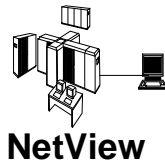
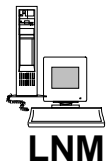


# LAN Network Manager LAN Station Manager

Sallie Matlack  
Debra Walton

*Notes . . .*

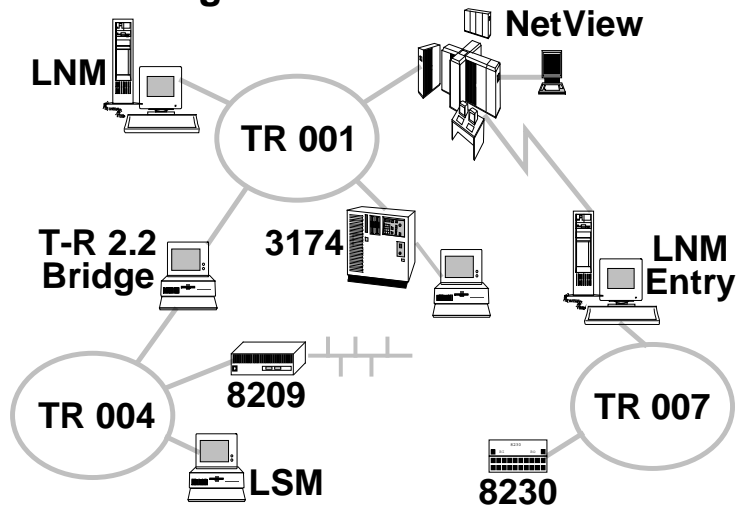


L A N  
N E T W O R K  
M A N A G E R



*Notes . . .*

### **LNМ Managed Domain**



**Notes . . .**

### **LNМ Product Family**

- **LAN Network Manager V1.0**
  - OS/2 EE or ES
  - Presentation Manager
  - 10 SPCS NetView RUNCMDS
  - Manages up to 255 bridges
  - 8230, 8209, TR 2.2, 3174

**Notes . . .**

## **LNМ Product Family**

- **LAN Network Manager V1.1**
  - **LNМ V1.0 +**
    - **Graphics View/2 Option**
    - **>100 RUNCMD Variations**
    - **Local Automation Through Command Line Interface**
    - **Interface to LAN Station Manager**

***Notes . . .***

## **LNМ Product Family**

- **LAN Network Manager Entry**
  - **LNМ V1.1 Except:**
    - **No End-User Interface**
    - **One Segment Only**
- **LAN Station Manager**
  - **DOS and OS/2 Agents for LNМ**
  - **Vital Product Data MIB**

***Notes . . .***

## **LNM Communications**

- **LNM and NetView**
  - SNA SSCP-PU Session
  - Communications Manager or NetView/PC
- **LNM and Remote Segments**
  - Thru Link to Bridge
  - LLC Type 2 (Connection-Oriented)
  - Proprietary

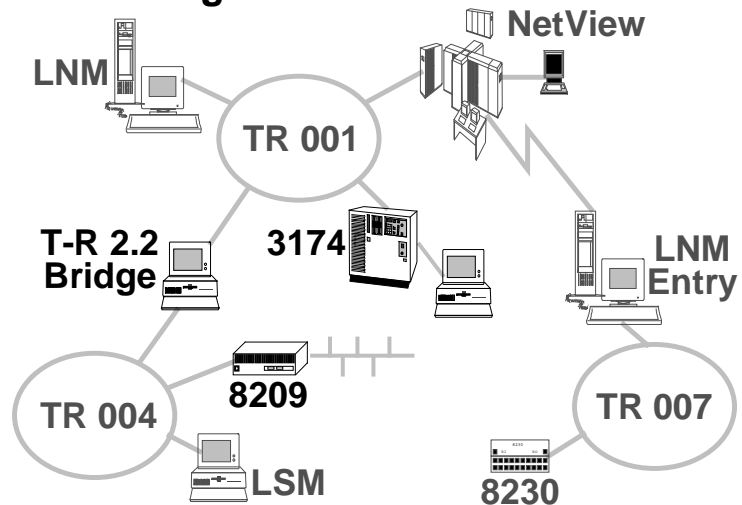
***Notes . . .***

## **LNM Communications**

- **LNM and 8230s**
  - CMIP Proprietary
  - LLC Type 1 (Connectionless)
- **LNM and LSM**
  - HLM = CMIP Over LLC = CMOL
  - Type 1 (Connectionless)
  - IEEE 802.1k and 802.1B

