ROUTING AND RECORD SHEET

SUBJECT: (Optional)

ISB Meeting Minutes - 15 September 1987

FROM:	EXTENSION	NO.
SA/EXDIR 7E12 HQS		ER 4320-87
		DATE 16 September 1987

STAT
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TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. D/OS				
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FORM 610 USE PREVIOUS EDITIONS
1-79

☆ U.S. Government Printing Office: 1985—494-834/49156

ER 4320-87
16 September 1987

MEMORANDUM FOR: Information Systems Board

FROM: [redacted] STAT
Special Assistant to the Executive Director

SUBJECT: ISB Meeting Minutes - 15 September 1987

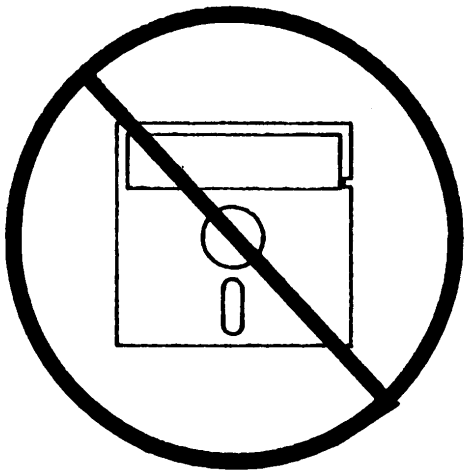
1. [redacted] STAT Computer Scientist for Engineering Group within OIT, discussed efforts to reduce the security risks posed by removable magnetic media through the use of "diskless" workstations. [redacted] STAT also conducted a demonstration of diskless workstation prototypes. A copy of the presentation slides is attached.

2. [redacted] STAT within IMS, described plans for a test-bed of diskless workstations in IMS. Notes from the presentation are attached.

[redacted] STAT

Attachments

Diskless PC Technology



From OIT to the ISB, Sept. 15, 1987

Unclassified

Declassified in Part - Sanitized Copy Approved for Release 2012/03/02 : CIA-RDP89B01356R000100140028-4

Diskless PC Concepts

Problem:

- Floppy Disks Insecure
  - Too Portable/Concealable
  - Work-at-Home Temptations
  - Unaccountable/Untraceable
  - Obvious Target for Hostile Acquisition
- Floppy Disks Unmanaged
  - Poor for Record Use
  - Disorganized
  - Shoebox, not Corporate Data

Diskless PC Concepts

Solutions:

- Render Floppies Unthreatening
  - Use for Unclassified Program Loading Only
  - Ensure Floppy Drives cannot Write
  - Develop Operational Concepts to Match Support Organizations Provide Customization
- Replace Disk Functionality
  - Use Host Disks in Limited Ways
  - Advance to Networked Disks if Needed
  - Allow Internal Disks where Secure

Diskless PC Concepts

Technologies for Eliminating Floppy Disk Problems

- RAM Disk
  - Created in Volatile Memory
  - High Speed Access
- Virtual Disk
  - Maintained on Host Disks
  - Requires Host Logon, Availability
  - Speed Constrained to Network Speed
- Read-Only Disk Drives
  - Modified Locally
  - Special Purpose, Program Loading
- Network Disks (LAN)
  - File Server on LAN
  - Separately Secured, Administered

Diskless PC Concepts

Constraints:

Configuration 1 (See Figure)

- Limited use in Structured Environments
- Not fully useful PC -- Very Programmable Terminal
- Suitable Mainly for IMS Requirements
- Technically Done, Available Anytime
- Requires Central Support, Development

Configuration 2 (See Figure)

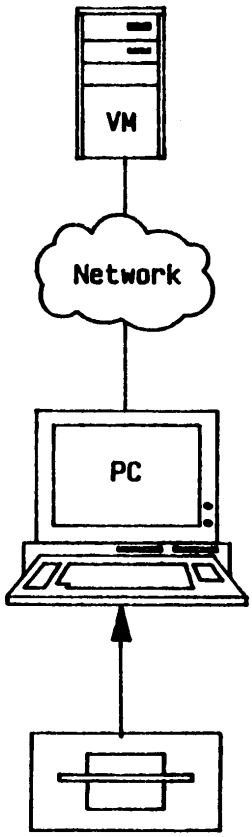
- Generally Applicable Architecture
- Full, more-than-PC Function
- Requires New Investments in Engineering
- Creates New Problems, but Better Ones
- Not Ready for Deployment to Everyone

Configuration 1.

Generic PA/AT CLone
3270 Emulation Card/SW
RAM Disk
Read-only Floppy Drive
CGA Graphics
Mouse

Usage:

Programmable Interface
Local WP
Central Storage
Short term Off-line Work



Host Services
MDS/SAFE
AIM
DBMS

3270 Connectivity
PBX or SNA

User Interface
Word Processing

Read-only
Boot Programs
Customized Disks

Unclassified

Configuration 2.

