
9370:

PRODUCT

TECHNOLOGY

Agenda

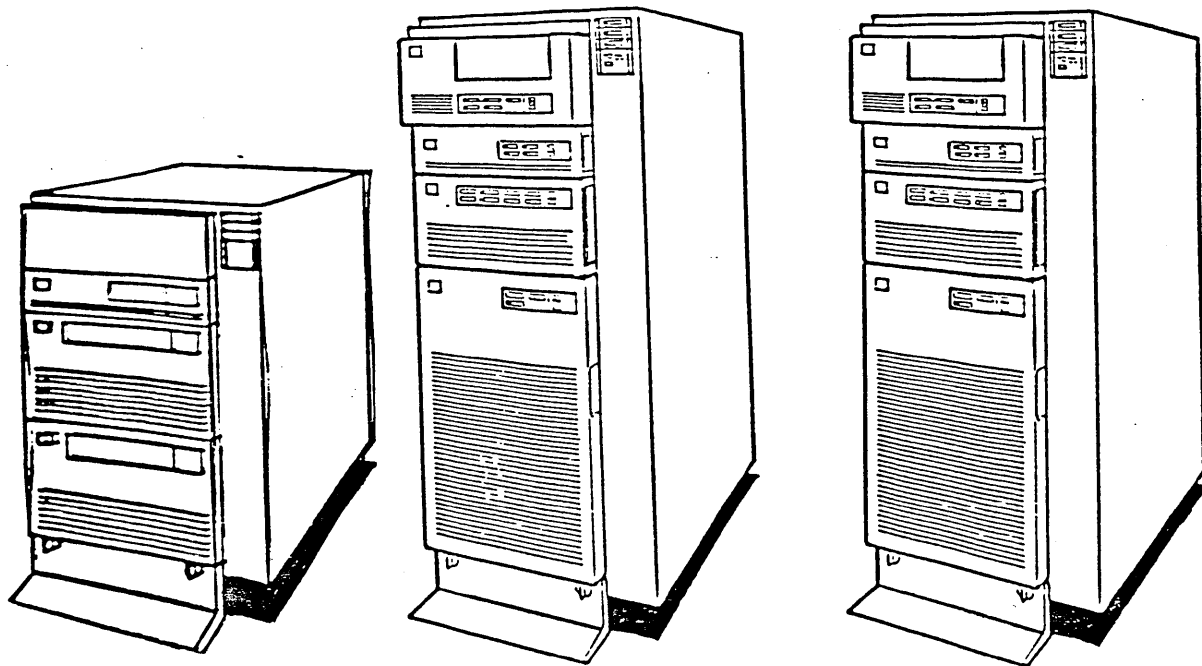
- System Highlights
- Processor Architecture
- Workstation Subsystem
- DASD/Tape Subsystem
- S/370 Channel
- Communications Subsystem
- Processor Console
- Performance Comparisons

System

Highlights

IBM 9370 INFORMATION SYSTEM

A HIGH PERFORMANCE FAMILY



IBM 9373
MODEL 20

IBM 9375
MODELS 40/60

IBM 9377
MODEL 90

9370 Advanced Technology

- High Density Chips
- High Performance Arithmetic Unit
- Memory Cards Use Advanced Fault-Tolerant Circuitry.
- New Electronic Card Packaging
- Thermal Conduction Module

IBM 9370 INFORMATION SYSTEM

◆ NEWEST S/370 FAMILY

- Rack Mounted
- Office Environment
- Customer Set-Up

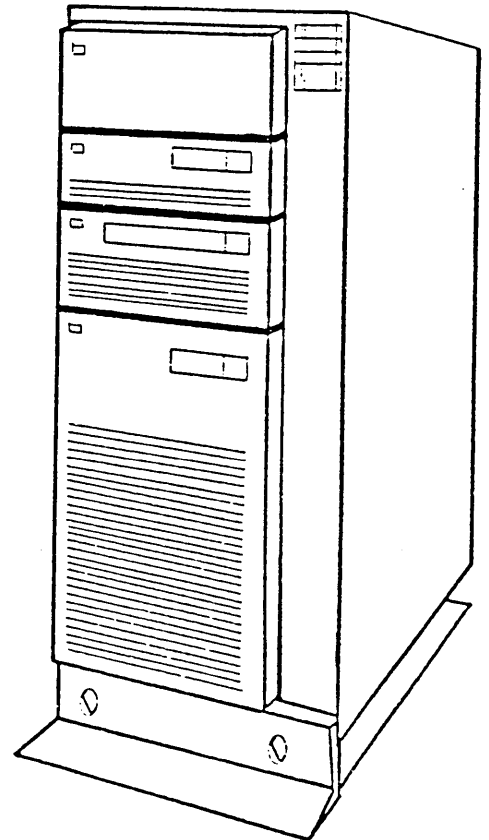
◆ DRAMATIC NEW PRICE/PERFORMANCE

- Wide Performance Range
- Balanced Performance

◆ LATEST TECHNOLOGY

◆ INTEGRATED I/O

- DASD (368MB and 824MB)
- Tape (1600 BPI)
- 3270's
- Communications



IBM 9370 DISTRIBUTED SYSTEM

- ◆ FULL-FUNCTION S/370 PROCESSOR
 - Common S/370 Architecture
 - S/370 Application Solutions

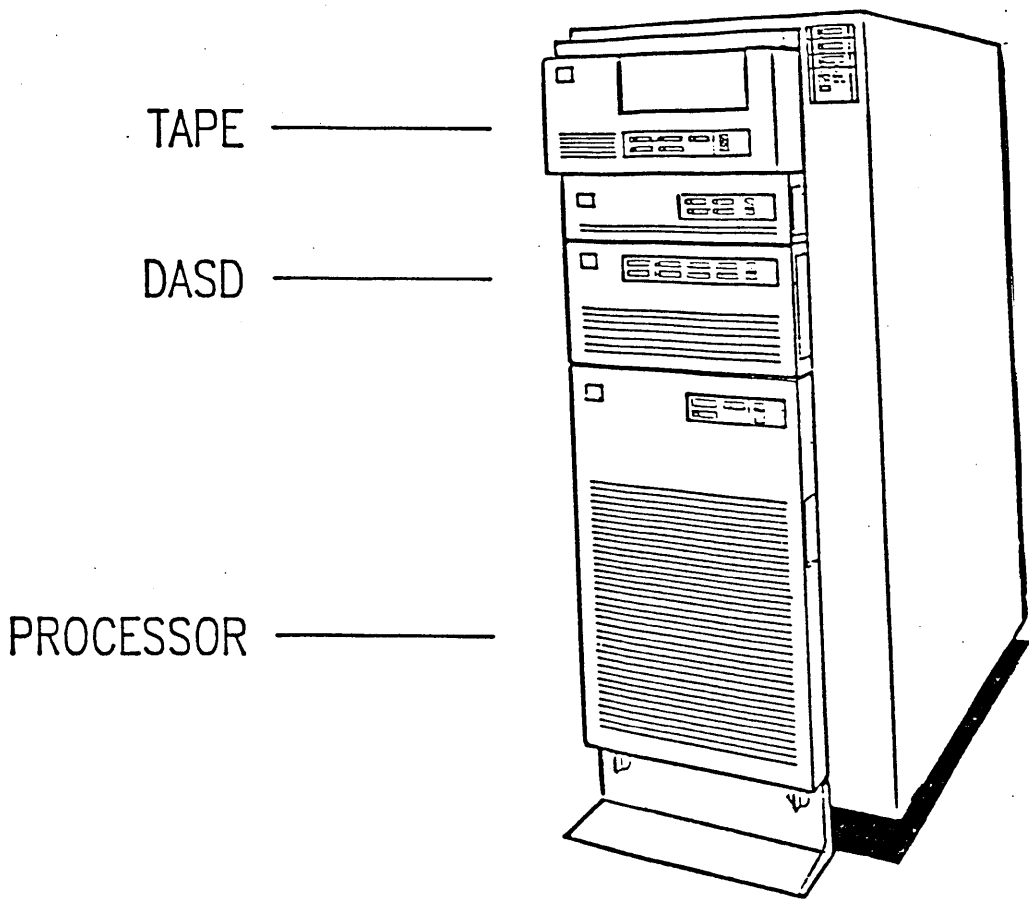
- ◆ TOTAL SYSTEMS PRICE AND PERFORMANCE
 - Modular and Upgradeable

- ◆ OFFICE ENVIRONMENT

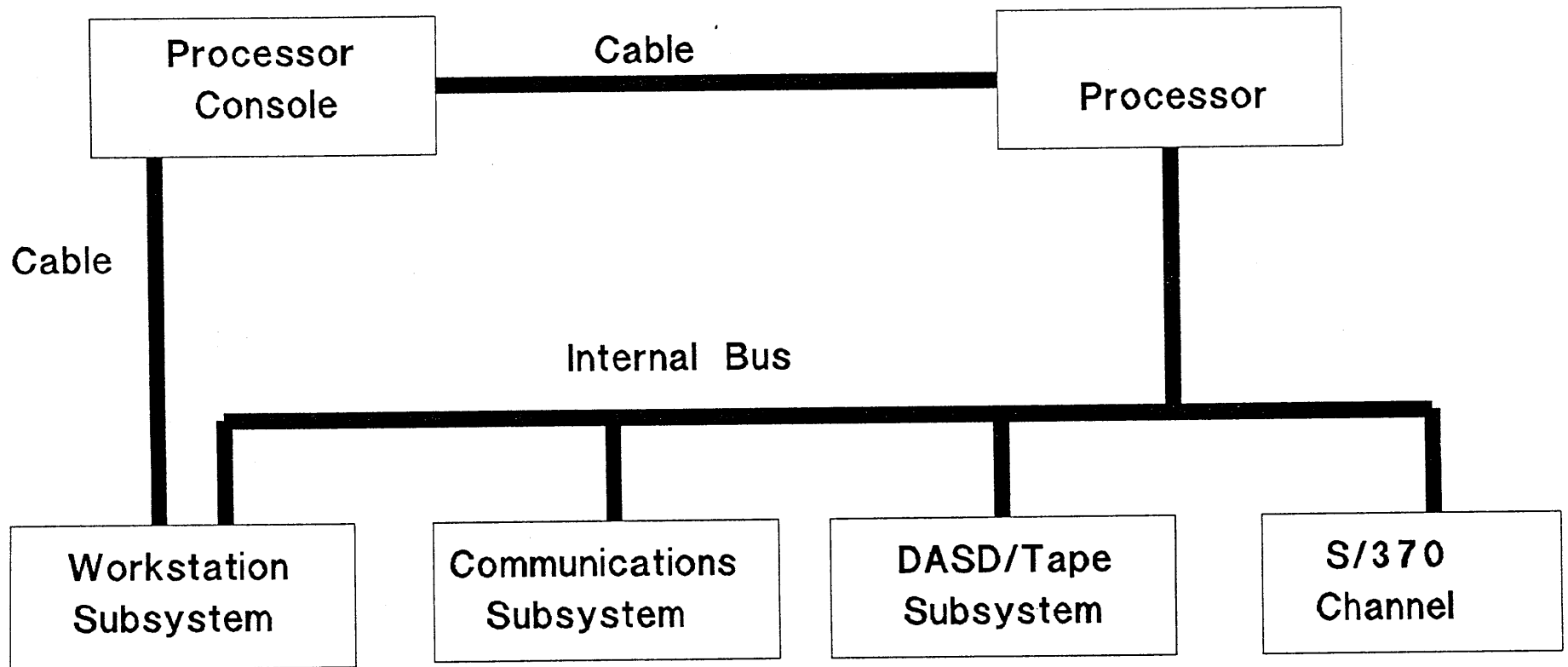
- ◆ INSTALLATION EASE
 - Central Site Support
 - Connectivity Flexibility
 - Integration Into Existing Networks

MODULAR PACKAGING

INTEGRATED I/O DEVICES



System Structure



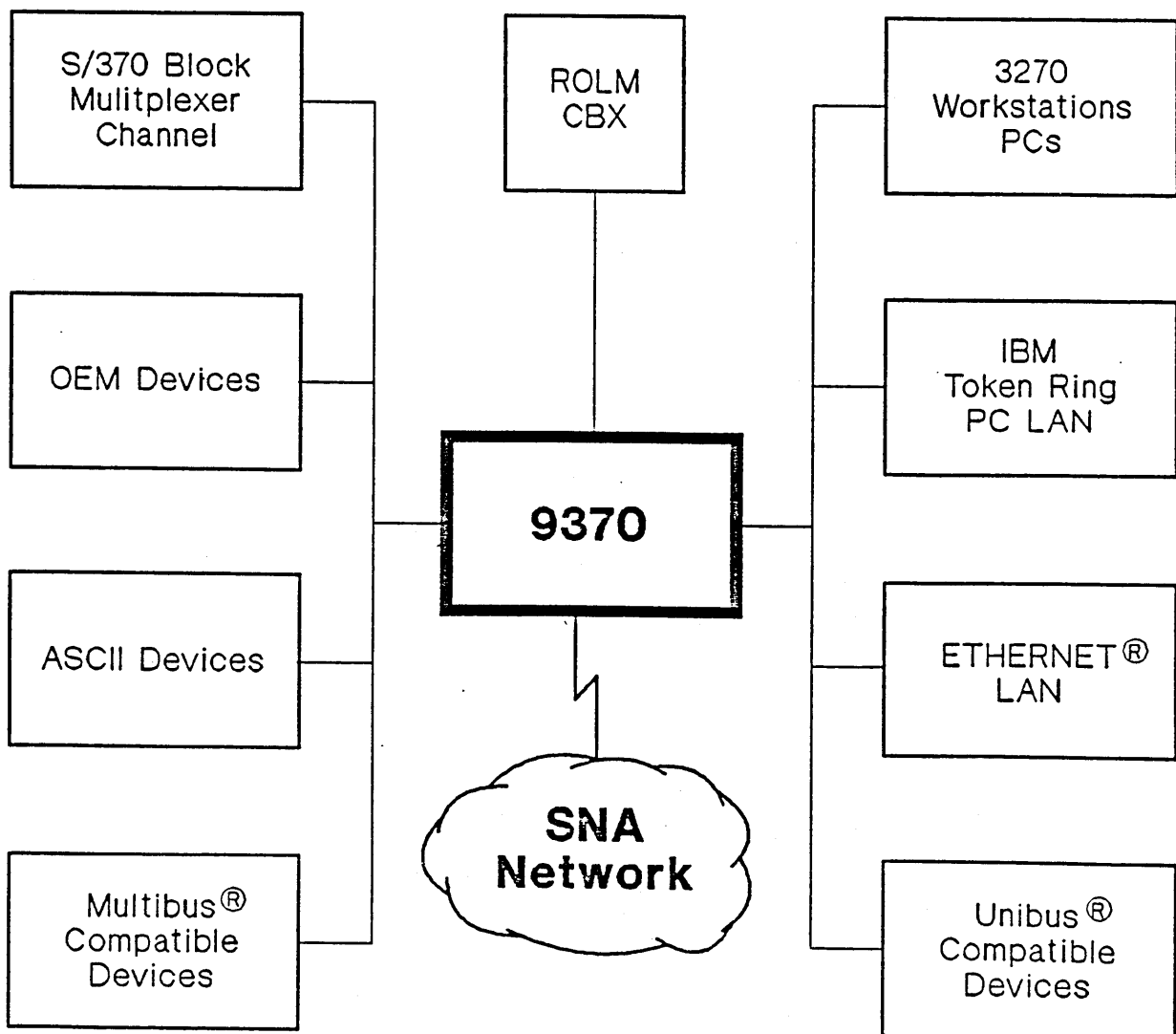
IBM 9370 INFORMATION SYSTEM

INTEGRATED I/O CONTROLLERS

| |
|---------------------------------|
| DASD/TAPE |
| WORKSTATION |
| ----- |
| SERIAL OEM INTERFACE |
| COMMUNICATIONS |
| S/370 BLOCK MULTIPLEXER CHANNEL |

OPEN SYSTEM DESIGN

- COMMUNICATIONS FLEXIBILITY
- CONNECTIVITY



IBM 9370 Environmentalals

◆ POWER (KVA)

- IBM 9375 = 5.0 KVA
- 4361-5 = 11.07 KVA

◆ HEAT (BTU/HR)

- IBM 9375 = 15K
- 4361-5 = 25K

◆ NOISE (DBA)

- IBM 9375 = 50
- 4361-5 = 56

◆ ADVANTAGES

- IBM 9370 Can operate in Office Environment
- Excellent for Departmental Use

◆ BENEFITS

- Lower Total Cost of Computing
 - Can Install System Where Power/Air Capacities are Limited
 - No "Glass House" is Required
-

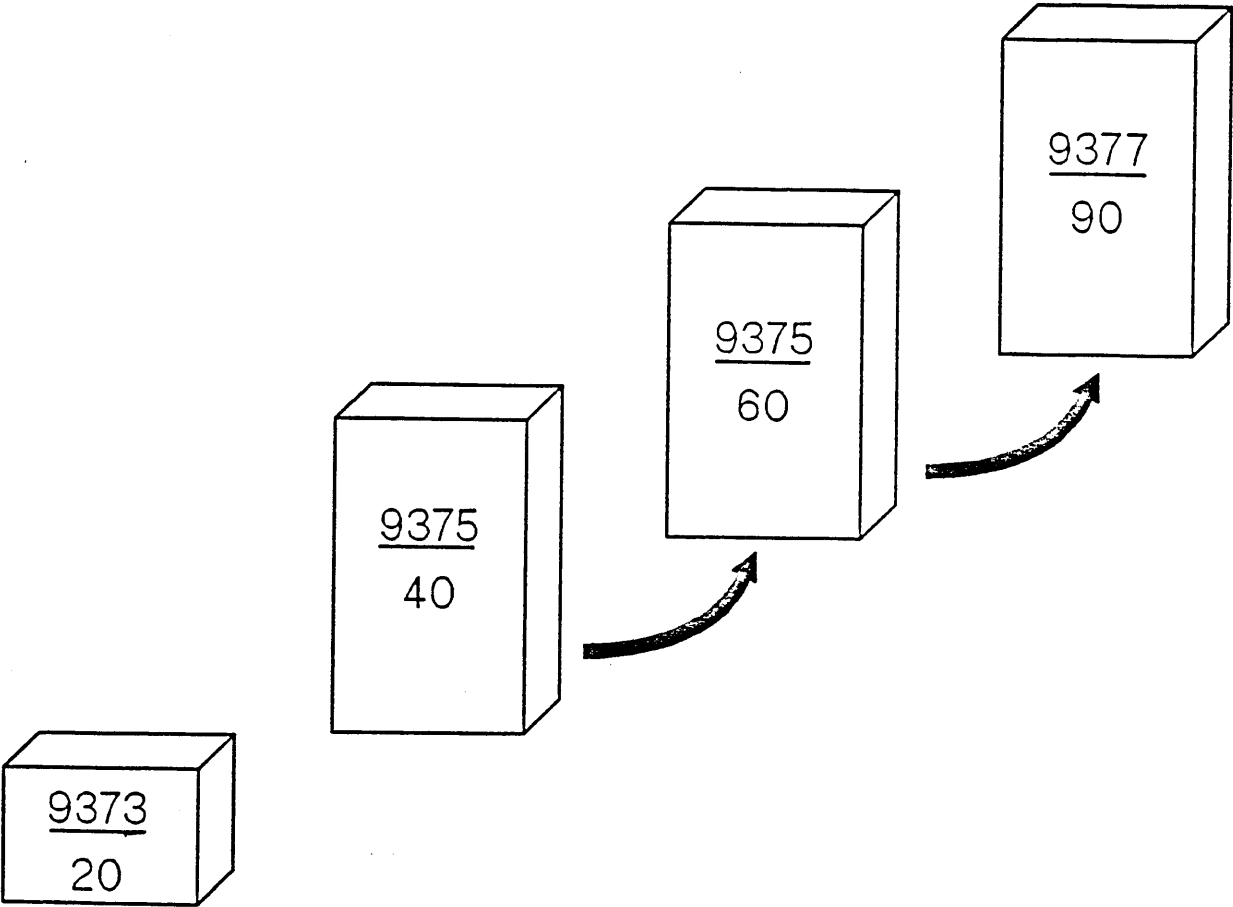
IBM 9370 Customer Set Up (CSU)