***Notes . . .***

## LNM Managed Domain



## Notes . . .

## Bridges

- **Definition**
  - Adapters
  - Auto Bridge Link
- **Types**
  - IBM Token Ring Bridge Program
  - IBM PCNet Bridge Program
  - 3174
  - 8209

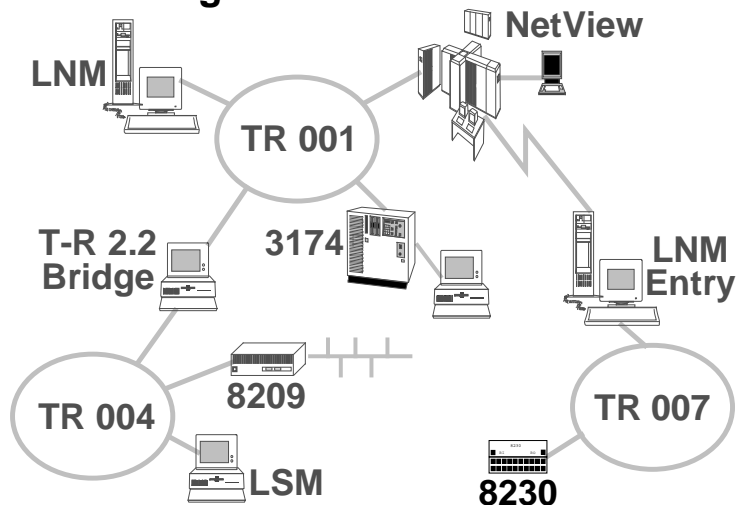
## Notes . . .

## Bridges

- Configuration Parameters
  - Controlling LNM Only
  - 8209 Specific
  - Functional Addresses Enabled
- Performance Counter
  - Located in DataBase
  - Bridge Utilization Aid
  - Threshold Alerts Generated

*Notes . . .*

## LNM Managed Domain



*Notes . . .*

## **Controlled Access Unit - 8230**

- **Registration**
  - Controlling LNM Only
  - Registers When Powered On
- **Registered LNM Can:**
  - Set Password
  - Enable and Disable Lobe Receptacles and Attachment Modules
  - Reset CAU
  - Change Wrap State of CAU

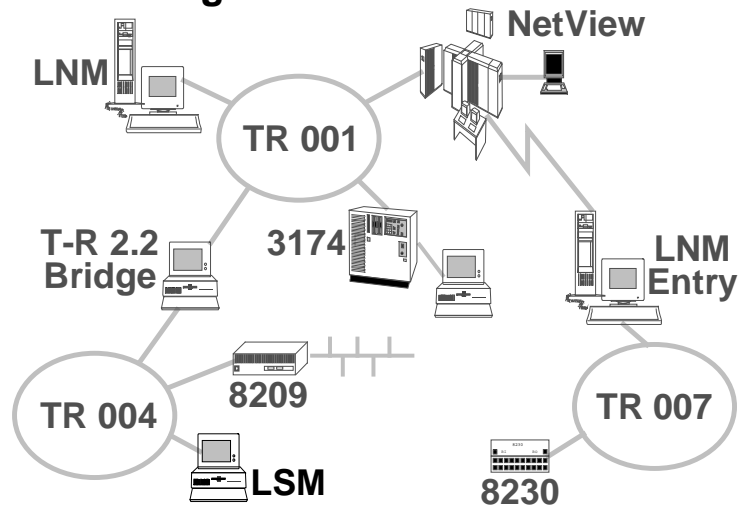
**Notes . . .**

## **Controlled Access Unit - 8230**

- **Access Control**
  - Unauthorized Adapters
  - Day of Week
  - Time of Day
  - Unauthorized Bridges
  - Lobe Authorization
- **Remote Program Update**
  - Wrap 8230 Until RPU Complete
  - Loaded By Only LNM or Maintenance Facility

**Notes . . .**

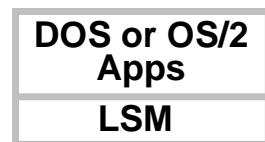
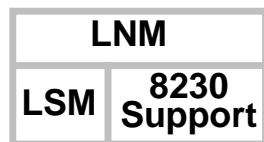
## LNM Managed Domain



## Notes . . .

## LAN Station Manager

- Query
- SET
- Store in DataBase
- Agent Present
- Respond to Queries
- Act on SET