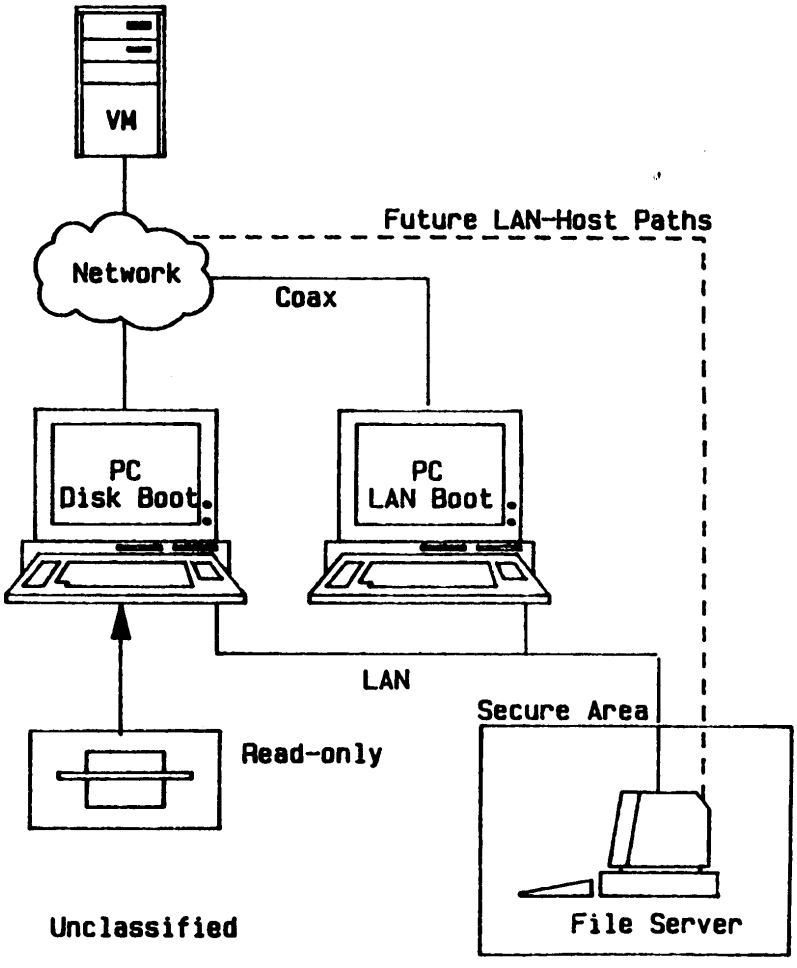
Generic PA/AT CLone
3270 Emulation Card/SW
RAM Disk
Optional R/O Floppy Drive
Optional Hi-Res Monitor
Mouse
TRN LAN Adapter

Usage:

Programmable Interface
Local WP
Local and Central Storage
Longer Term Offline Work
Host Optional

