

**BRIEFING ON
PROGRAM BUILD PLAN,
COST, SCHEDULES, AND W.B.S.
FOR THE
FBIS MODERNIZATION PROGRAM**

CONTRACT NO. 84X*927700*000

03 JANUARY 1985

**ESL INCORPORATED
A SUBSIDIARY OF TRW
SUNNYVALE, CALIFORNIA**

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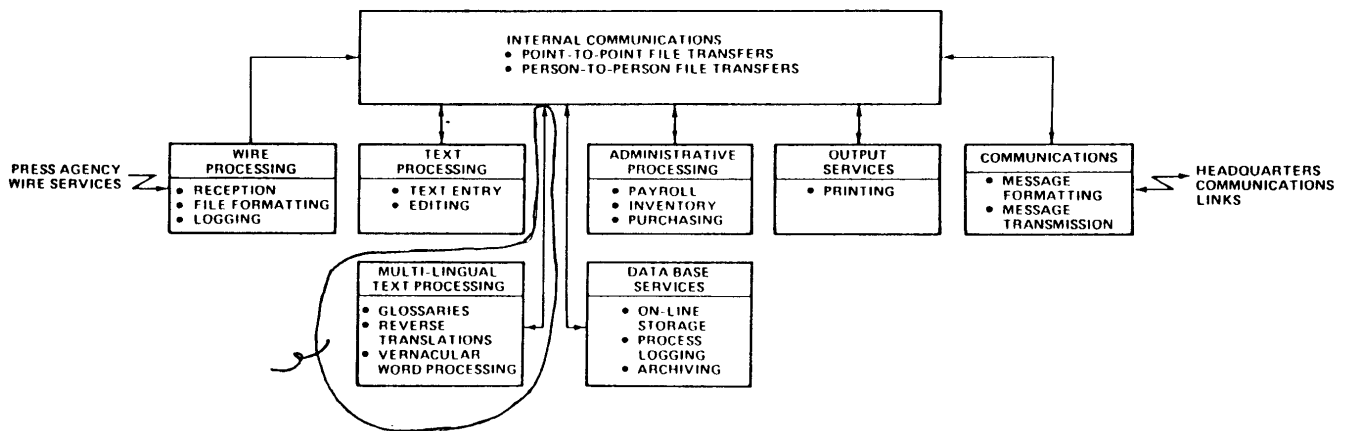
BRIEFING AGENDA

TOPIC	LENGTH	VUGRAPHS
1. BUREAU DESIGN REVISIONS - CHANGES TO THE BUREAU DESIGN - REVISED BUREAU DESIGN	10 MIN.	5
2. HEADQUARTERS DESIGN REVISIONS - CHANGES TO THE HEADQUARTERS DESIGN - REVISED HEADQUARTERS DESIGN	5 MIN.	2
3. PROGRAM BUILD PLAN - MODULAR IMPLEMENTATION APPROACH - BUILDING BLOCK INTERDEPENDENCIES - SUBSYSTEM IMPLEMENTATION PHASINGS - SUMMARY PROGRAM SCHEDULE - PROGRAM ACTIVITY INTERDEPENDENCIES	30 MIN.	10
4. DEVELOPMENT SCHEDULES - DEVELOPMENT APPROACH - RISK MITIGATION - DEVELOPMENT SCHEDULES	10 MIN.	5
5. DEVELOPMENT COSTS - COST REDUCTIONS FROM BRIEFING #3 - WORK BREAKDOWN STRUCTURE - CALCULATION OF COSTS - FISCAL YEAR SUMMARY - COST ANALYSIS - BUREAU RECURRING COSTS - COMPOSITION FUNCTION COSTS - POSSIBLE FURTHER COST REDUCTIONS	45 MIN.	15
6. DISCUSSION	---	

1. "DELETE ALL COLLECTION REQUIREMENTS WITH THE EXCEPTION OF DIGITAL ENGLISH-LANGUAGE PRESS AGENCIES AND PUBLICATIONS."
 - A. DELETED COLLECTION SUBSYSTEM IN ITS ENTIRETY.
 - B. REDUCED THE NUMBER OF COPIES OF WIRE SERVERS.
 - C. REDUCED THE STORAGE CAPACITY OF EACH WIRE SERVER.
 - D. REDUCED THE STORAGE CAPACITY OF THE DATA BASE SERVER.
 - E. DELETED THE MULTI-LINGUAL FEATURE OF WIRE SERVERS.
2. "DELETE ALL MULTI-LINGUAL REQUIREMENTS."
 - A. SAME AS 1E.
 - B. DELETED THE MULTI-LINGUAL FEATURE OF MONITOR'S WORKSTATIONS.
 - C. DELETED THE MULTI-LINGUAL WORKSTATIONS.
 - D. DELETED MULTI-LINGUAL TYPE FONTS IN THE PRINT SERVER.
3. "DELETE THE REQUIREMENT TO HANDLE GRAPHICS."
 - A. NO CHANGES NECESSARY.
4. "SIMPLIFY THE DBMS REQUIREMENTS."
 - A. NO CHANGES NECESSARY.
5. "PROVIDE ONLY 7 DAYS OF ON-LINE OPERATIONAL STORAGE CAPABILITY."
 - A. REDUCED THE STORAGE CAPACITY OF WIRE SERVERS.
 - B. REDUCED THE STORAGE CAPACITY OF THE DATA BASE SERVER.

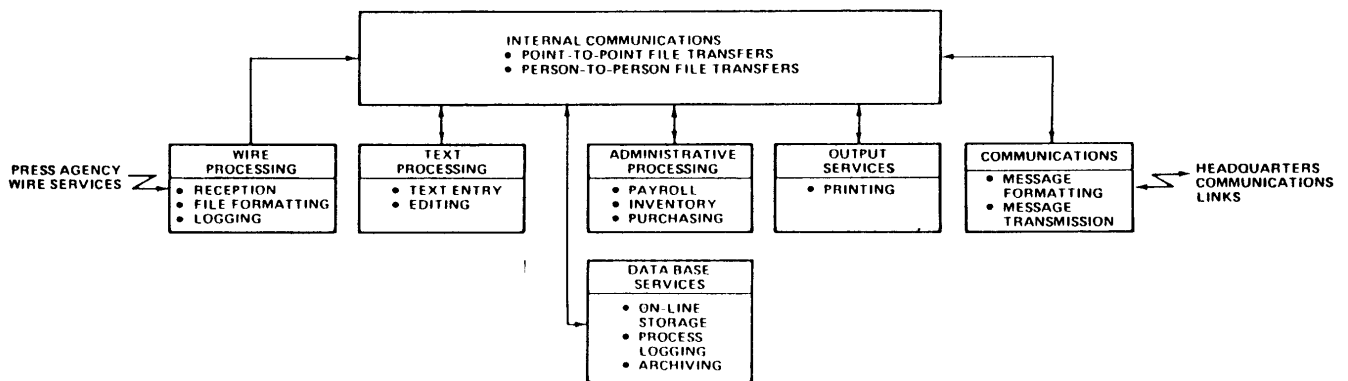
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FBIS—INFORMATION PROCESSING SUBSYSTEM FUNCTIONAL BLOCK DIAGRAM

