

FOREIGN BROADCAST INFORMATION SERVICE

CONCEPT DEFINITION PHASE

PHASE 3 REVIEW

NOVEMBER 1, 1984

XEROX SPECIAL INFORMATION SYSTEMS

Xerox Special Information Systems

DESIGN REVIEW TEAM

| | |
|---------------------|--|
| Bob Worlock | Program Manager |
| Max Bohlmann | System Engineer |
| Larry Hudson | Collection and Communication |
| Don Winter | Workstations and Network Services |
| Gil Grodsky | Data Base Management Systems |
| Paul Ricks | Program Plan, Cost Estimate |

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REVIEW AGENDA--MORNING

| | |
|--|---------------------|
| Introduction | Bob Worlock |
| Concept of Operation | |
| Introduction | Max Bohlmann |
| Collection Process User Operations | Larry Hudson |
| Bureau Monitor/Editor Operations | Don Winter |
| Bureau Communications User Operations | Larry Hudson |
| Headquarters Communications User Operations | Larry Hudson |
| Headquarters Editor Operations | Don Winter |
| Writer's Workbench & DBMS Operations | Gil Grodsky |
| System Specification Overview | Bob Worlock |
| Break | |

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REVIEW AGENDA--AFTERNOON

Design Refinement

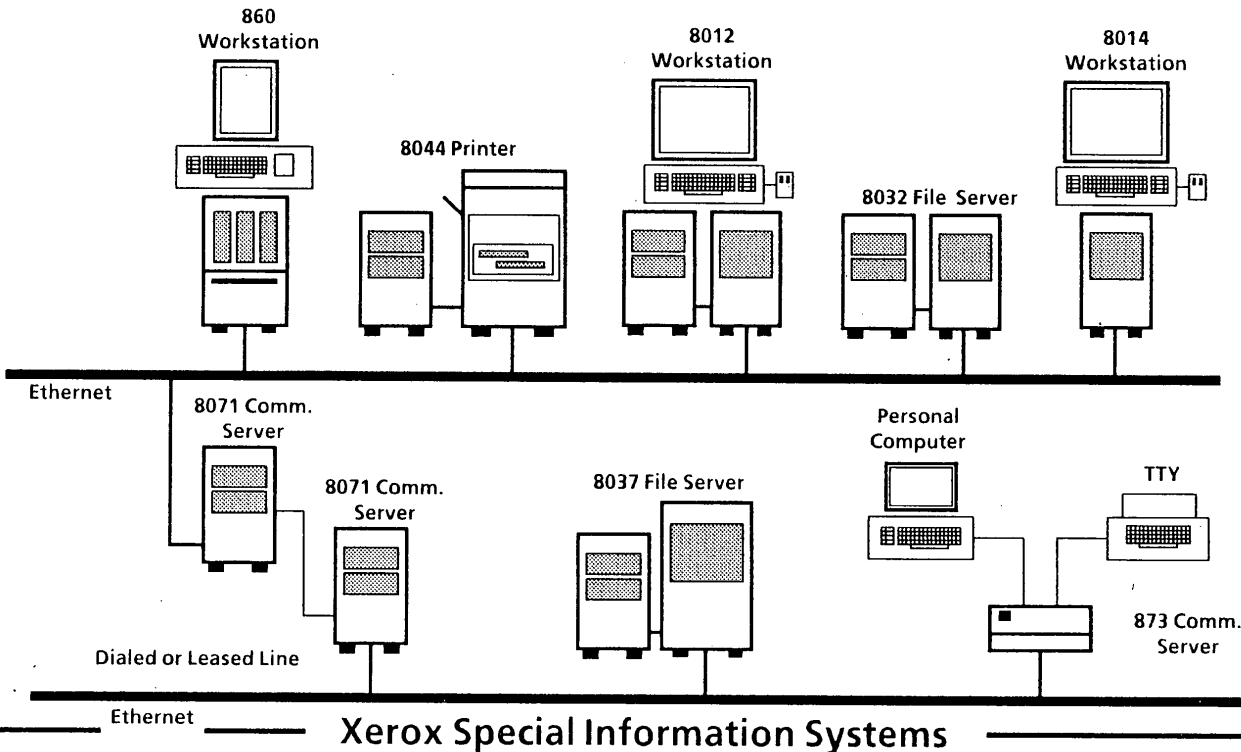
| | |
|--------------------------------|--------------|
| Facility Requirements | Gil Grodsky |
| Datafusion Corporation | Gil Grodsky |
| Foreign Language Sorting | Don Winter |
| Graphics Integration | Don Winter |
| Composition System Development | Don Winter |
| 8000NS Open System | Max Bohlmann |
| Benchmark Demonstration | Max Bohlmann |
| STAR Improvements | Max Bohlmann |
| Program Schedule/Cost | Paul Ricks |
| New Product Plans | Paul Ricks |
| Wrapup | Bob Worlock |

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DISTRIBUTED ARCHITECTURE

DISTRIBUTED :

- Functions distributed among capable workstations & servers
- Accessed via local & remote workstations (e.g. Xerox 8000NS)



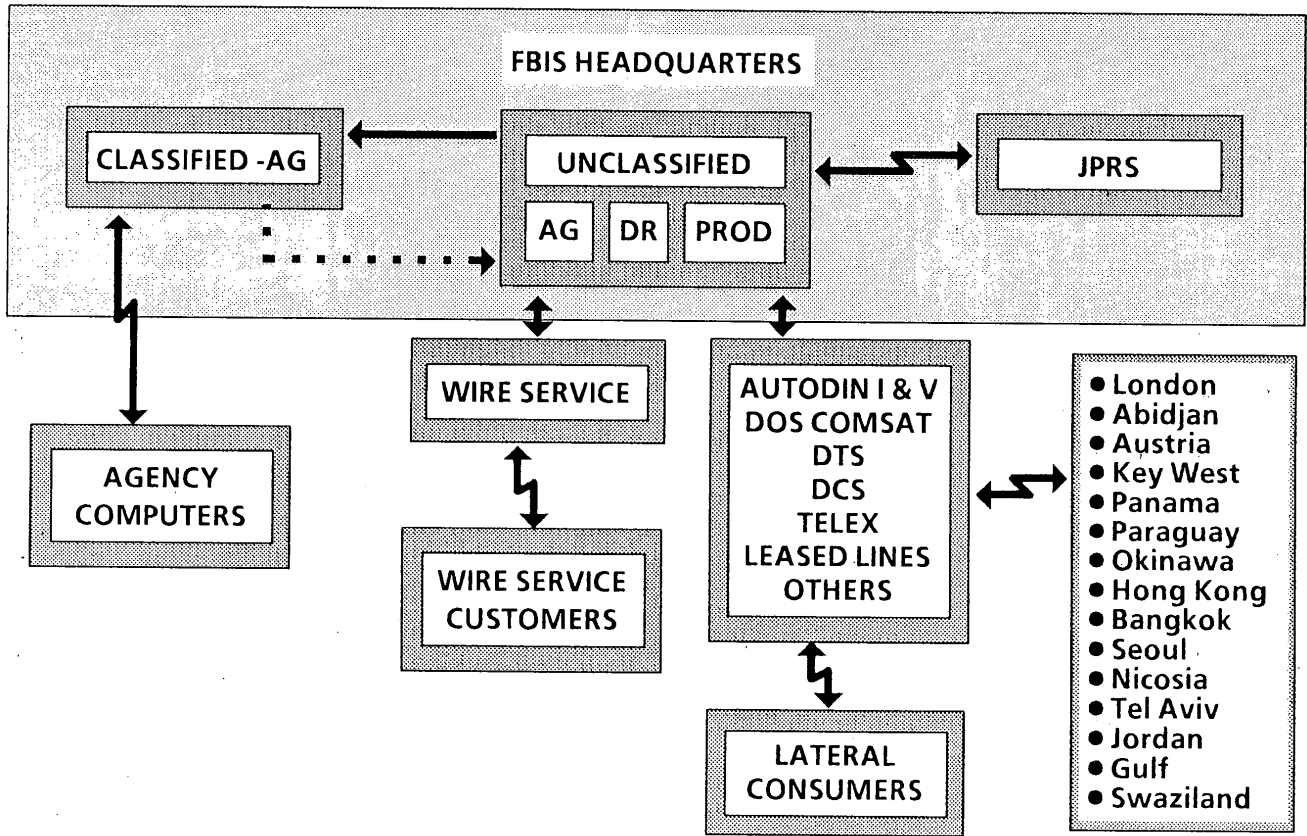
CHARACTERISTICS OF DISTRIBUTED ARCHITECTURE

- **Tasks (functions) distributed among many communicating processors of two generic types:**
 - **Workstations running client tasks for user interface.**
 - **Servers running services (e.g. printing, mailing, filing, communications gateways) for client processes.**
- **Parallel processing of independent tasks.**
- **High quality processing available at the point of use.**
- **Decentralized control and data access.**
- **Distributed system generally provides greater throughput than centralized system of the same cost.**

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NETWORK LEVEL SYSTEMS ARCHITECTURE

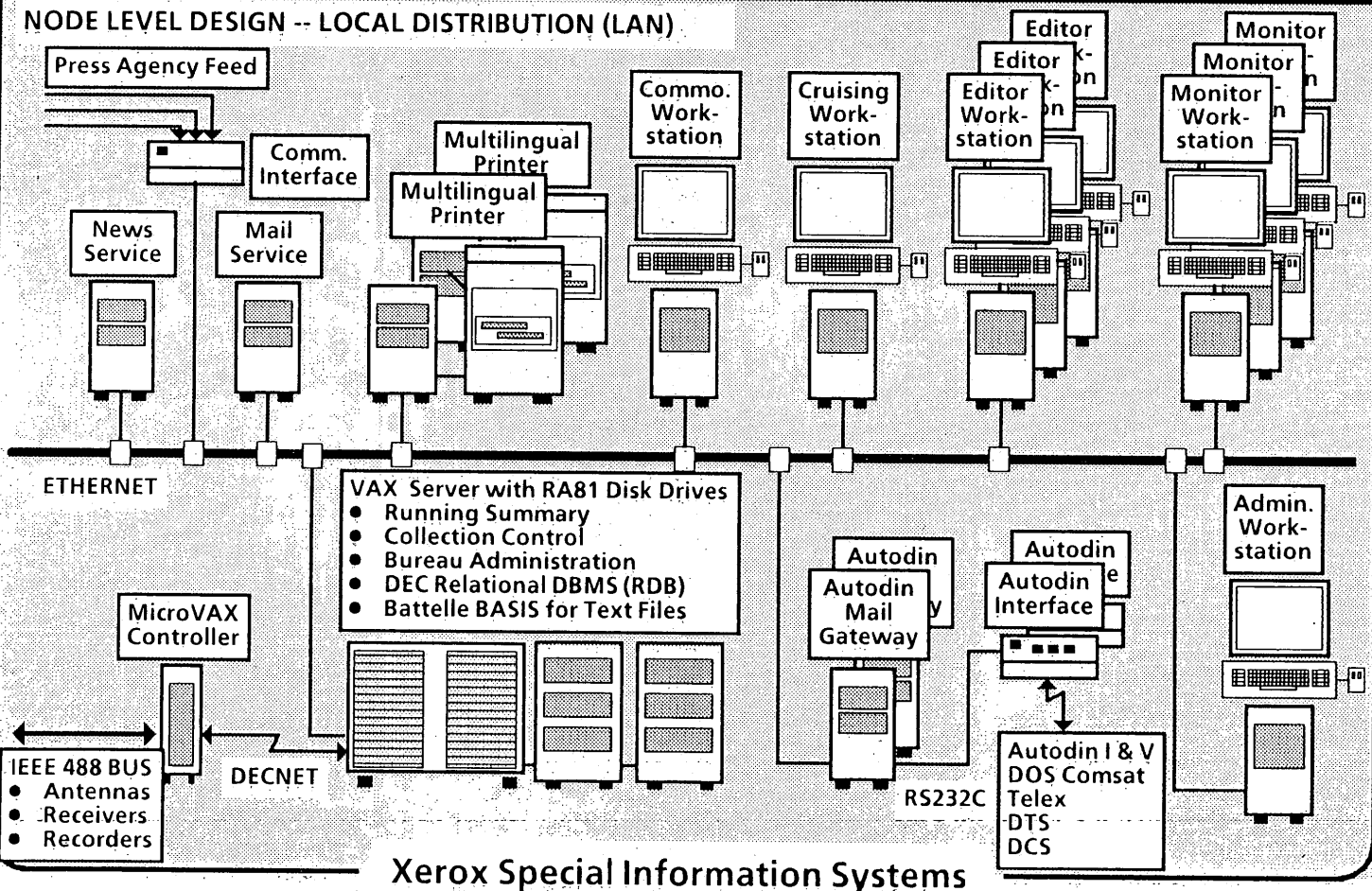
NETWORK LEVEL DESIGN -- Geographical Distribution