- ◆ The following are designated CSU
 - 9309 Rack
 - 9370 Processor
 - 9332/9335 DASD
 - 9347 Tape

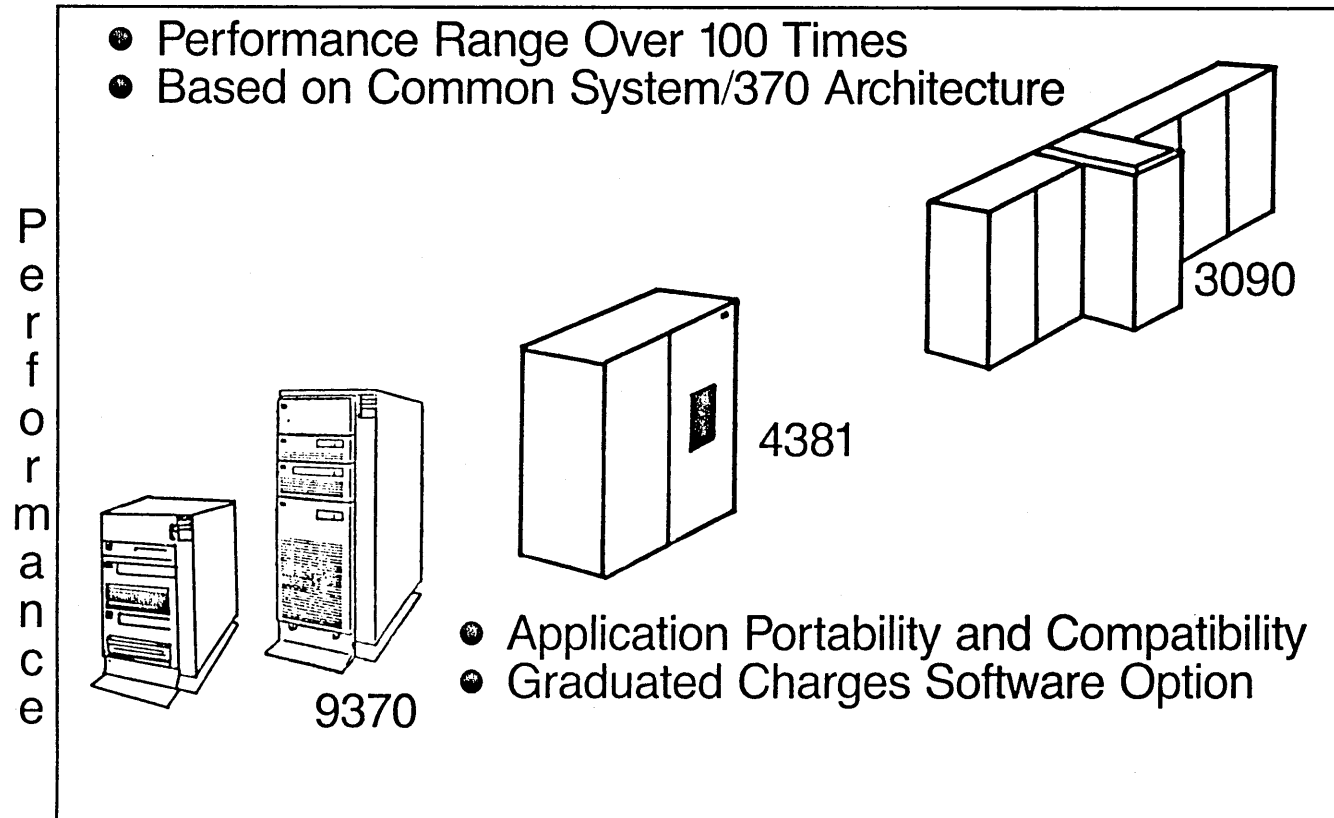
 - ◆ Initial Install Plant Tasks
 - Assemble Rack Components
 - Cable Rack Components
 - Test Rack Components
 - Ship Rack Components

 - ◆ Sample CSU Tasks for Customer
 - Physical Placement
 - Unpacking
 - Configuration
 - Sent on Diskette
 - Used to Customize 9370
 - DASD
 - Tape
 - TP Lines
 - Terminals
 - S/370 Channel Addresses
-

9370 GROWTH OPTIONS



System/370 Compatible Growth



System/370 Systems

IBM 9370 Software Support

- ◆ VM/SP
 - VM/SP R4
 - VM/Integrated System (VM/IS) R4
 - VM/SP R5
 - VM/SP System Offering R5

 - ◆ VSE/SP
 - VSE/SP 2.1.6
 - VSE/SP 3.1.1

 - ◆ MVS
 - MVS/SP 1.3.5

 - ◆ IX/370
 - 4Q87
 - Requires VM/SP

 - ◆ VM Guest Support - Minimum Levels
 - VM/SP R4
 - VSE System IPO/E 1.3.1 (VSE/AF 1.3.0)
 - VSE System IPO/E 1.4.X (VSE/AF 1.3.5)
 - VSE/SP 2.1
 - MVS/SP 1.3.5
 - VS1 R7 BPE 4
-

LOAD AND GO OPERATING SYSTEMS

◆ VM/IS

- Integrated VM/SP Package
- Menu Driven
- 8 Optional Packages
 - Engineering/Scientific Program Development
 - Problem Solving Languages
 - Relational Database
 - APL
 - Text/Office
 - Intelligent Workstation
 - Communication Controller
 - Networking

◆ VSE/SP

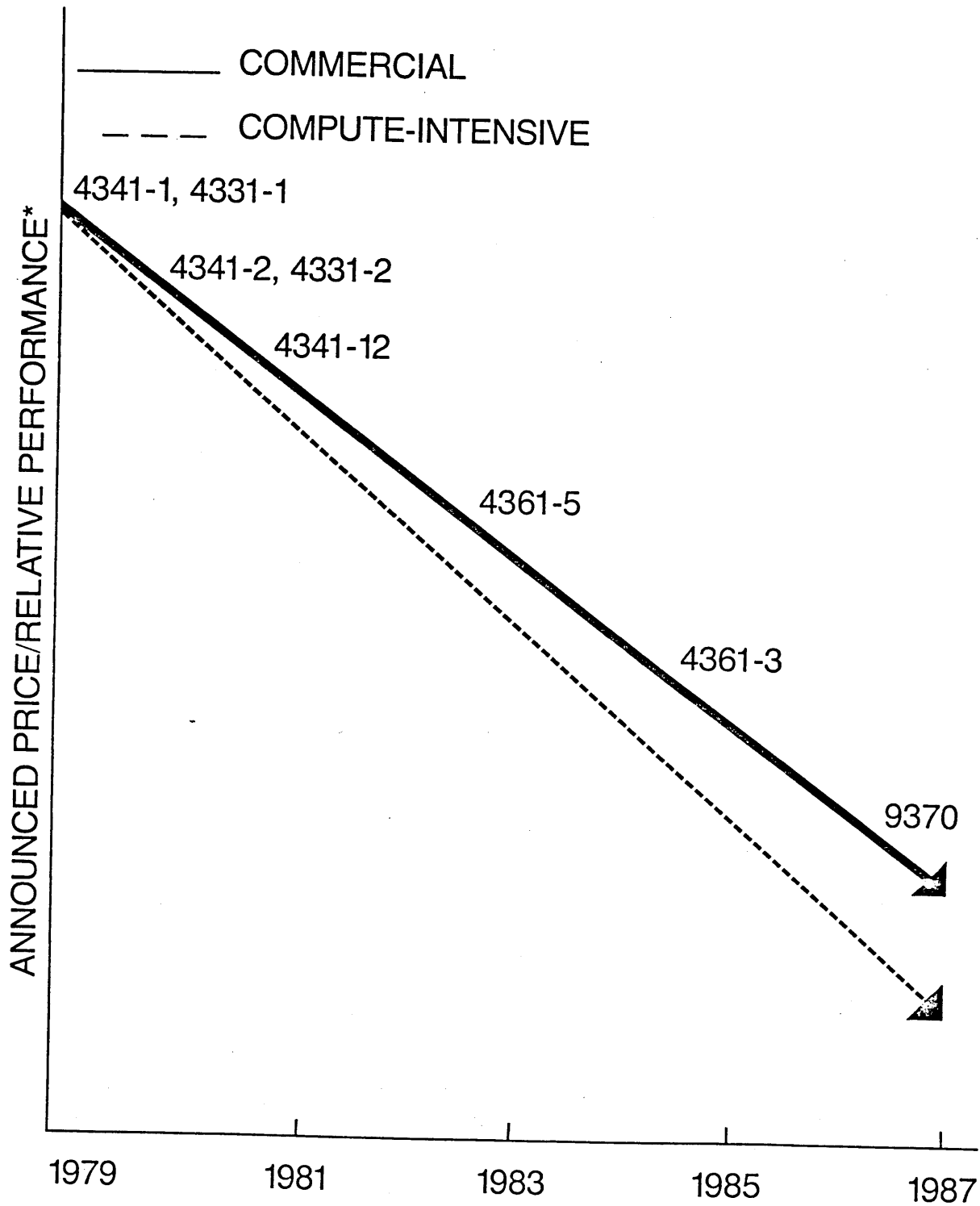
- Integrated VSE Package
 - VSE/SP V2 R1.6 and V3 R1

NEW TERMS AND CONDITIONS

◆ SOFTWARE PRICES

- Graduated One-Time Charges
 - 90+ VM, VSE, and cross-system programs
 - based on processor size
 - volume discounts

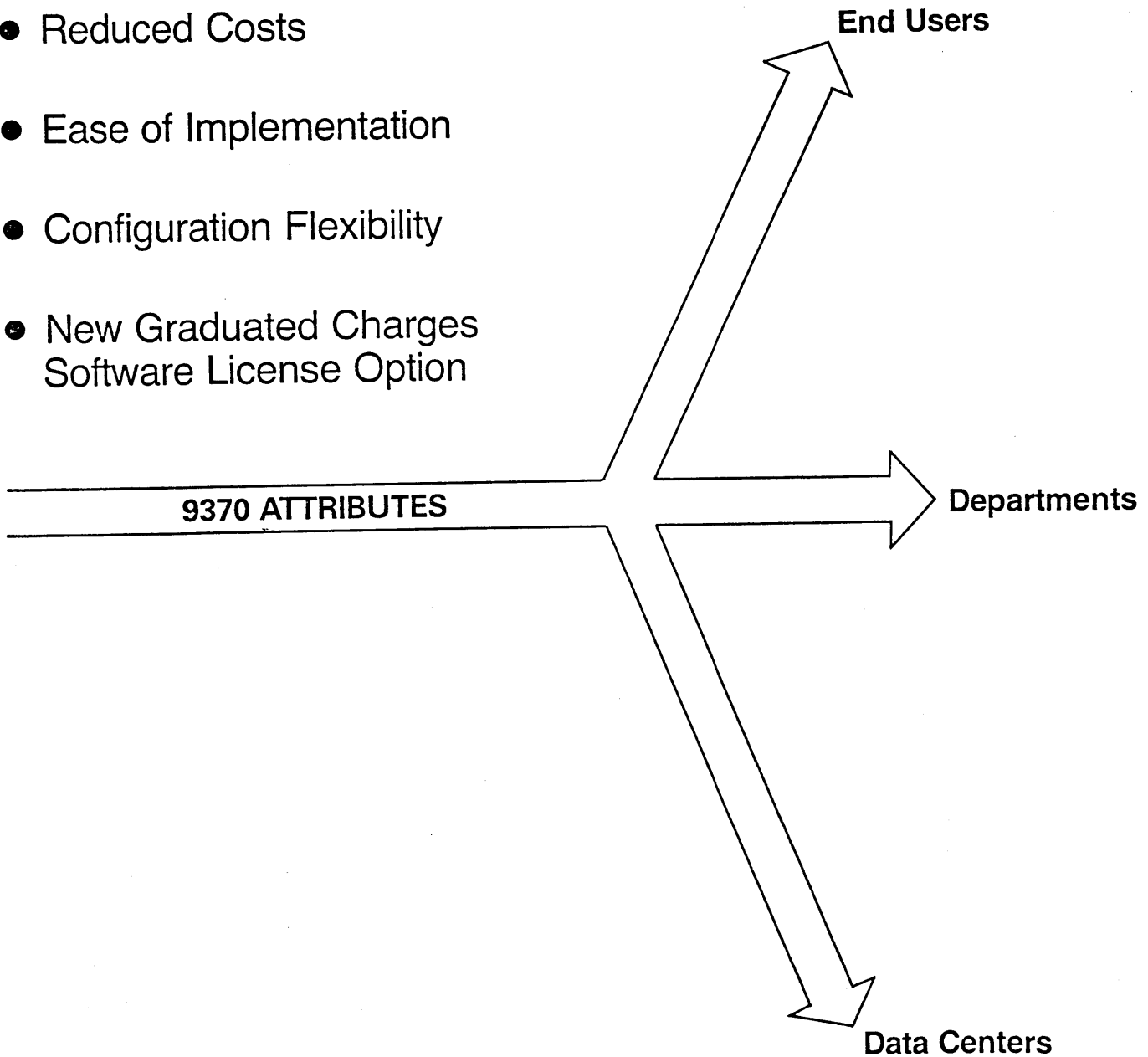
System/370 Entry Price Performance



*Announced price performance based on internal throughput rates (ITR).
Evaluation based on CPU's only

IBM 9370 Information System: Attributes

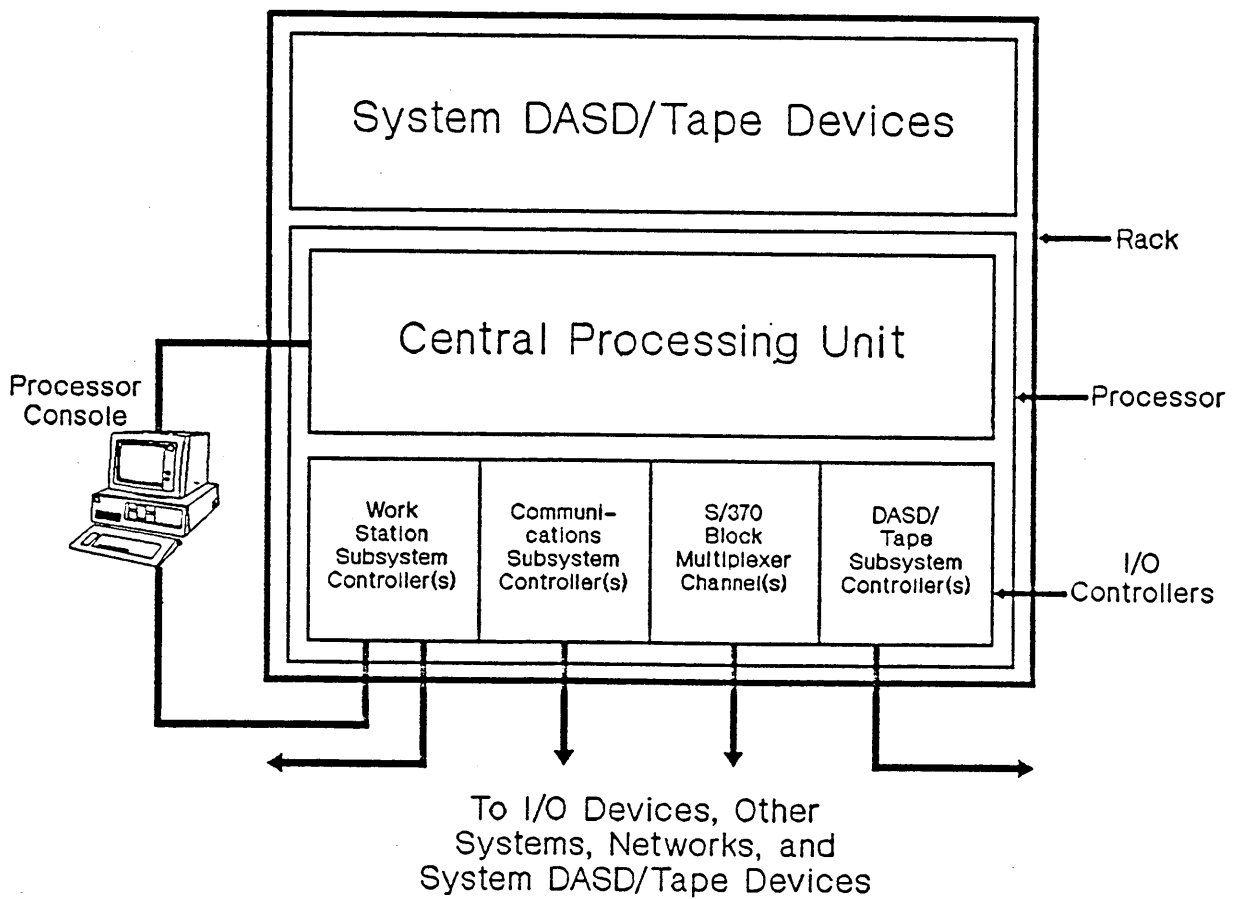
- Physical Size
- Minimum Environments
- Reduced Costs
- Ease of Implementation
- Configuration Flexibility
- New Graduated Charges
Software License Option



Processor

Architecture

9370 PROCESSORS



IBM 9370 Processor Architecture

- ◆ S/370 Compatible
 - ◆ Bus Architecture
 - One to Six Buses
 - 5.5 MB Data Rate Each Bus
 - Number of Buses depends on Model
 - ◆ Featured Machine
 - DASD/Tape Subsystem Controller
 - Work Station Subsystem Controller
 - Telecommunications Subsystem Controller
 - Communications Line Cards
 - System/370 Channel (Controller)
 - ◆ Card I/O Slots
 - Controller Cards fit into slots
 - Limitations
 - Card Slots vary by machine
 - 16 Controllers maximum
-