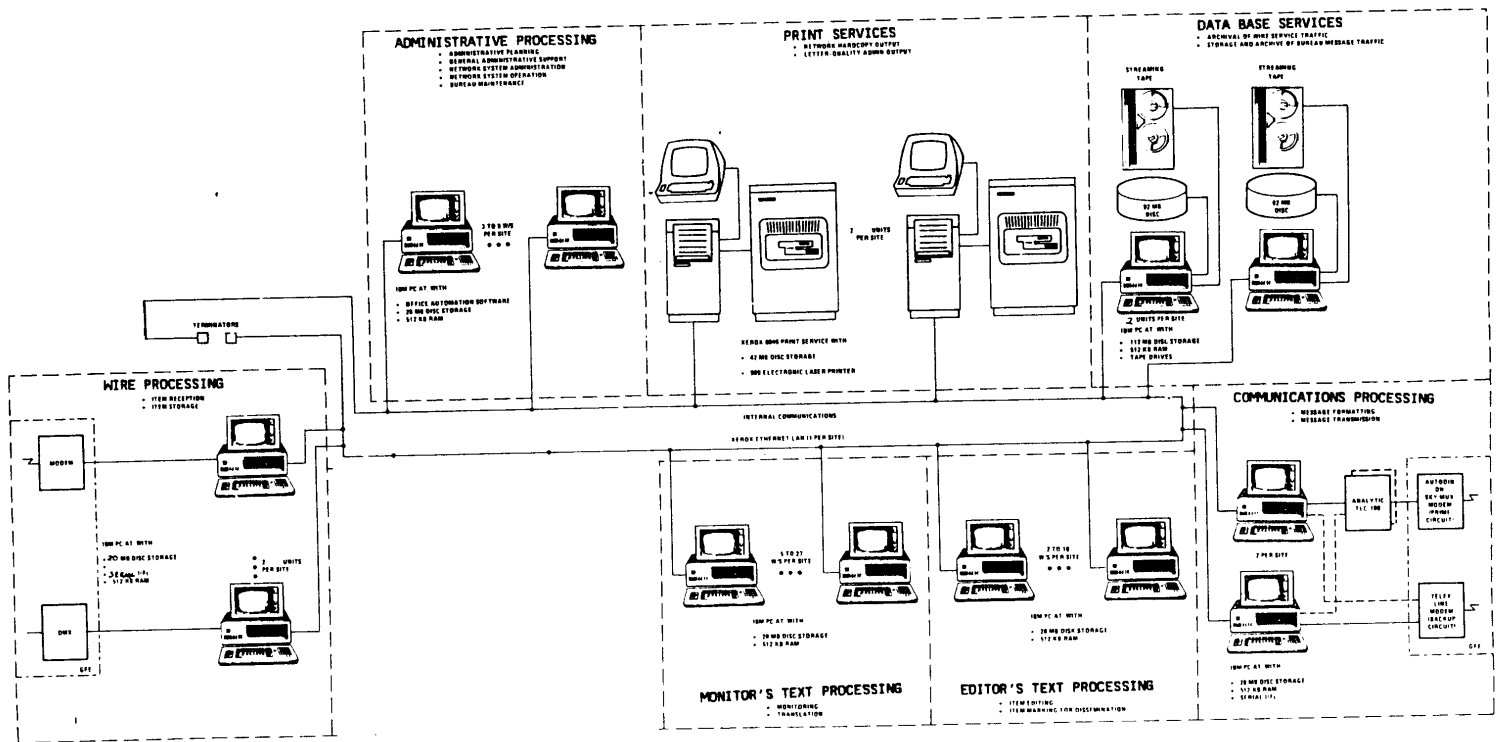


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FBIS—INFORMATION PROCESSING SUBSYSTEM FUNCTIONAL BLOCK DIAGRAM

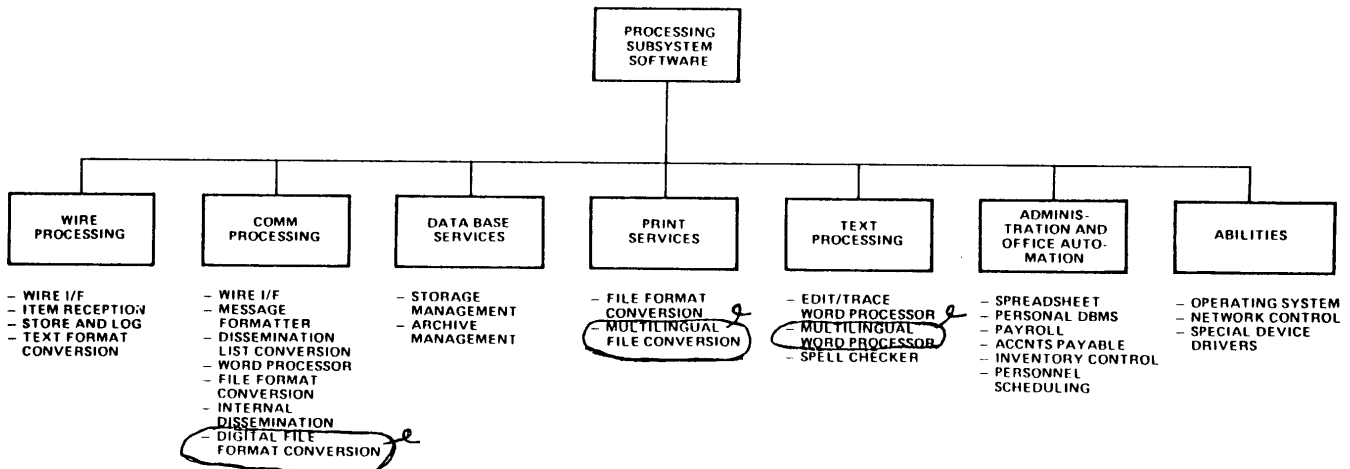


FBI-BUREAU HARDWARE BLOCK DIAGRAM



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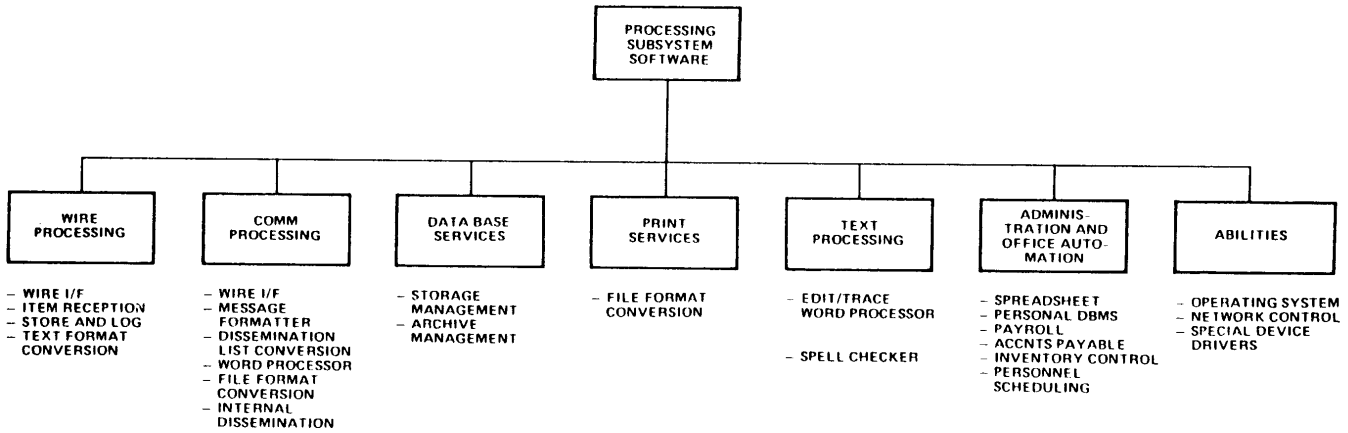
FBIS - BUREAU SOFTWARE HIERARCHY



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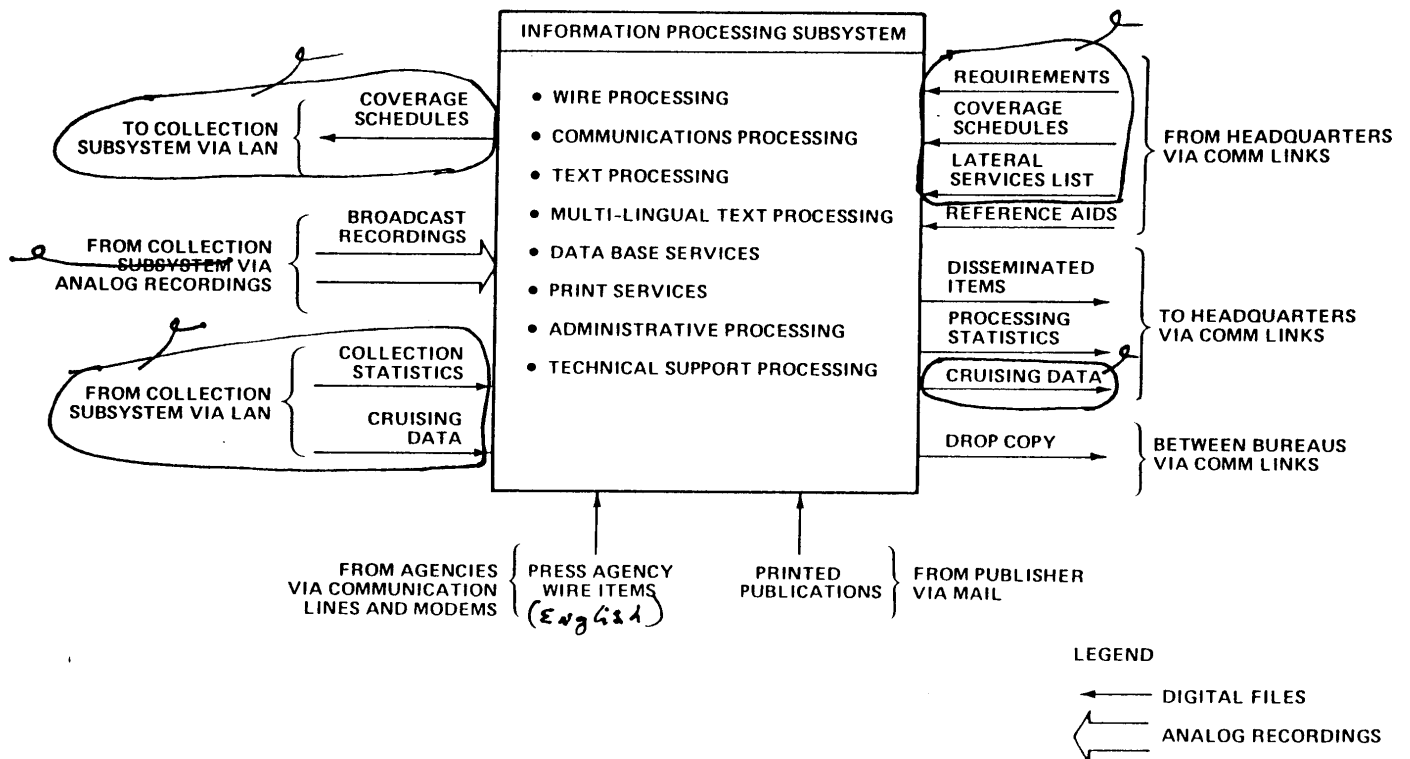
FBIS-BUREAU SOFTWARE HIERARCHY