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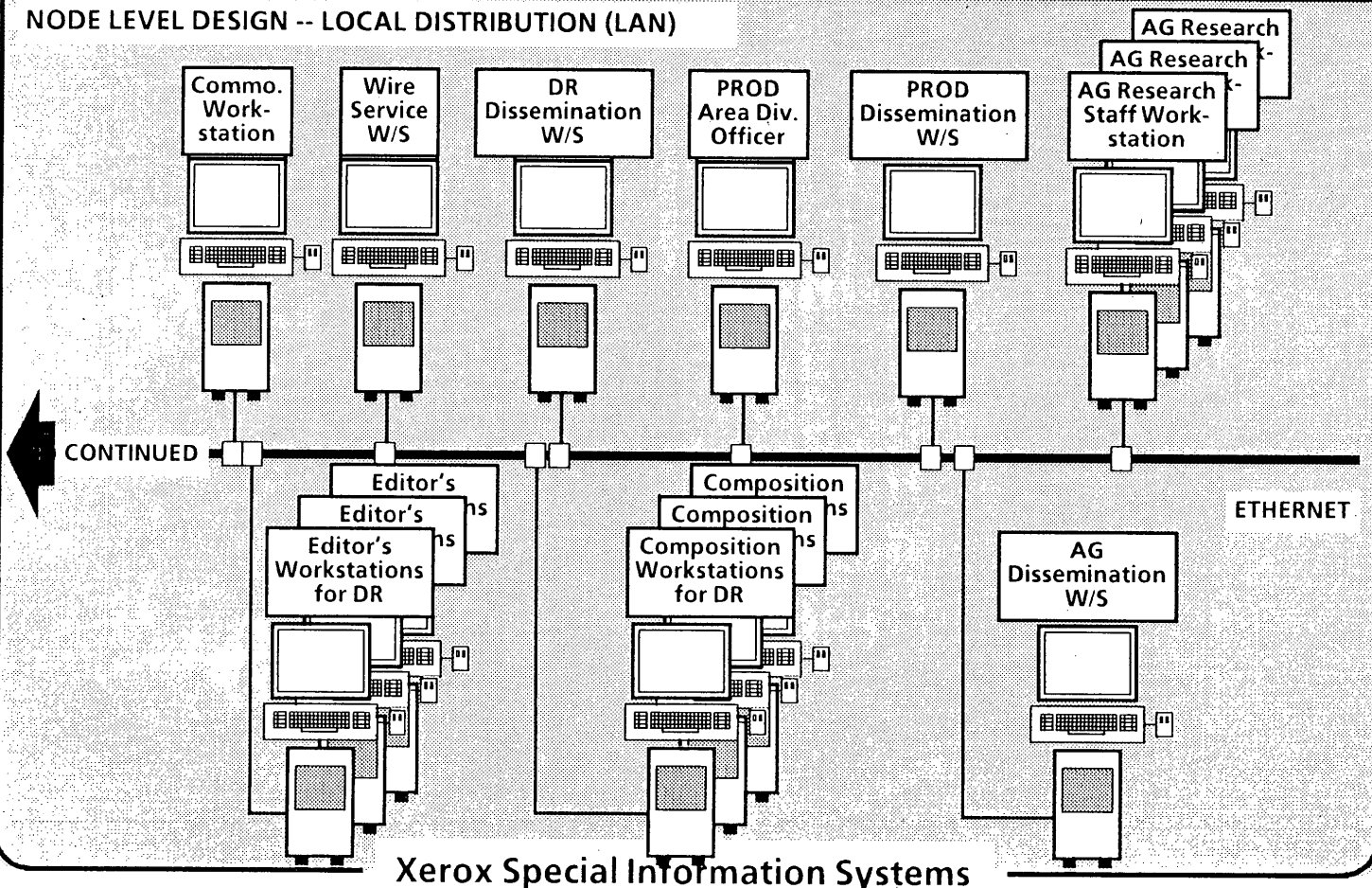
GENERIC BUREAU SYSTEMS ARCHITECTURE

NODE LEVEL DESIGN -- LOCAL DISTRIBUTION (LAN)



HQ UNCLASSIFIED SYSTEMS ARCHITECTURE--Workstations

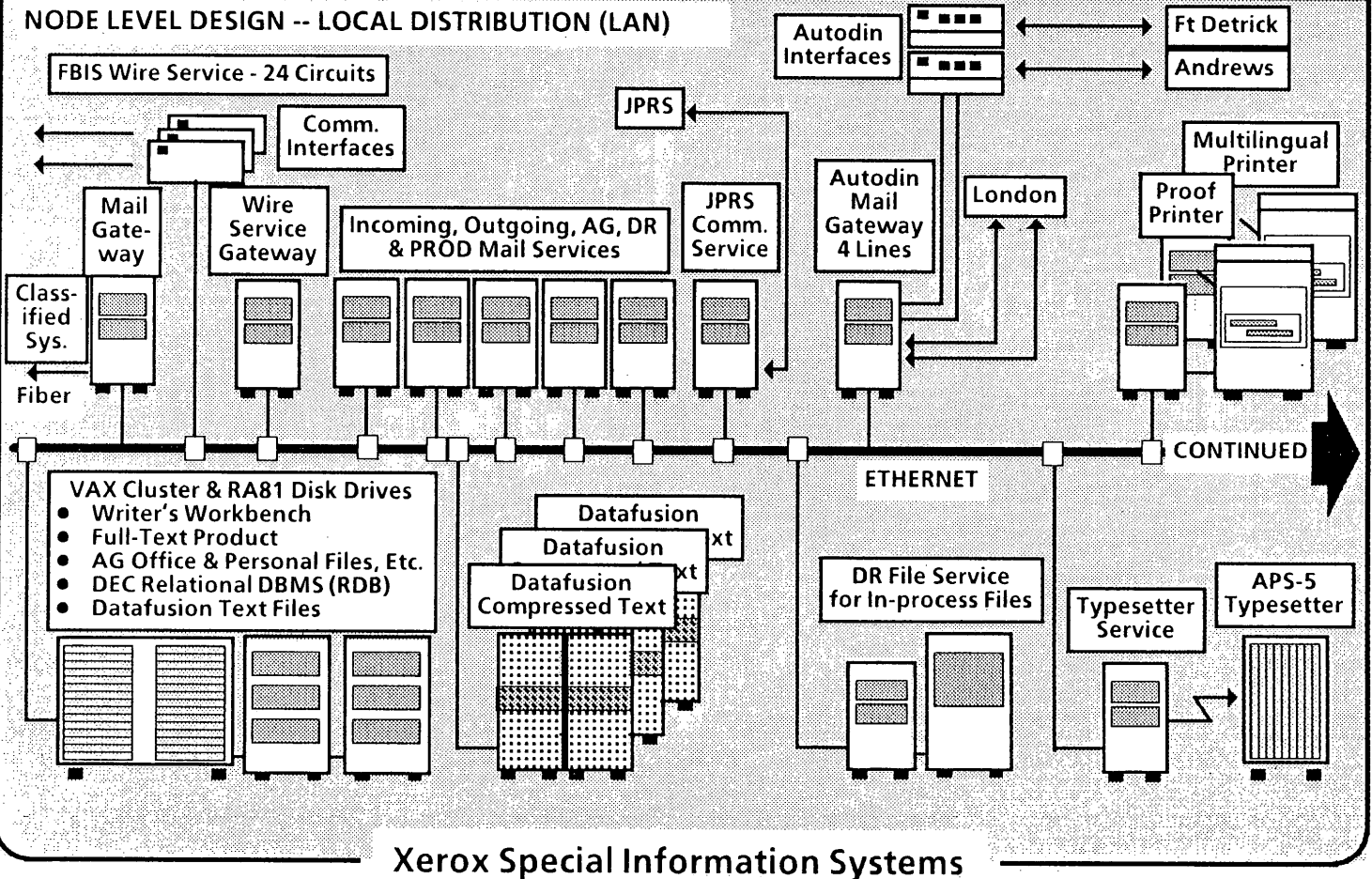
NODE LEVEL DESIGN -- LOCAL DISTRIBUTION (LAN)

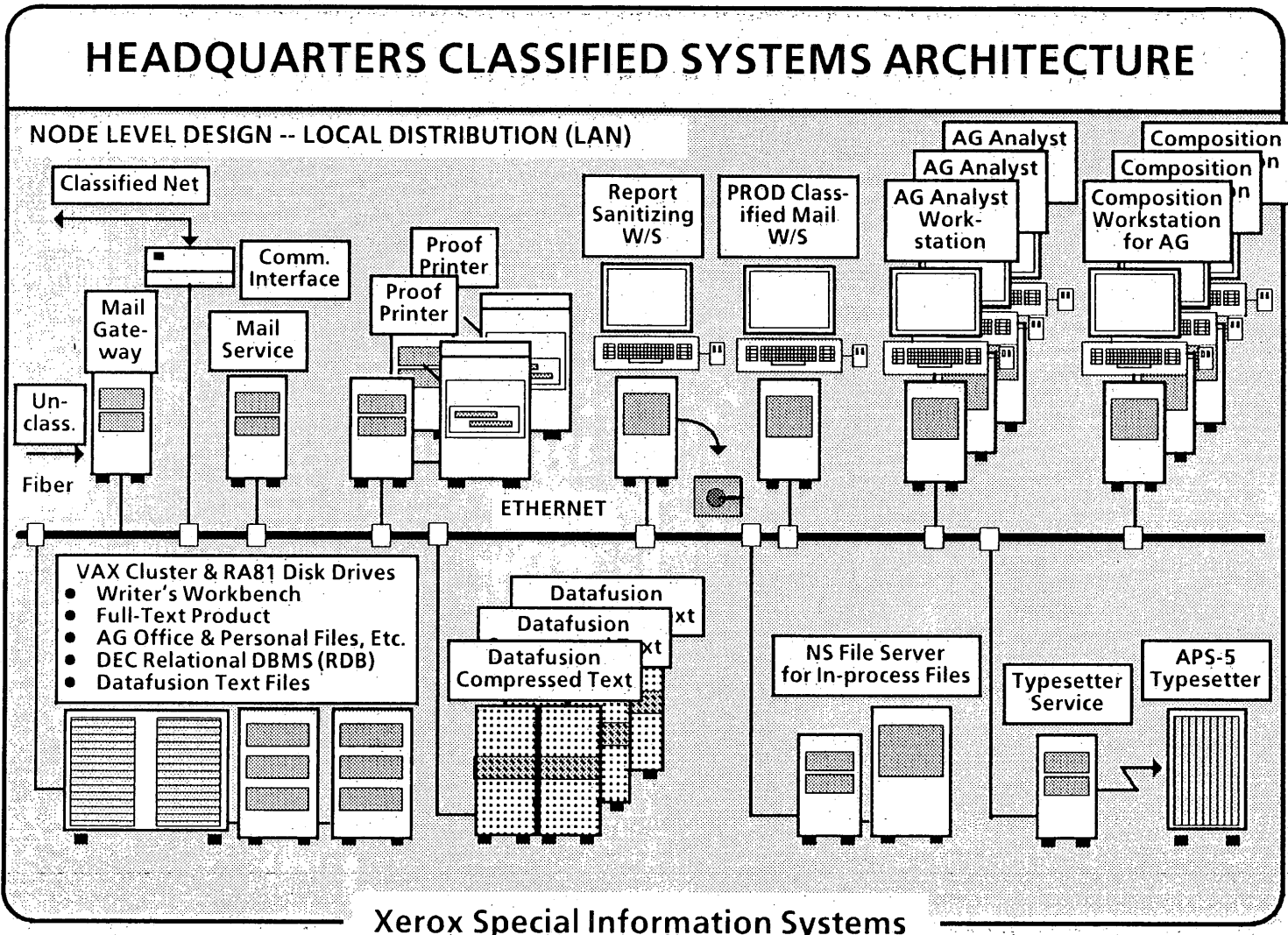


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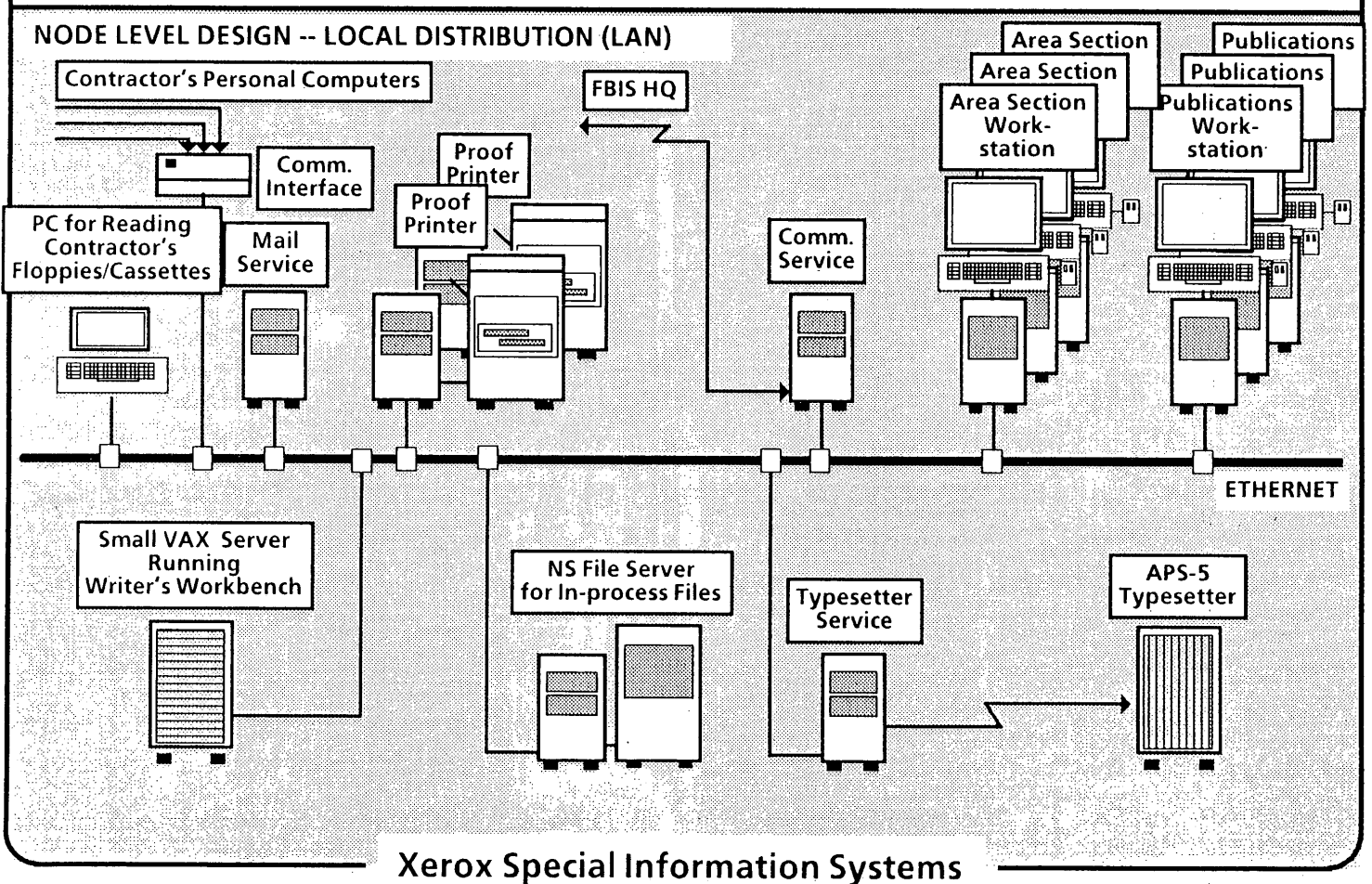
HQ UNCLASSIFIED SYSTEMS ARCHITECTURE -- SERVICES