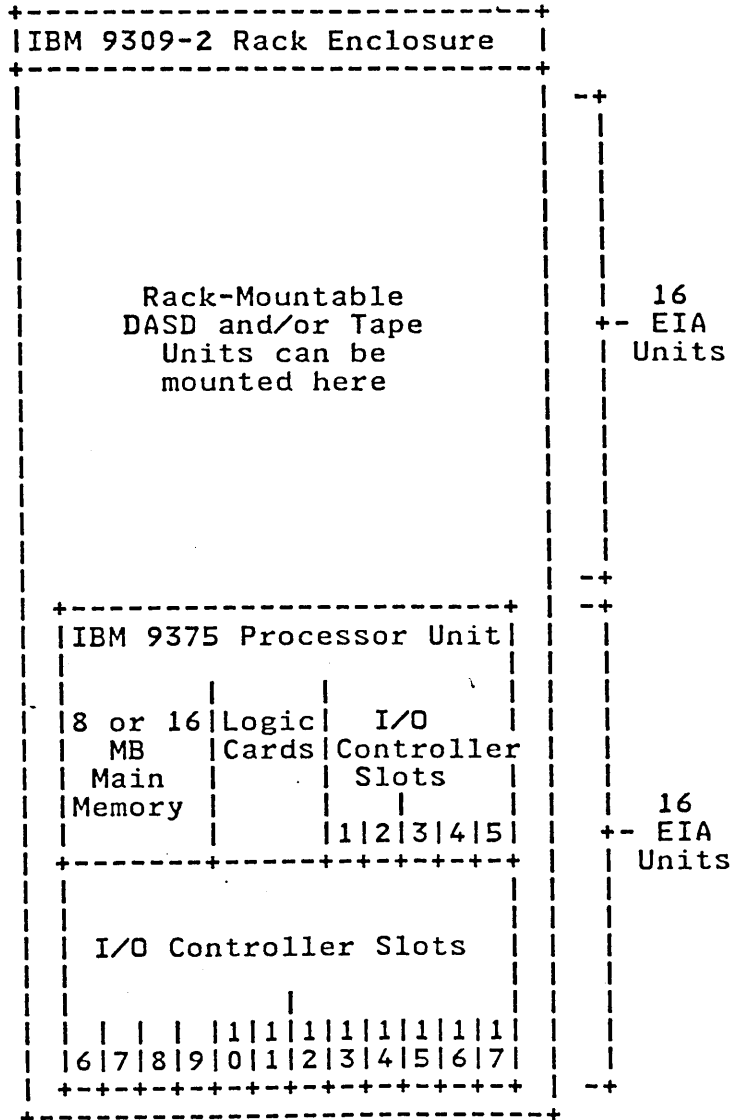
IBM 9370 Processor Highlights

- ◆ IBM 9373 ==> 4361-3
 - 4/8/16 MB Memory
 - No Cache
 - Seven Card I/O Slots
 - Limited Function Version of 9375
 - One Limited Function S/370 Channel
 - Reduced Number of I/O Controllers

 - ◆ IBM 9375
 - 8/16 MB Memory
 - Cache
 - No Cache Model 40 ==> 4361-3
 - 32K Cache Model 60 ==> 4341-2
 - Seventeen Card I/O Slots
 - Floating Point Arithmetic Unit in Hardware
 - Upgrade 9375-40 to 9375-60
 - Upgrade to 9375-40/9375-60 to 9377-90

 - ◆ IBM 9377 ==> 4381-1
 - 8/16 MB Memory
 - 16 K Cache
 - 10-54 Card I/O Slots
 - Floating Point Arithmetic Unit in Hardware
-

IBM 9370 System Structure



Summary of 9370 System Components

| Components | 9373 | 9375 | 9377 |
|---------------------------|---|---|---|
| 9309 Rack | Model 1 Model 2 | Model 1 Model 2 | Model 1 Model 2 |
| I/O Slots | 7 | 17 | 54 |
| Console | Standard | Standard | Standard |
| I/O Subsystem Controllers | DASD/Tape Communications Workstation S/370 Channel | DASD/Tape Communications Workstation S/370 Channel | DASD/Tape Communications Workstation S/370 Channel |
| System I/O Devices | 9332 9335 9347 BMPX-Attached Devices | 9332 9335 9347 BMPX-Attached Devices | 9332 9335 9347 BMPX-Attached Devices |
| Operating Systems | VM/SP IX/370 VSE/SP | VM/SP IX/370 VSE/SP MVS/SP (Model 60 Only) | VM/SP IX/370 VSE/SP MVS/SP |

IBM

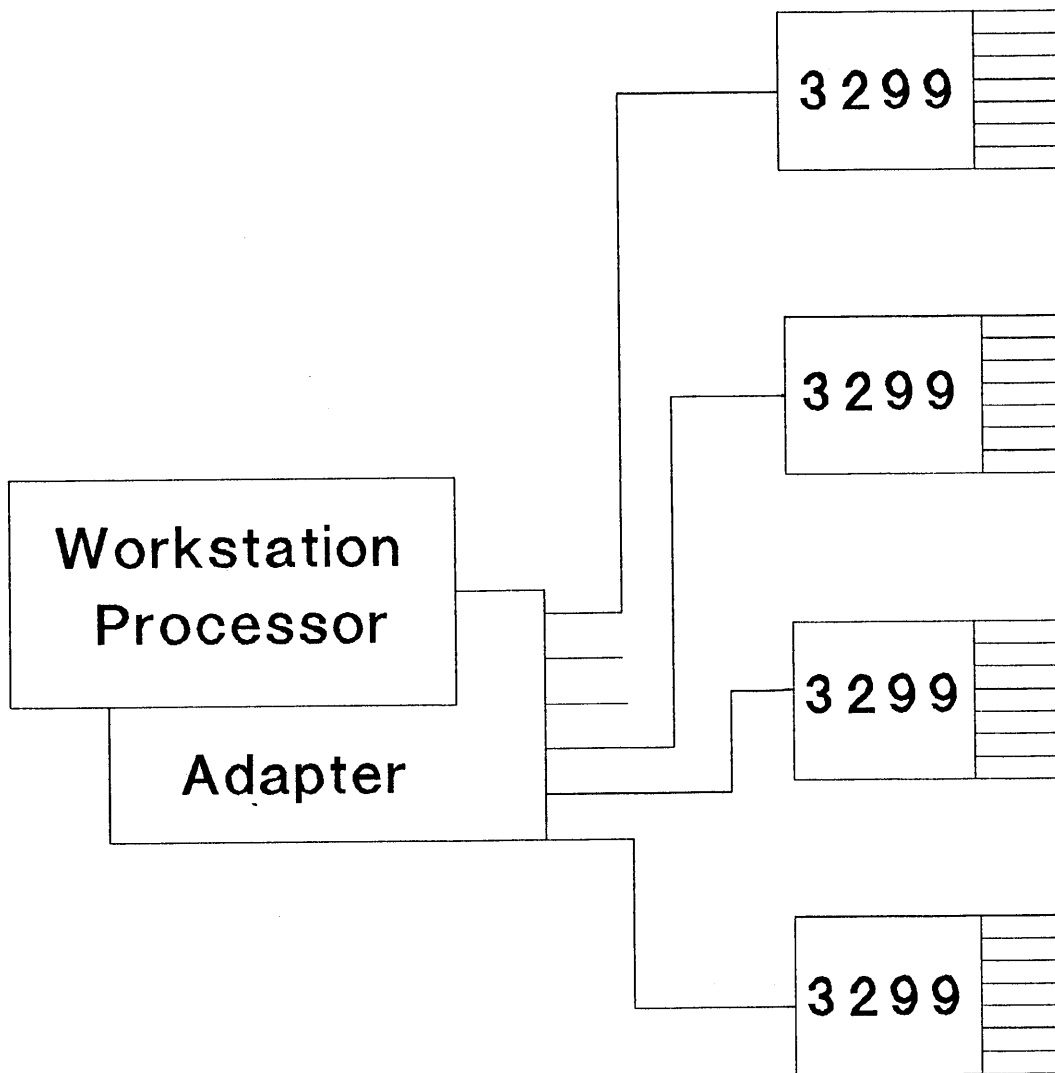
Workstation

Subsystem

Workstation Subsystem Controller

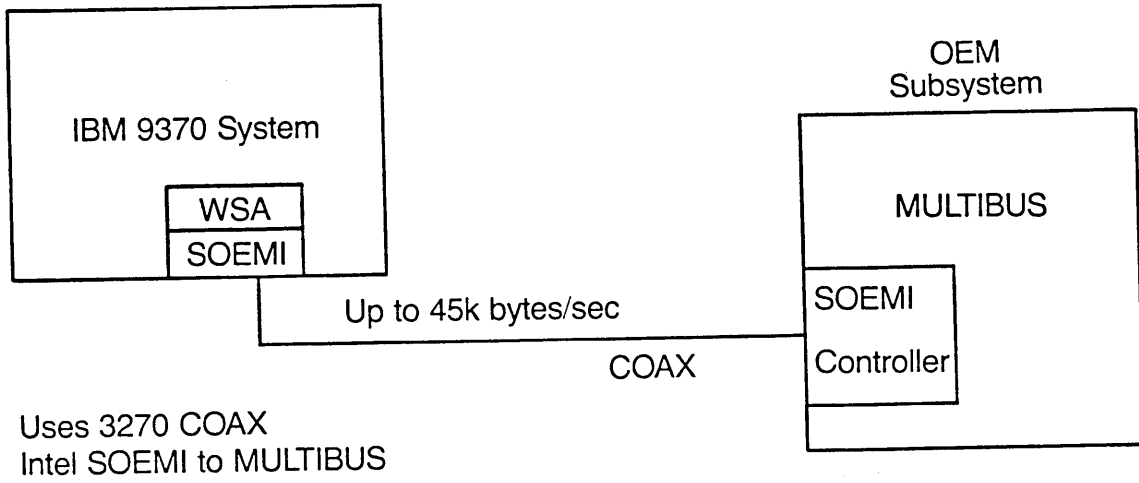
- **Two Card Controller:**
 - **Functionally Equivalent to a 3174 Controller.**
- **Attachment of up to 32 Local Devices on the Adapter.**
 - **6 Coaxial Ports**
 - **Up to 4 3299 Terminal Multiplexers.**
- **Serial Original Equipment Manufacturer Interface (SOEMI)**
 - **Attachment of SOEMI Devices Through an OEM Adapter.**
- **Maximum Controllers Per 9370**
 - **Model 20 (2)**
 - **Model 40 and 60 (6)**
 - **Model 90 (12)**

Workstation Subsystem

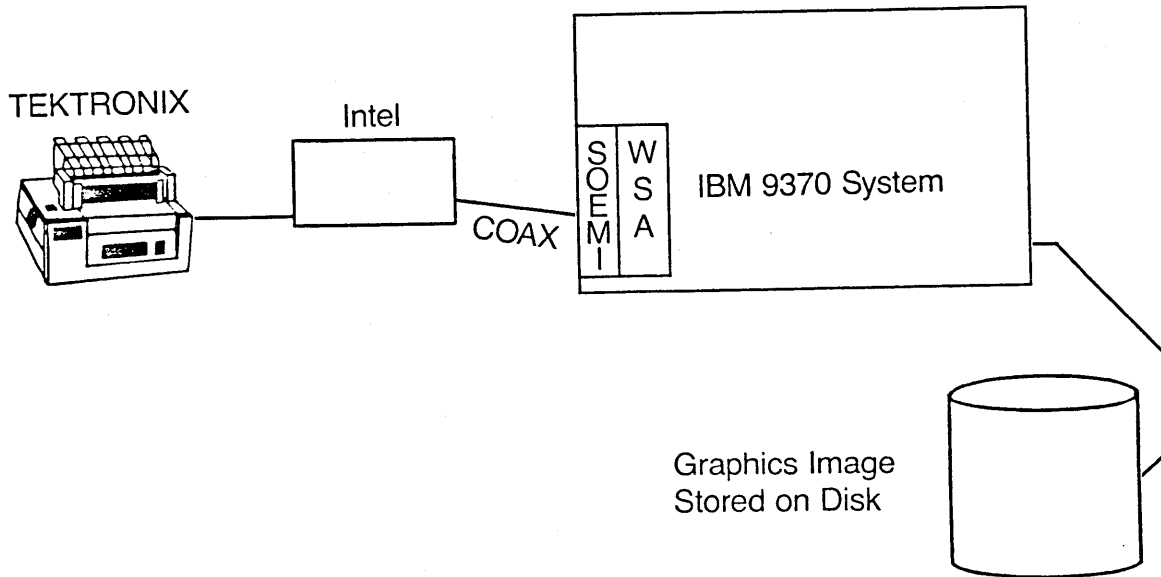


- Each 3299 Can Attach up to 8 Devices.
- Attach 6 Devices Directly or up to 32 Devices Expanded.

SOEMI:



SOEMI AT WORK



Workstation Controller - Supported Devices

| | |
|------------------------|--|
| 3178-C1,C2,C3,C4 | 4234-1 |
| 3179-1,G1,G2 | 4245-D12,D20 |
| 3180-1 | 4250-1 |
| 3191-A1X,A2X,B1X,B2X | 5210-G1,G2 |
| 3193-1,2 | 5227-11 |
| 3194-H20,H50 | 5150 |
| 3278-2,3,4,5 | 5160-068,078,086,087,088, 089,267,268,277 |
| 3279-S2A,S2B,S3G,2X,3X | 5170-068,099,239,319,339, 599,739,919,939 |
| 3290-220,230,T30 | |
| 5578 | |
| 3262-3,13 | 5271 |
| 3268-2,2C | 5273 |
| 3287-1,2,1C,2C | 6150-20,25,A25 |
| 4214-1 | 6151-10 |
| 4224-201,202,2E2,2C2 | |

Note : All printers are supported as terminal printers only. No system printers attach.

DASD/Tape

Subsystem

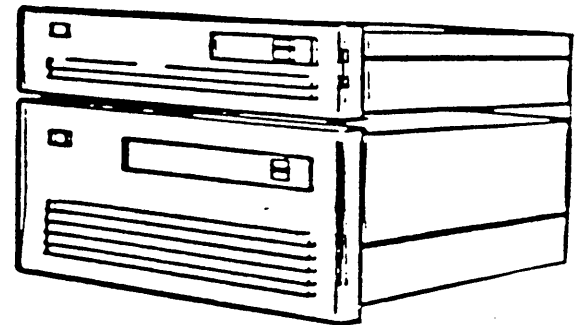
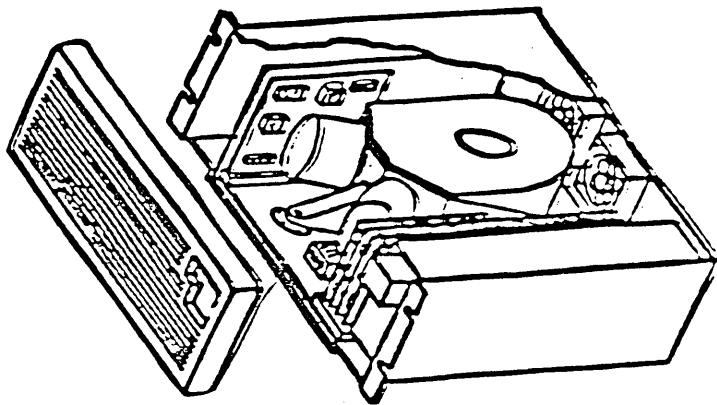
DASD/Tape Subsystem Controller

- I/O Processor and I/O Adapter Functions on a Single Card.
- Can Be Used in the Same Rack Enclosure as the DASD/Tape Devices, or Can Be in Another Rack Enclosure.
- One DASD/Tape Subsystem Controller Can Attach One of the Following:
 - 1 to 4 9332-400 DASD
 - 1 to 4 9332-400 DASD and One 9347 Magnetic Tape Unit
 - 1 9335-A01 and 1 to 4 9335-B01 DASD
 - 1 9347 Magnetic Tape Unit
- At Least One DASD Attached via One DASD/Tape Subsystem Controller is Needed For Any I/O Subsystem Controller - Other than the S/370 Block Multiplexor Channel.
- Maximum Controllers Per 9370
 - Model 20 (2)
 - Model 40 and 60 (4)
 - Model 90 (12)

IBM

IBM 9370 INFORMATION SYSTEM

DIRECT ACCESS STORAGE DEVICES (DASD)



IBM 9332

IBM 9335

CAPACITY

368 MB

824 MB

DATA RATE

2.6 MB/SEC

3.0 MB/SEC

9332 Direct Access Storage Device

- A Medium-Capacity, High-Performance Storage Device.
- Integrated Device Function Controller
- Fixed Disk Supports Fixed-Block Record Format
- 368 MB Available to User
- Two Actuators Per Spindle - Four Read/Write Heads per Actuator.
- Data Transfer Rate of 2.6 MB Per Second

IBM

9335 Direct Access Storage Device

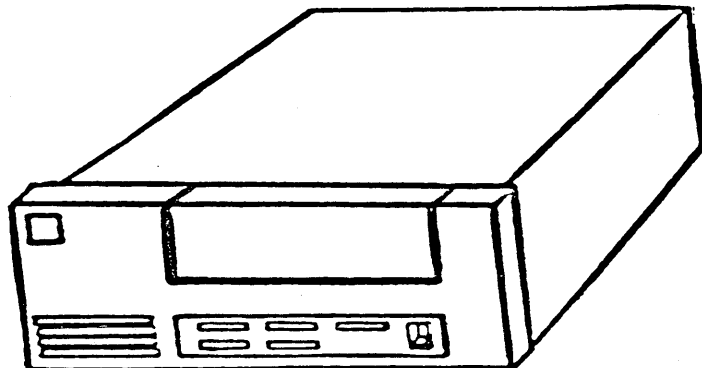
- A Large-Capacity, High-Performance Storage Device.
- Model A01 Device Function Controller:
Controls up to 4 Model B01 Units.
- Model B01 Direct Access Storage:
Fixed Disk Supports Fixed-Block Record Format
- 824 MB Available to User.
- Two Actuators Per Spindle - Six Read/Write Heads Per Actuator
- Data Transfer Rate of 3.0 MB Per Second

IBM

IBM 9370 INFORMATION SYSTEM

IBM 9347 MAGNETIC TAPE UNIT

- MEDIA: 1/2" TAPE; 10" REEL
- CAPACITY: 40 MB AT 1600 BPI
- SPEEDS: 25 OR 100 IPS AT 1600 BPI
- DATA RATES:
 - 40 KB/SEC AT 25 IPS
 - 160 KB/SEC AT 100 IPS



9347 Magnetic Tape Unit

- Integrated Device Controller
- Auto-Loading of Tape
- Uses Standard Half Inch Wide Magnetic Tape
- 40MB at 1600BPI
- A Streaming Tape Used For Loading and Off-Loading DASD Volumes.
- Data Transfer Rate of 40KB/Sec at 25 IPS, 160KB/Sec at 100 IPS.

Note : For Large DASD Volumes, Consider Using the Channel-Attached, High-Performance 3422 Tape Unit.