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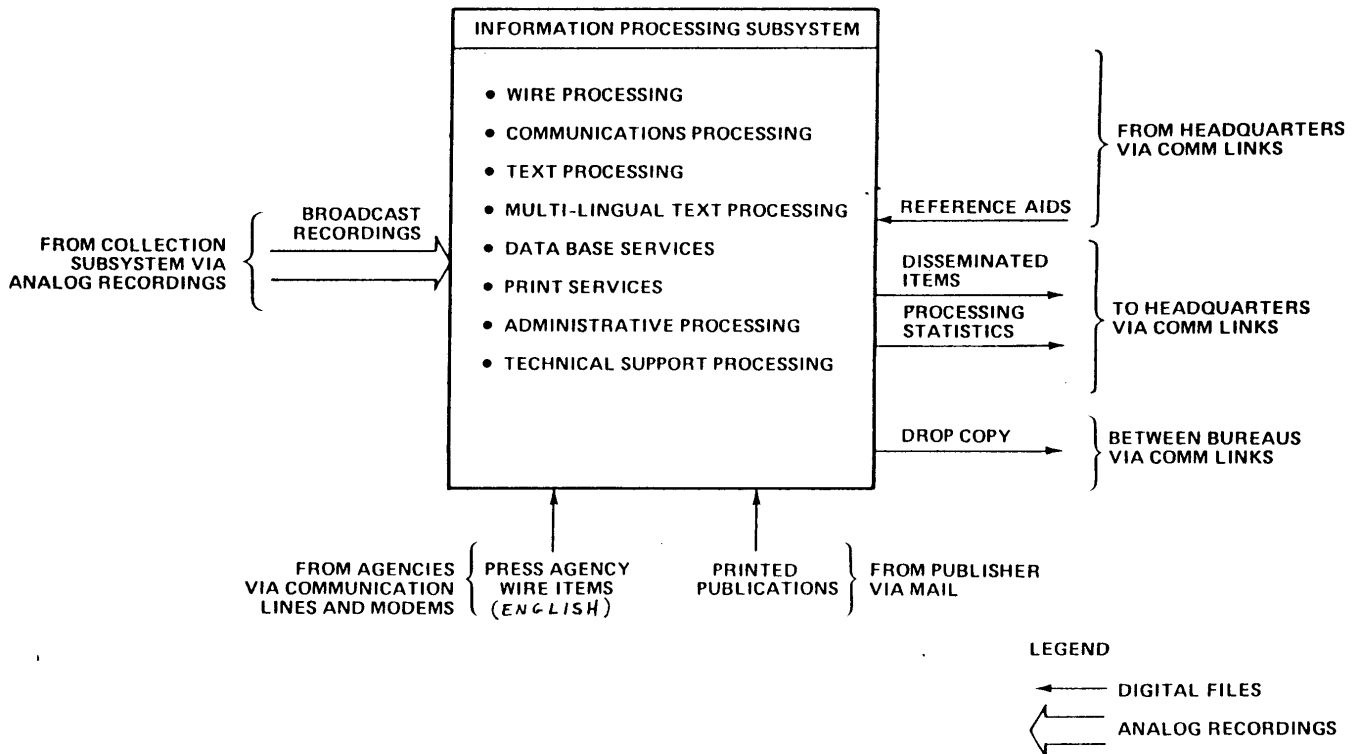
FBIS-SUBSYSTEM INTERFACES



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FBIS - SUBSYSTEM INTERFACES



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DESIGN REVISIONS IN RESPONSE TO ECP-002

"NO SOFT COPY DISPLAY OF GRAPHICS IS REQUIRED."

- A. ELIMINATE SOFTWARE DEVELOPMENT FOR CONVERSION FOR GRAPHICS FILES

"USERS OF PUBLICATION/COMPOSITION SYSTEM ARE NOT REQUIRED TO HAVE ACCESS TO THE PRODUCT DATABASE."

- A. NO CHANGES NECESSARY.

"COMMERCIAL EDIT TRACE WILL BE SUFFICIENT."

- A. NO CHANGES NECESSARY.

"MULTILINGUAL REQUIREMENTS WILL BE SEPARATED FROM THE OVERALL SYSTEM REQUIREMENTS." (ECP 002)

"THE HEADQUARTERS SYSTEM SHALL UTILIZE COMMERCIAL OFF-THE-SHELF PRODUCTS TO MEED THE MULTILINGUAL PROCESSING REQUIREMENTS DESCRIBED IN 1.9."; ALSO, THE REQUIREMENTS REFERRED TO. (SDS-002A)

- A. NO CHANGE IN MULTILINGUAL VENDOR
- B. ADDED ONE PRINT/FILE SERVER IN TRANSLATION SERVICES AND ANALYTICAL SERVICES TO HANDLE MULTILINGUAL
- C. INCREASED MULTILINGUAL WORKSTATIONS IN SYSTEM
- D. SEPARATED MULTILINGUAL AS A STANDALONE PHASE

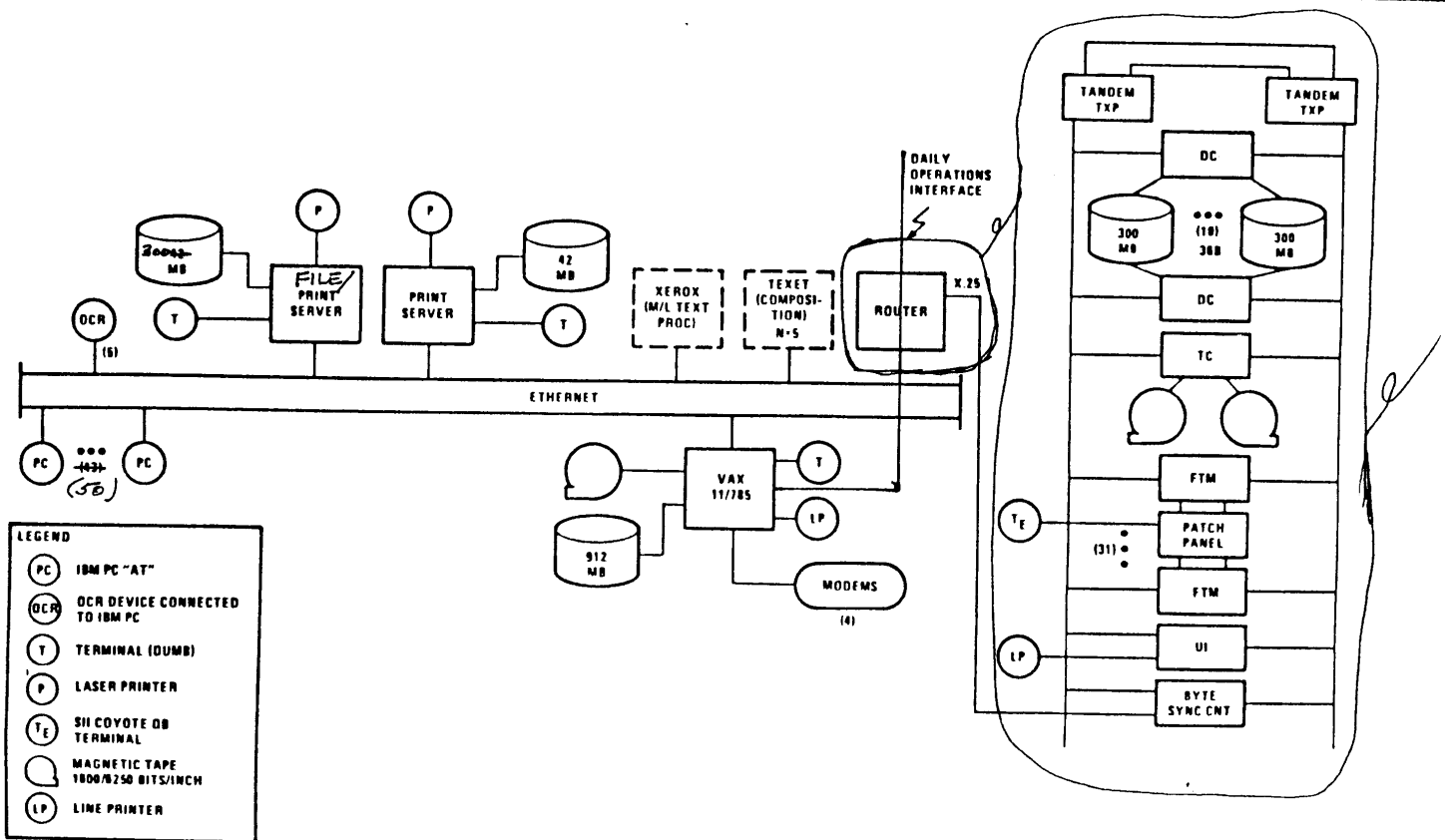
"NO EMBEDDED GRAPHICS REQUIRED FOR STORAGE/RETRIEVAL, BUT GRAPHICS HANDLING MAY BE DONE SEPARATELY."

