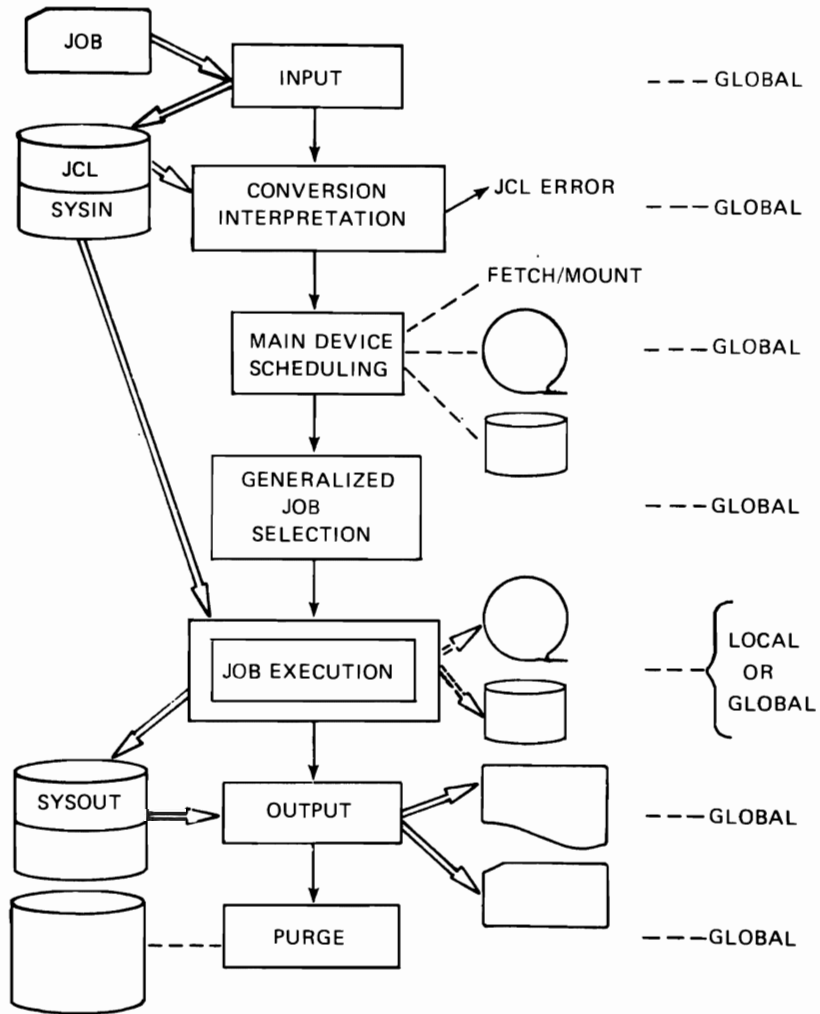- JOB EXECUTION
- BACKGROUND FUNCTION

H.7.8

JES3 GLOBAL/LOCAL
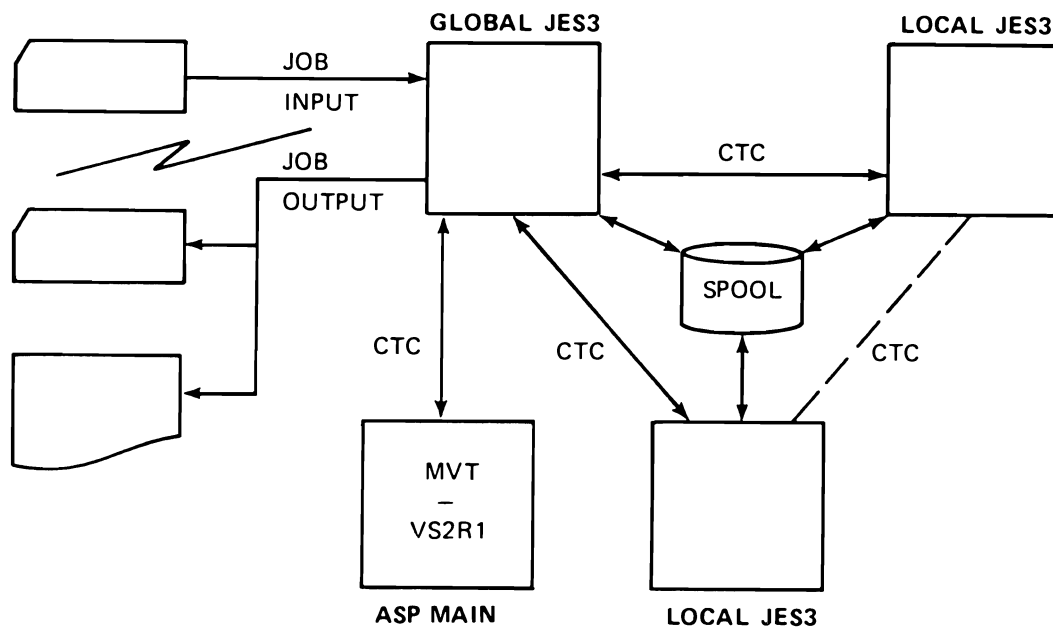
H.9.1

JES3 CONFIGURATION

H.9.2

JES3 JOB FLOW

JOB → INPUT — — — GLOBAL

JCL / SYSIN → CONVERSION INTERPRETATION → JCL ERROR — — — GLOBAL

FETCH/MOUNT