IBM

9370 DASD/Tape Configurations

| 9332 | 9335 | | 9347 | DASD Megabytes | DASD Actuators |
|------|------|-----|------|-------------------|-------------------|
| | A01 | B01 | | | |
| 1-4 | * | * | * | 368-1472 | 2-8 |
| 1-4 | * | * | 1 | 368-1472 | 2-8 |
| * | 1 | 1-4 | * | 824-3296 | 2-8 |
| * | * | * | 1 | * | * |

* Not Applicable

IBM

S/370

Channel

System/370 Block Multiplexer Channel

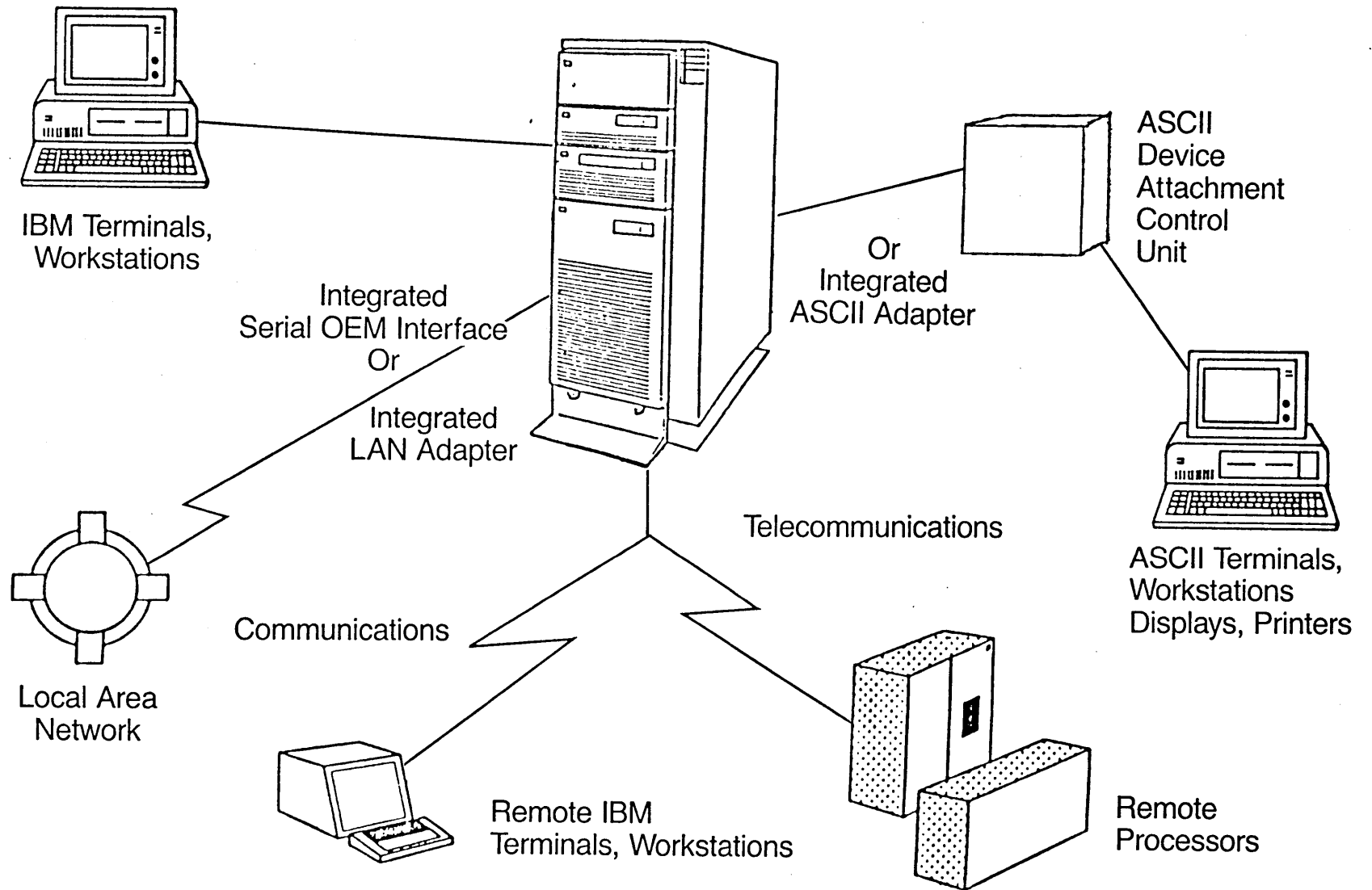
- System/370 Channel Contained on a Single Card
- Allows Attachment of One to Eight Control Units For DASD, Tape, Displays, Printers and Other Devices.
- Can Operate in Data Streaming Mode Up to 3.0 MB Per Second.
- 9370 Can Be Attached to a 4381 Channel-to-Channel Adapter.
- Maximum S/370 Channels Per 9370
 - Model 20 (1)
 - Model 40 and 60 (2)
 - Model 90 (12)

IBM

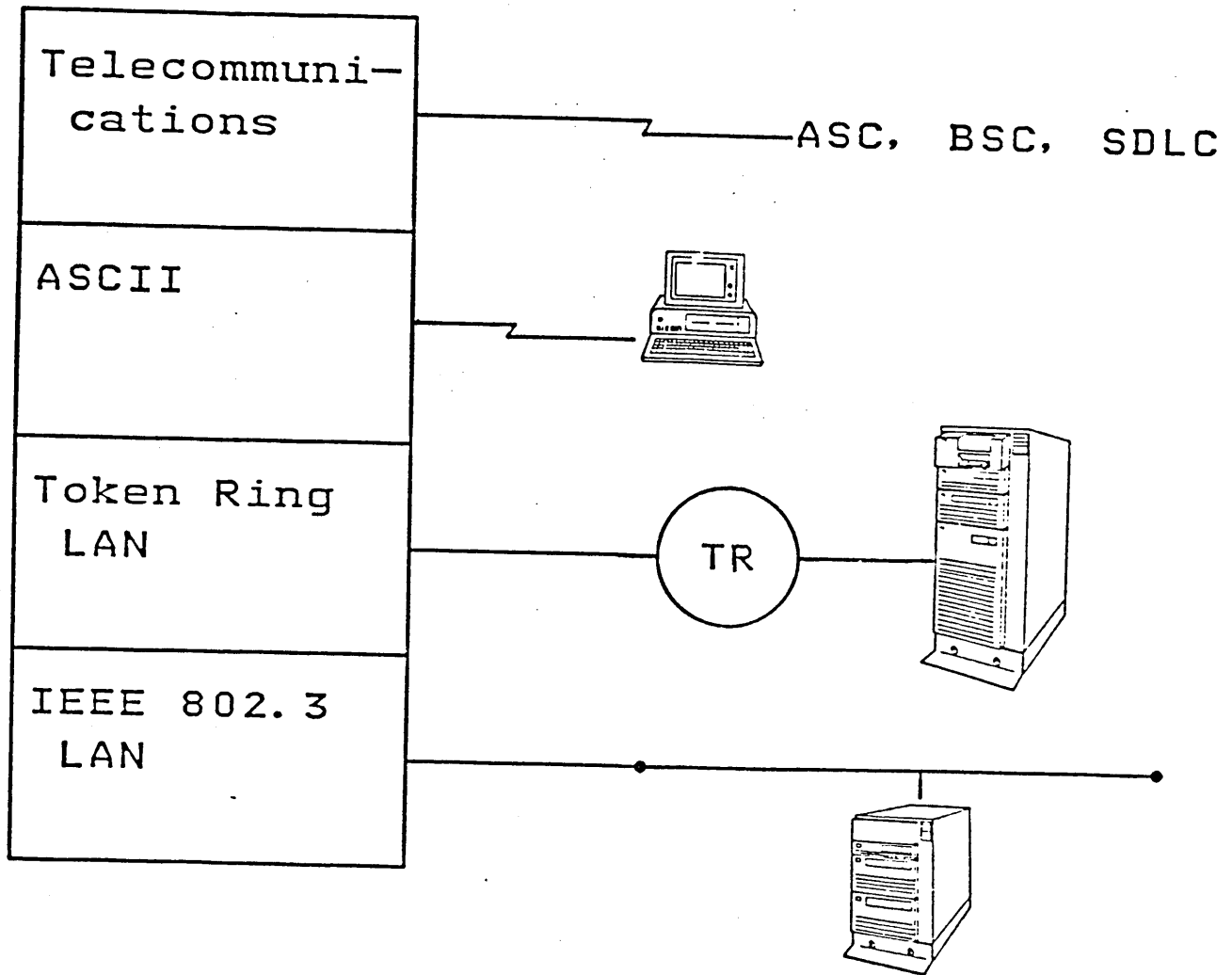
Communications

Subsystem

IBM 9370 Information System: Distributed/Departmental Environments

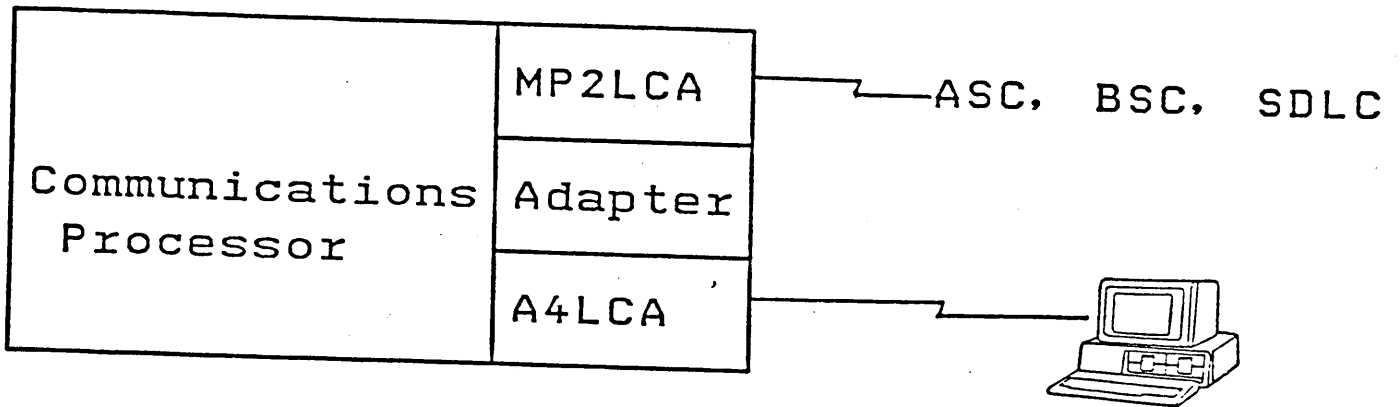


IBM 9370 COMMUNICATIONS SUPPORT



- ◆ INTEGRATED COMMUNICATIONS SUBSYSTEMS
 - Communications Processor and Adapters
- ◆ 3270 WORKSTATION SUBSYSTEM
 - 3270's Plus SOEMI
- ◆ S/370 BLOCK MPX CHANNEL

IBM 9370 TELECOMMUNICATIONS SUBSYSTEM

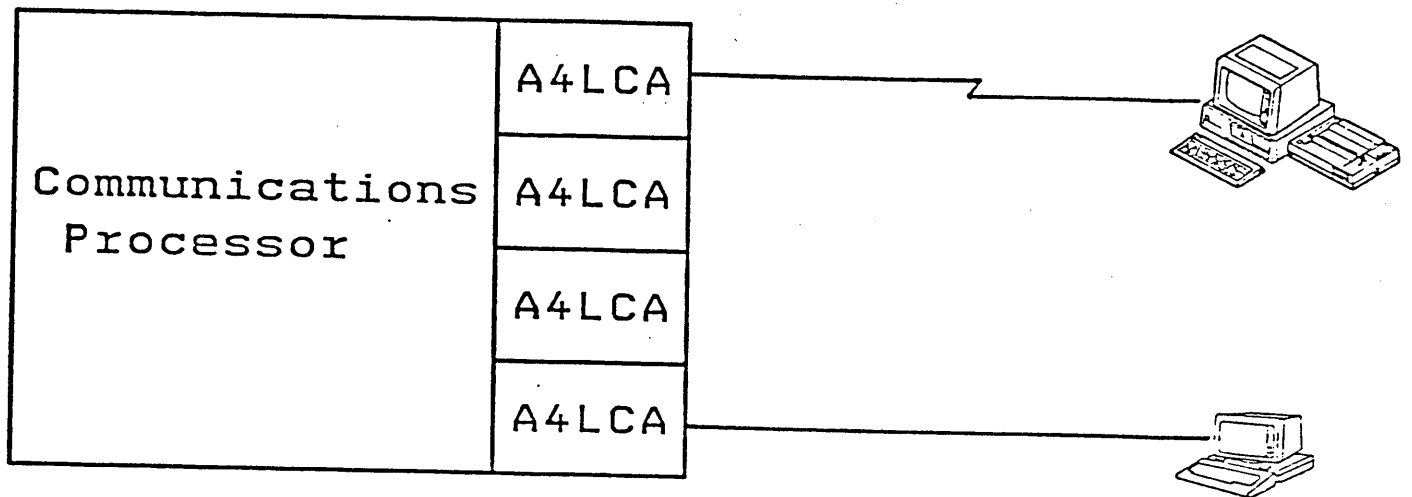


◆ COMMUNICATIONS PROCESSOR PLUS 3 ADAPTERS

- Multiprotocol Two Line Comm. Adapter
- Asynchronous Four Line Comm. Adapter
- Maximum Line Speeds

| | |
|------|----------|
| ASC | 19.2KBPS |
| BSC | 19.2KBPS |
| SDLC | 64KBPS |

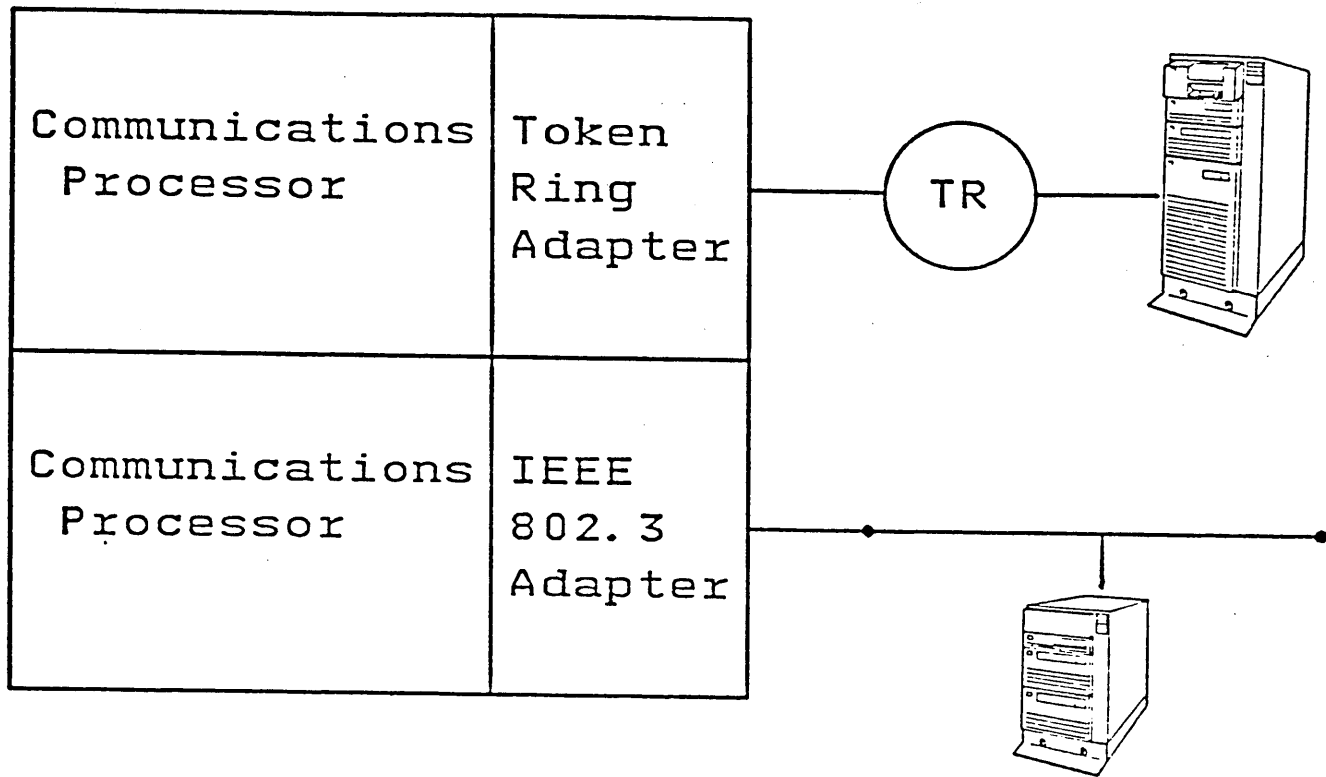
IBM 9370 ASCII SUBSYSTEM



◆ COMMUNICATIONS PROCESSOR PLUS 4 ADAPTERS

- Asynchronous Four Line Comm. Adapter
- Maximum Line Speed: 19.2KBPS
- Modes:
 - ASCII
 - ASCII/3270 conversion
 - ASCII/3270 transparency

IBM 9370 LAN SUBSYSTEMS



◆ COMMUNICATIONS PROCESSOR PLUS 1 LAN ADAPTER

- Token Ring Adapter
- IEEE 802.3 LAN Adapter
 - CSMA/CD LAN (Ethernet)

Ethernet is a trademark of Xerox Corporation.

IBM 9370/PC TOKEN-RING NETWORK

9370 REQUIREMENTS

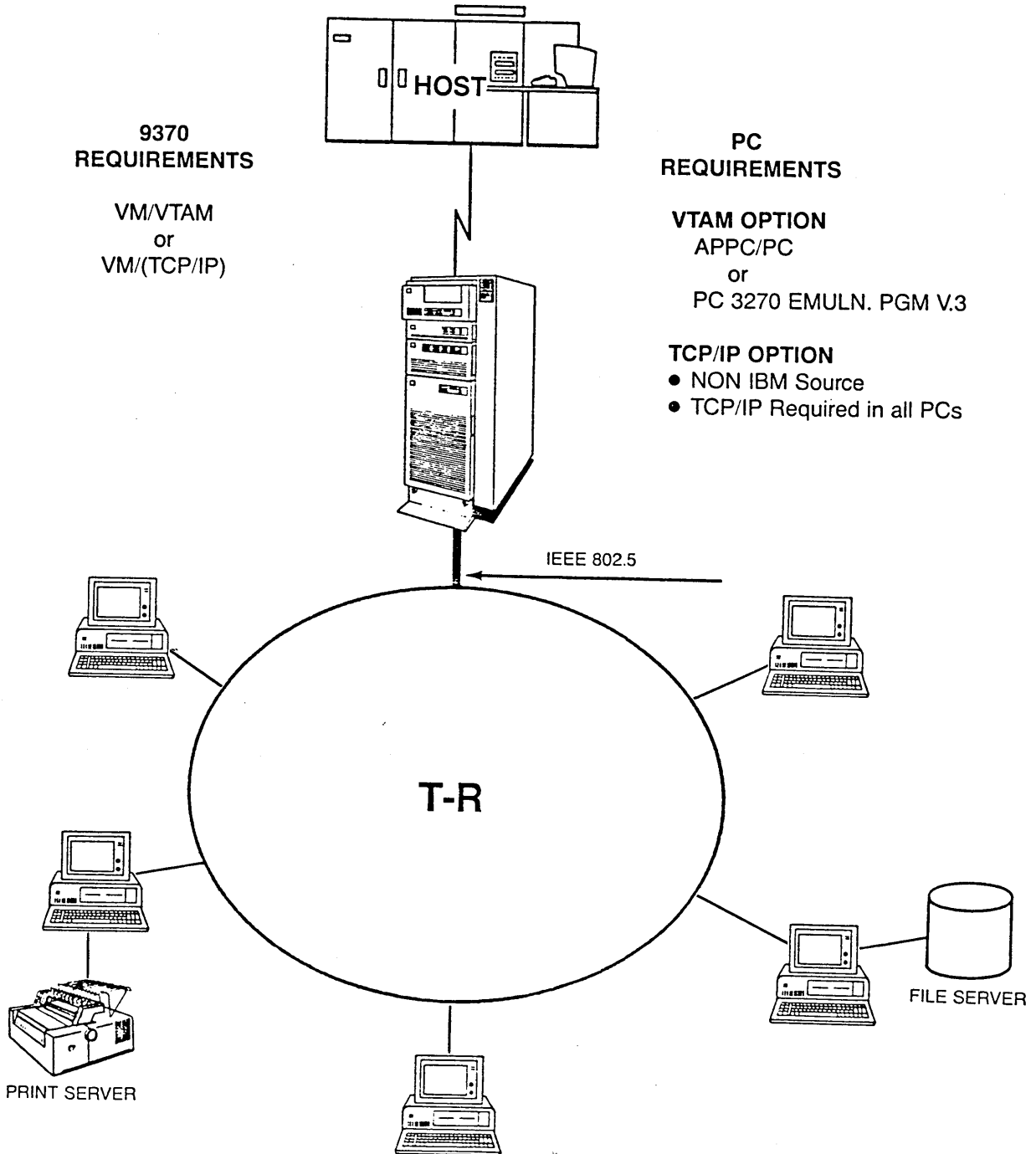
VM/VTAM
or
VM/(TCP/IP)