NODE LEVEL DESIGN -- LOCAL DISTRIBUTION (LAN)





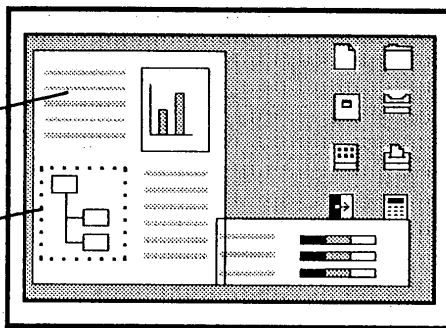
JPRS SYSTEMS ARCHITECTURE



STAR USER INTERFACE: DESKTOP METAPHOR

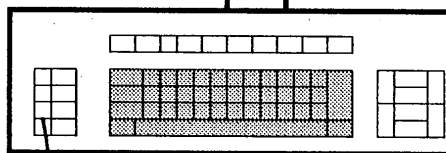
DOCUMENT OBJECTS (window)

- Page head, foot number
- Text character paragraph
- Frame
- Graphics line symbol chart
- Table
- Equation
- Text
- Field



DESKTOP OBJECTS (ICONS)

- Document
- Record File
- Folder
- Drawer
- Printer
- In- and Out-Baskets
- Directory
- Spread sheet
- Terminal Emulators



MOUSE

Select

Adjust

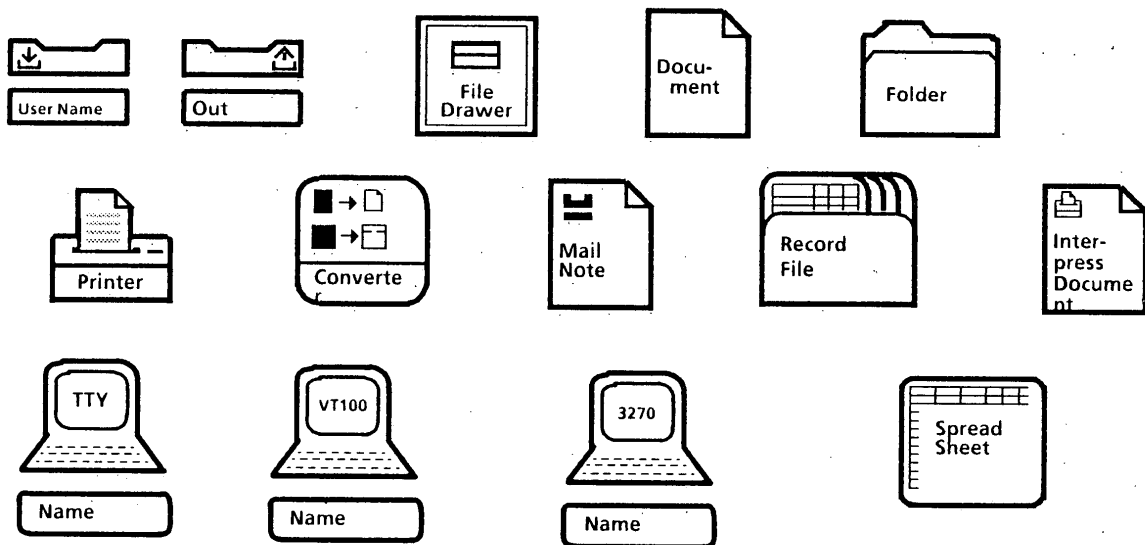
UNIVERSAL COMMANDS

- | | |
|------------|-------|
| Delete | Stop |
| Copy | Undo |
| Move | Again |
| Properties | Find |
| Same As | Open |

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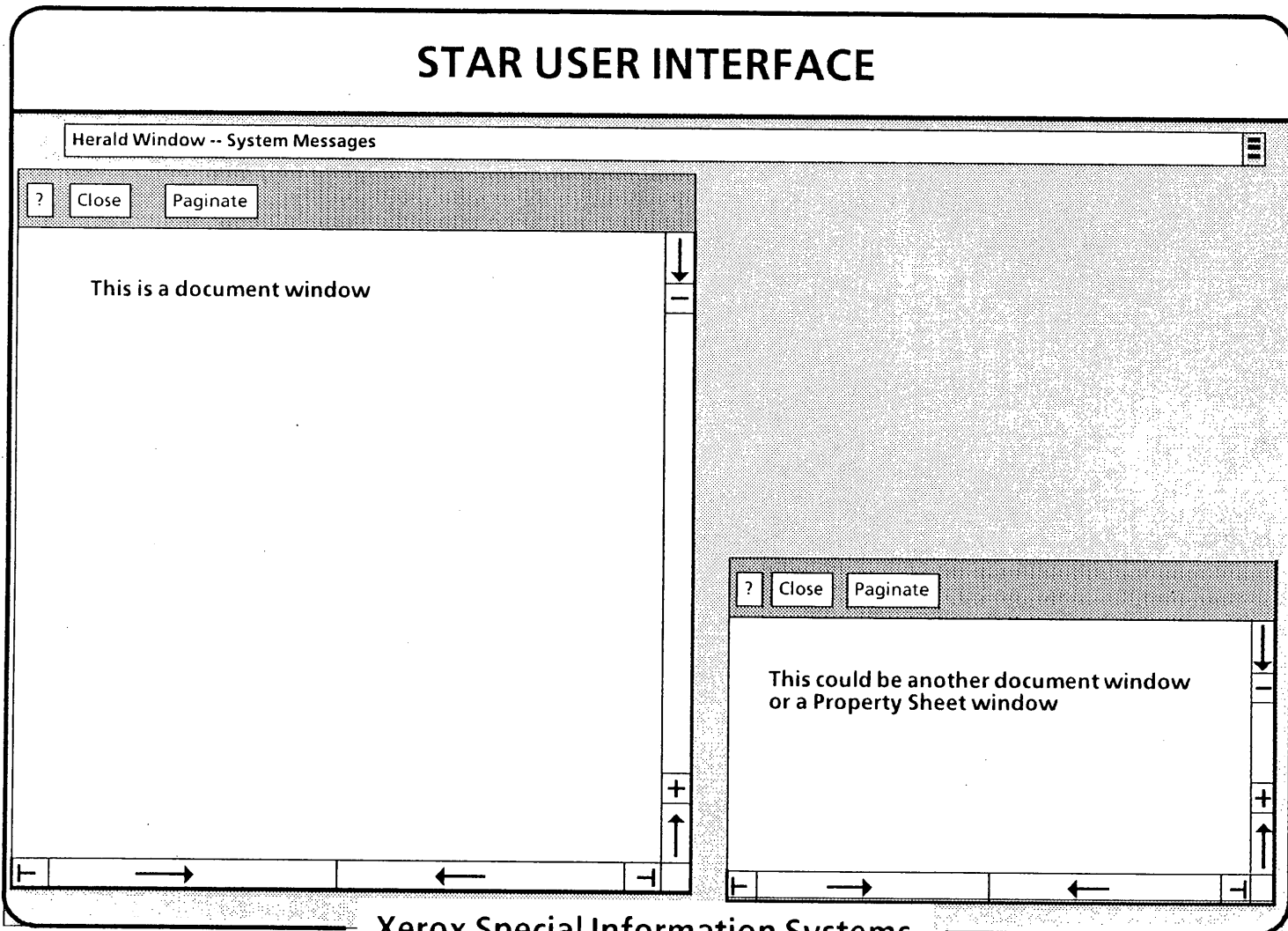
STAR USER INTERFACE

- Interface uses desktop metaphor
- Icons represent common desktop resources (up to 153 icons)
- Icons can be selected and opened to form windows



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STAR USER INTERFACE



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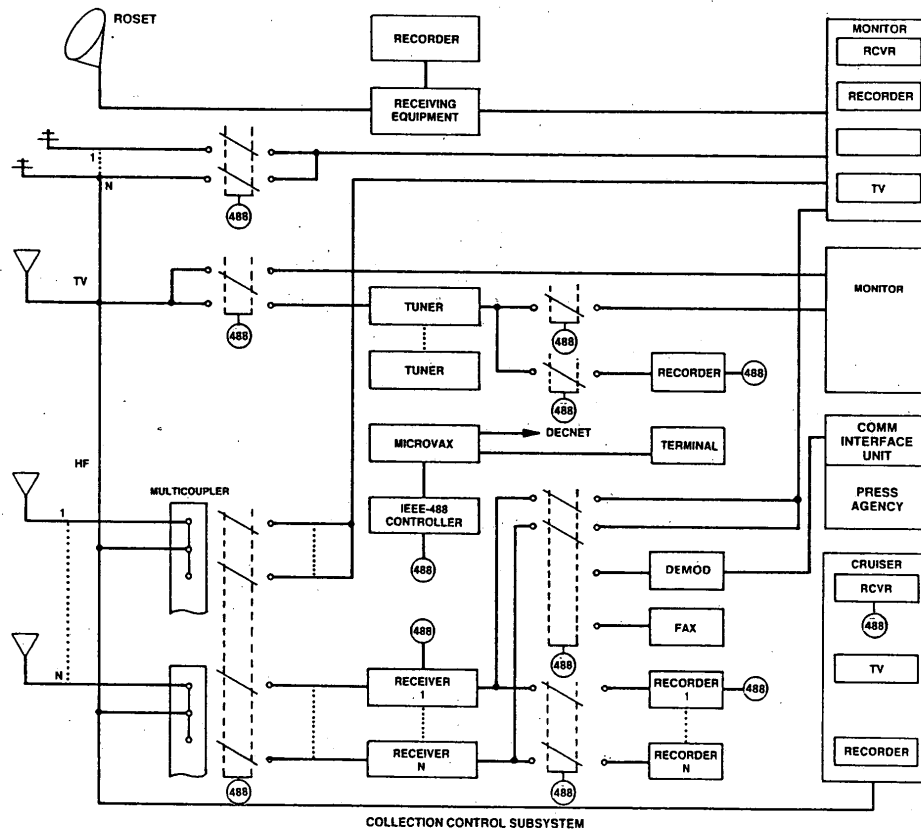
COLLECTION CONTROL

USER INTERFACES

- **Bureau personnel**
- **Boardman Operator**
- **Cruiser**
- **Monitor**

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COLLECTION CONTROL



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COLLECTION CONTROL

BUREAU PERSONNEL - BOARDMAN DBMS

| GMT | STATION | PR | REMARKS |
|-----------|------------|----|---------------------------|
| 1200-1430 | Cairo MENA | | |
| 1300 | VOM | 3 | |
| 1400 | Cairo | 2 | |
| 1415 | VOL | 3 | (Assist - when available) |
| 1430 | Ihdin | 3 | |
| 1530-1700 | VPLO | | record |
| 1615 | VOL | 3 | |
| 1630 | VOM | 3 | (Assist - when available) |
| 1730 | Cairo | 1 | wirefile |
| 1900 | VOM | 3 | (Assist - when available) |
| 2000 | Cairo | 2 | |

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COLLECTION CONTROL

BOARDMAN OPERATOR - DBMS SET-UP

| GMT | | STATION | ANT | RVR | FREQUENCY KHZ | RDR | REMARKS |
|-------|------|------------|-----|-----|------------------|-----|---------|
| START | STOP | | | | | | |
| 1200 | 1430 | Cairo MENA | 1 | 4 | 15280 | 1 | |
| 1300 | 1400 | VOM | 2E | 5 | 1600 | 2 | |
| 1400 | 1415 | Cairo | | | | | |
| 1415 | 1430 | VOL | | | | | |
| 1430 | 1500 | Ihdin | | | | | |

| ANT | ASGD | RCVR | ASGD | RCDR | ASGD | FAX | ASGD | DEMOD | ASGD |
|-----|------|------|------|------|------|-----|------|-------|------|
| 1 | 6 | 1 | 7 | 1 | 7 | 1 | | 1 | MENA |
| 2E | 6 | 2 | | 2 | 6 | 2 | | 2 | AFP |
| 2W | | 3 | | 3 | | | | 3 | |
| 3 | 7 | 4 | 6 | 4 | 6 | | | 4 | AP |
| 4 | | 5 | 6 | 5 | | | | 5 | |
| 5 | | 6 | | 6 | | | | 6 | |

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COLLECTION CONTROL

BOARDMAN OPERATIONS

- **DBMS Set-up**
- **Activate schedule controller**
- **Reassign resources**
- **Add coverage**
- **Monitor system operations**
- **Diagnosis system anomalies**

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COLLECTION CONTROL

CRUISER INTERFACE

- **Displays date/time & static data**
- **Receiver frequency entered upon request**
- **Cruiser enters antenna, source, etc.**
- **Data is entered into DBMS upon request**
- **Access available to mail, DBMS, & other network services**

