Integration of AIX SNA Manager/6000 into the NetView/6000 Family of Products

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Take Note!

Before using this information and the product it supports, be sure to read the general information under "Special Notices" on page xiii.

First Edition (July 1994)

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Abstract

This document describes the AIX SNA Manager/6000 network management product. It provides examples and assistance for the user in product setup, configuration and tuning.

This document was written for the use of technical professionals, and others responsible for the product installation of SNA Manager/6000 in SNA and non-SNA environments. Some knowledge of the AIX V3.2 Operating System, AIX SystemView NetView/6000, NetView on MVS and other products mentioned in the introductory text of this document is assumed.

(119 pages)

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Special Notices

This publication is intended to help technical professionals, and others with setup and configuration of the IBM AIX SNA Manager/6000 product. The information in this publication is not intended as the specification of programming interfaces that are provided by any other organizations. See the PUBLICATIONS section of the IBM Programming Announcement for AIX SNA Manager/6000 to gain more information about what publications are considered to be product documentation.

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Preface

This document is intended to assist individuals with the installation of the AIX SNA Manager/6000 product and contains examples and details of product setup and configuration in a number of representative environments.

How This Document is Organized

The document is organized as follows:

- Chapter 1, "Introduction to AIX SNA Manager/6000 Components"

  This chapter provides an overview of the components of AIX SNA Manager/6000. Each component that works with SNA Manager/6000 to provide you with SNA management on the RISC System/6000 will be briefly described.

- Chapter 2, "AIX SNA Manager/6000 Environment/Recommendations"

  This chapter shows a sample environment used for implementing this product, and some guidelines for installing it in a pre-existing network.

- Chapter 3, "Preparing to Install AIX SNA Manager/6000"

  This chapter provides a list of tasks that are necessary to install AIX SNA Manager/6000 on AIX V3.2.4. In addition, it outlines the tasks that need to be performed on the host NetView product.

- Chapter 4, "AIX SNA Services/6000 V1.2 Configuration"

  This chapter shows how to use AIX SNA Services/6000 in conjunction with SNA Manager/6000 to provide the LU 6.2 communication path to the host NetView system. Samples of all the profiles are provided.

- Chapter 5, "AIX SNA Server/6000 V2.1 Configuration"

  This chapter shows how to use AIX SNA Server/6000 in conjunction with SNA Manager/6000 to provide the LU 6.2 communication path to the host NetView system. Samples of all the profiles are provided.

- Chapter 6, "Installing SNA Manager/6000"

  This chapter show how to install and de-install the product on an AIX V3.2.4 system.

- Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization"

  This chapter provides a working example of how to customize the AIX SNA Manager/6000 product and the host NetView product to enable SNA management to take place in an AIX NetView/6000 environment.

- Chapter 8, "Resolving Problems"

  This chapter shows the the process for resolving an SNA problem in the network using AIX NetView/6000, AIX SNA Manager/6000 and host NetView.

- Chapter 9, "IP And SNA Network Utilization"

  This chapter provides an example of how to manage SNA-only resources using SNA Manager/6000 in a NetView/6000 management environment.

- Appendix A, "SNA Manager/6000 Product/Maintenance Dependencies"

  This appendix provides a list of product dependencies.

- Appendix B, "Application Of Host NetView V2R3 Maintenance Levels"

  This chapter provides an list of prerequisite maintenance steps necessary to perform before using SNA Manager/6000.

Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this document.

- *IBM AIX SNA Manager/6000 User's Guide Version 1 Release 1*, SC31-7157
- *NetView Installation and Administration Guide V2R3 MVS*, SC31-6125
- *AIX SystemView NetView/6000 and the Host Connection*, SC31-6178
- *AIX SystemView NetView/6000 Problem Determination*, SC31-7021
- *AIX SystemView NetView/6000 Concepts: A General Information Manual*, GC31-6179
- *AIX SystemView NetView/6000 User's Guide*, SC31-7023
- *AIX Trouble Ticket/6000 User's Guide*, SC31-7034

International Technical Support Organization Publications

- *Network Problem Management Examples Involving AIX Trouble Ticket/6000*, GG24-4014
- *AIX SNA Services V1.2 Sample Connections*, GG24-4129
- *A Guided Tour of SNA Server/6000 Version 2.1*, GG24-4189

A complete list of International Technical Support Organization publications, with a brief description of each, may be found in:

Bibliography of International Technical Support Organization Technical Bulletins, GG24-3070.

Acknowledgments

Ellen Dickson, David Cox, Karl McCormick
IBM Development, Research Triangle Park, North Carolina

Chapter 1. Introduction to AIX SNA Manager/6000 Components

1.1 Overview of NetView/6000 Function and Control

AIX* SystemView* NetView*/6000 V2R1 is a comprehensive management tool for heterogeneous, multi-vendor devices on Transmission Control Protocol/Internet Protocol (TCP/IP) networks.