PC REQUIREMENTS

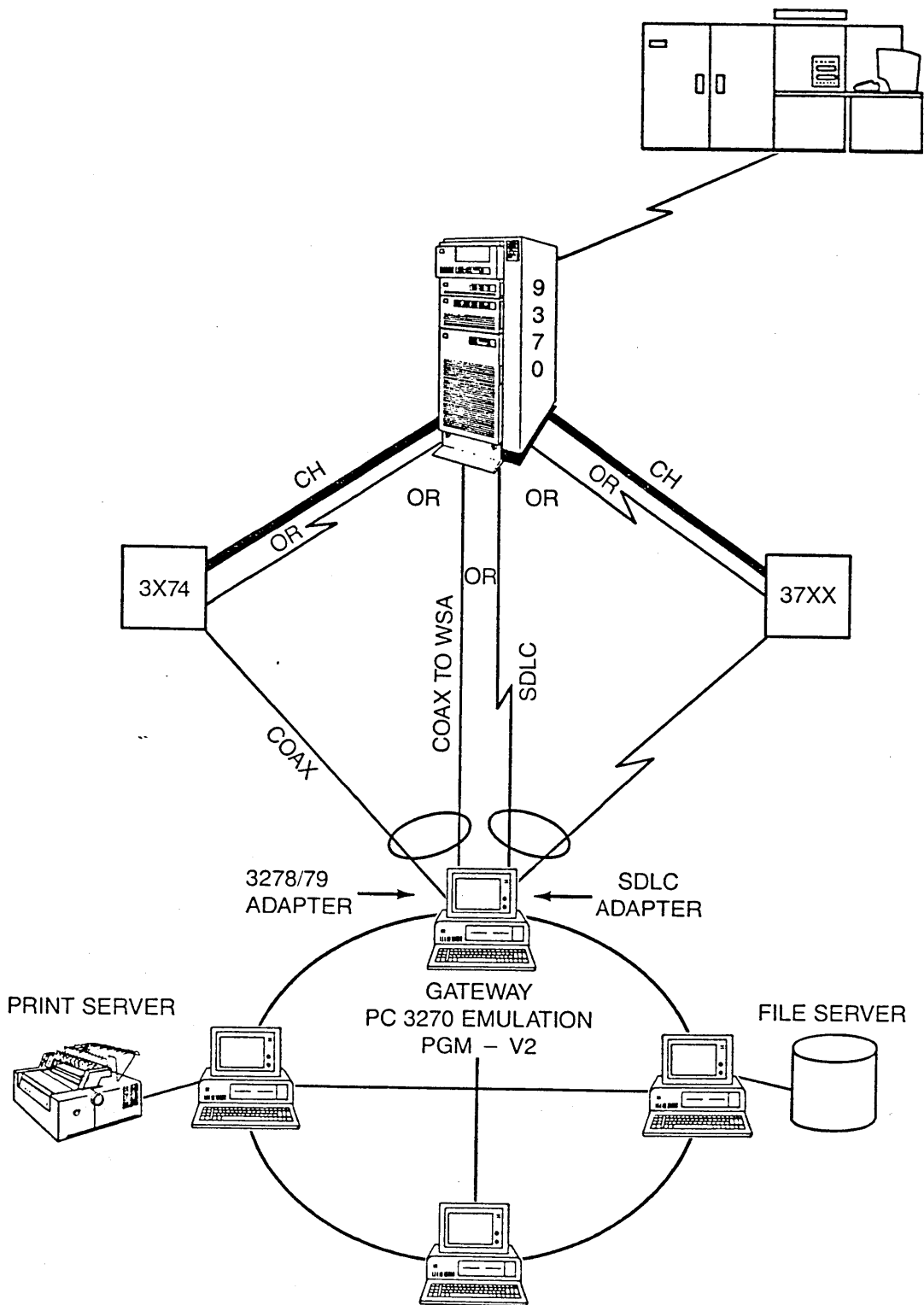
VTAM OPTION
APPC/PC
or
PC 3270 EMULN. PGM V.3

TCP/IP OPTION

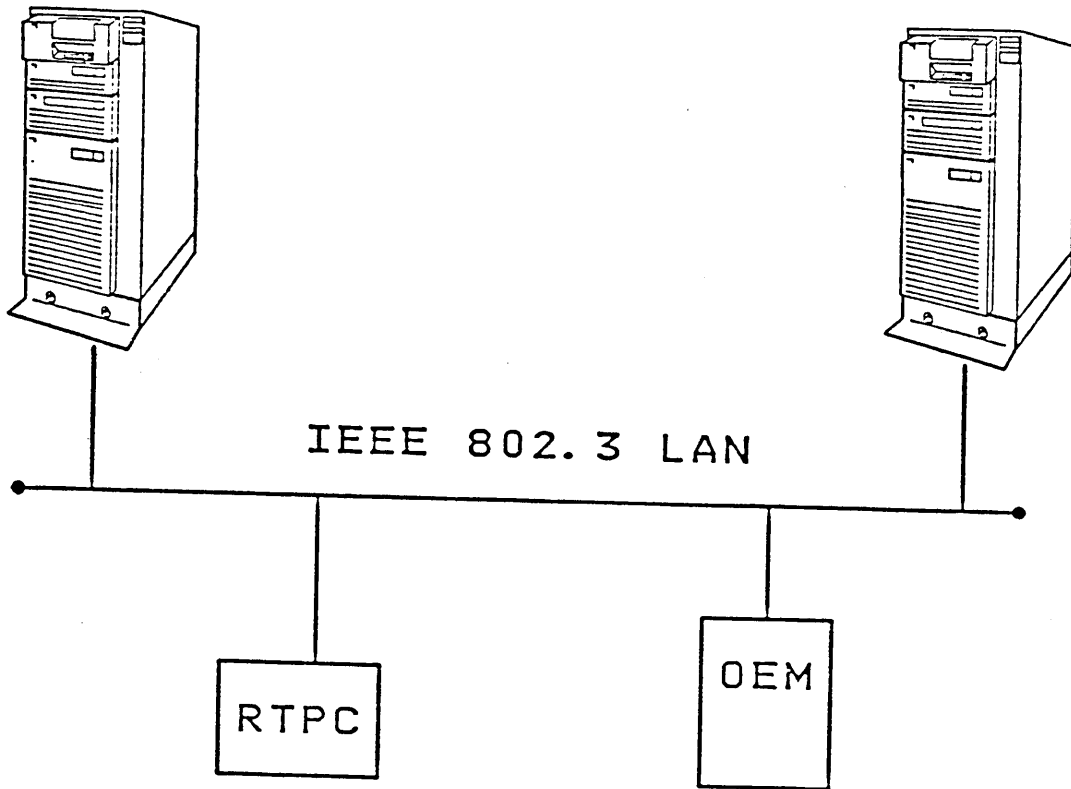
- NON IBM Source
- TCP/IP Required in all PCs



PC NETWORK/TOKEN RING GATEWAY TO 9370



IBM 9370 IEEE 802.3 LAN SUPPORT



| | TCP/IP | TSAF |
|------------------------|------------------------|--------------------|
| 9370 TO 9370 | TCP/IP TO TCP/IP | TSAF TO TSAF |
| 9370 TO NON-9370 | TCP/IP TO TCP/IP | — |

IBM 9370 COMMUNICATIONS SOFTWARE

FULL SNA SUPPORT

◆ VM

- VM/VTAM
- RSCS Networking
- NetView

◆ VSE

- VSE/VTAM
- VSE/POWER
- NCCF/NPDA/NLDM

◆ Non-SNA Communications Support

- VM/Passthrough (PVM) and RSCS Networking

IBM 9370 COMMUNICATIONS SOFTWARE ...

◆ VM/VTAM 9370 ENHANCEMENTS

- 9370 Token Ring Support
 - PC (switched PU2.0) to VM/VTAM
 - VM/VTAM to VM/VTAM

◆ VM/SP TRANSPARENT SERVICES ACCESS FACILITY (TSAF)

- Transparent Access to Remote VM Resources
 - collection of 8 VM processors
 - APPC/VM (LU6.2 subset)
 - SQL/DS
- Links
 - CTCA, 3088, and BSC
 - 9370 Token Ring
 - 9370 IEEE 802.3 LAN

IBM 9370 COMMUNICATIONS SOFTWARE ...

◆ TCP/IP (TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL)

- DoD Defined
 - 60+ vendors support
- User Services:
 - File Transfer Program (FTP)
 - electronic mail (SMTP)
 - remote terminal access (TELNET)
- VM Interface Program for TCP/IP
(5798-DRG)
 - currently uses S/1 or DACU

◆ 9370 SUPPORT

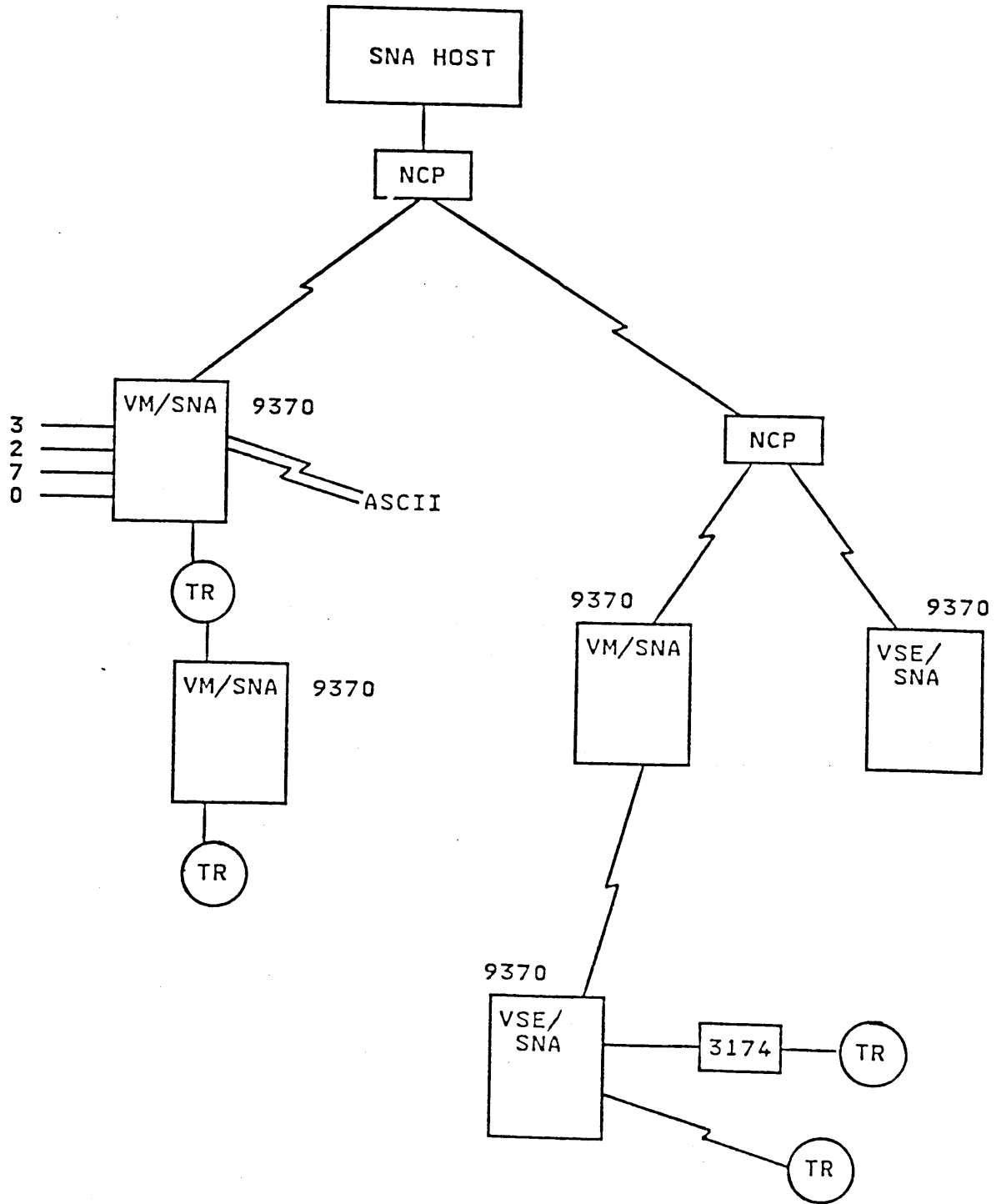
- Token Ring
- IEEE 802.3 LAN

IBM 9370 SOFTWARE SUPPORT

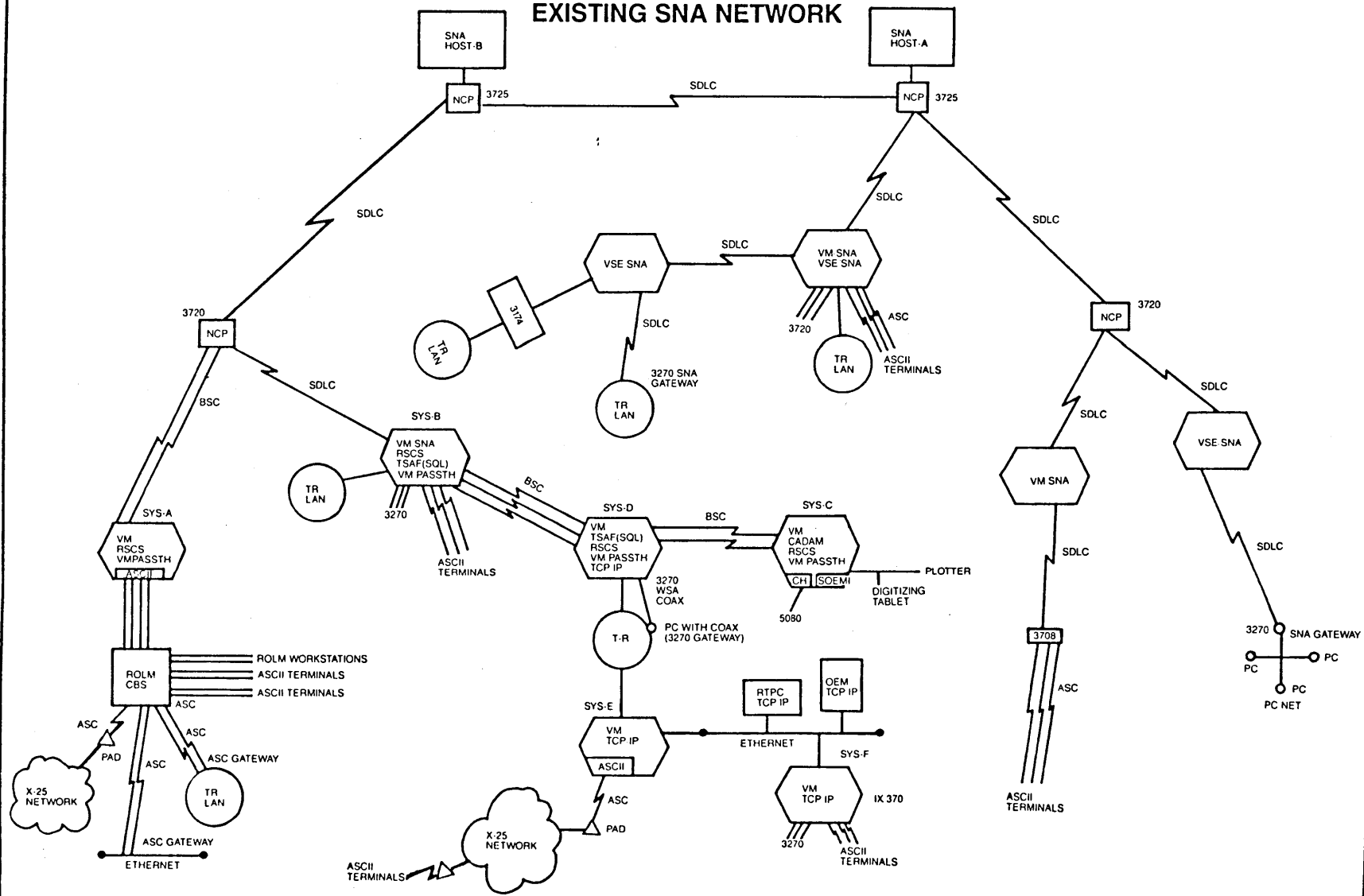
| SUBSYSTEM | VM | VSE | IX/370 | MVS |
|-------------------------|---------------------------|-----|--------|-----|
| Telecommuni- cations | Y | Y | N | N |
| ASCII | Y | Y | Y | N |
| Token Ring | VM/VTAM TSAF TCP/IP | N | N | N |
| IEEE 802.3 LAN | TSAF TCP/IP | N | N | N |
| Workstation | Y | Y | N* | N |

*For IX/370 console only.