- A. SAME AS 1A.

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(Redlined)

TRANSLATION SERVICES SUBSYSTEM



MODULAR IMPLEMENTATION APPROACH

- 0 DESIGN HAS TWO SEGMENTS: HEADQUARTERS AND BUREAU
- 0 THE FOUR SUBSYSTEMS DEFINE THE FIRST LEVEL OF MODULARITY
- 0 SUBSYSTEMS ARE BUILT IN UP TO FOUR PHASES:
 - INFORMATION PROCESSING S/S -- ONLY 1 PHASE
 - DAILY OPERATIONS S/S -- TWO PHASES
 - TRANSLATION SERVICES S/S -- TWO PHASES
 - ANALYTICAL SERVICES S/S -- FOUR PHASES
- 0 MULTILINGUAL TEXT PROCESSING IS A SEPARATE BUILDING BLOCK
- 0 THERE ARE MINIMAL DEPENDENCIES BETWEEN SUBSYSTEMS --
THEY CAN BE BUILT SOMEWHAT INDEPENDENTLY
- 0 BENEFITS TO FBIS INCLUDE:
 - EARLIER DELIVERY OF OFF-THE-SHELF CAPABILITIES
 - LESS DEVELOPMENT RISK; SEPARATES RISK AREAS
 - ALLOWS MORE PROGRAM SCHEDULING FLEXIBILITY
 - MORE UNIFORM YEARLY SPENDING
 - SMOOTHER TRANSITION TO A MODERNIZED OPERATION

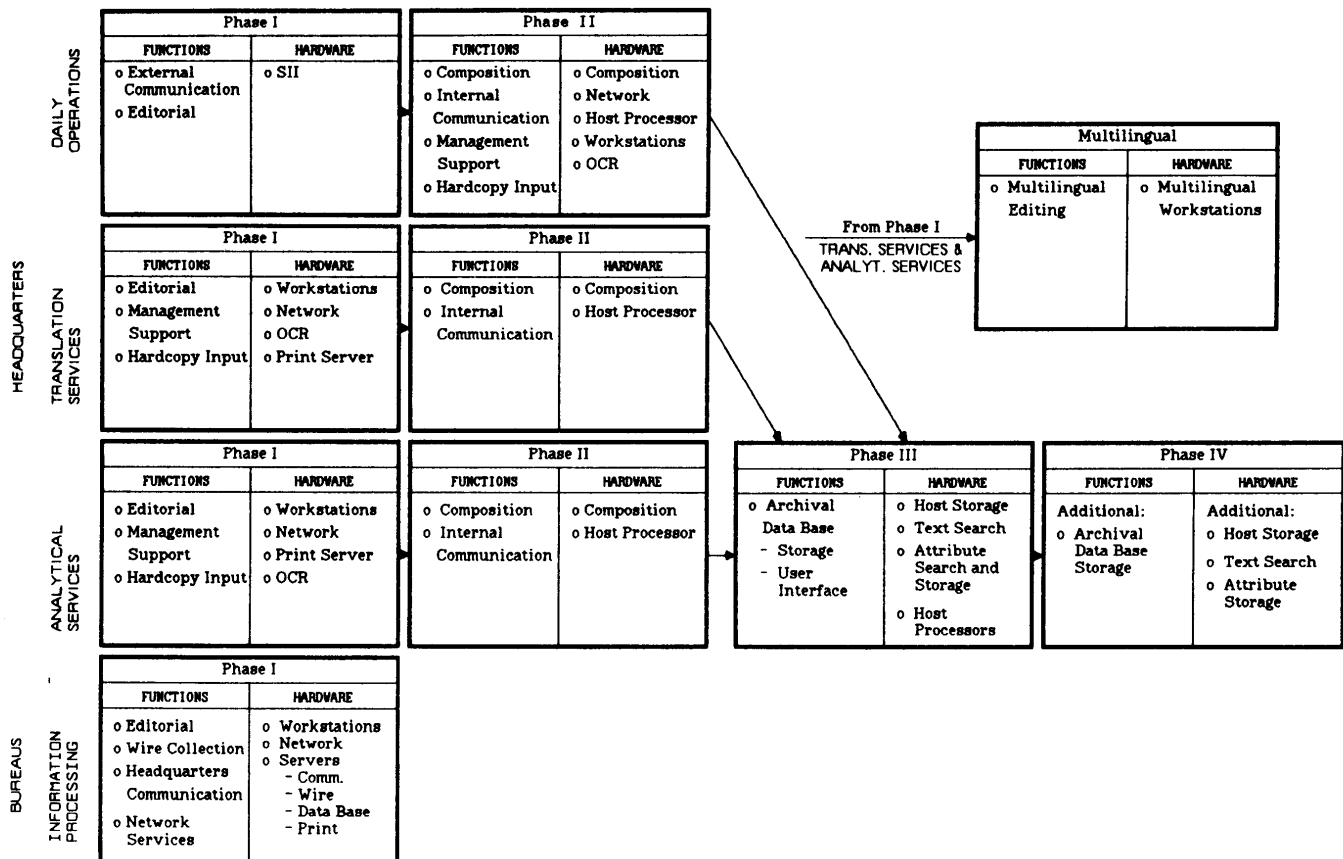
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FBIS—BUILDING BLOCK IMPLEMENTATION INTERDEPENDENCIES



2-2

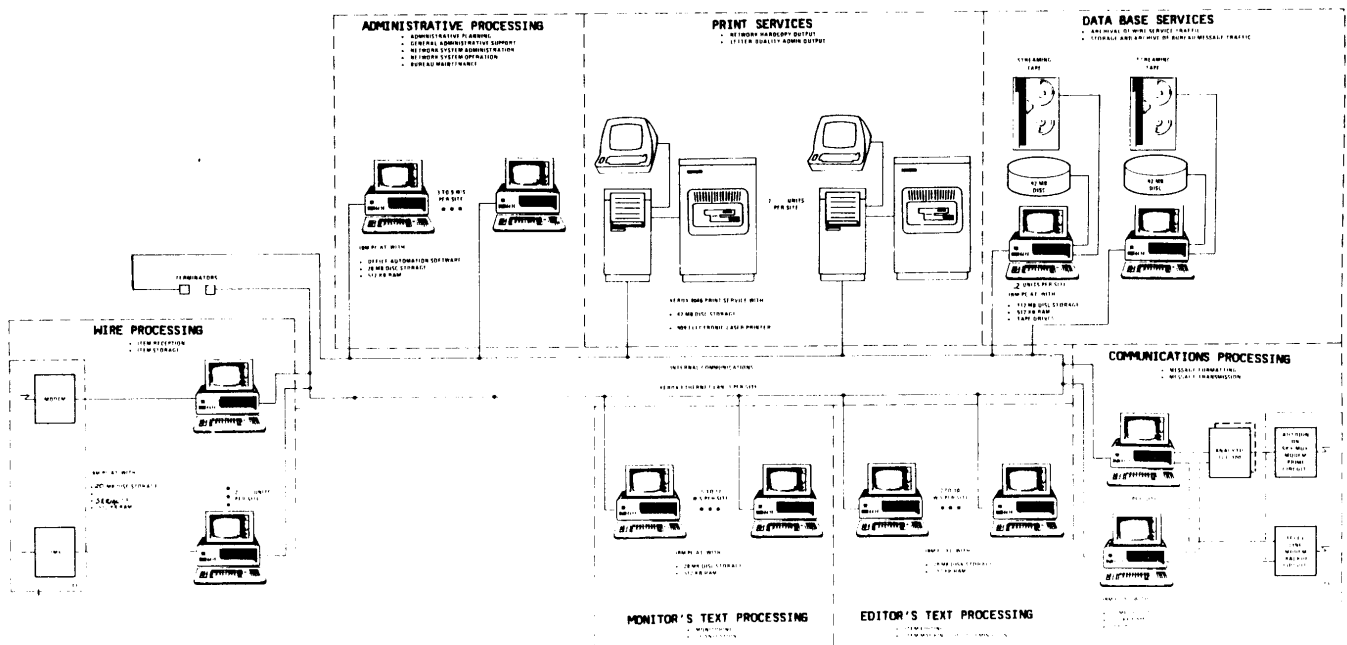


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FBI - IP SUBSYSTEM PHASED DESIGN