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COLLECTION CONTROL

Receiver Controller

ANT **3** RCVR **49**

FREQUENCY **14.385 90** MHz

- 300 200 100 0 100 200 300 +

RF Gain

AF Gain

Band Width .3 1 **3.2** 6 16 kHz

MODE AM FM **CW** ~~MSW~~ USB LSB ISB

AGC MANUAL **FAST** SLOW

BFO **ON** OFF **+2270** kHz

- 3000 2000 1000 0 1000 2000 3000 +

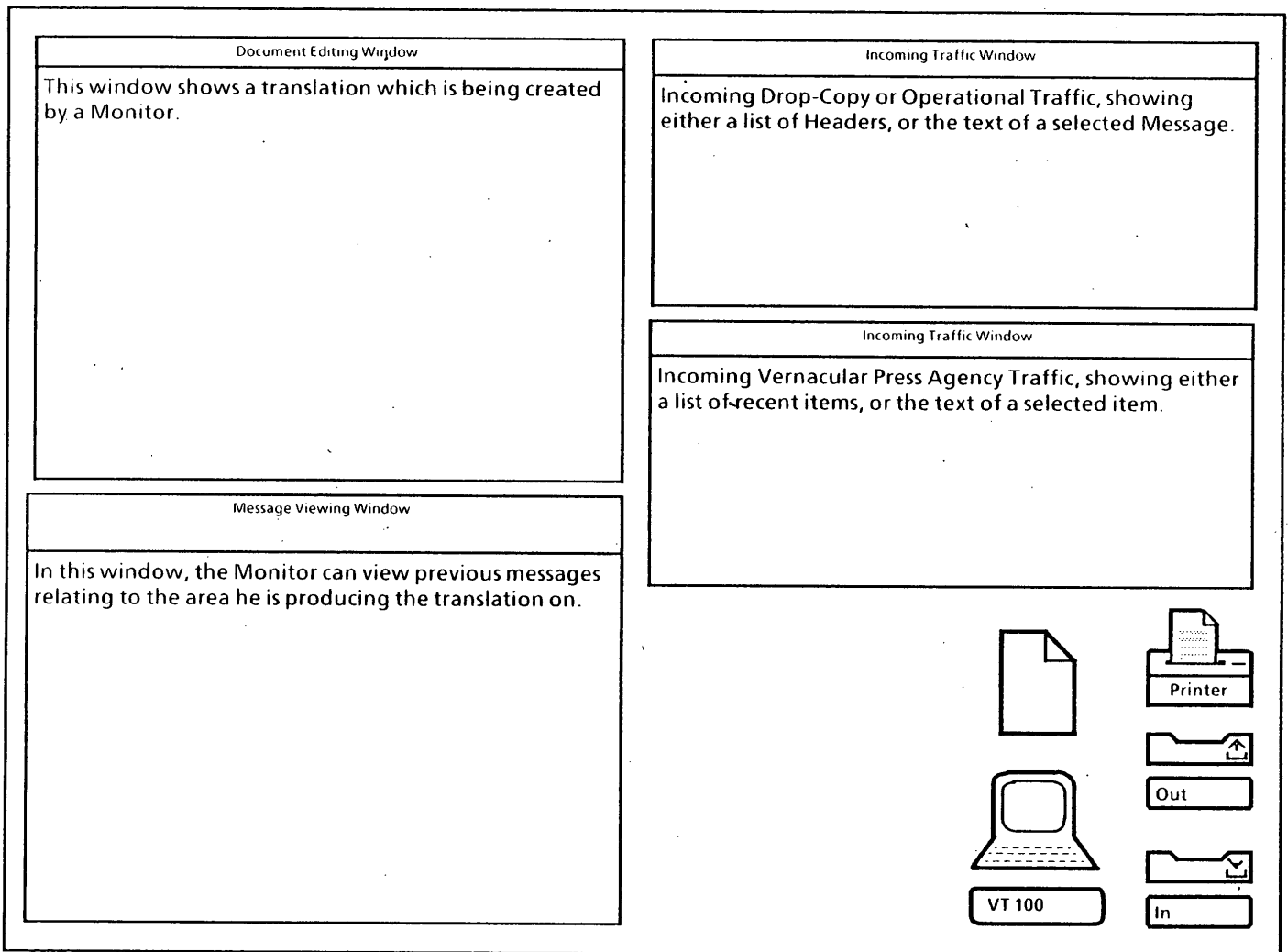
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FBIS BUREAU MONITOR/EDITOR OPERATIONS

Monitor Activities

- **Summaries and Publishable Messages are created, edited, and communicated electronically**
- **New documents are created by copying the Blank Document icon**
- **Documents are communicated electronically by closing them, and then copying them to the outbasket icon**
- **Character-oriented vernacular Press Agency can be captured electronically and printed or viewed at the user's discretion**
- **Copy can be printed at any time for review and discussion**
- **Documents are printed by copying them to the printer icon**
- **Running summaries are made available to others by entering them using the VT100 emulator window which is available by opening an icon**

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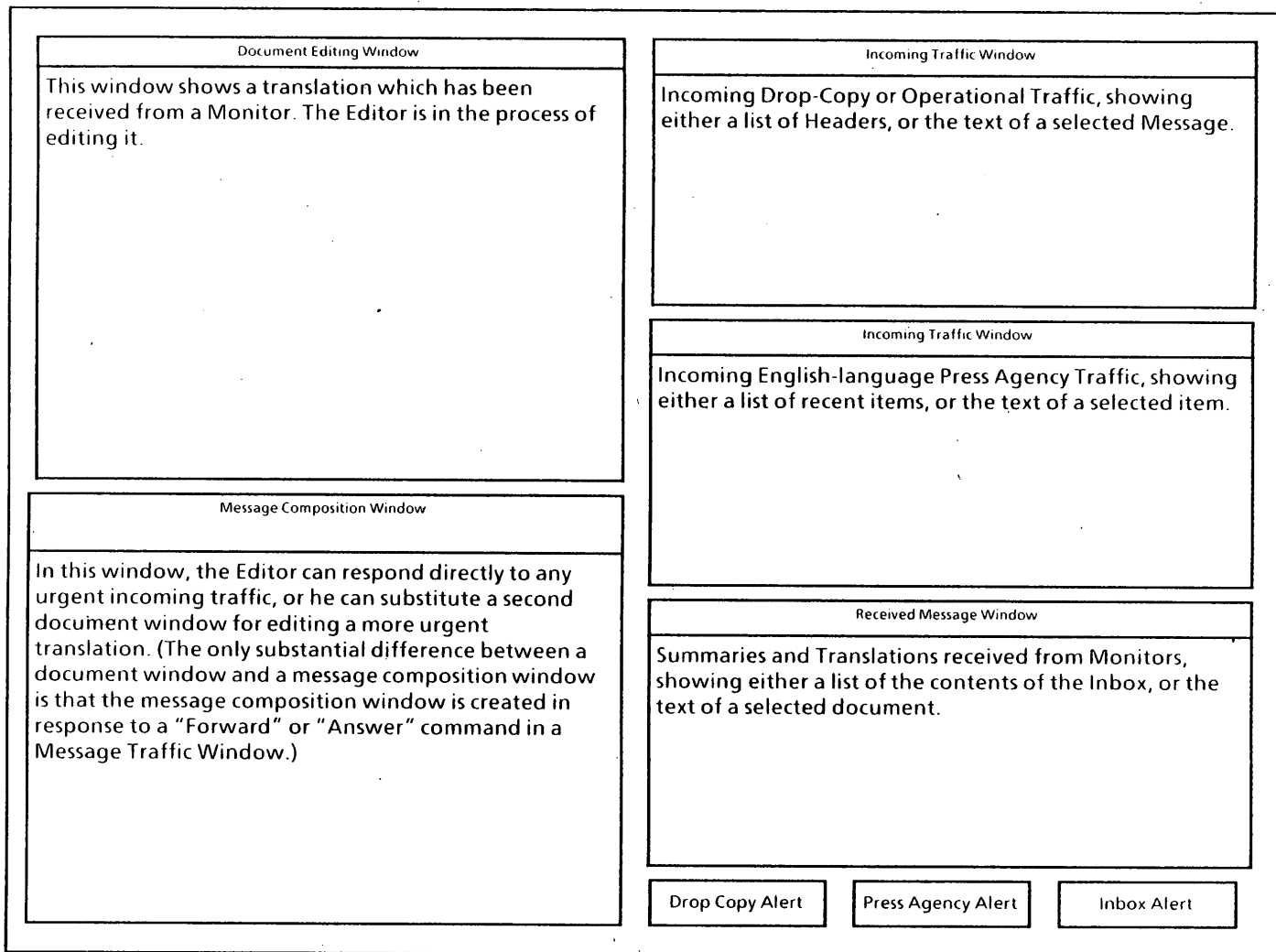
Monitor's screen while translating a broadcast

FBIS BUREAU MONITOR/EDITOR OPERATIONS

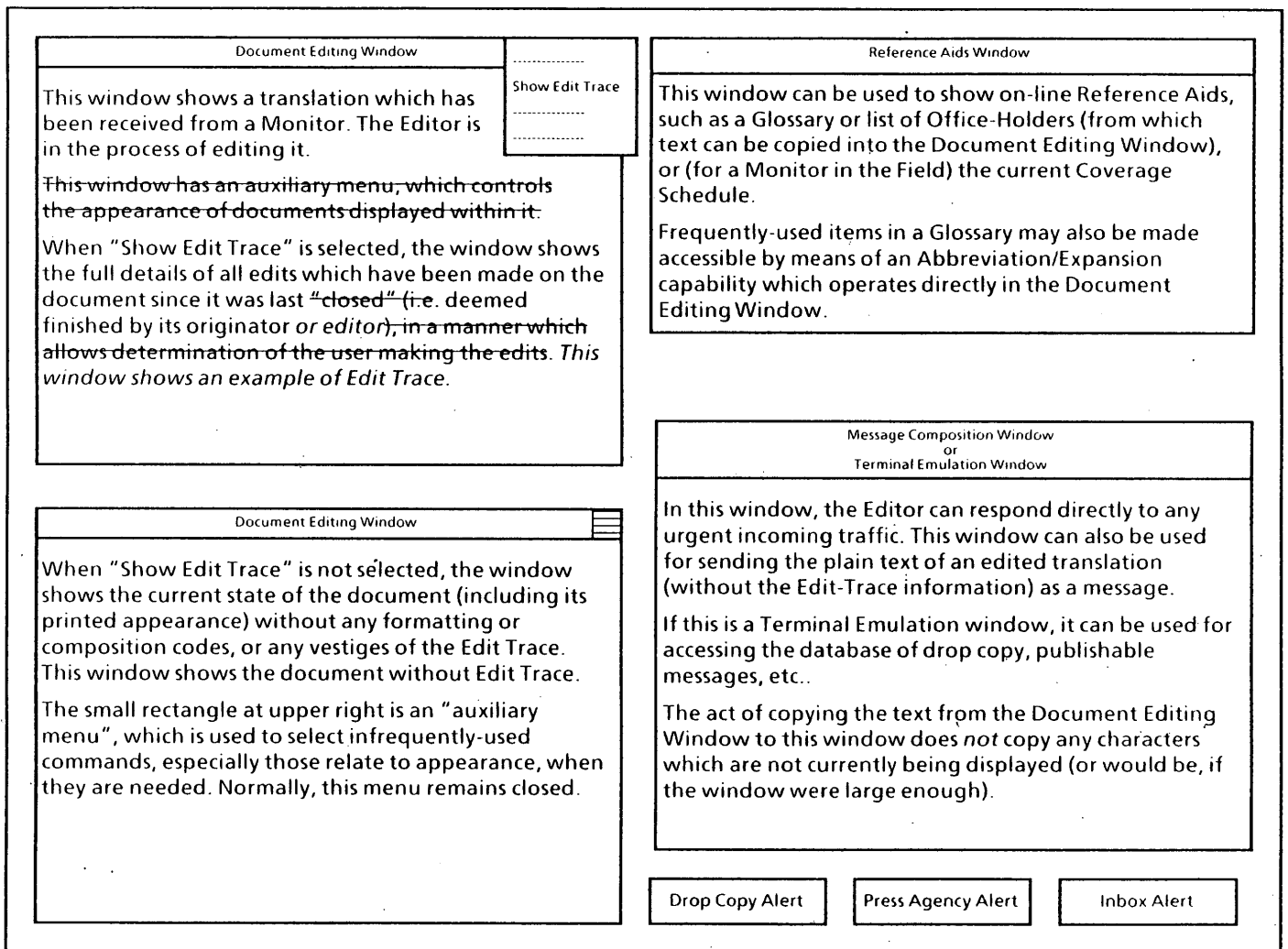
Editor activities

- **Summaries and Publishable Messages are received electronically, using the In Basket(s)**
- **English Press Agency traffic is captured electronically for editing**
- **Copy can be printed at any time for review and discussion**
- **Within a translation, the edits from the previous version can be viewed at the user's command**
- **Running summaries are available for quasi-real time viewing, scrolling and copying at other workstations**
- **FYIs are created, edited, and communicated electronically**

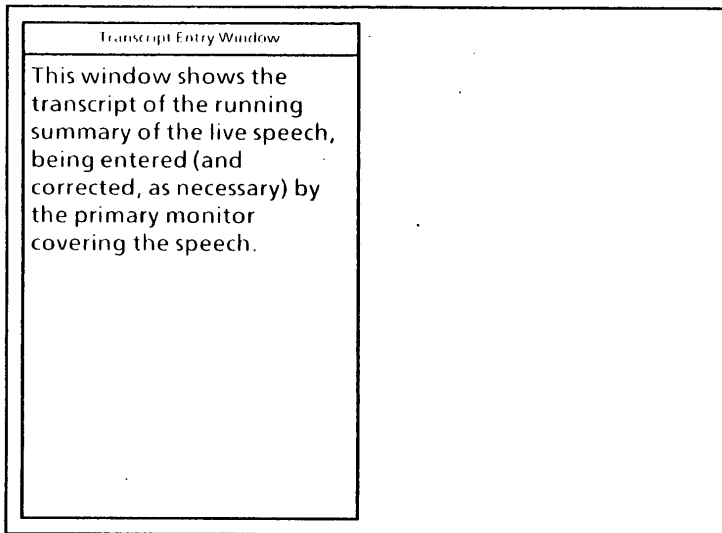
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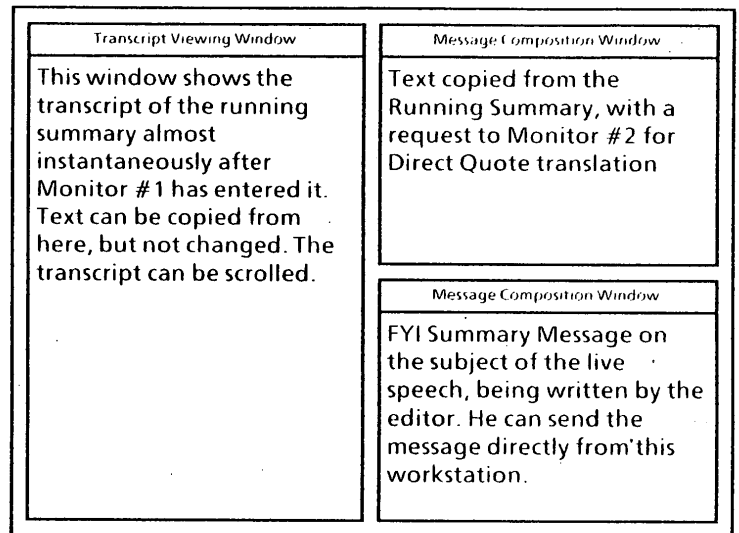
Editor Handling Incoming Traffic