The NetView/6000 program provides configuration as well as fault and performance management functions that serve to provide an easily installable product with a consistent and user-friendly presentation. Moreover, NetView/6000 provides an open network management platform that enables the integration of Simple Network Management Protocol (SNMP) and OSI Common Management Information Protocol (CMIP) applications.

Additional features of AIX NetView/6000 are:

- IP monitoring and SNMP management

- Multiprotocol monitoring and management

- Graphical interface compliant with OSF* 1 standards

- Dynamic IP network device discovery

- Management Information Base (MIB) management tools

- Large number of network application programming interfaces (APIs)

- Capability to integrate IP and SNA management

- Capability to integrate IP and LAN management

- Communication with NetView on MVS/ESA*

- Integration with the NetView/6000 family of products

During this project we used AIX NetView/6000 and AIX SNA Manager/6000 to communicate with NetView running on MVS/ESA. We did not use NetView in the VM environment.

1.1.1 NetView/6000 IP and Non-IP Network Resource Capture

An overview of a sample TCP/IP environment is provided in the following diagram. AIX NetView/6000 will gather information from and manage many different network devices. These may be IBM* and OEM devices in the same network.

These network devices may have either SNMP or CMIP client agents, or, in the case of SNA Manager/6000, we have a distinct subset of SNA network management functions available that allows us to build on the base NetView/6000 product.

At the physical media level there is support for token-ring (both IEEE 802.5 and IBM token-ring framing types), IEEE 802.3 and Ethernet 2, FDDI, SDLC, X.25 and other packet-switched media. All of these are transparent to NetView/6000. Additional NetView/6000 family members can be used to help manage these resources. An example of this would be LNM/6000.
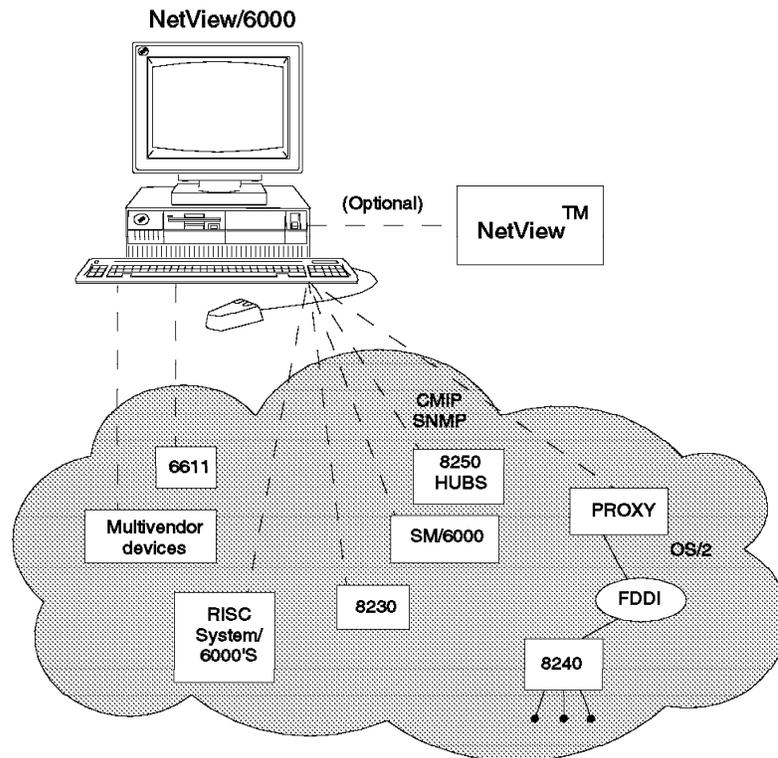
Figure 1. NetView/6000 SNMP/IP Resource Monitoring

1.2 The Role of AIX SNA Manager/6000

AIX SNA Manager/6000 acting in conjunction with NetView/6000 allows enterprise control of SNA and SNMP devices by linking to and utilizing many of the functions of host NetView. This allows the placing of subarea management (SNA) related data into NetView/6000, so that both IP and SNA network resources are displayed and managed from a single screen. SNA Manager/6000 displays the selected SNA subarea network topology and status on a Motif*-based XWindows management interface running on the RISC System/6000* workstation.

It is important to note that if you wish to incorporate a single view of SNMP and SNA resources on the one map then you will need to make use of the NetView/6000 APIs.