IBM 9370 SNA CONNECTIVITY

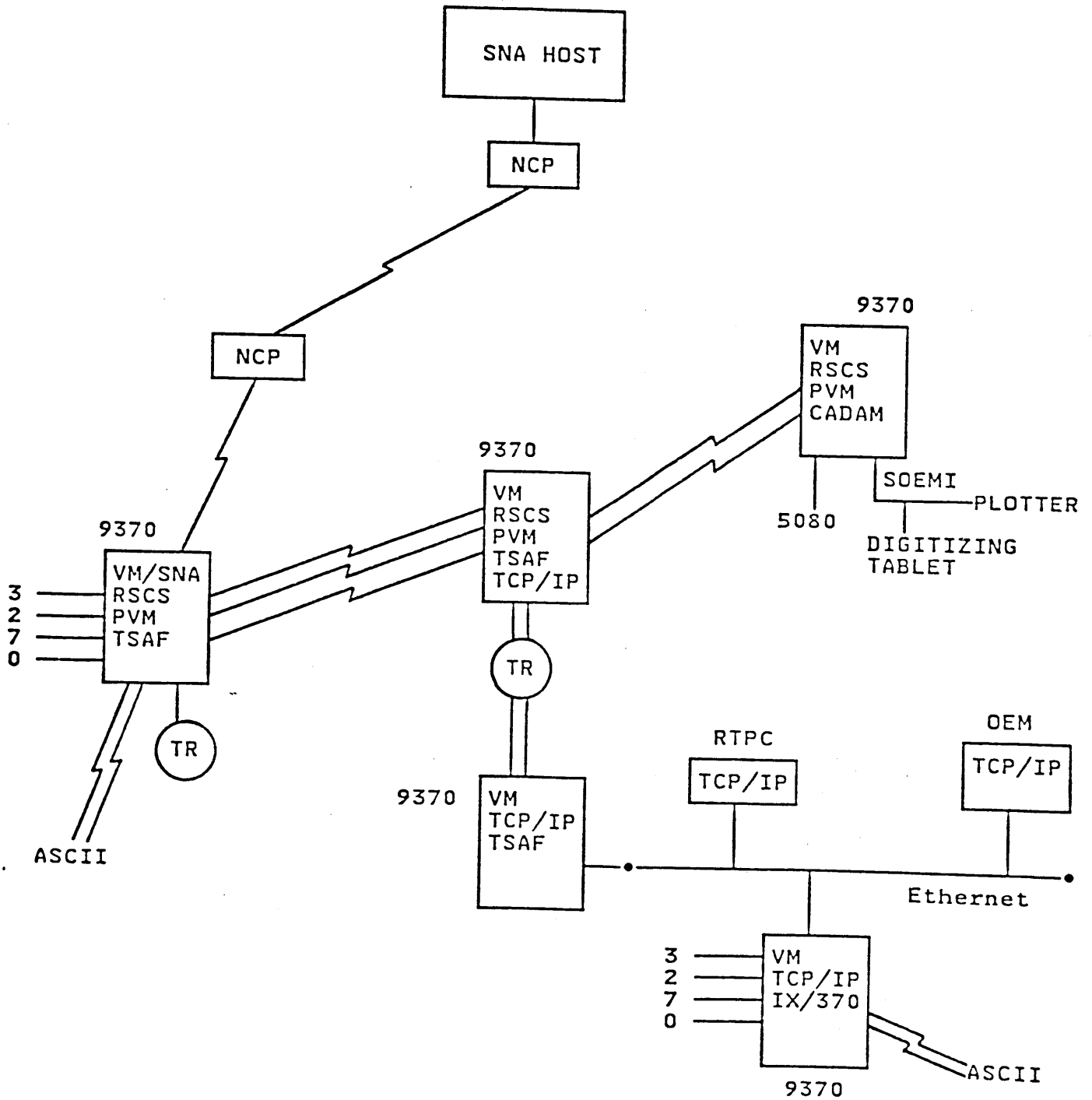


EXISTING SNA NETWORK



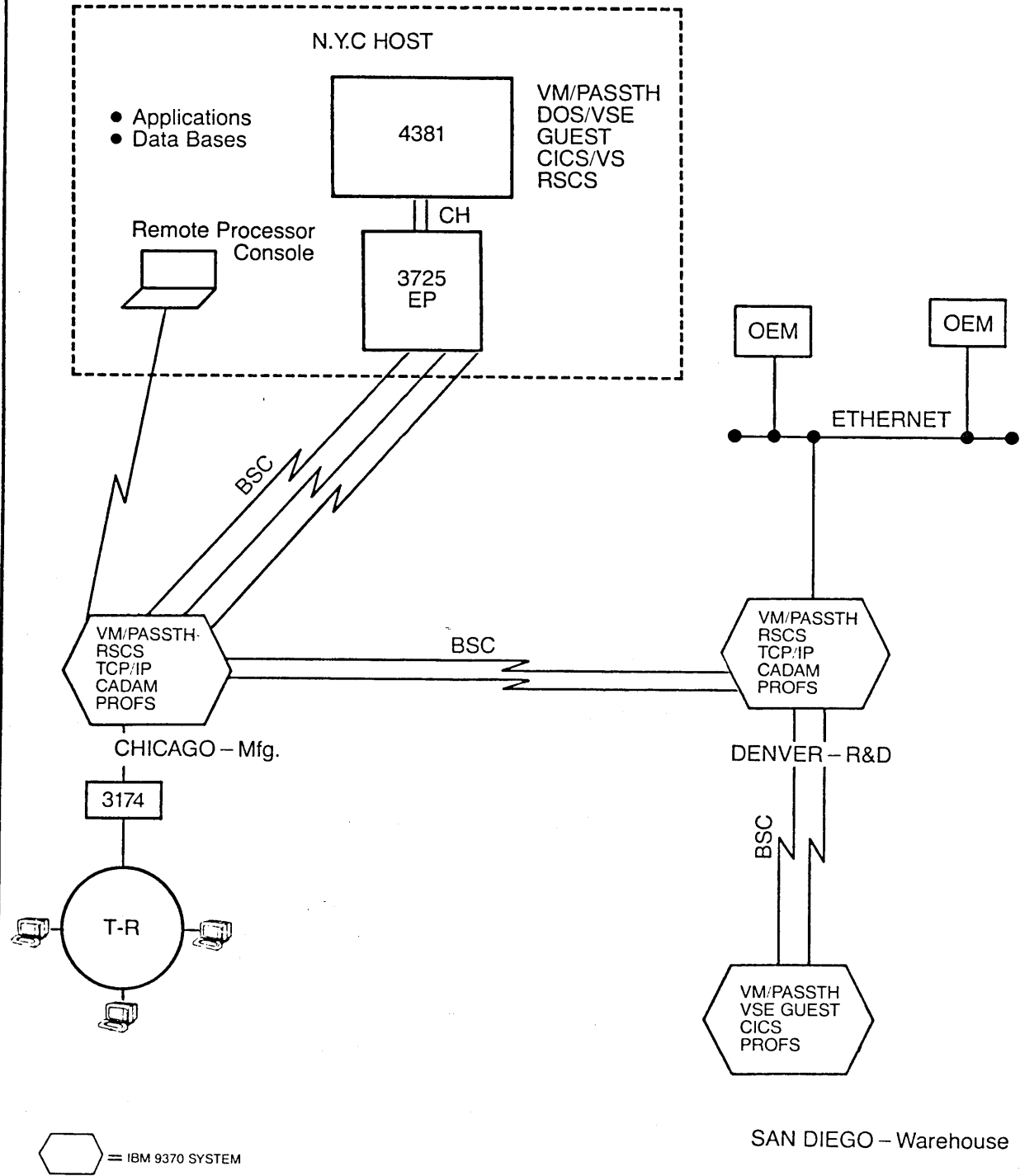
⬡ = IBM 9370 SYSTEM

IBM 9370 SNA AND NON-SNA CONNECTIVITY

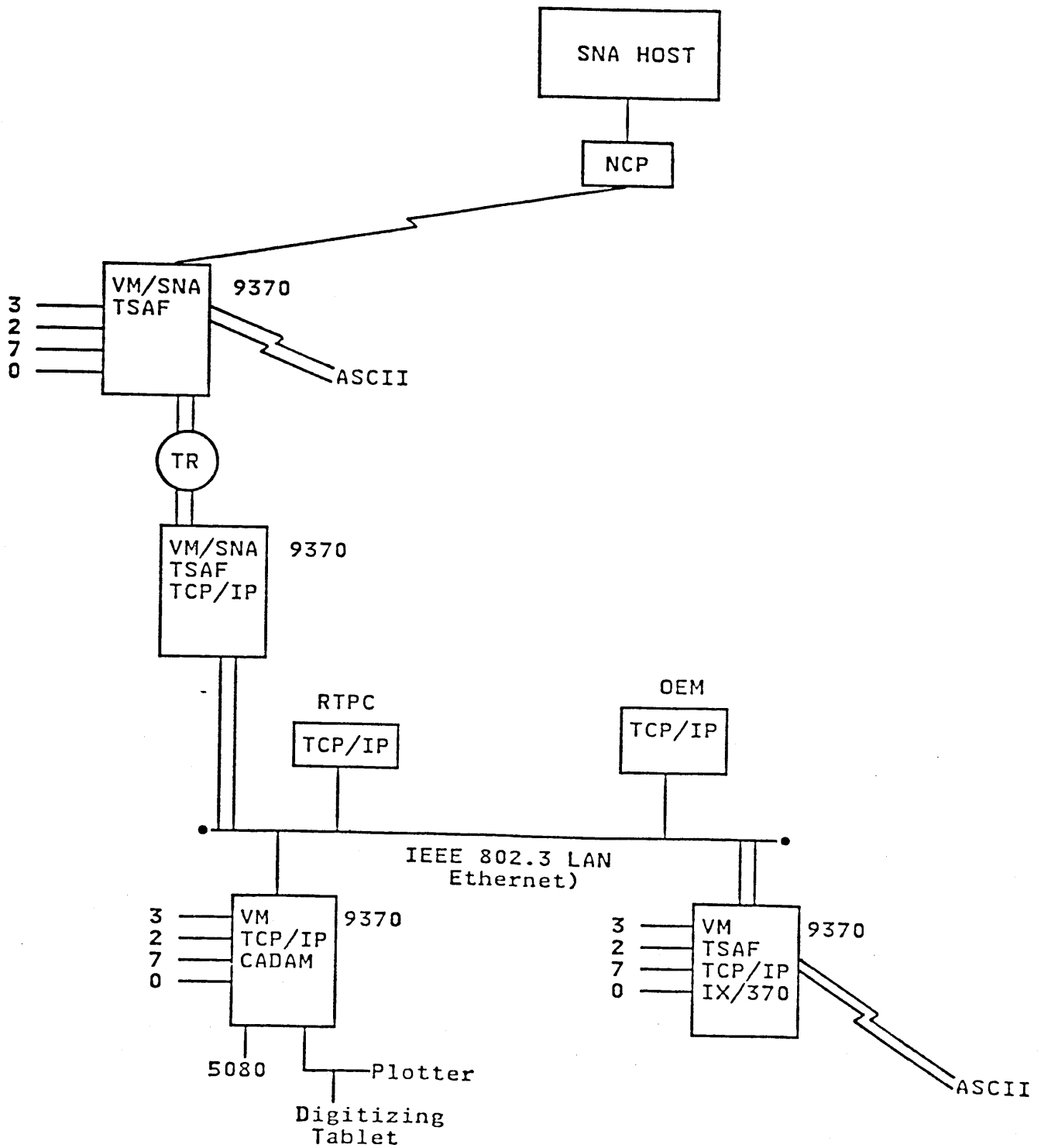


Ethernet is a trademark of Xerox Corporation.

MEDIUM SIZE COMPANY WITH
4381 HOST AND BISYNC NETWORK
NON-SNA ENVIRONMENT

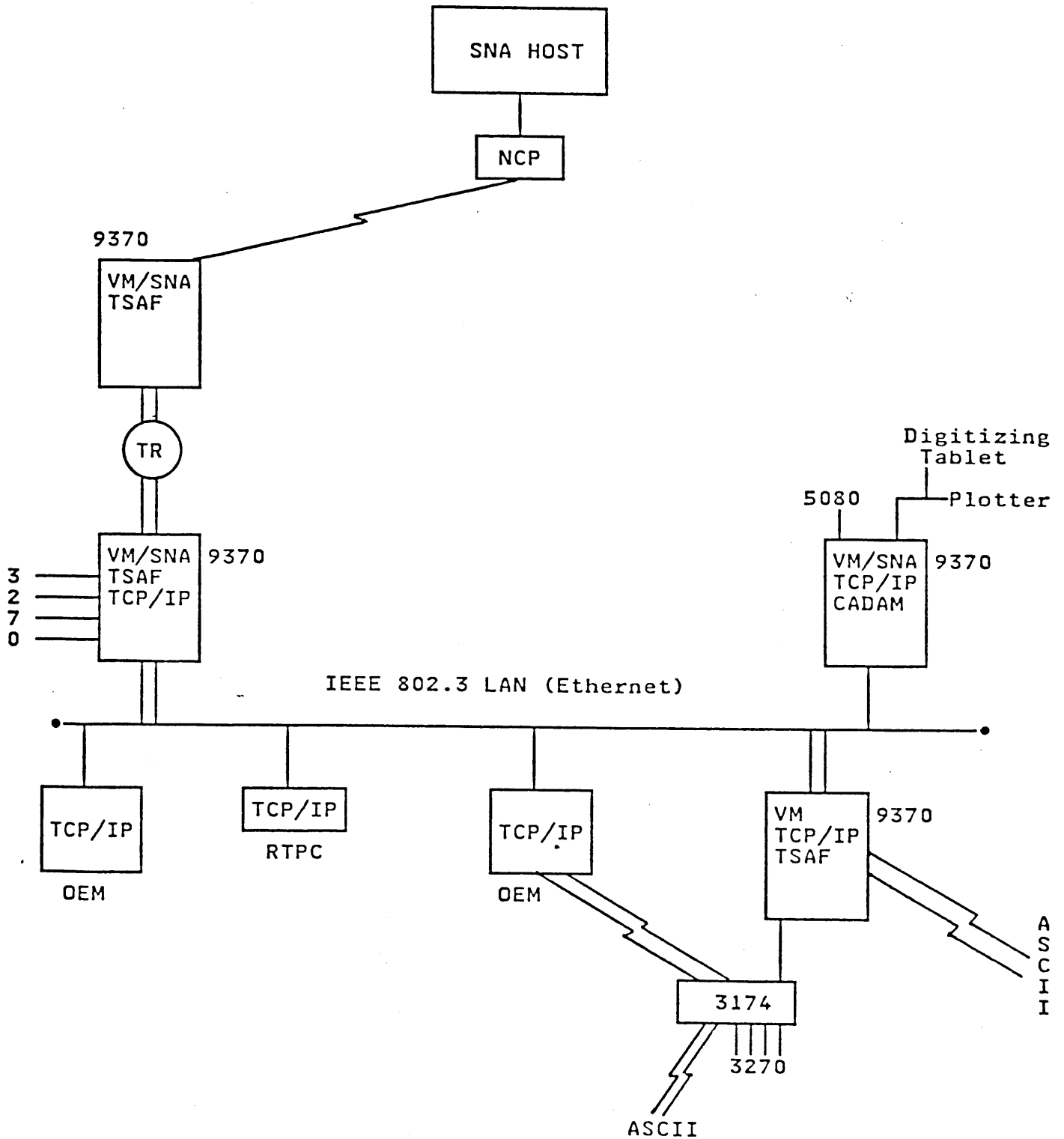


IBM 9370 SNA/OEM CONNECTIVITY



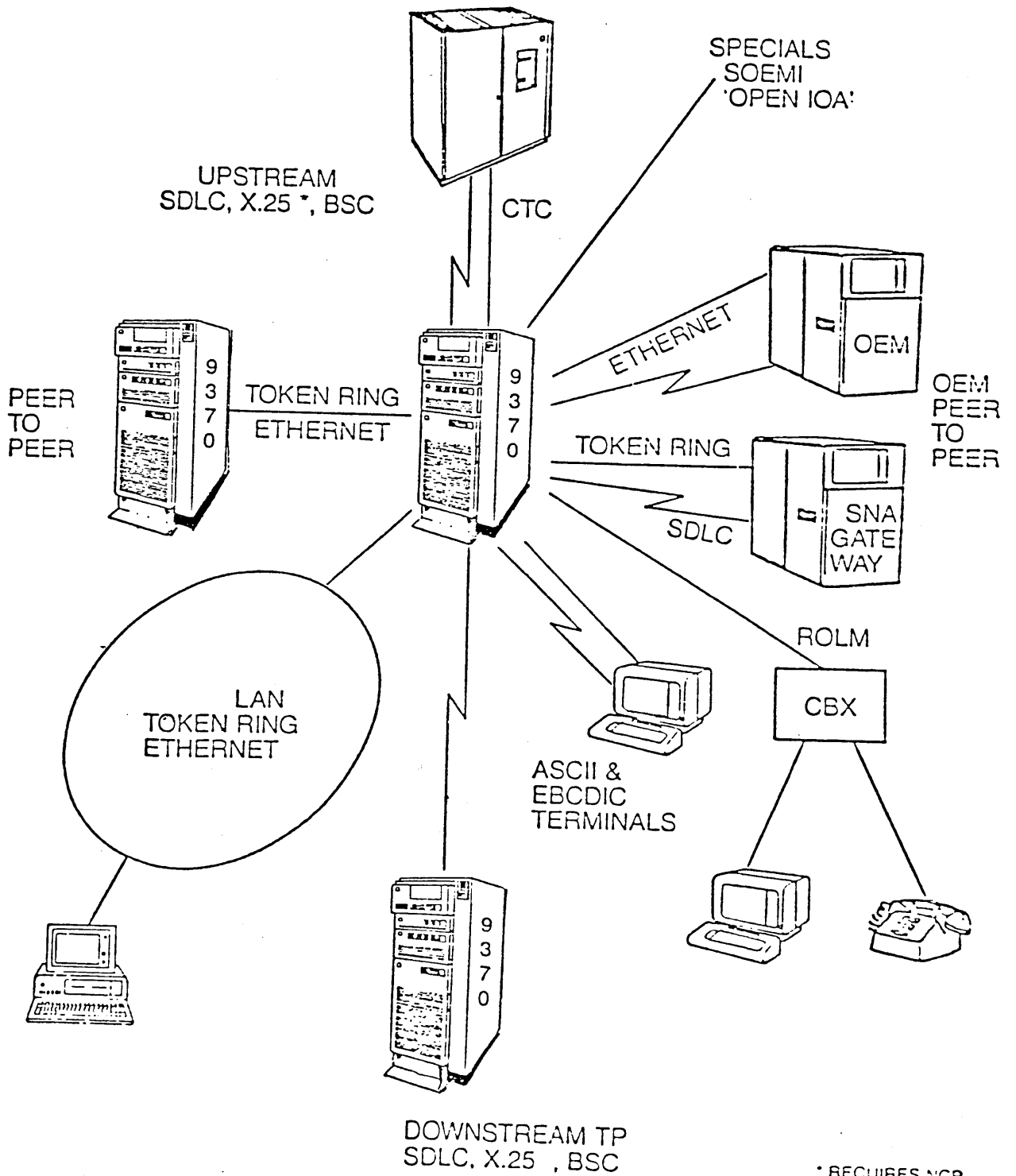
Ethernet is a trademark of Xerox Corporation.

IBM 9370 OEM CONNECTIVITY



Ethernet is a trademark of Xerox Corporation.