3-3

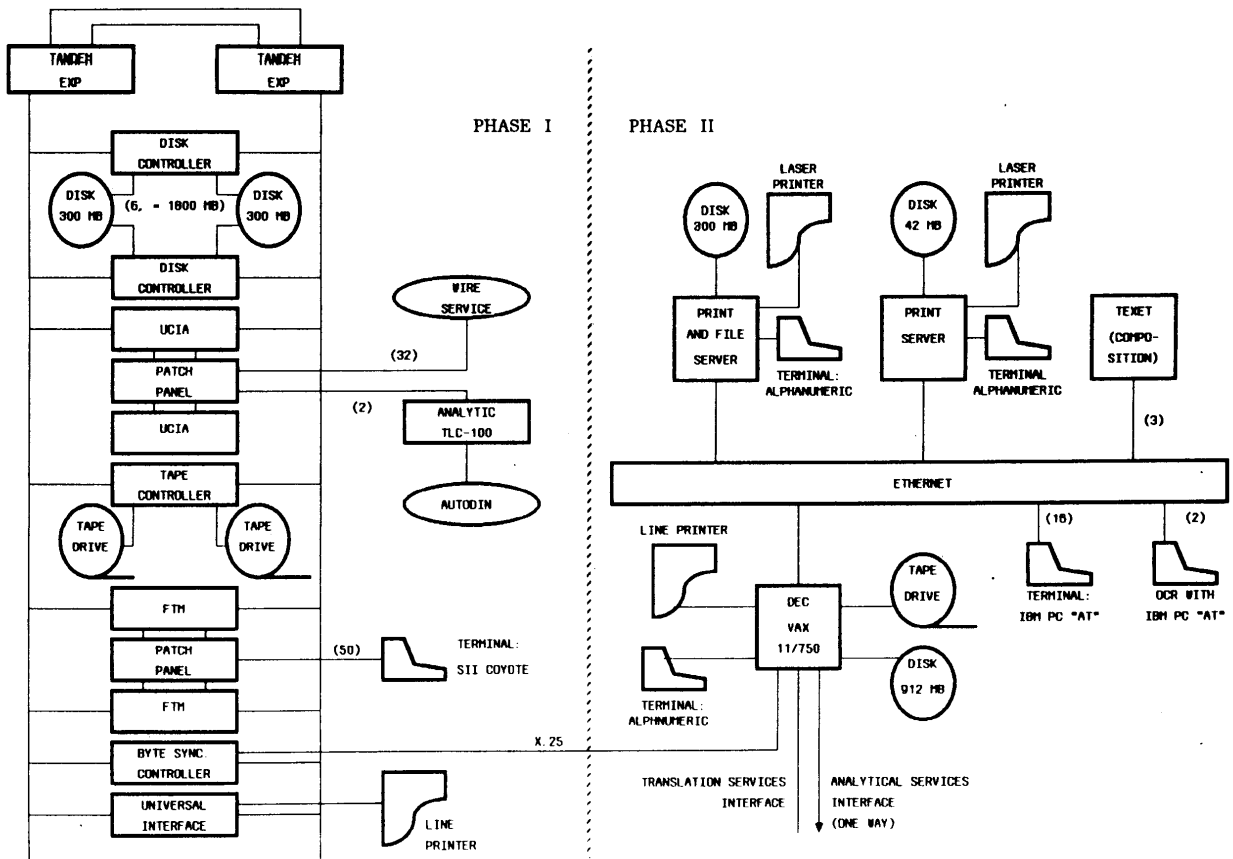


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FBIS-DO SUBSYSTEM PHASED DESIGN



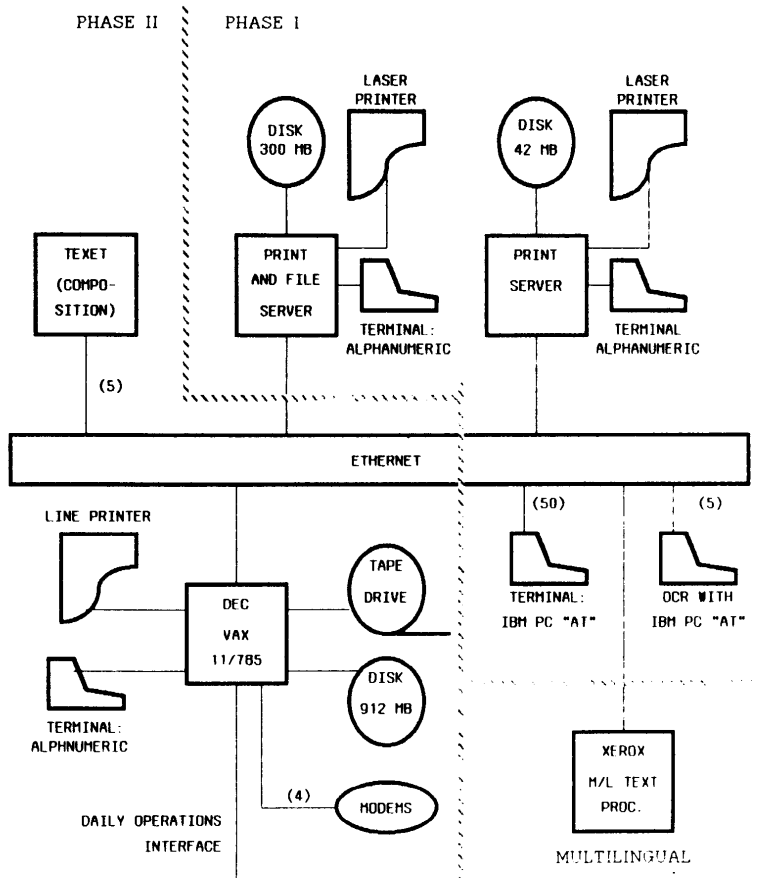
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FBIS-TS SUBSYSTEM PHASED DESIGN