CMOL

## Notes . . .



## **LAN Station Manager**

- **Management Information Base (MIB)**
  - Physical Topology (adapter wall plug, machine location, user data)
  - Configuration Description (adapters, operating system / version, device types)
  - Ring Utilization

**Notes . . .**

## **LNМ Files**

- **DataBase Manager/2 Tables**
  - Accessible Thru:
    - Query Manager/2
    - Command Line Interface
- **May Not Be Current**
- **Does Not Contain Ring Utilization**

**Notes . . .**

## **LNМ Files**

- **Examples of CL Queries:**

- To find segments with specific adapter address

```
SELECT ADAPT_ADDR,  
SEGMENT_NO FROM LANM  
CONFIG WHERE ADAPT_ADDR =  
"10005A000000"
```

**Notes . . .**

## **LNМ Files**

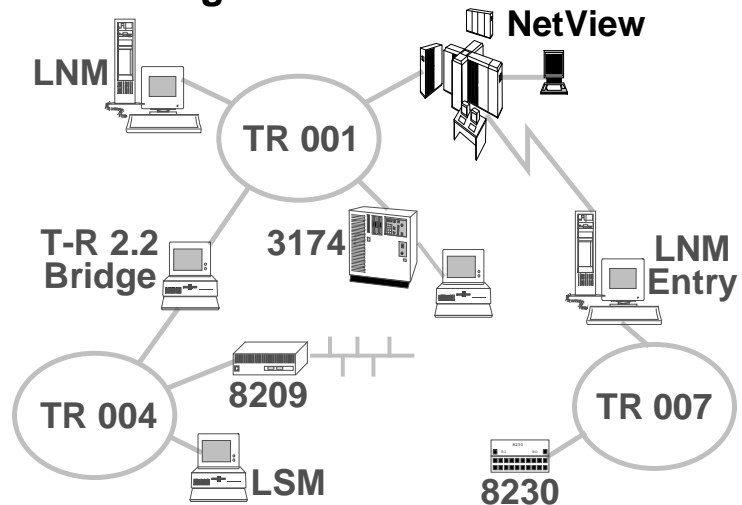
- **Examples of CL Queries:**

- To generate a report of all mod 95s (running LSM)

```
SELECT ADAPT_ADDR,  
SEGMENT_NO USER_DEF_DATA  
FROM LANM PC_INFO WHERE  
WORKSTN_TYPE LIKE "%95%"
```

**Notes . . .**

## LNM Managed Domain



## Notes . . .

## NetView

- **NetView V1.3**
  - 10 Commands
- **NetView V2.2**
  - 100 Plus Commands
- **Alert Filtering**
  - Filter Alerts to Host
  - User Written or Previously Defined

## Notes . . .

## **NetView**

- **Alert Transport Facility**
  - Application on LAN Send Alert to LNM
  - LNM Logs Alerts Forward to NetView
- **NetView Performance Monitor V1R6**
  - Ring Utilization
- **Bridge Statistics**

***Notes . . .***

## **Enhanced NetView Commands**

- **LAN SP = XXXX LNM Command String**
- **LNM Command String**
  - Adapter List
  - Bridge
  - CAU
  - Event
  - Event Filter
  - Help

***Notes . . .***

## **Enhanced NetView Commands**

- **LNМ Command String (Continued)**
  - **Soft Log**
  - **Alert Filter**
  - **System Parameter**
  - **Segment Resync, Test, Utilization**
  - **Network Status**
  - **LANMGR Restart**

***Notes . . .***

## **Installing LNM 1.1**

- **Hardware Requirements**
- **Software Requirements**
- **CONFIG.SYS**
- **Communications Manager Updates**
- **Migrating 1.0 to 1.1**

***Notes . . .***

## Hardware Requirements

- **PS/2 or Personal Systems/55 with MicroChannel Minimum of 25 MHz**
  - 12 MB Memory
  - 44 MB Hard Disk
- **Network Adapter**
  - Token Ring 4 or 16/4 Mbps Cards
  - PCNet
- **8230 EC C40347A**

**Notes . . .**

## Software Requirements

- **IBM OS/2 V2.0**
  - OS/2 1.0 Extended Services
- **IBM OS/2 V1.3**
  - OS/2 1.0 Extended Services

OR

  - OS/2 1.3 Comm. Manager
  - OS/2 1.3 DB Manager
  - OS/2 1.3 Query Manager
- **IBM LAN Station Manager**