IBM 9370 CONNECTIVITY



Processor

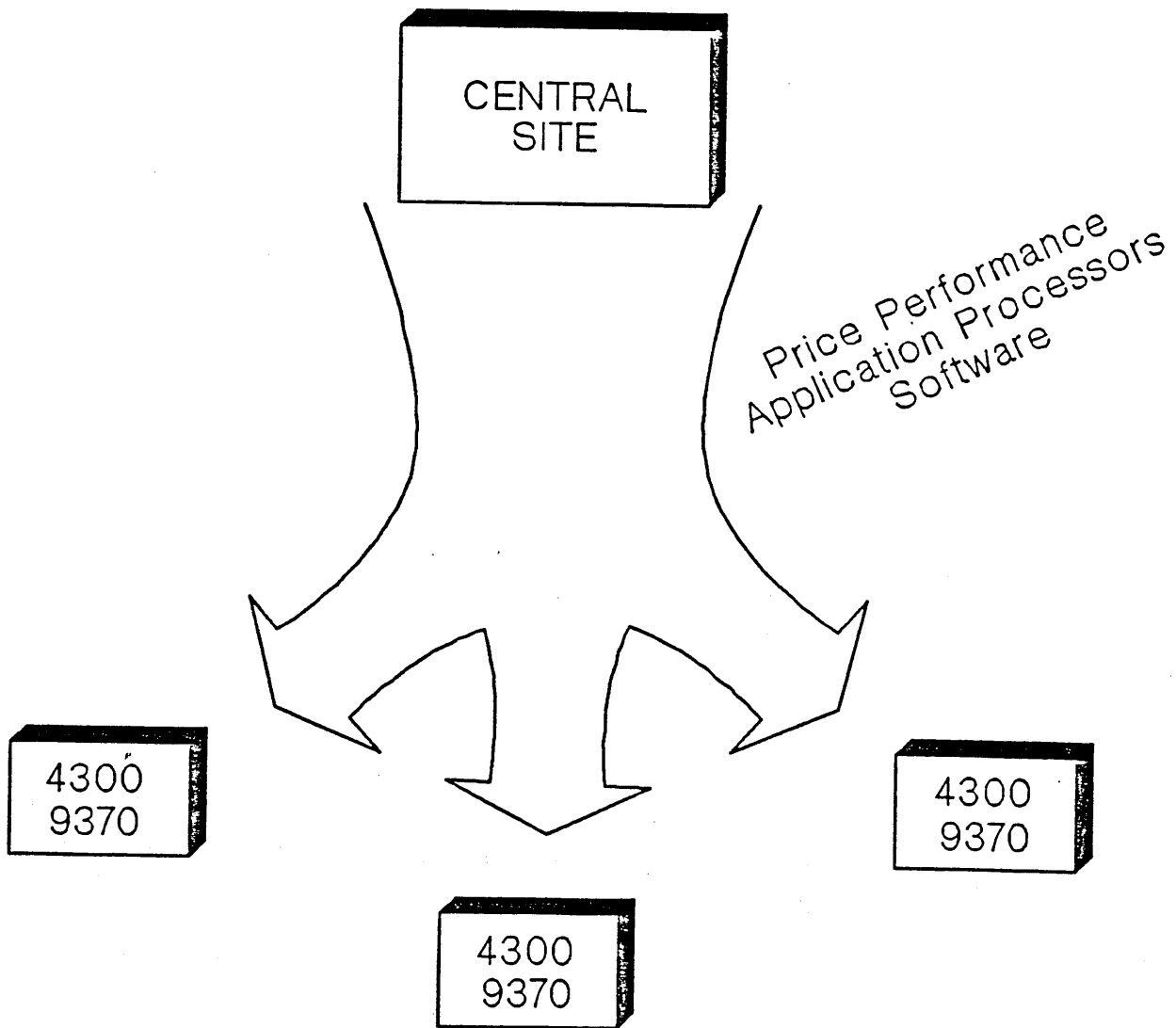
Console

System Processor Console

- Provides Overall System Control
- Is Shipped With Each 9370 System
- Initializes and Monitors the System
- Supports Problem Determination
- Analyzes Machine Checks and Handles Errors
- Supports Manual Operations
- Provides 3270 Display Emulation
- Remote Service/Remote Support

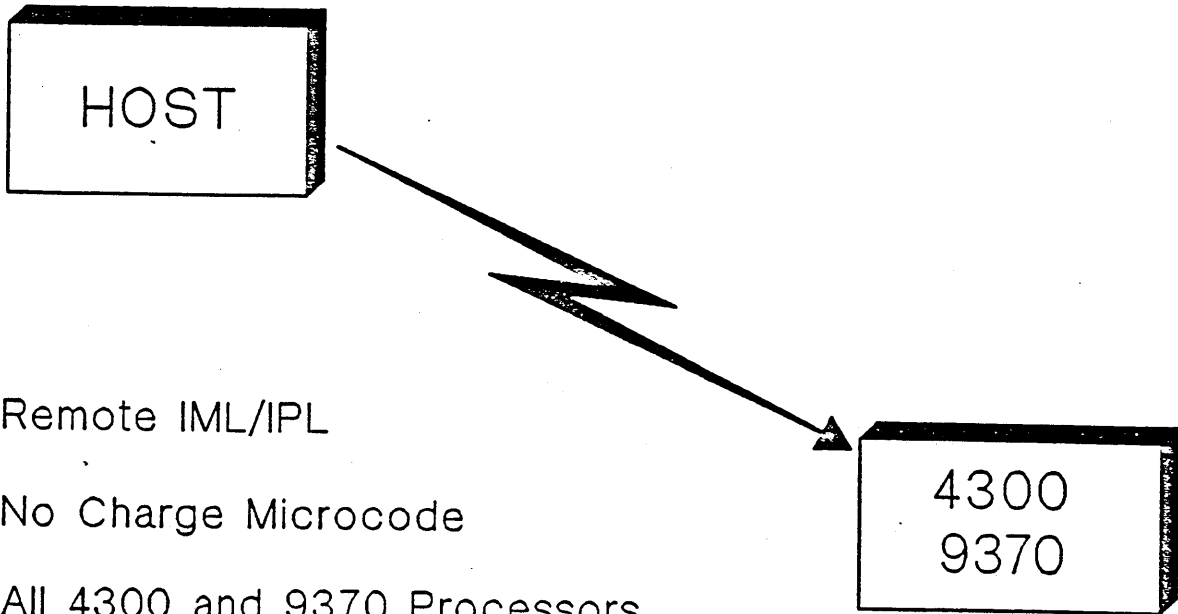
Note : This Processor Console Cannot Be Used
to Execute PC Programs.

DISTRIBUTED CONTROL AND OPERATIONS



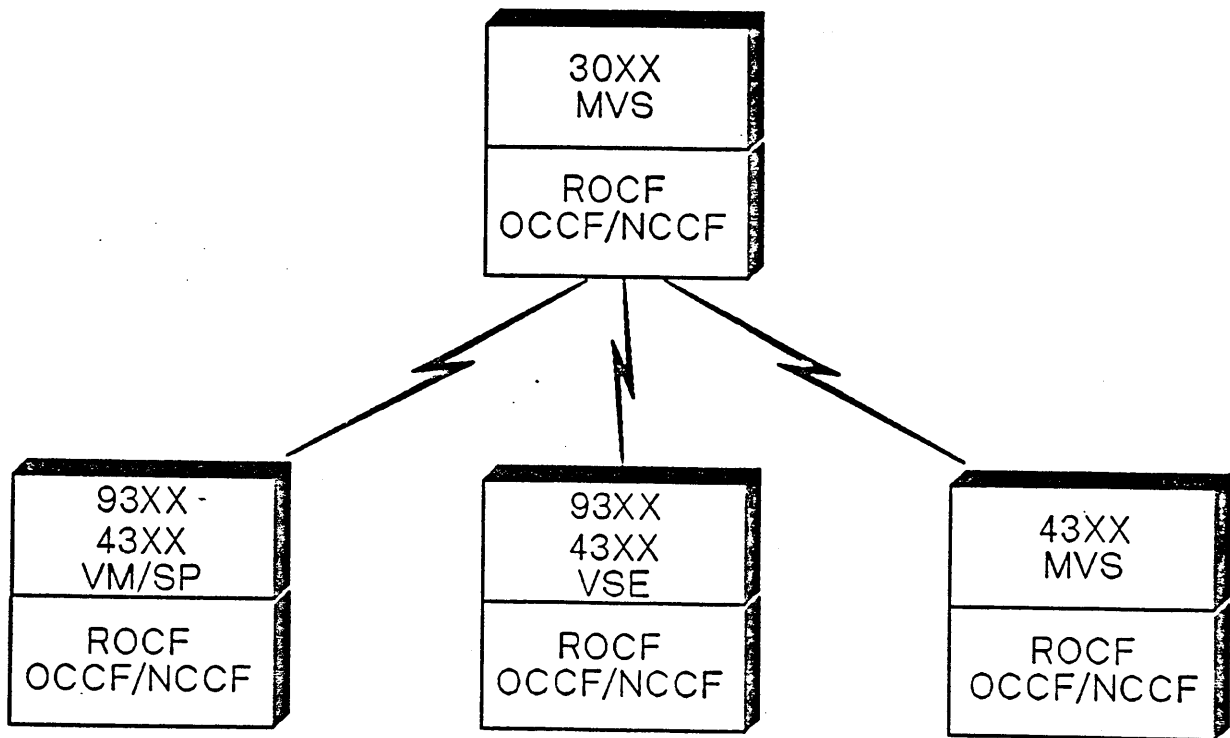
REMOTE OPERATOR CONSOLE FACILITY

Operator Dials into Remote
Unattended 4300/9370



- Remote IML/IPL
- No Charge Microcode
- All 4300 and 9370 Processors
- All Operating Systems Supported

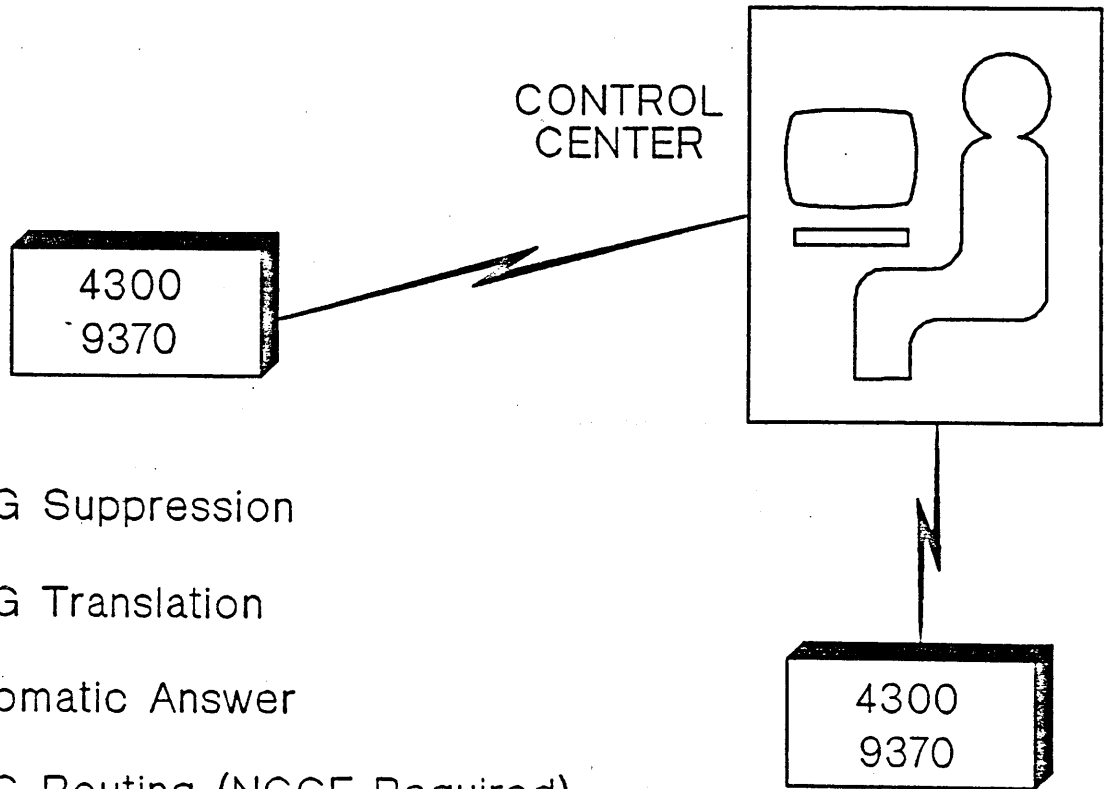
DISTRIBUTED OPERATIONS



CENTRALIZED CONTROL

- Simplified Environment
- Reduced Local Expertise

OPERATOR COMMUNICATION CONTROL FACILITY / NETWORK COMMUNICATIONS CONTROL FACILITY



- MSG Suppression
- MSG Translation
- Automatic Answer
- MSG Routing (NCCF Required)

IBM 9370 ROF Requirements

- ◆ Extension of RSF
 - ◆ Remote Operator Capability
 - ◆ At IBM 9370
 - Microcode & Phone Attach (provided)
 - IBM 5842 modem (provided)
 - Phone (not provided)
 - ◆ At Remote Location
 - IBM PC/AT (not provided)
 - Microcode for PC/AT (provided)
 - IBM 5842 modem (not provided)
 - ◆ Uses SDLC Protocol
 - Hardcoded in Microcode
 - 4361 ROCF BSC Hardware will not work
-

IBM 9309 Rack

- ◆ Model 1 - 1.0 meter high
 - ◆ Model 2 - 1.5 meter high
 - ◆ IBM 9370 Enclosure Houses
 - 9370 Processors
 - 9332/9335 DASD
 - 9347 Tape
 - ◆ 220 V Single Phase Power
 - This is "normal" power
 - 120 V 9373 Only
 - At time of manufacture only
 - ◆ IBM 9370 may need multiple racks
-

IBM 9370 Automated Power Controls (#4000)

◆ Functions Provided

- Remote/External Power-On
- Timed Power-On
- Programmed Power-Off

◆ Hardware Provided

- Microcode
- Cables
- Connections
- 4-Position Lock Panel

◆ Function

- Permits EIA RS232C Modem to Power-On 9370
- When signalled, modem activates a control line
- R0F Password completes Power-On

◆ Timed Power-On

- Uses processor battery
- Time set in microcode

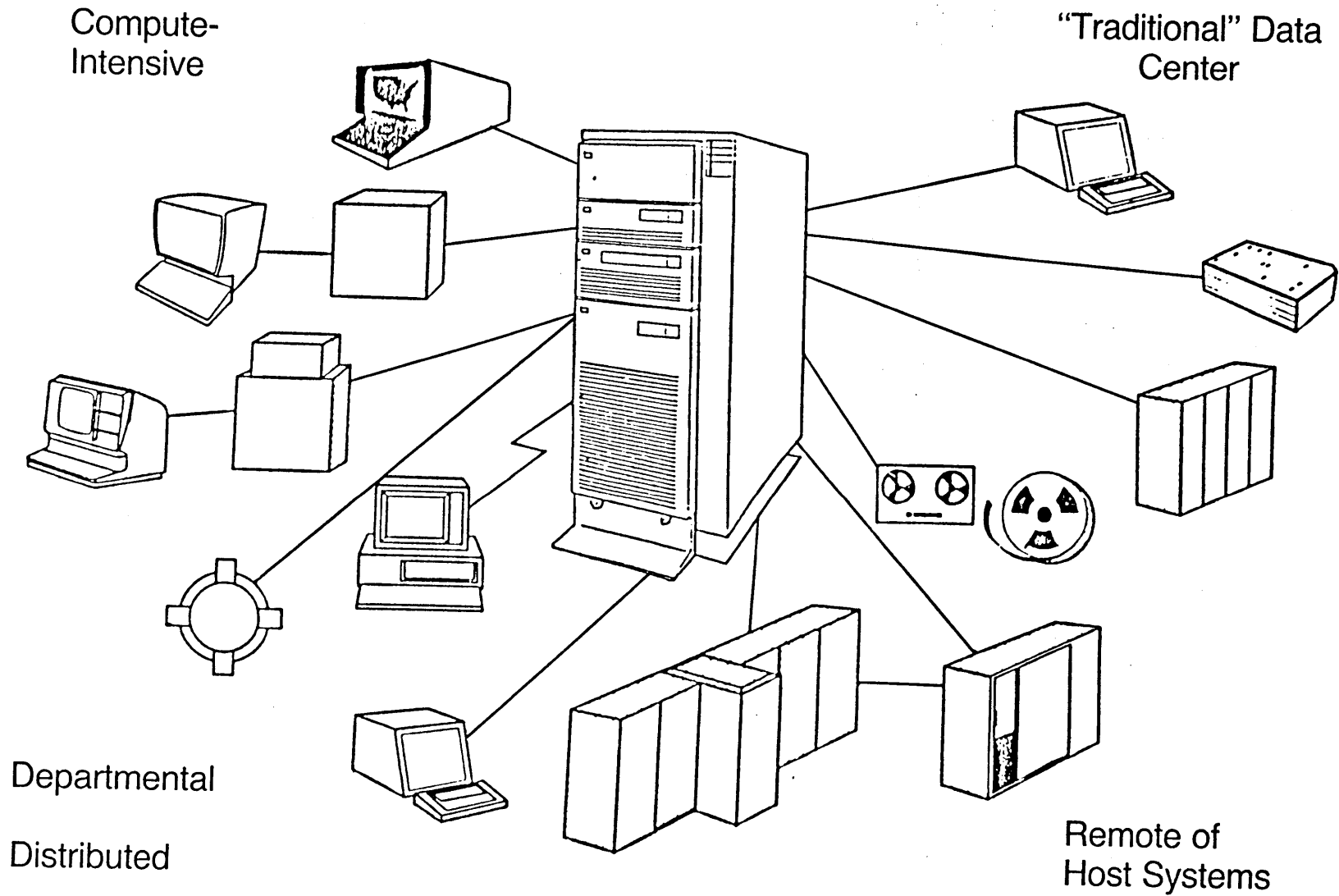
◆ Programmed Power-Off

- Under software control
-

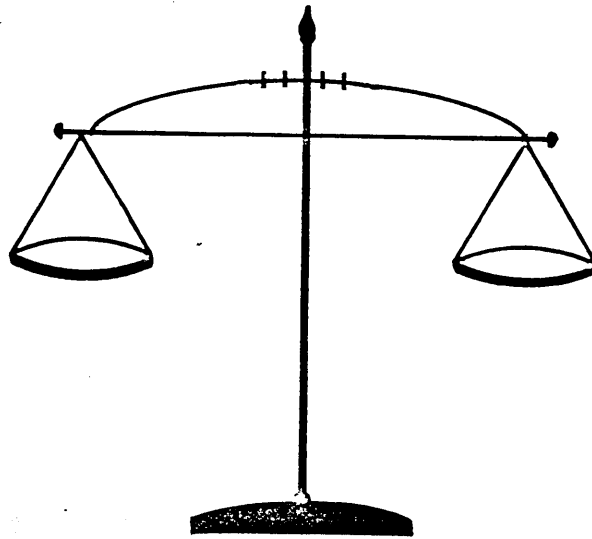
Performance

Comparisons

IBM 9370 Information System: Versatility And Balanced Performance



IBM 9370 Information System: The Balanced Performer



Workloads

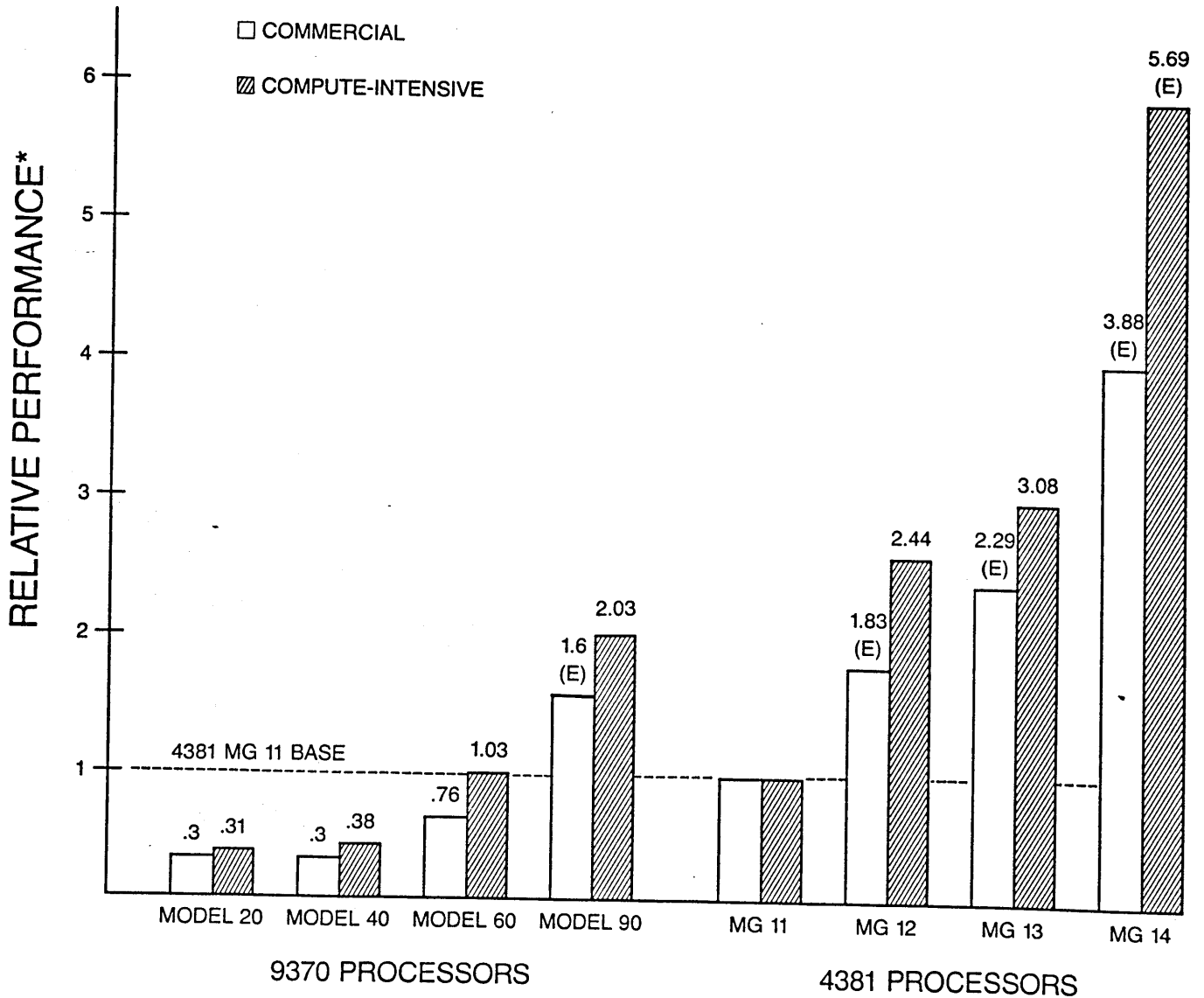
- Commercial
- Compute – Intensive
- Mixed

Environments

- Distributed End-User
- Departmental End-User
- Data Center

System/370 Entry and Mid-Range Performance

The Balanced Performers



*Internal Throughput Rates (ITR): Number of completed jobs or transactions per processor busy; second is used for commercial ratios.