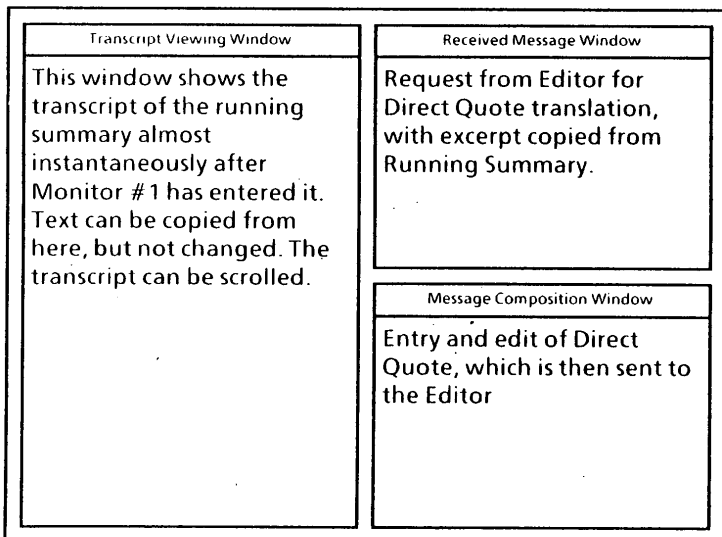
Edit-Trace on the Screen



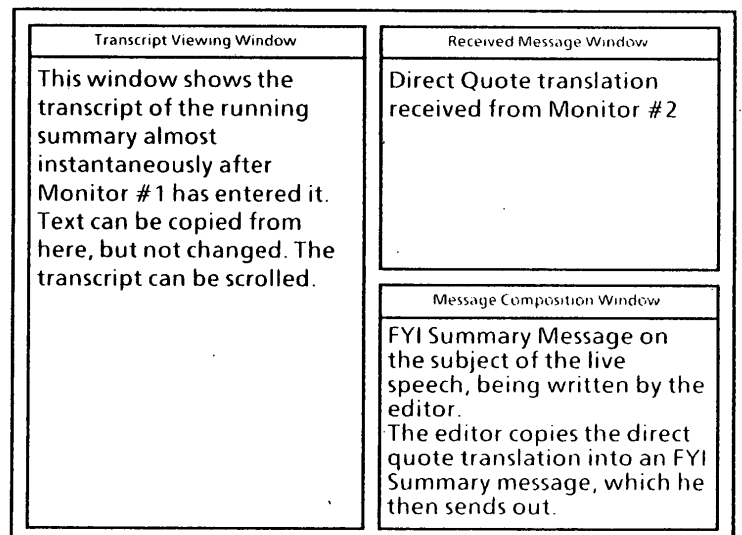
Monitor #1's Workstation



Editor's Workstation (a)



Monitor #2's Workstation



Editor's Workstation (b)

Covering a Live Speech

FBIS BUREAU MONITOR/EDITOR OPERATIONS

Editor activities (cont.)

- **Outgoing traffic, drop copy, English Press Agency, and administrative messages are printed periodically to be available for read-in**
- **Edited copy is sent to the Communications Operator in electronic form**
- **Commo. adds/expands and edits addressee lists electronically**
- **Publishable traffic dissemination and management is handled using the Mail Gateway**

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BUREAU COMMUNICATIONS

COMMO OPERATOR

- **Receives traffic from Slot Editor**
- **Checks header and completes address list electronically**
- **Releases traffic to AUTODIN Mail Gateway**
- **Checks on messages as requested**
- **Alters traffic stream (precedence, deletion, etc.) as requested**
- **Overseas logging, filing, etc.**

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HEADQUARTERS COMMUNICATIONS

USER INTERFACES

- Commo operator
- Wire Service Editors

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HEADQUARTERS COMMUNICATIONS

WIRE SERVICE EDITOR INTERFACE

- Uses "Standard FBIS Screen"
- Distribution determined by mouse selection in "Consumer Menu" window
- Full editing capability available
- All other network services available, e.g., printing, filing, etc.

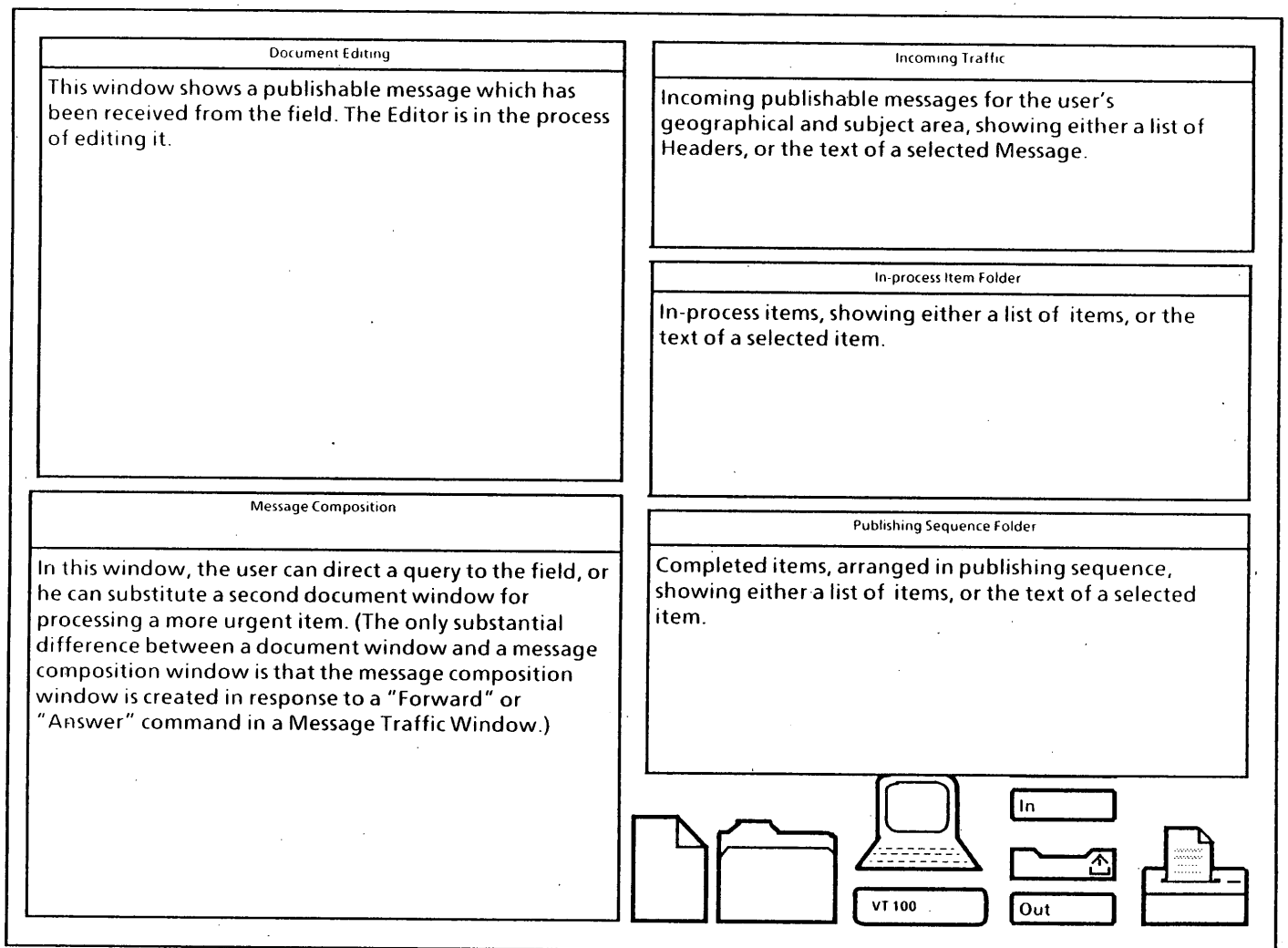
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FBIS HEADQUARTERS EDITOR OPERATIONS

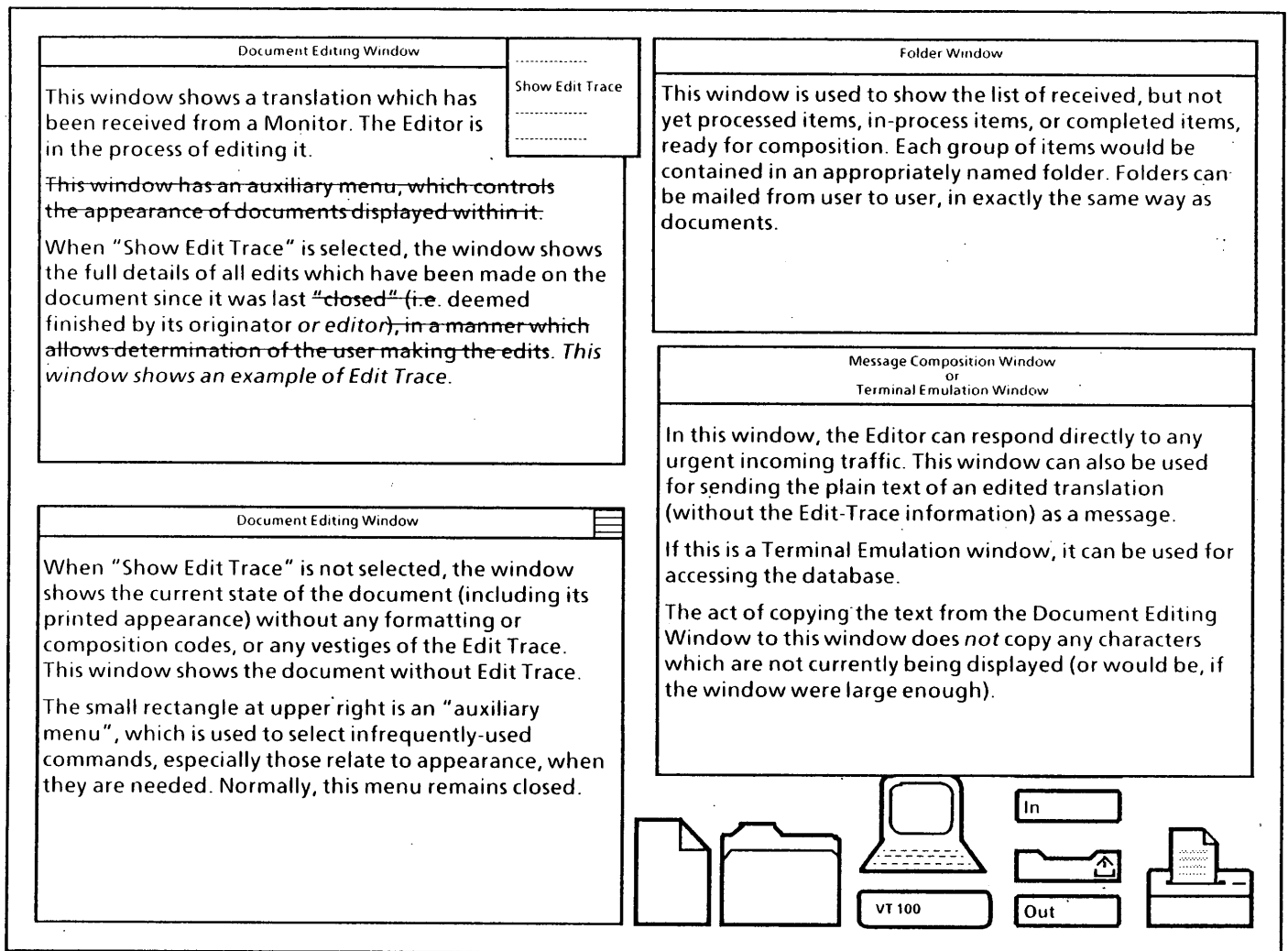
Editorial Activities (DR; Prod; AG)

- **Publishable messages from the Field received in electronic form**
- **Publishable messages are sorted by geographical and subject area, and disseminated to appropriate users for review and processing**
- **Edits from the previous item version viewed at the user's command**
- **Items in-progress are managed using (and mailing) file folders**
- **Daily Report items are arranged in publishing sequence in folders**
- **Daily Report overflow material processed by Prod in electronic form**
- **AG Reports created and edited in electronic form**
- **Machine aids to translation created and edited using multi-lingual workstations and printed using multi-lingual printers**
- **Completed translations captured electronically, so far as possible; others keyboarded to electronic form**

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Handling Incoming Traffic at HQ



Editor's Workstation, showing Edit-Trace on the Screen

FBIS HEADQUARTERS EDITOR OPERATIONS

Composition Activities (DR; Prod; AG)

- Spelling check is available on the workstation
- Syntax checking, etc., is available as a network service in batch mode
- Composition takes place in batch/background mode; problem pages can be adjusted interactively following composition
- Final edited and composed reports/books/sections are deposited in the full-text product database
- Final edited and composed JPRS serials are deposited in the full-text product database, and automatically indexed in the Consolidated Translation Survey
- Composed books/reports/serials are automatically converted to phototypesetter format and delivered to the phototypesetter electronically

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The screenshot displays a graphical user interface for document editing. It features a main document window with two columns of text, a folder window showing a file list, and a 'PAGE HEADINGS AND FOOTINGS' dialog box. The dialog box is currently open, showing options for displaying page headings and footings, including settings for position, start page, and content.

Document Window: Contains two columns of text: "This is a sample document window showing two columns. You can have up to 16 multiple columns in a document."