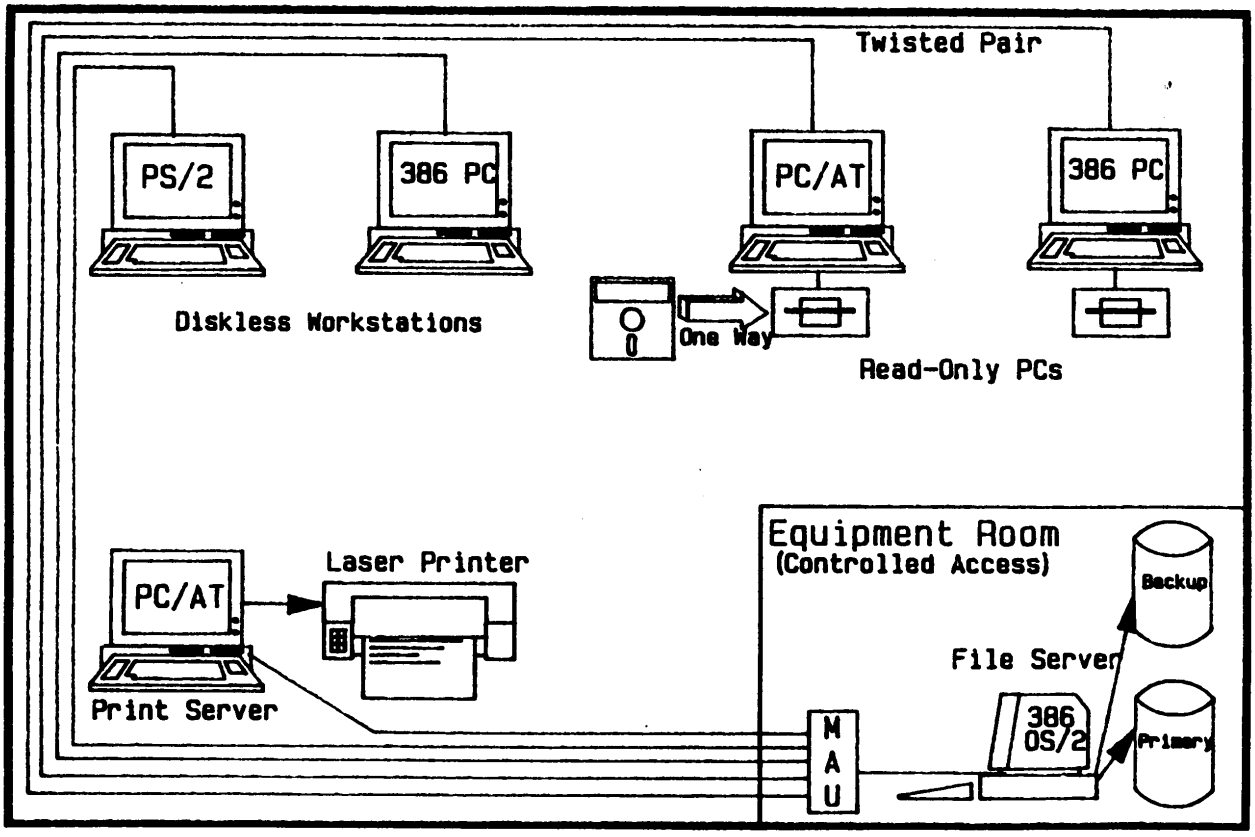
File Server Adds:

Compartmented Storage
Local Shared Data
Host Independence
Full PC Functionality



Work Group Computing

Vault-sized LAN



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Diskless PC Concepts

Activities:

- Working with IMS to Deploy Configuration 1
  - Tools for PC-based WP/Cable Creation from OIT
  - Development of Customer System by IMS
  - Starting Now
- Working on Configuration 2 Issues
  - Acquiring and Testing LANs
  - Supporting Testbeds
  - Developing Distributed AIM/Cable Services
  - Initiating Future LAN-based Architecture Design
- Interim Accommodation Policies
  - Use of Least Portable Media Possible
  - Policy to Minimize Floppy Abuse
  - Personnel Security and Education

DIRECTORATE OF OPERATIONS
DISKLESS PC TESTBED

Agenda

- Background
- Purpose
- Scope
- Schedule
- Potential future applications

Background

- DO concerned about use of PC's because of diskettes
- OIT to acquire "neutered" (read only) version of workstation
- DO agrees to use when:
  - suitable DO user interface developed
    - PC-based word processor
    - cable "model"
    - Aim interface
    - seamless integration
  - SAFE modified to provide 3270 support (version 3.5)
  - 3270 communications are available in outbuildings to support DO training
- Alternatives for loading software
  - from neutered disk
  - from LAN file server
  - from mainframe, optical disk, etc.
- OIT to provide first option
- DO to testbed second option
  - implications for future (DOLPHIN)

Purpose

- To build testbed using diskless PC's and LAN
  - test/evaluate in DO environment
  - adjust as required
  - consider for long range use
    - use OIT option for short-range
  - departmental (cooperative) computing concept
    - local files at "desk" level
      - same as DO stations
      - file server in vault, therefore compartmentation
      - user ownership/control
    - mainframe connectivity when needed
      - "corporate" data
      - message processing
      - networking

Scope

- File server (1)
  - DEC MicroVAX II
- Local area network (1)
  - Ethernet (IEEE 802.3)
- Workstations (15)
  - IBM PC/AT equivalents
    - with no non-volatile storage
    - with 3270 DFT-A interface card

- IMS front office	2
- SG front office	3
- SG branch chiefs	6
- DO Info Center	2
- IMS programmers	2
Total	15

Schedule

- Early 1988 (standalone LAN)
  - MicroVAX III here now
  - Ethernet LAN on order
  - diskless PC's to be ordered when available