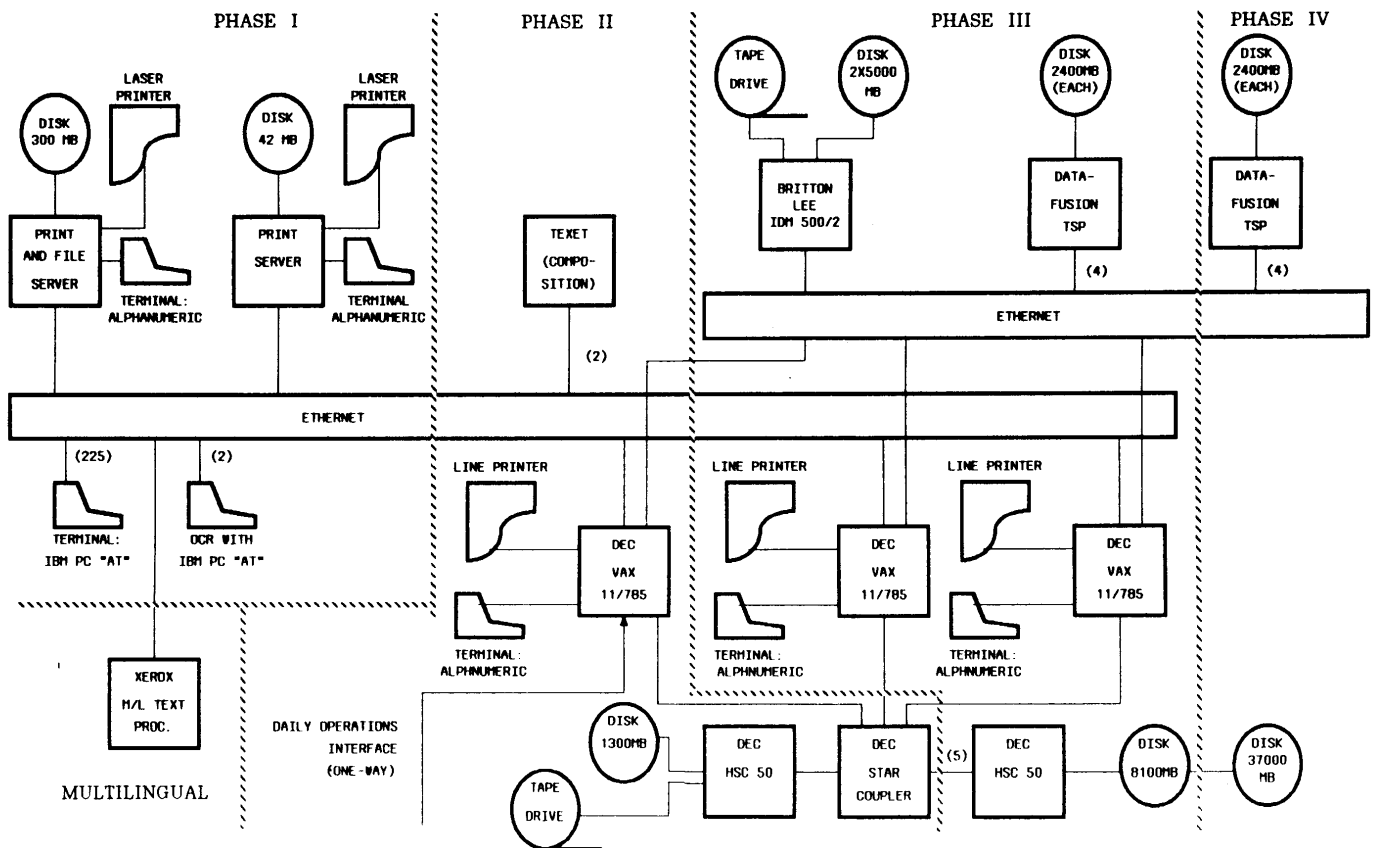
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FBIS-AS SUBSYSTEM PHASED DESIGN

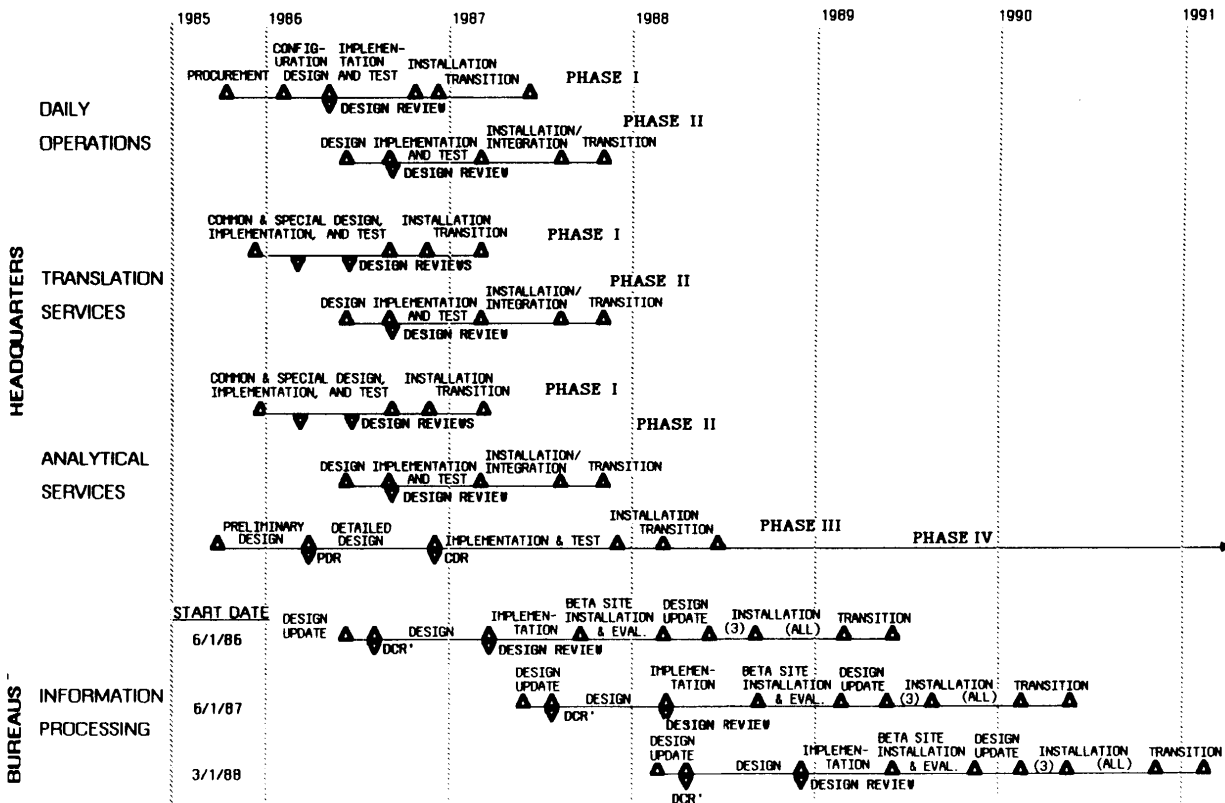


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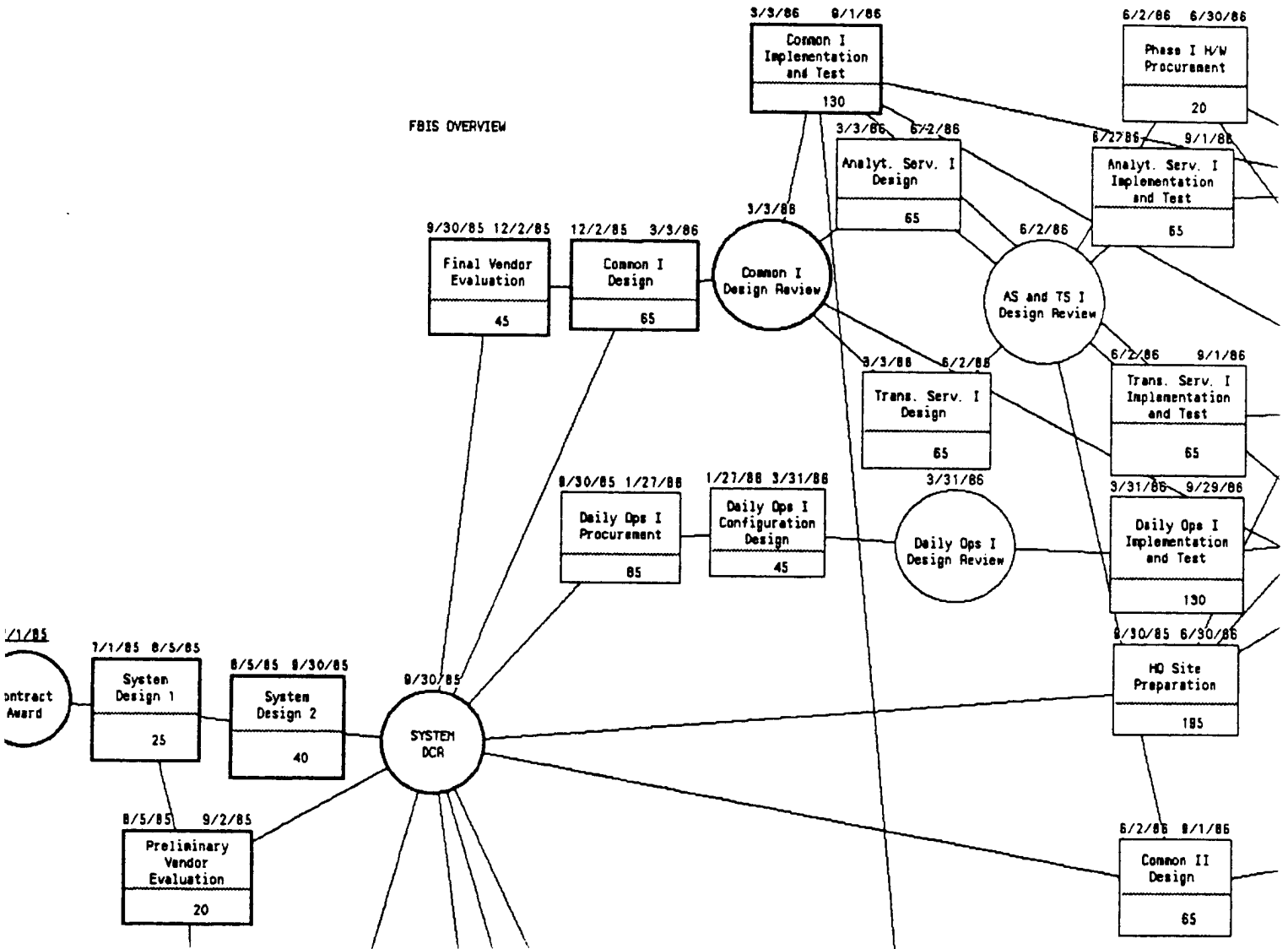
FBIS-FMS SUMMARY PROGRAM SCHEDULE