Folder Window: Lists the following items:

| NAME | SIZE |
|-------------------------------|------------|
| Folder of Documents & Folders | 21 Objects |
| Book 8, Section 1 | 10 Pages |
| Book 8, Section 2 | 15 Pages |
| Book 8, Section 3 | 12 Pages |

PAGE HEADINGS AND FOOTINGS Dialog:

- Buttons: Done, Cancel, Defaults
- Display: PAGE LAYOUT, PAGE HEADINGS (selected), PAGE NUMBERS
- Show: HEADING (selected)
- Left/right Pages: SAME, DIFFERENT (selected)
- Heading Left: Daily Report; Right: Book 8
- Heading Position: LEFT, RIGHT, CENTERED, OUTER (selected)
- Heading Start On: THIS PAGE (selected), NEXT PAGE
- Show: FOOTING (selected)
- Left/right Pages: SAME, DIFFERENT (selected)
- Footings: For Official Use Only
- Footings Position: LEFT, RIGHT, CENTERED (selected), OUTER
- Footings Start On: THIS PAGE (selected), NEXT PAGE

Composition on the Screen

WRITER'S WORKBENCH

Standard Analysis

- **Spelling**
- **Punctuation**
- **Word choice errors, diction**
- **Split infinitives**
- **Same word twice in a row**

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WRITER'S WORKBENCH

Optional Analysis

- Sexism in language
- Passive voice
- Occurences of verb "be"
- Stylistic analyses
 - Average length of words and sentences
 - Grammatical types of sentences
 - Percentage of verbs in the passive voice
 -

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WRITER'S WORKBENCH

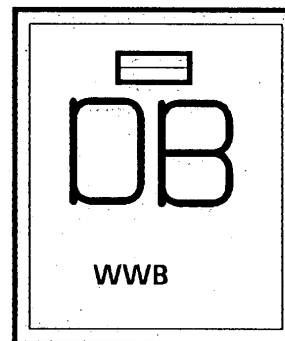
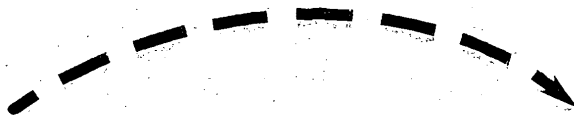
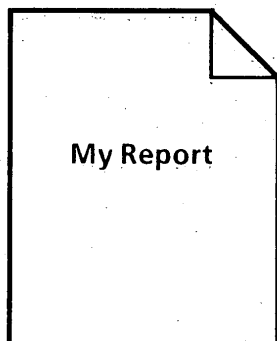
User Interface

- **Available from any Headquarters workstation**
- **Set up icon on desktop**
- **Use by copying document to icon**
- **If "display options" selected, enter WWB commands**

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WRITER'S WORKBENCH & DBMS OPERATIONS

"Move" or "Copy" document to "DB" icon



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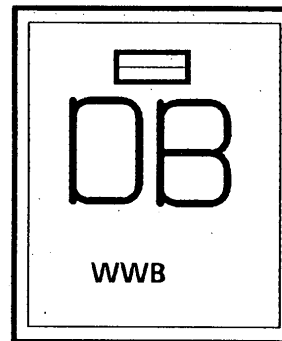
WRITER'S WORKBENCH OPERATIONS

"transfer to DB" icon Property Sheet

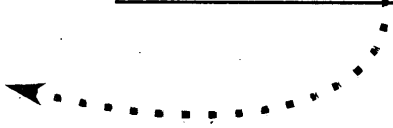
DB X'FR Properties

Done Cancel Apply

| | |
|----------------------|-----------------|
| Icon Name | WWB |
| Data Base Name | VAX:WWB.DB |
| File Name in DB | My_Report |
| Associated Text | ^ |
| Associated Commands | ^ |
| On Document Transfer | Display Options |



Enter WBB commands here



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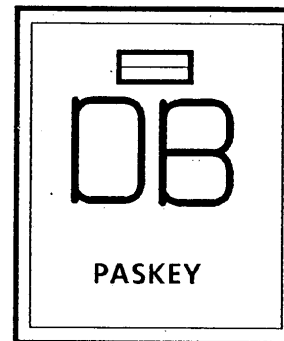
DBMS OPERATIONS - PASKEY

"transfer to DB" icon Property Sheet

DB X'FR Properties

Done Cancel Apply

| | |
|----------------------|-----------------|
| Icon Name | PASKEY |
| Data Base Name | VAX: PASKEY.DB |
| File Name in DB | My_Report |
| Associated Text | ^ |
| Associated Commands | ^ |
| On Document Transfer | Display Options |



Enter PASKEY themes and categories here

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DBMS OPERATIONS

Contractor Service Orders (CSO)

- **Uses VT100 terminal emulation window at workstation**
- **Modify data base by editing card images on the screen**
- **Retrieve cards by various criteria**
 - **Being translated by a particular translator**
 - **Ready to be printed in a particular category**
 - **...**

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DBMS OPERATIONS

Using Textual Data Bases

- **Uses VT100 terminal emulation window at workstation**
- **Query interface**
 - **Natural language form**
 - **Set expression form**

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DBMS OPERATIONS - ADVANCED FEATURES

- **Uses VT100 terminal emulation window at workstation**
- **Access to all VAX/VMS programs and utilities**
- **Add new data bases and applications**
- **Modify data base characteristics and screens**
- **Change data base protection characteristics**
- **...**

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SYSTEM SPECIFICATION OVERVIEW

- Scope
- Requirements
- Verification Matrix

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SCOPE

- **Summarize purpose**
- **Outline contents**

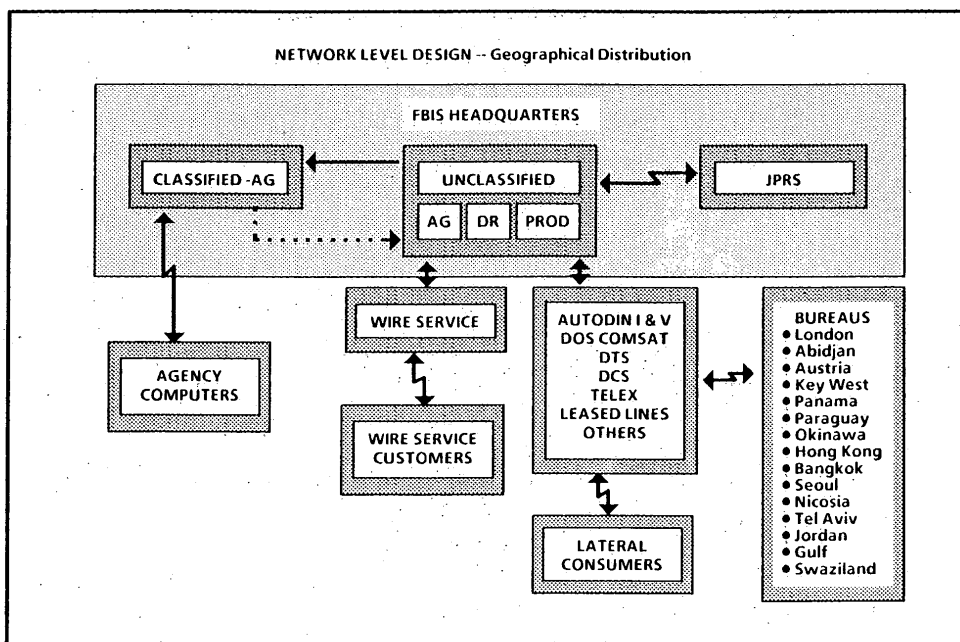
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REQUIREMENTS

- **Architectural Requirements**
- **Functional Group Requirements**
 - **Collection Control**
 - **Bureau Monitor/Editor Operations**
 - **Bureau Data Base Operations**
 - **Bureau Communications**
 - **Headquarters Processing and Composition**
 - **Headquarters Data Base Operations**
 - **Headquarters Communications**

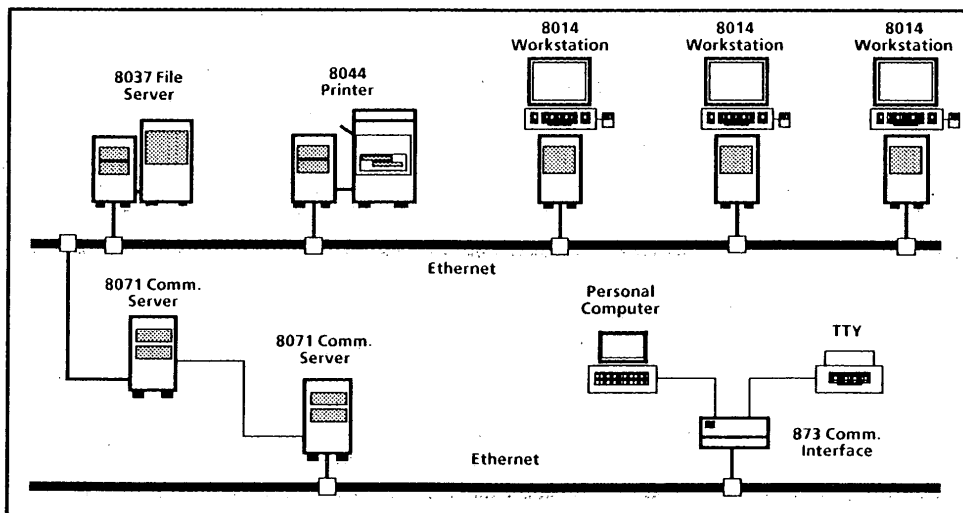
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NETWORK LEVEL DESIGN



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TYPICAL DISTRIBUTED SYSTEM



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DISTRIBUTED SYSTEM COMPONENTS

- **Description of Components**
 - **Workstations**
 - **Servers/Services**

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COLLECTION CONTROL

- **Computer Driven**
 - **Antenna--Receiver Matrix Switching**
 - **Receiver--Monitor/Recorder Matrix Switching**
- **IEEE-488 Compatible Equipment**

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SPECIFIC ARCHITECTURES

- **Bureaus**
- **Headquarters**
 - **Workstations**
 - **Servers**
 - **JPRS**
 - **DBMS**
 - **Classified--Unclassified**

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BUREAU MONITOR/EDITOR OPERATIONS

- **Workstation Functions**
- **Uniform User Interface**
- **Servers**
 - **Autodin Mail Gateway**
 - **Mail Server**
 - **Print Server**
- **Hardware Quantities for each Bureau**

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BUREAU DATA BASE OPERATIONS

- **Types of Data Bases**
 - **Structured**
 - **Unstructured**

- **Specify**
 - **Relational DBMS**
 - **Text-oriented DBMS**

- **Derive Data Base Size for each Bureau**

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BUREAU COMMUNICATIONS

- **Functions Provided**
- **Hardware/Software Requirements**
- **Subsystem Sizing for each Bureau**

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HEADQUARTERS PROCESSING & COMPOSITION

- Workstation Functions
- Uniform User Interface
- Software Capabilities
- Servers
- Hardware Quantities for Functional Units
- Unique Requirements for Classified Operation

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HEADQUARTERS DATA BASE OPERATIONS

- **Types of Data Bases**
 - **Structured**
 - **Unstructured**
- **Specify**
 - **Relational DBMS**
 - **Text-oriented DBMS**
- **Derive Data Base Size Estimates**

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HEADQUARTERS COMMUNICATIONS

- **Functions Provided**
- **Hardware/Software Requirements**
- **Subsystem Sizing**

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VERIFICATION MATRIX

- **Demonstrate Compliance of System Design with Req'ts**
- **List Each Requirement, Identify How Req't Met**
- **Present in Series of Matrices**

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VERIFICATION MATRIX

| 1.2 Processing | Xerox 8000 NS products and their successors |
|---|---|
| 1.2.1 Processing: | |
| Selection of material | 8000 Workstation |
| Translation management | 8000 Workstation + 8000 Mail Service |
| Editing | See 1.7 |
| Publishing | See 1.8 |
| Storage | See 1.4 |
| Retrieval and Processing | See 1.5 |
| 1.2.2 Display goals: | |
| 1.2.2.1 Display of files | 8000 Workstation |
| 1.2.2.2 Simultaneous display of more than two files | 8000 Workstation |
| 1.2.2.3 Intercommunication goals | 8000 Workstation + 8000 Mail Service |

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FACILITY REQUIREMENTS

Typical Bureau DBMS

- **VAX 730, RA60, 3 RA81, TU80**
- **21 Amps. @ 240 Volts**
- **4000 Watts**
- **6 feet of equipment rack**
- **1500 pounds shipping weight**

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FACILITY REQUIREMENTS

Typical Bureau Communications

- **20 receivers, 40 recorders and MicroVAX**
- **67 Amps. @ 115 Volts**
- **6600 Watts**
- **Will fit in existing equipment racks**
- **1600 pounds shipping weight**

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FACILITY REQUIREMENTS

Typical Bureau Processing

- **25 workstations, 4 printers, 2 mail/file servers, 2 mail gateways**
- **627 Amps. @ 115 Volts**
- **40,000 Watts**
- **9500 pounds shipping weight**

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FACILITY REQUIREMENTS

Headquarters DBMS

- Two identical system (classified and unclassified)
- Classified system requires a screen room
- VAX 780 Cluster, 20 GB storage, 2 TSPs
- Disk storage will be phased in as required
- 20 GB storage is for 5 years' data

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FACILITY REQUIREMENTS

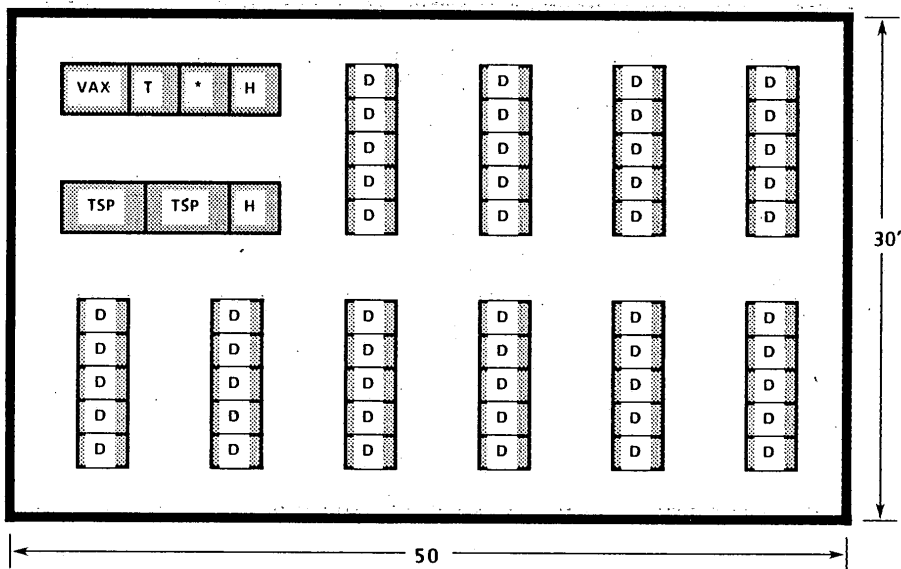
Headquarters DBMS (cont.)