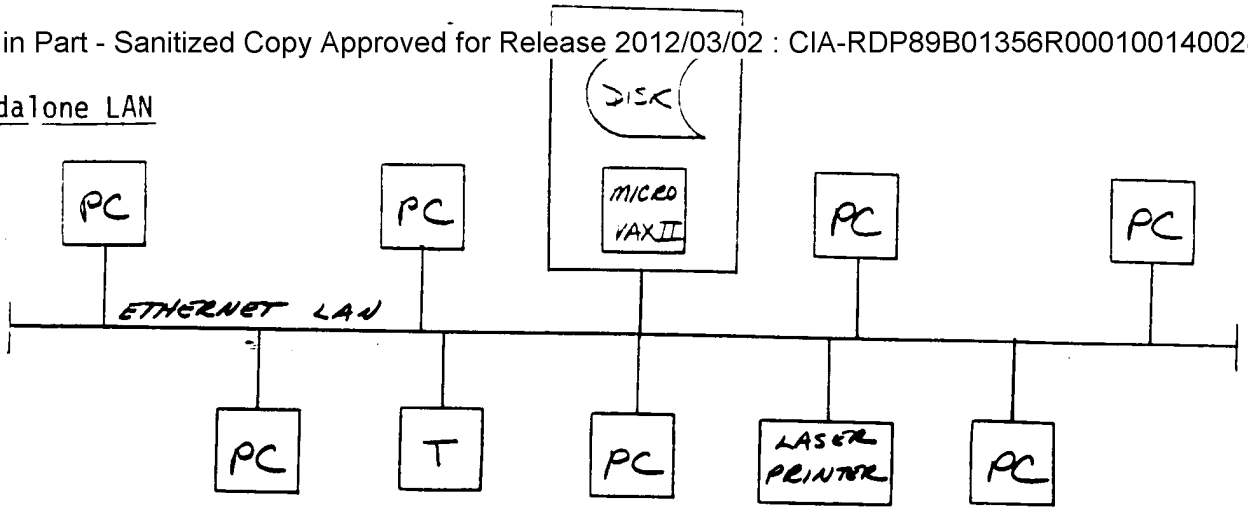
Potential Future Applications

Standalone LAN (PC network)
- Local (compartmented) processing
  - local files/applications (mirror of DO station)
  - local word processing

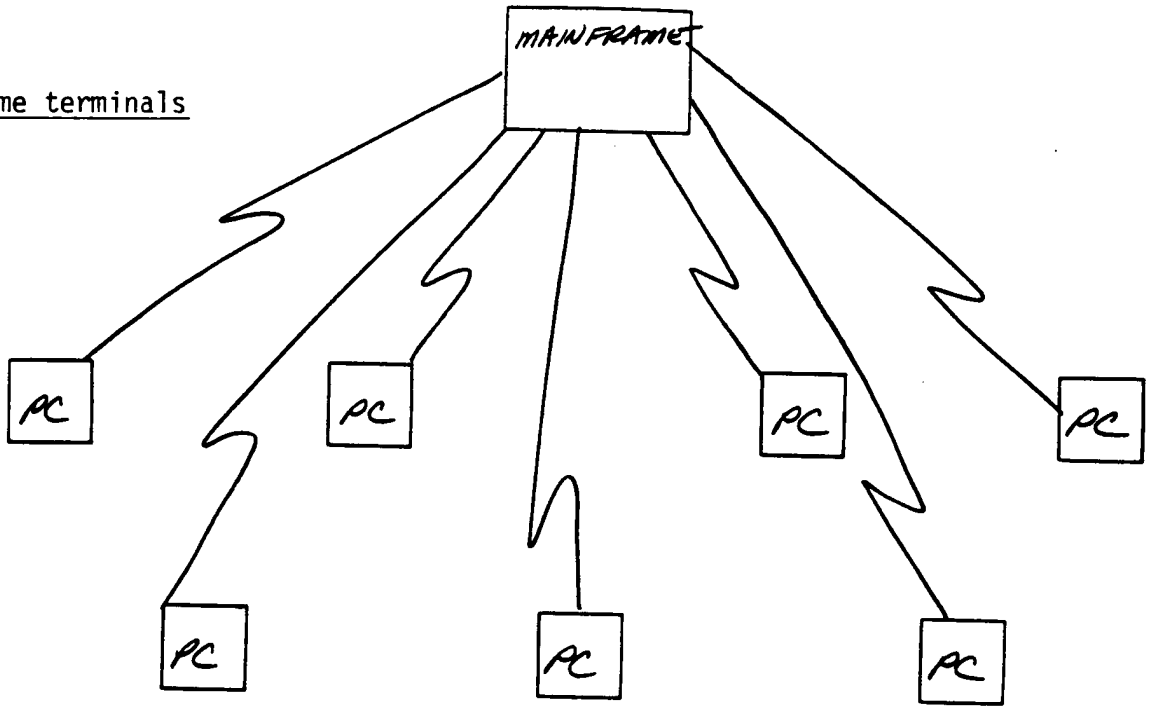
Mainframe terminals
- Mainframe processing
  - message processing (MDS)
  - networking (Aim)
  - alternatives will be evaluated

Connected LAN (with gateway)
- Cooperative processing
  - corporate data in mainframe
  - local data in LAN

Standalone LAN



Mainframe terminals



Connected LAN