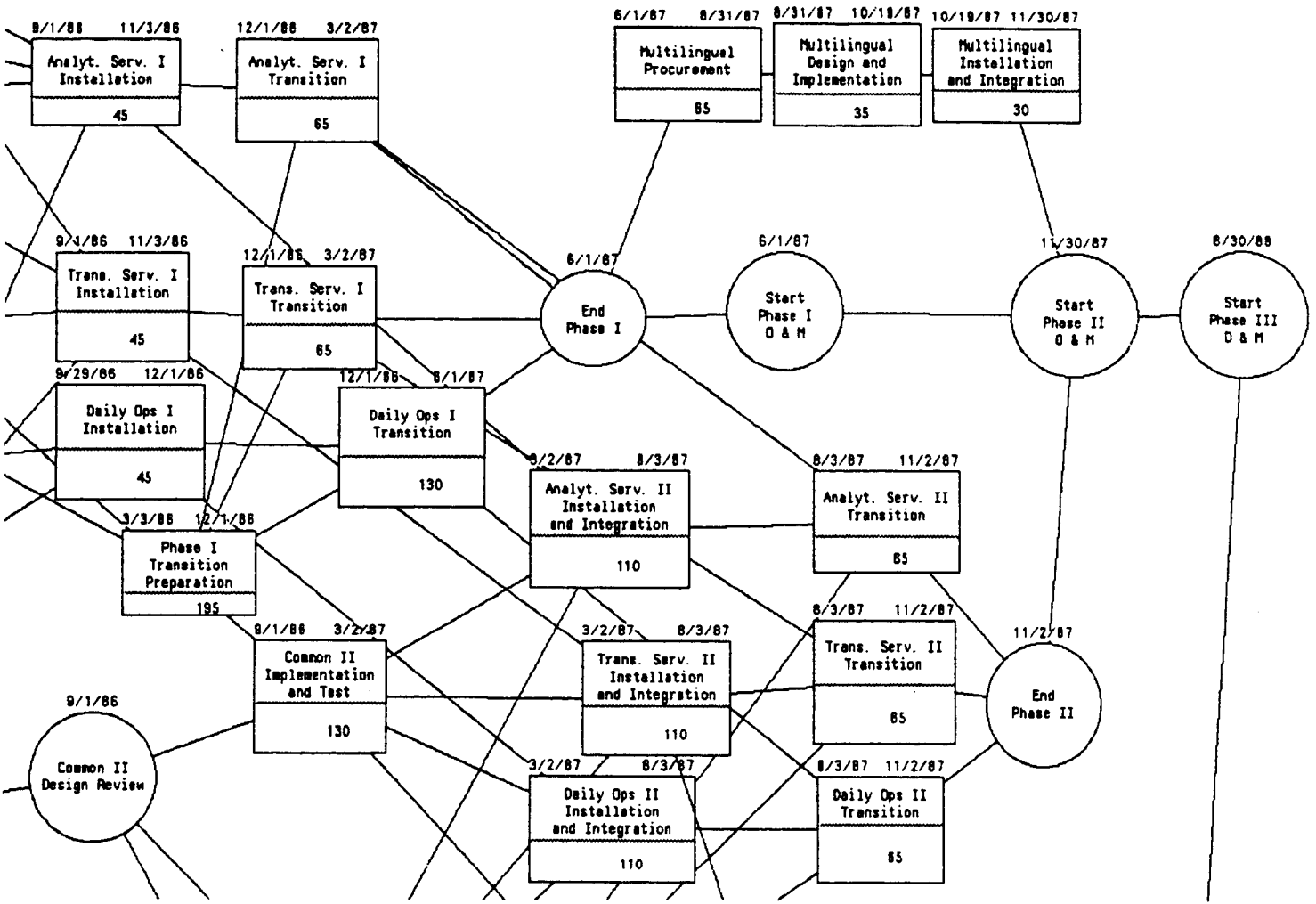
3-7

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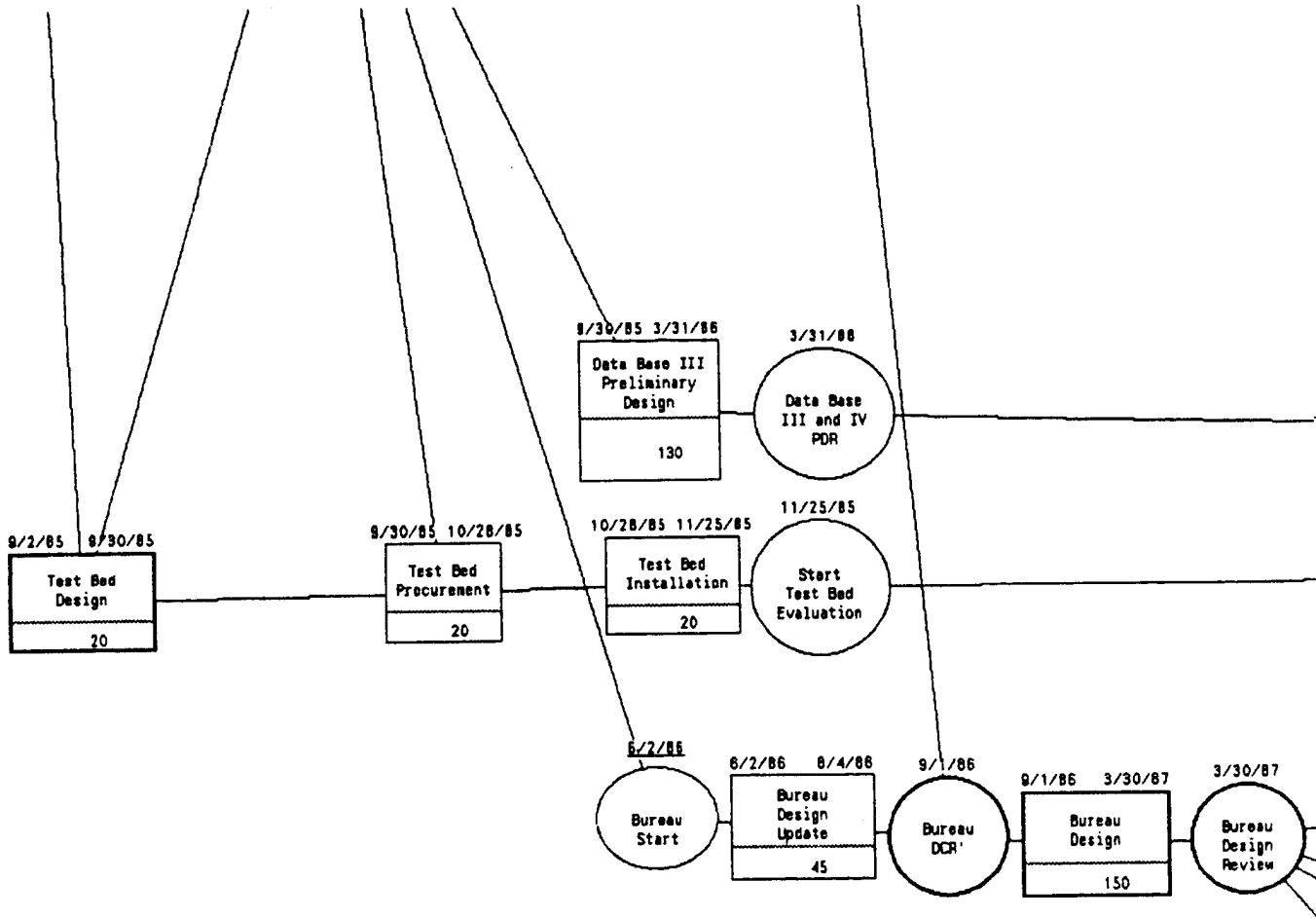
PROGRAM ACTIVITY NETWORK (1 OF 4)