- **Following figures are for full system (20 GB)**
- **605 Amps. @ 240 Volts**
- **103,600 Watts**
- **110 feet of equipment rack**
- **35,000 pounds plus 2 TSPs shipping weight including all disks**

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FACILITY REQUIREMENTS

Classified DBMS Screen Room



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FACILITY REQUIREMENTS

Headquarters DBMS (cont.)

- **Most of facility requirements support the data base**
- **Future use of optical disk will substantially reduce facility requirements**

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FACILITY REQUIREMENTS

HEADQUARTERS PROCESSING

- **350 workstations, 39 printers, 12 mail/file servers, 8 gateways**
- **7,150 Amps. @ 115 Volts**
- **462,000 Watts**
- **104,900 pounds shipping weight**

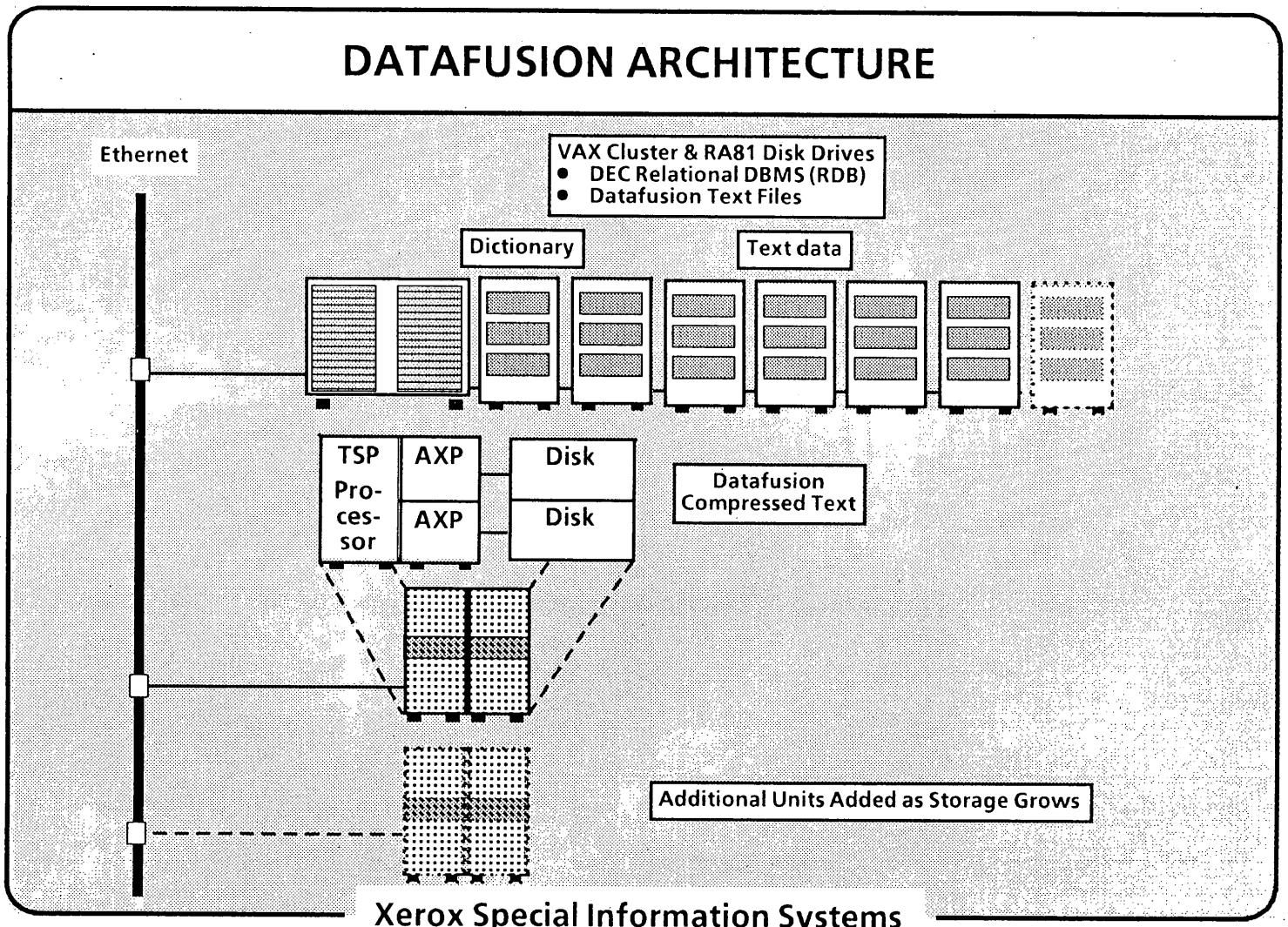
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FACILITY REQUIREMENTS

- **There is a handout with the detailed facility requirements for all locations.**

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DATAFUSION ARCHITECTURE



DATAFUSION REPORT

Datafusion

- Incorporated in 1977 as a wholly owned subsidiary of OSI, Operating Systems Incorporated
- Split from OSI in 1980
- Became subsidiary of O S III (not related to OSI) in 1982
- Separated from O S III in 1983 as part of O S III bankruptcy
- Merged with Casa Grande Mining (a non-operating corporation) July 10, 1984 and became a public corporation.

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DATAFUSION REPORT

- Number of years Datafusion in business: 7
- Number of employees: 20
- Number of years TSP in the marketplace: 4

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DATAFUSION REPORT

Datafusion

Audited Figures

July 1, 1983 - June 30, 1984

- **Sales (Billed): \$494,000**
- **Assets/Liabilities: \$694,000**
- **Income: \$170,383**

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DATAFUSION REPORT

Condition as of September 30, 1984

- Backlog: \$663,000
- Net Worth: \$750,000
- Sales Projection '85: \$4,000,000
- Long term debt: \$0

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DATAFUSION REPORT

Trends

| Year | Sales | Number of people |
|------|-----------|------------------|
| 1982 | \$203,000 | 5 |
| 1983 | \$333,000 | 8 |
| 1984 | \$494,000 | 20 |

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DATAFUSION REPORT

- **Present rate of business is over \$1,000,000**
- **Received a \$900,000 contract in May 1984 and added 10 people to staff**

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FOREIGN LANGUAGE SORTING

- Language is *not* a property of document text or characters
- Character-set *is* a property of document characters
- In general, sorting or collation order in a language is not the same as character-set order in the textual representation
- *Fields* within a document have a language property associated with them (even distinguishing between US English and UK English)
- Fields can contain 'any characters', text, amount, and date; the language property is used to set the correct national representation of date
- Sorting on strings in fields requires separate, possibly complex, algorithms for each language specified
- Appropriate algorithms will be developed and provided as required

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FOREIGN LANGUAGE SORTING

Character-sets

- The Xerox character code space is divided into 256 character-sets of 256 characters each
- Default character-set is ASCII/ISO646; this is accessed using 8-bit character codes *only*
- With alphabetic text, character-set change is accomplished with change-code sequences; within each set, characters themselves are represented with 8-bit character codes
- With ideographic text, where character set changes may be very frequent, characters are represented by their full 16-bit address consisting of 8-bits of character-set code and 8-bits of character code

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GRAPHICS INTEGRATION

Present Status (as from the OS4.2 release)

- **Xerox 150 Graphics Input Scanner scans-in correctly-sized original, gives the resulting data a user-supplied file name, and deposits it on a File Service**
- **Star document provides a frame for the image to go in, which is set to the size of the image, and given the file name and File Service name as a property**
- **Document is converted to Interpress print-file format, and sent to an 8700 or 9700 printer (only)**
- **Printer retrieves the image from the File Service, and places it in the frame on the printed document**
- **The image is not displayed on the screen**
- **The image cannot be manipulated after scanning**

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GRAPHICS INTEGRATION

Image Frame Properties

IMG Frame Properties

? Done Cancel Apply Defaults Reset

IMG File Name

Image Size Inches

Border style NONE

Border width

Margins LEFT Inches RIGHT Inches

TOP Inches BOTTOM Inches

Captions LEFT RIGHT TOP BOTTOM

↑ ↓

← →

GRAPHICS INTEGRATION

Future Outlook

- **Halftone manipulation will be included in the Composition System by 1st Quarter, 1987.**

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COMPOSITION SYSTEM DEVELOPMENT

- **Units of Measurement**
 - Pica/Point
 - Inches
 - Metric
 - Cicero/Didot
 - Number of lines
 - Fractions of an em space
- **Line-ending instructions**
 - Quad left
 - Quad right
 - Quad center
 - Return
 - New paragraph

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COMPOSITION SYSTEM DEVELOPMENT

- **Fixed spaces**
 - Thin space
 - En space
 - Figure space
 - Em space
- **Text appearance**
 - Change font
 - Change size
 - Leading
 - Line measure
- **Line justification**
 - Justified
 - Ragged right
 - Ragged left
 - Ragged center
 - Ragged zone/serration

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COMPOSITION SYSTEM DEVELOPMENT

- **Indents**
 - Paragraph indent
 - Fixed indent (left/right/both)
 - Indent on point
 - Hanging indent
 - Skew indent
 - Go to X-coordinate
 - Horizontal column shift
- **Character space and kerning**
 - Character space control/tracking
 - Kerning forward/backward

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COMPOSITION SYSTEM DEVELOPMENT

- **Hyphenation and Justification**
 - Interword space
 - Logic hyphenation
 - System hyphen
 - Discretionary hyphen
 - Hyphenation level
 - Hyphenation frequency
 - End of paragraph hyphenation
 - Number hyphenation
 - Widow control
 - Orphan control
 - Paragraph line end depth
 - Letterspacing
 - Hyphenation error messages
- **Exception word dictionary**

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COMPOSITION SYSTEM DEVELOPMENT

- **Character creation through software**

Superscript

Subscript

Display superior

Autofraction

Case fraction

Auto accents

Slant

Reverse

Overstrike

Underscore

Strike-through

Overscore

Ligatures

Diphthongs

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COMPOSITION SYSTEM DEVELOPMENT

- **Tabulation**
 - Column width specification
 - Column margins
 - Column parameters
 - Table orientation
 - Straddle columns
 - Decimal alignment
 - Data orientation within columns
- **Vertical justification**
 - VJ control
 - Desired depth
 - Minimum/average/maximum extra leading
 - Allowable VJ point
 - Carding control

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COMPOSITION SYSTEM DEVELOPMENT

- **Leader**
 - Define leader
 - Insert leader
 - Insert space
- **Number incrementation**
 - Starting number
 - Insert number
- **Rules**
 - Horizontal rules
 - Vertical rules
- **Formats**
 - Store format
 - Use format
 - Loop
 - Merge
 - Nest

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COMPOSITION SYSTEM DEVELOPMENT

- **Pagination**
- **Page definition**
 - Page size
 - Page design recto/verso
- **Margin definition -- text**
 - Top/head margin
 - Bottom/foot margin
 - Left margin
 - Right margin
 - Inside margin
 - Outside margin
 - Binding margin
 - Trim margin
 - Note/illustration/side-bar margin
 - Gutter margin
 - Revision margin

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COMPOSITION SYSTEM DEVELOPMENT

- **Margin definition -- illustrations and tables**
 - Top margin
 - Bottom margin
 - Left margin
 - Right margin
- **Running heads**
- **Page numbers (folios)**
- **Text columns**
- **Vertical justification and pagination**
- **Pagination parameters -- text**
 - Widow control
 - Orphan control
 - Justified bottom margin on facing pages
 - Justified bottom margin of adjacent columns

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COMPOSITION SYSTEM DEVELOPMENT

- **Pagination rules -- tables and illustrations**
 - Illustration split across columns or pages
 - Vertical justification points
 - Allowable break points for tables
 - Table breaks across columns and page boundaries
 - Table and illustration location in document
 - Table margins and alignment during pagination
- **Page start and end instructions**
 - New chapter
 - New page
 - Short page/column balancing
- **Pagination error messages**
- **Fixing of pages**
 - Fix/unfix page
 - Fix/unfix document
 - Page output

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8000NS OPEN ARCHITECTURE

GOALS

- To provide an open architecture for developing new applications by:
 - Third party software vendors
 - Customers
 - In-house developers
- To enable applications and features to share resources with easy access to other available software and hardware products.
- To enable delivery of separately loadable features independent of major system releases.
- To achieve performance equivalent to or better than development environment.

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8000NS OPEN ARCHITECTURE

IMPLEMENTATION

- **Basic Workstation (BWS):**
 - Underlying structure for all workstation applications
 - Mechanisms for building applications
 - Interfaces and services stubs

- **Xerox Development Environment (XDE):**
 - Mesa compiler, binder, loader, etc.
 - Editor, electronic mail, tools, etc.

- **Xerox Network Standards (XNS):**
 - Ethernet Industry standard -- IEEE 802.3
 - Interpress printing architecture standard.

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BASIC WORKSTATION INTERFACES -- Examples

User inputs:

- **Keyboard & mouse inputs translated to application needs.**

Basic window control and Window shells -- window management:

- **Title, header, scrollbars, menu items, open, fixed/flexible**

Keyboards:

- **Client defined alternative keyboards & function keys**
- **Multinational**

Common Software:

- **String manipulation, messages, date, time**
- **Real numbers, Xerox Character Encoding Standard (XCES)**

XEROX NETWORK STANDARDS (XNS)

Interpress Electronic Printing Standard Version 2.1. .Apr. 1984 - X SIS 048404

- Defines digital representation of printed material for exchange between creator and printer.

Interpress 82 Reader's Guide Apr. 1984 - X SIG 018404

Introduction to Interpress Apr. 1984 - X SIG 038404

Character Code Standard Apr. 1984 - X SIS 058404

Clearinghouse Protocol Apr. 1984 - X SIS 078404

Time Protocol Apr. 1984 - X SIS 088404

Authentication Protocol Apr. 1984 - X SIS 098404

(Continued)

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XEROX NETWORK STANDARDS (XNS)

(Continued)

Printing Protocol Apr. 1984 - XNIS 118404

- Defines protocol for sending Interpress file to an XNS printer.

Clearinghouse Entry Formats Apr. 1984 - XNIS 168404

Bulk Data Transfer (Appendix F to Courier) Apr. 1984 - XNIS 038112

Courier Remote Procedure Call Protocol Apr. 1984 - XNIS 038112

Available from Dennis Frahmman at 415-946-6088

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BENCHMARK DEMONSTRATION

Requirement:

- Demonstrate "Copy Flow" capability of XNS Mailing.