**Notes . . .**

## **CONFIG.SYS**

- **Memory Swapping Enabled**
- **Minfree > = 512 Kb**
- **Threads = 255**
- **Buffers > = 60**

**Notes . . .**

## **Comm. Mgr. Updates**

- **SAPS - 6**
- **LINK Stations - # Bridges**
- **Users - 4**
- **Transmit Buffer Size**
  - 344 (multiple of 8)
  - > = 1944 (CAU with RPU)
- **Queue Elements - 200 x # Users**
- **Additional Requirements for IEEE 802.2 Resources From Other Applications**

**Notes . . .**

## **Migration**

- **Migrate Files After You Install LNM and Before Changing System Parameters**
- **Copy Files to LNM 1.1 Directory**
  - Stations Definitions
  - Bridge Definitions
  - System Parameters
  - CAU Definitions

***Notes . . .***

## **Performance Tips**

- **DataBase Related**
  - Log File
  - Buffpage
  - Maintenance
- **OS/2 Related**
  - Swapper File
  - Memory
  - DOS Box
  - HPFS
- **LNМ Usage Tips**

***Notes . . .***



## **DataBase Tuning**

- **Place DataBase Log File on Different Physical Disk From the Actual DataBase**
- **A Large Buffpage Avoids I/O and Improves Performance**
- **Reorg, Runstats, Rebind on Routine Basis**

***Notes . . .***

## **OS/2**

- **Swapper File - Make Sure You Have Enough Space**
- **Memory - Configure Machines Adequately to Avoid Swapping**
- **Do Not Use DOS Box While LNM is Running**
- **Set HPFS Cache to Minimum**

***Notes . . .***

### **LNM Usage Tips**

- **Do Not Set Resync Timer Below 1 hr.**
- **Monitor Only Critical Resources**
- **Limit Bridge Performance Data Collection to Bridges of Real Interest**
- **Consider Filtering Selected Events and Alerts**

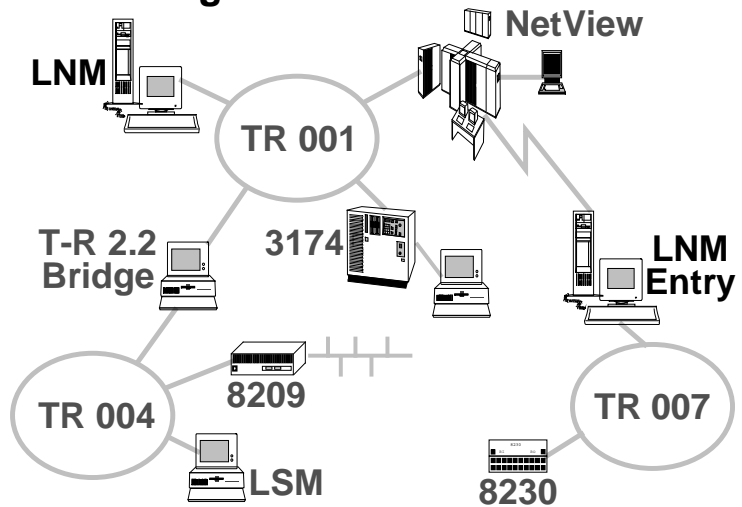
***Notes . . .***

### **LNM Usage Tips**

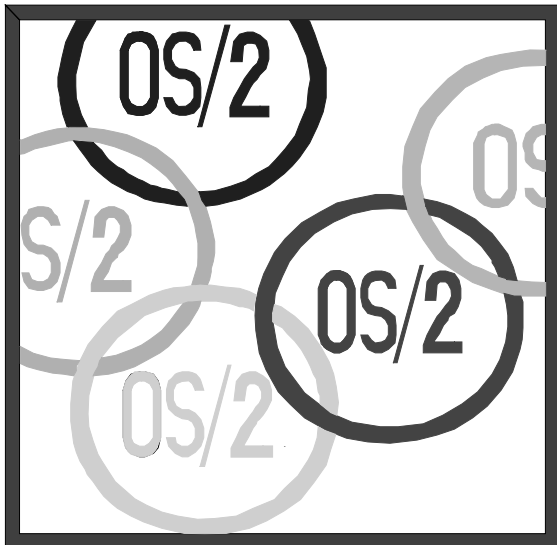
- **Limit Soft Error Logging During Normal Operation**
- **Re-Initialization May Take Longer if Event Log or Number of Bridge Performance Records Are Changed**

***Notes . . .***

### LNM Managed Domain



**Notes . . .**



**Notes . . .**