(E) – Estimates

Characteristics Of Compute-Intensive And Commercial Environments

- Compute-Intensive
 - High Content Of Floating Point Calculations
 - High Amount Of Application Execution Time
 - Low Amount Of Supervisor Execution Time
 - Low Amount of I/O Activity
 - Low Data Base Activity
 - Low Interactive Activity
- Commercial
 - Low Amount Of Floating Point Calculations
 - Medium Amount Of Application Execution Time
 - Medium Amount Of Supervisor Execution Time
 - High Amount Of I/O Activity
 - High Amount Of Data Base Activity
 - High Interactive Activity

IBM 9370 Information System: Application Description – VM Interactive

Performance Measurement: VM Interactive – Application
Development

Description:

- VM/CMS Workload
- Data Processing Professional Workload
- Developed From Customer Survey Data

Content:

- APL Computations
- Programs That Assemble/Compile:
 - COBOL
 - PL/1
 - BASIC
 - FORTRAN
 - ASSEMBLER
- Create/Edit Files
- User Notes And Messages

Processor Utilization:

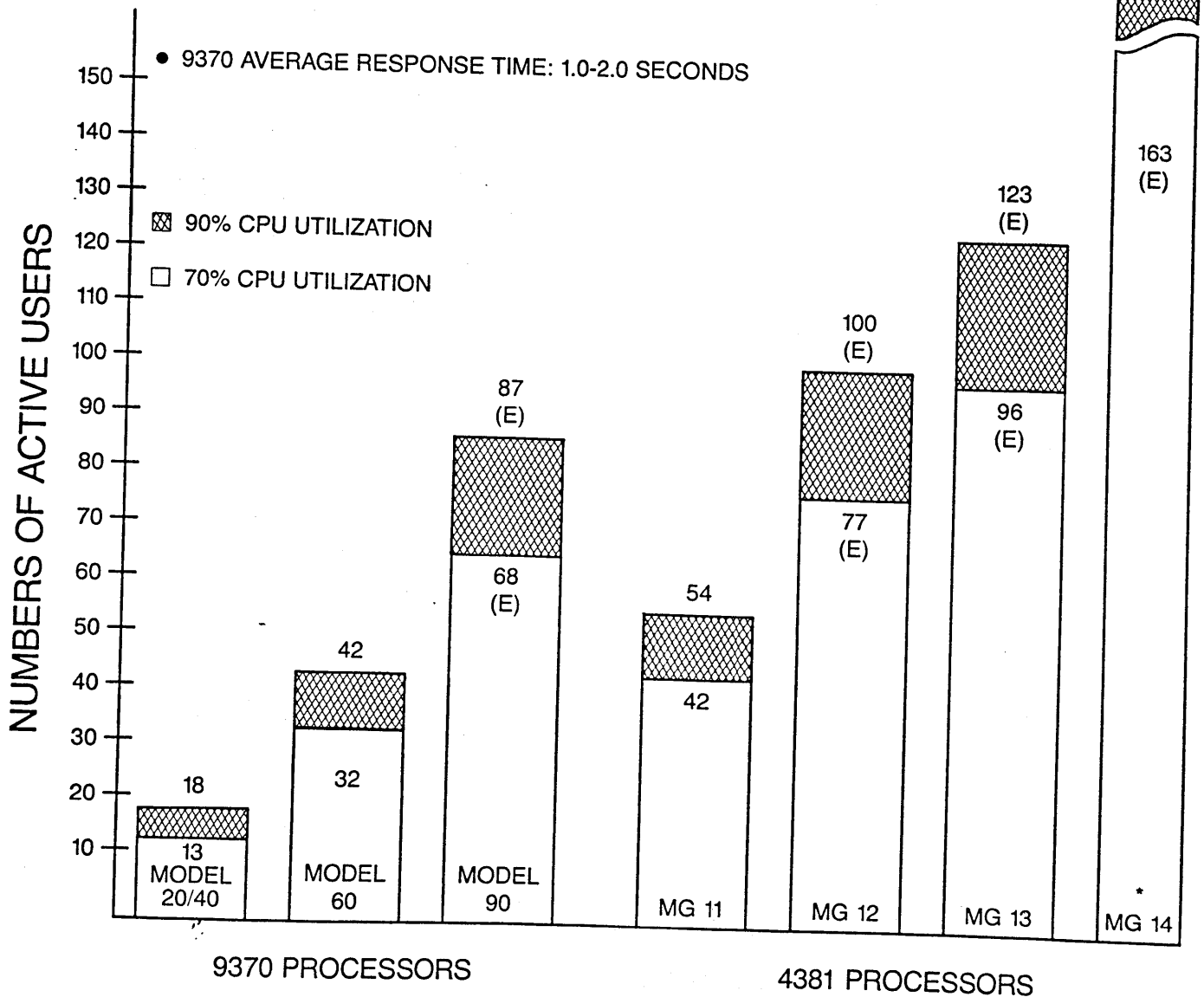
70% And 90%

9370 Average Response Time:

1.0 – 1.4 Seconds (70%)

1.5 – 2.0 Seconds (90%)

IBM 9370 Information System: VM Interactive – Application Development



(E) - ESTIMATES

*4381 Model Group 14 requires HPO

NOTE: Active users presumes continuous use but not necessarily the total number of users that could be supported.

IBM 9370 Information System: Application Description – VM/PROFS

Performance Measurement: Office Workload Environment

Description:

- Professional Office System (PROFS)
- DisplayWrite/370

Content:

- During One Hour, User:
 - Creates/Files One DisplayWrite Document
 - Creates, Sends And Files Five Notes
 - Updates Calendar Twice
 - Opens The Mail Twice

Processor Utilization:

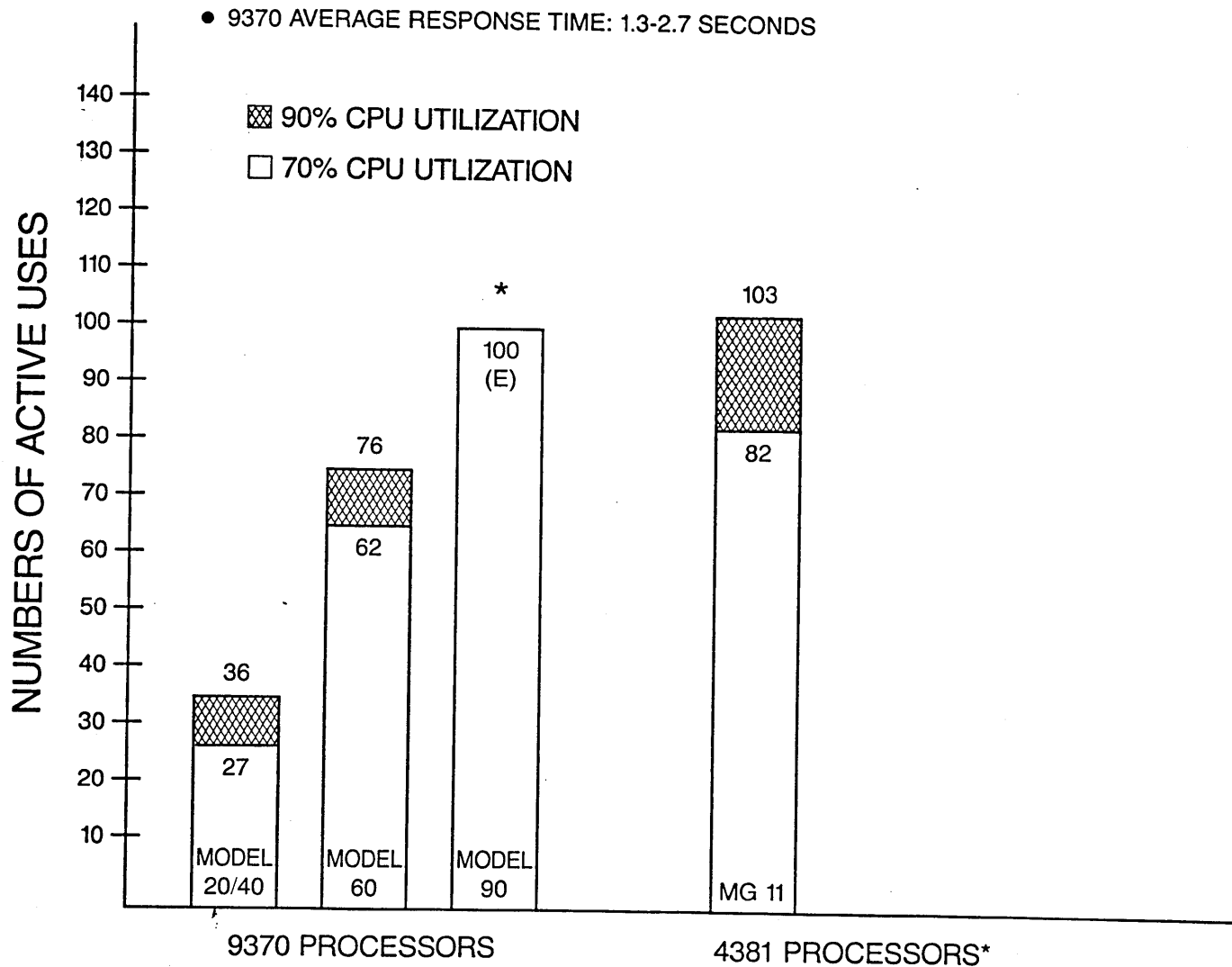
70% And 90%

9370 Average Response Time:

1.3 to 1.8 Seconds

2.5 to 2.7 Seconds

IBM 9370 Information System: Office Workload Environment – VM/PROFS

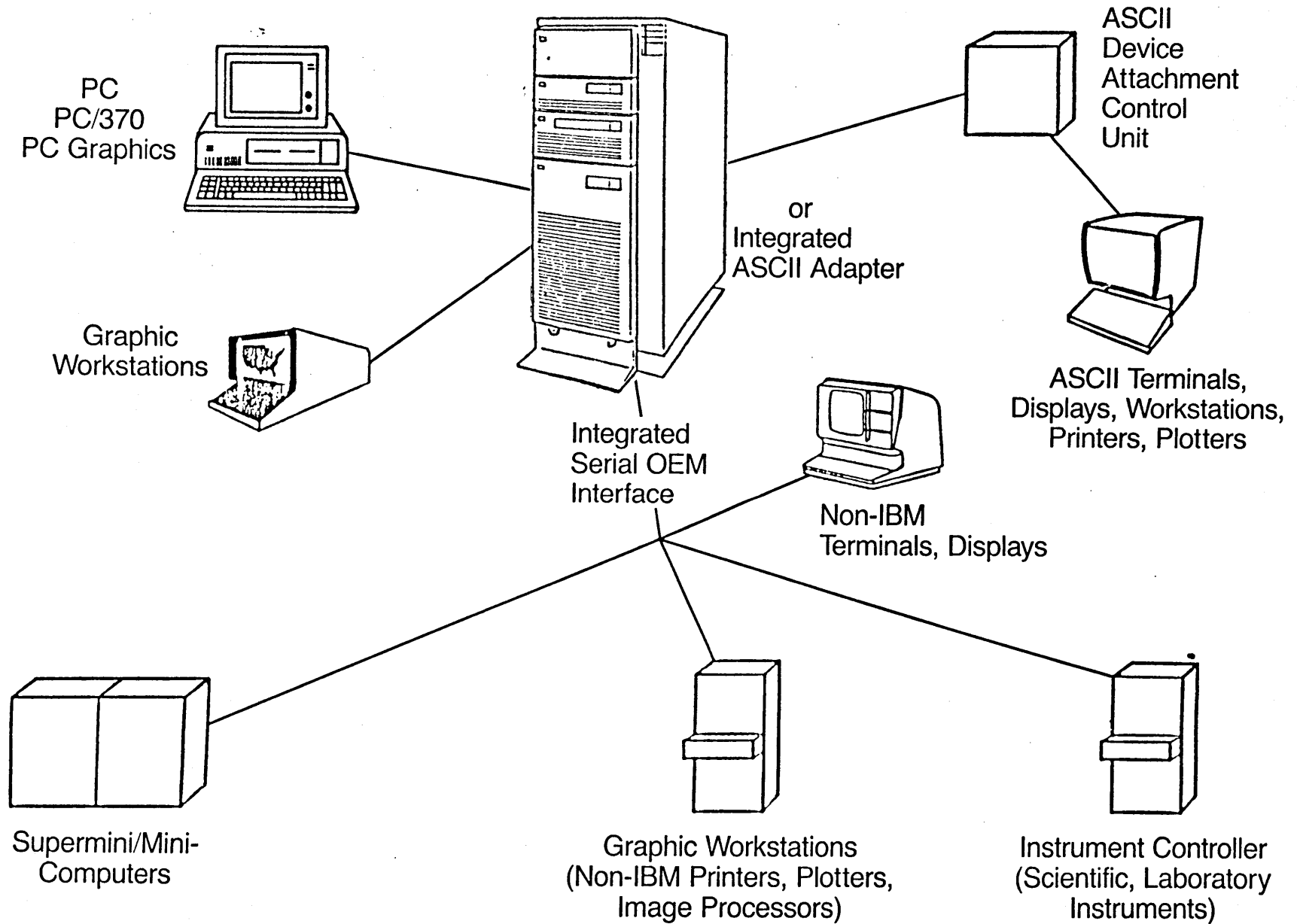


(E) - ESTIMATES

*Data not available at this time for the IBM 9370 System Model 90, at 90% utilization and 4381 Processors, Model Groups 12, 13, and 14 at both 70 and 90% utilization.

Note: Active users presumes continuous use but not necessarily the total number of users that could be supported.

IBM 9370 Information System: Compute-Intensive Environment



IBM 9370 Information System: Application Description – Compute-Intensive

Performance Measurement: Compute-Intensive

Description:

- LINPACK Benchmark
- Developed And Published By Argonne National Laboratory
- Measures Processor Computational Speed Only

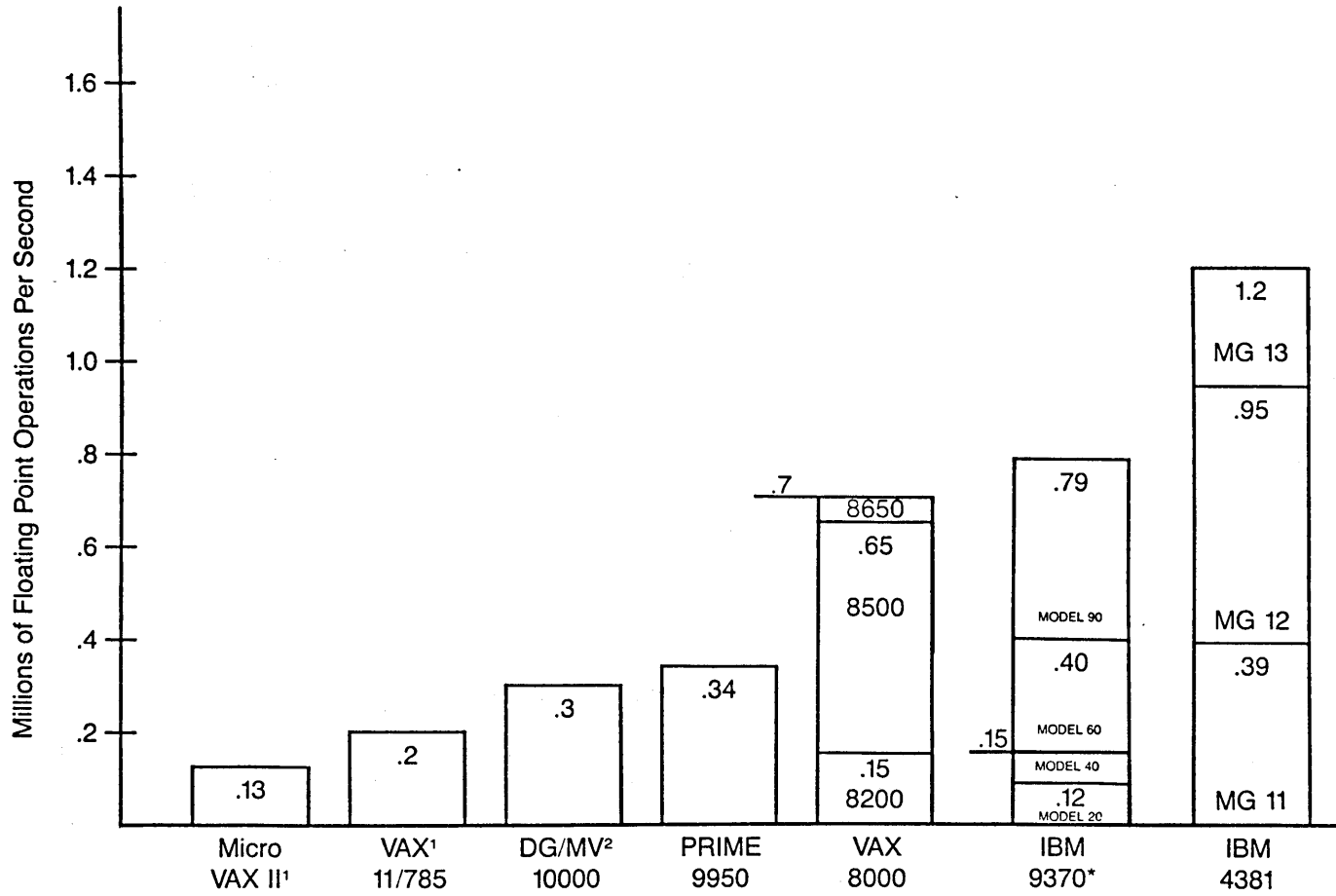
Content:

- Coded In FORTRAN
- Solves Dense Systems Of Linear Equations Using Half And Full Precision
- Results Stated In Millions Of Floating Point Operations Per Second (MFLOPS)

Results Here:

- Full-Precision Results
- Reflective Of Much Of The Compute-Intensive Environments Today

IBM 9370 Information System: Compute-Intensive Performance Comparison LINPACK Full Precision



¹MicroVAX and VAX are products of Digital Equipment Corporation

²DG/MV is a product of Data General Corporation.

Source: Argonne National Laboratory, "Performance of various computers using standard linear equations software in a FORTRAN environment." Technical Memorandum No. 23 (July 1986).

Note:

- The standard multiply add assist of the IBM 9370 System Models 20, 40, 60 and 4381 Systems can further assist performance.
- This graph is designed to compare the IBM 9370 Information System with representative competitive systems.

*The IBM 9370 data have not been published in the Argonne National Laboratory technical memorandum, but are based on IBM measurements and will be submitted to the Argonne National Laboratory for publication.