Constraints:

- OS 6.0 Workstation Release needed for benchmark.
- Services 10.0 Release needed for benchmark.

Alternatives:

- Benchmark in about March 1985 on Engineering Test Releases of OS6.0 & Services 10.0.
- Demonstrate approximate functionality in December 1984 on existing OS5.0 & Services 8.0 Releases and postpone performance benchmark until about March 1985.

Recommendation:

- Benchmark in about March 1985.

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STAR PERFORMANCE IMPROVEMENTS

Major Performance Improvement:

Basic Workstation Performance Equivalent to Xerox Development Environment Planned for:

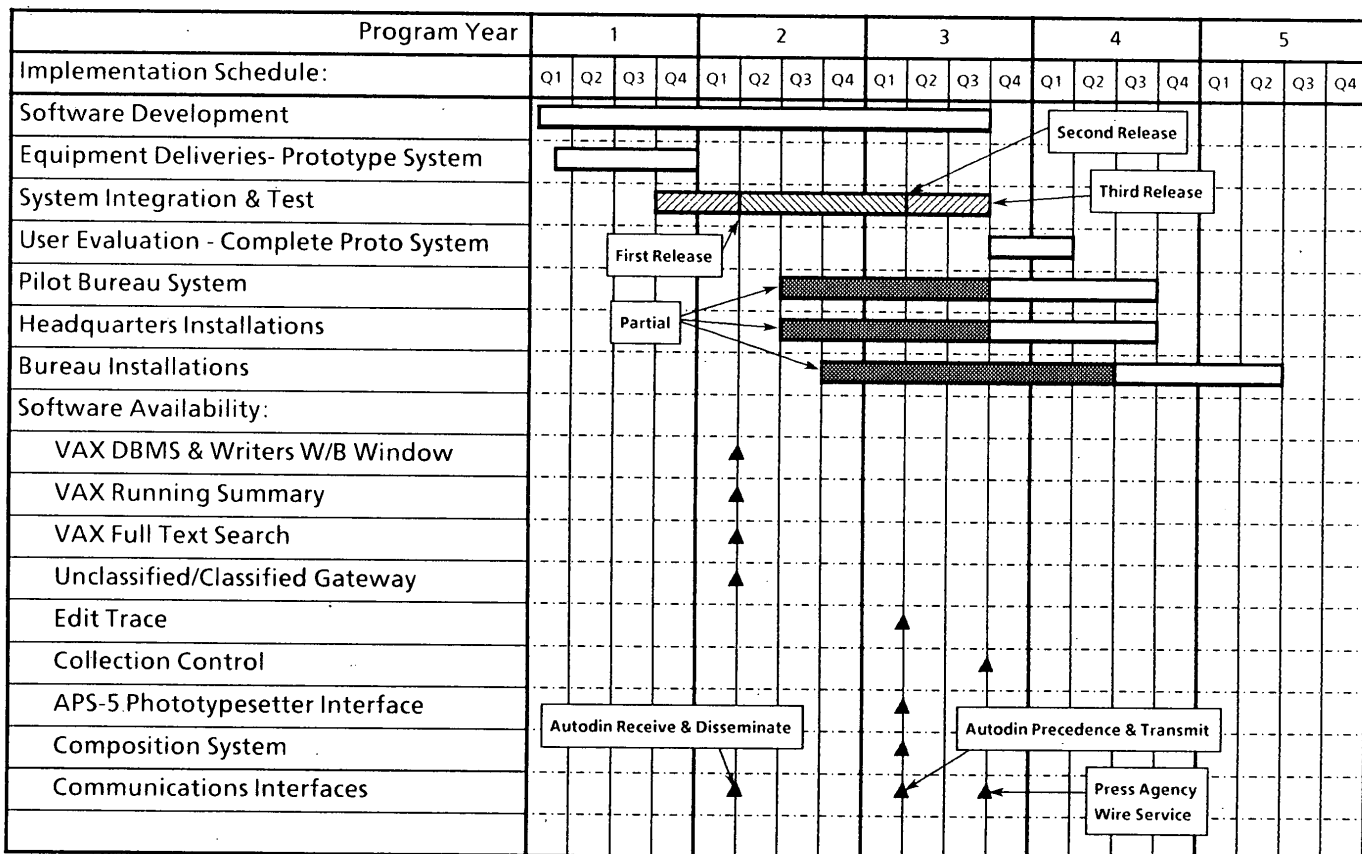
- OS 6.0 Workstation Release1985
- Services 10.0 Release1985
- OS6.0 & Services 10.0 required for FBIS system.

Recent Performance Improvements OS 4.2 to OS 5.0:

- Close paragraph property sheet 35%
- Paginate simple document 37%
- Open Tabular view 79%
- Move large documents to a file drawer 29%

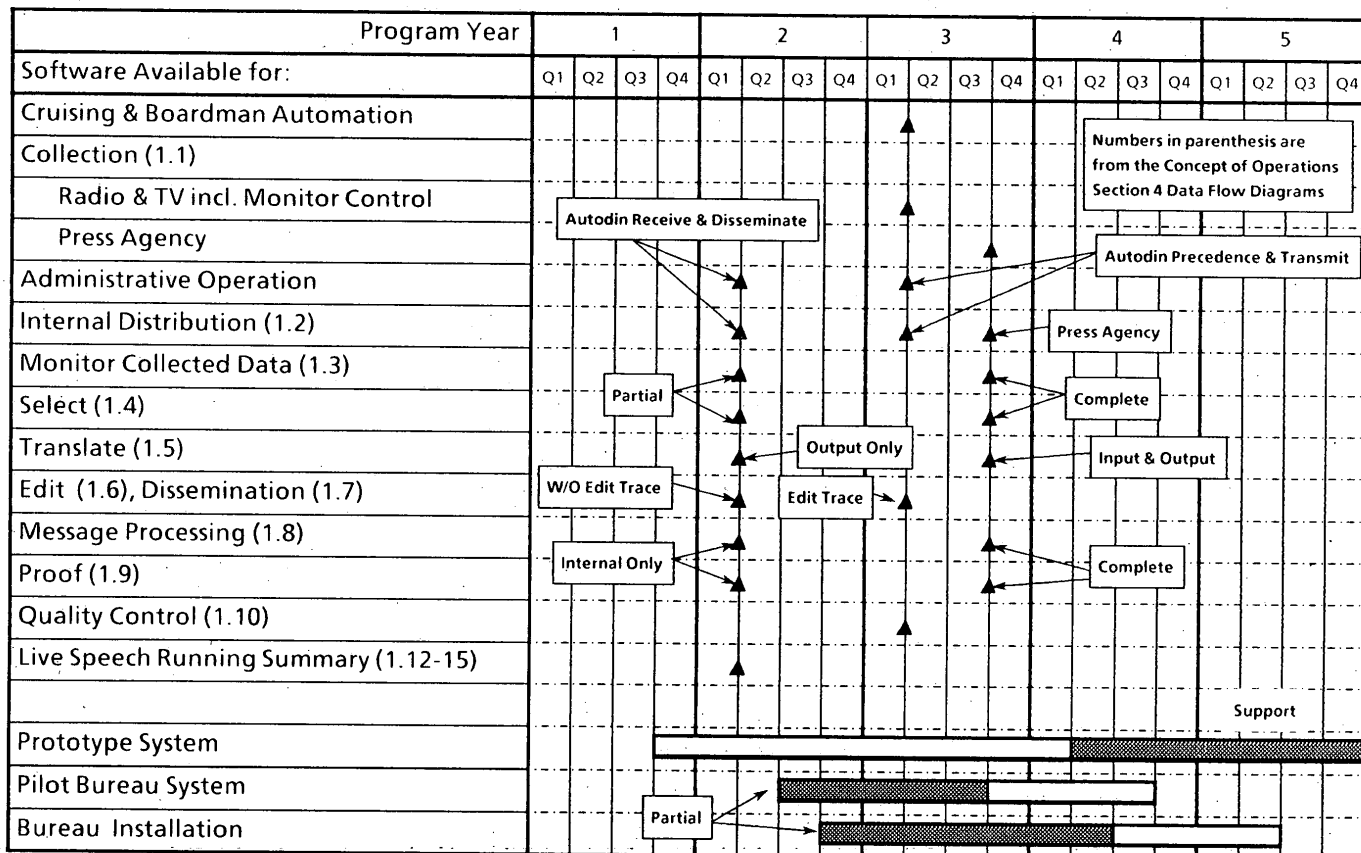
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FBIS MODERNIZATION PROGRAM - IMPLEMENTATION SCHEDULE



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FBIS MODERNIZATION PROGRAM - BUREAU IMPLEMENTATION SCHEDULE



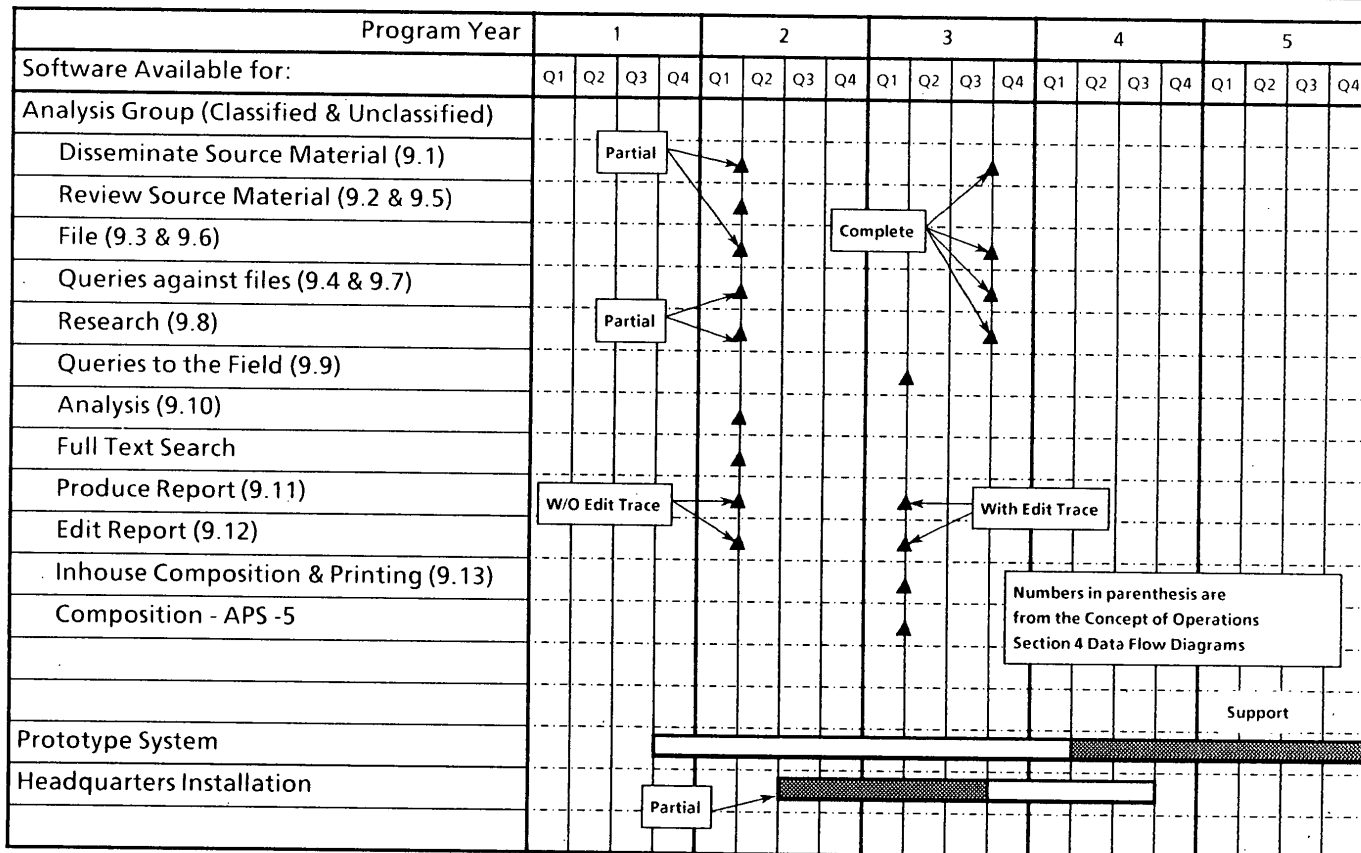
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FBIS MODERNIZATION PROGRAM - HQ IMPLEMENTATION SCHEDULE

| Program Year | 1 | | | | 2 | | | | 3 | | | | 4 | | | | 5 | | | |
|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Software Available for: | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Communications | | | | | | | | | | | | | | | | | | | | |
| AUTODIN Traffic & Dissemination (3.0) | | | | | | | | | | | | | | | | | | | | |
| Wire Service Transmission (4.2 to 4.5) | | | | | | | | | | | | | | | | | | | | |
| Daily Report | | | | | | | | | | | | | | | | | | | | |
| Dissemination (5.1) | | | | | | | | | | | | | | | | | | | | |
| Select (5.2) & Depth (5.3) | | | | | | | | | | | | | | | | | | | | |
| Edit (5.4) & Review (5.5) | | | | | | | | | | | | | | | | | | | | |
| Composition - APS -5 (5.6) | | | | | | | | | | | | | | | | | | | | |
| Area Divisions | | | | | | | | | | | | | | | | | | | | |
| Source Material Processing (6.1 to 6.11) | | | | | | | | | | | | | | | | | | | | |
| Translate Inhouse (6.5) | | | | | | | | | | | | | | | | | | | | |
| Administrative Functions (6.12 to 6.14) | | | | | | | | | | | | | | | | | | | | |
| Aids to Translation (6.15) | | | | | | | | | | | | | | | | | | | | |
| JPRS | | | | | | | | | | | | | | | | | | | | |
| IC & CSO Administration (7.1 to 7.14) | | | | | | | | | | | | | | | | | | | | |
| JPRS Editing (7.11) | | | | | | | | | | | | | | | | | | | | |
| Publications (8.1 to 8.6) | | | | | | | | | | | | | | | | | | | | |
| Composition - APS -5 (5.6) | | | | | | | | | | | | | | | | | | | | |

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FBIS MODERNIZATION PROGRAM - HQ IMPLEMENTATION SCHEDULE



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