MAIN DEVICE SCHEDULING — — — GLOBAL

GENERALIZED JOB SELECTION — — — GLOBAL

JOB EXECUTION { LOCAL OR GLOBAL

SYSOUT → OUTPUT — — — GLOBAL

PURGE — — — GLOBAL

H.9.3
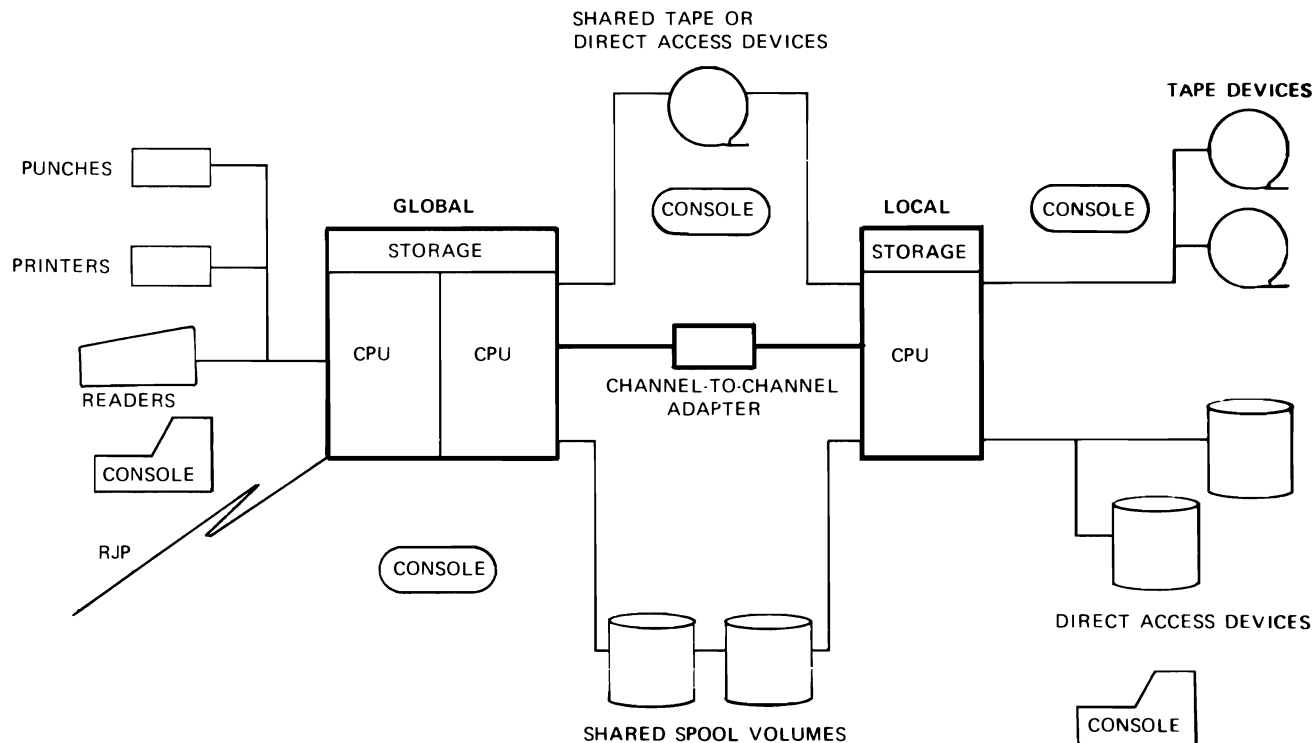
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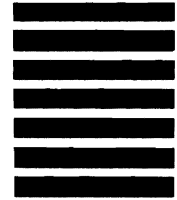
FOLD   FOLD

FOLD   FOLD