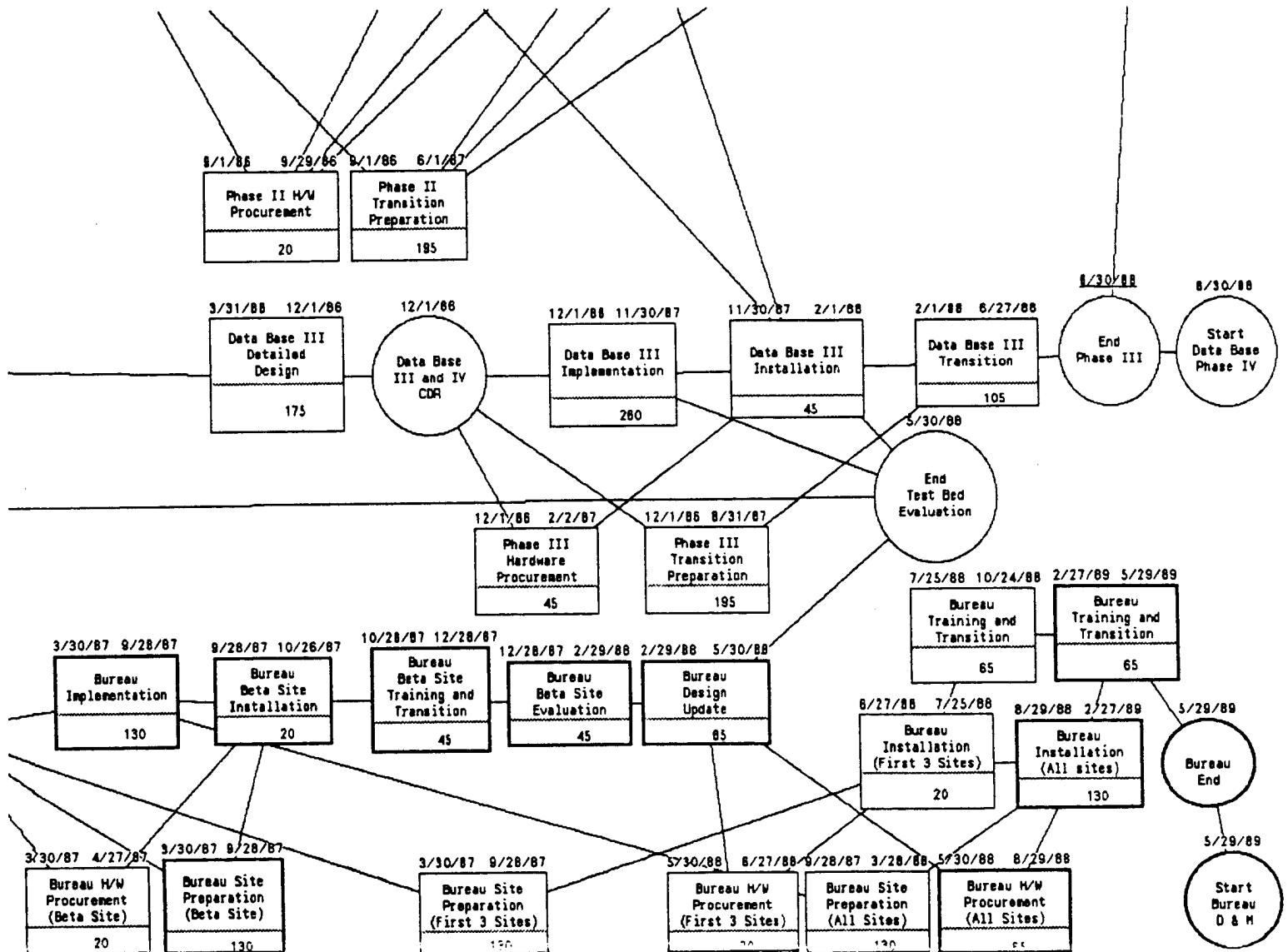
PROGRAM ACTIVITY NETWORK (2 OF 4)



PROGRAM ACTIVITY NETWORK (3 OF 4)



PROGRAM ACTIVITY NETWORK (4 OF 4)



DEVELOPMENT APPROACH -- KEY POINTS

- 0 COMMON DESIGNS ARE DEVELOPED JOINTLY:
 - A.S. AND T.S. S/S, PHASE I
 - D.O., A.S., AND T.S. S/S, PHASE II
 - USE OF PHASE I NETWORK AS BASIS FOR BUREAU S/S
- 0 PROCURE D.O. S/S RIGHT AFTER DCR; OTHERWISE PROCURE AFTER SUBSYSTEM LEVEL DESIGN REVIEWS
- 0 SIMPLE BUILDING BLOCKS HAVE COMBINED PDR AND CDR INTO A SINGLE REVIEW
- 0 DEVELOP DATA BASE CAPABILITY OVER A LONGER TIME PERIOD; INCORPORATE MORE REVIEWS
- 0 USE TESTBED FOR ENGINEERING EVALUATIONS:
 - PROTOTYPE AND EVALUATE DATA BASE PERFORMANCE POSSIBILITIES
 - PROTOTYPE USER QUERY LANGUAGE
 - INVITE FBIS PERSONNEL PARTICIPATION
 - EVOLVE INTO A DEVELOPMENT FACILITY
- 0 PERFORM EXTENSIVE SYSTEM ARCHITECTURE PERFORMANCE SIMULATIONS
- 0 INSTALL BUREAUS IN THREE ROUNDS:
 - BETA SITE (KEY WEST)
 - DEPOT SITES (PANAMA, OKINAWA, NICOSIA)
 - ALL REMAINING BUREAUS (ELEVEN)

DATA BASE SERVICES -- RISK MINIMIZATION

- 0 BUILD ON A BASE OF ESTABLISHED COMMERCIAL EQUIPMENT
- 0 DO NOT PUSH THE STATE-OF-THE-ART
- 0 EMPLOY SIMULATION AND HANDS-ON PROTOTYPING
TO SUPPORT VENDOR TRADES
- 0 PROTOTYPE THE USER INTERFACE EARLY IN THE PROGRAM
- 0 FINISH THE LOW-RISK CAPABILITIES FIRST, THEN
INTEGRATE THE DATA BASE

MINIMIZATION OF OTHER RISKS

INTEGRATION OF COMMERCIAL EQUIPMENT

- 0 PERFORM VENDOR EVALUATIONS WITHIN THE TEST BED
- 0 RETAIN LOOSELY-COUPLED, WELL-DEFINED S/S TO S/S I/Fs
- 0 EMPLOY A PHASED IMPLEMENTATION
- 0 EXPLOIT COMMONALITY AMONG SUBSYSTEM DESIGNS

OPERATIONAL TRANSITION

- 0 PHASE SIMPLEST CAPABILITIES INTO FBIS FIRST
- 0 PROVIDE EXTENSIVE TRAINING COURSES
- 0 TRAIN KEY PEOPLE PRIOR TO SYSTEM DELIVERY

DEVELOPMENT SCHEDULES

- 0 DEVELOPMENT SCHEDULES ARE DERIVED FROM THE ACTIVITY NETWORK
- 0 EACH ACTIVITY WAS MAPPED ONTO THE APPROPRIATE WBS ELEMENTS
- 0 REMAINING WBS ELEMENTS WERE LAID AGAINST SETS OF ACTIVITIES
- 0 TOTAL TIME DURATIONS WERE COMPUTED FROM THE ENTRIES MADE INTO EACH WBS ELEMENT
- 0 KEY WBS ELEMENTS WERE SELECTED FOR PORTRAYAL

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SOFTWARE LINES-OF-CODE BY PHASE

	<u>PHASE 1</u>	<u>PHASE 2</u>	<u>PHASE 3</u>	<u>PHASE 4</u>	<u>MULTI-L</u>	<u>BUREAU 1</u>	<u>TOTALS</u>
.O. S/S	2,000	800	---	---	---	---	2,800
.S. S/S	9,350	200	---	---	200	---	9,750
.S. S/S	200	---	18,600	---	---	---	18,800
BUREAU	---	---	---	---	---	17,300	17,300
	=====	=====	=====	=====	=====	=====	=====
TOTALS	11,550	1,000	18,600	---	200	17,300	48,650

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0 EXTEND SCHEDULE BY ANY OF:

- RESCHEDULE ONE SUBSYSTEM INDEPENDENTLY OF OTHERS
(THROUGH ALL OF ITS PHASES)
- RESCHEDULE ONE PHASE RELATIVE TO EARLIER PHASES
(TO INCLUDE ALL SUBSYSTEMS)
- RESCHEDULE JUST ONE PHASE OF ONE SUBSYSTEM
- STRETCH OUT BUREAU UPGRADES OVER MULTIPLE YEARS

0 RELAX CERTAIN REQUIREMENTS:

- REDUCE WORKSTATION/TERMINAL COUNTS
(POSSIBILITIES AT BOTH BUREAU AND HEADQUARTERS)
- ACCEPT REDUCED REDUNDANCY AT BUREAUS

0 (ESL) NEGOTIATE VOLUME DISCOUNTS ON COMPUTER EQUIPMENT