1.2.1 NetView/6000 and SNA Manager/6000 Resource Capture

In Figure 2, we have both IP and SNA managed resources. These resources are capable of being managed from a single AIX V3.2.4 workstation that is running AIX NetView/6000 and AIX SNA Manager/6000.
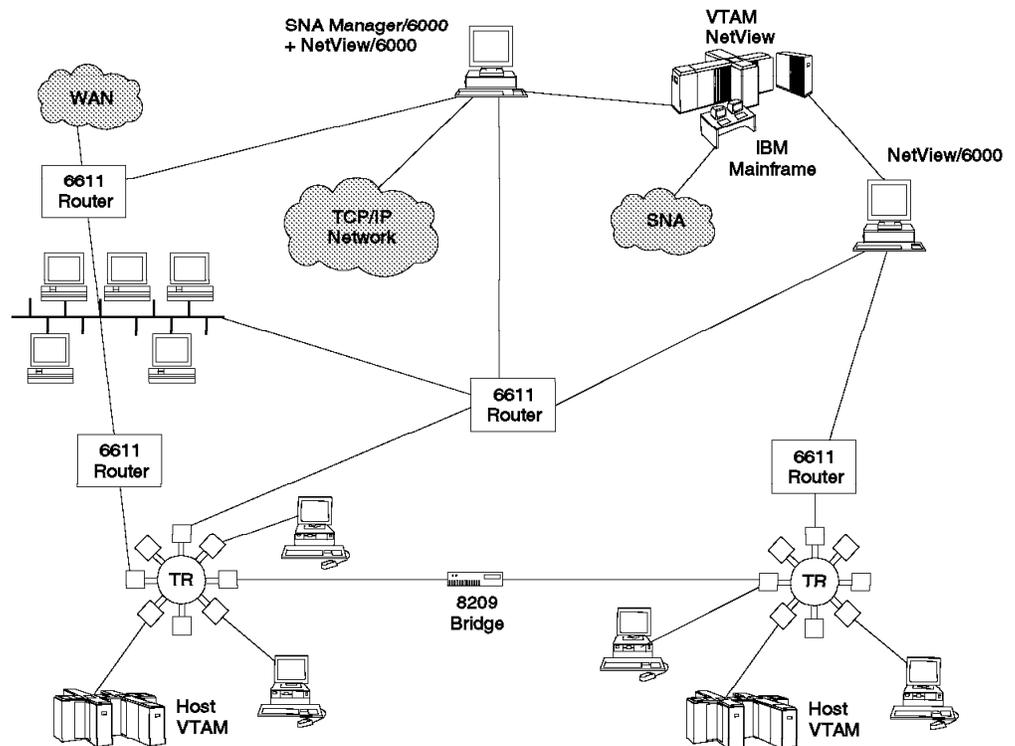
Figure 2. NetView/6000 SNMP and SNA Resource Monitoring

1.3 AIX SNA Manager/6000 Product Relationships

AIX SNA Manager/6000 is an advanced AIX networking product allowing data capture and display under the AIXwindows* environment of SNA network resources. In order for AIX SNA Manager to communicate with NetView on the MVS/ESA system, you will need to be running a minimum level of NetView V2R3. In our environment, we used NetView V2R3 since we did not have NetView V2R4 installed yet. We did not have NetView installed on our VM system, so we only used MVS/ESA. In addition to the requirement of host NetView, you will also need to have AIX SNA Services/6000 V1.2 or AIX SNA Server/6000 V2.1 and DCE Base-Threads/6000.

1.3.1 IBM Host NetView V2R3 or V2R4

IBM host NetView Version 2 Release 3 and Version 2 Release 4 represent the IBM foundation for enterprise management. Within host NetView are a number of comprehensive tools for managing complex, multi-vendor networks and systems from a single point of control. Specifically, host NetView offers:

- A comprehensive end-to-end network management tool

- A centralized system and network management tool

- A system and network management automation tool

- A system network monitoring and operation tool

- A network problem-determination and diagnostic tool

NetView manages SNA network resources, both subarea and APPN*, through the use of entry points. SNA resources are attached to the network and communicate with NetView through a variety of entry point products. Similarly, by combining focal point, entry point and service point capabilities, NetView and related products assist in the management of multi-vendor networks. In this case, resources attached to service points can send problem information in the form of alerts to NetView.

With NetView V2R3, SNA subarea graphics provide the ability to graphically manage resources including applications, LUs and major nodes with full and direct command support available from the graphics screen. In addition, non-SNA resource management is enabled by the Graphics Monitor Facility Host Subsystem (GMFHS). GMFHS runs in its own address space on the host and communicates with the Resource Object Data Manager (RODM) data cache, which contains non-SNA status and configuration data. This data is used to create the network views. GMFHS, which is implemented on an OS/2* platform, allows the integration of SNA and non-SNA resources into a single view. This release of AIX SNA Manager/6000 does not interact with RODM.

NetView V2R4 (announced December 1993) offers a series of enhancements. Some of the network management components that were enhanced are:

- Hardware monitor

- Session monitor

- Automation table

- Command facility

- OS/2-based installation

- RODM features

- Diagnostic utilities

The IBM AIX SNA Manager/6000 product communicates to host NetView over an LU 6.2 link to directly obtain the status of SNA subarea resources and to forward host alerts to the events console of NetView/6000. These events show up as event cards, or a list of events in the events window. If you wish to take any specific action as a result of any of these events flowing, you can use the event configuration feature of NetView/6000.

1.3.2 AIX SystemView NetView/6000

NetView/6000 is a comprehensive network management tool for multi-vendor networks using Transmission Control Protocol/Internet Protocol (TCP/IP) to manage Simple Network Management Protocol (SNMP) client resources. NetView/6000 runs under the IBM AIX V3.2.4 Operating System and within IBM AIXwindows to allow graphical presentation of network resources. This is similar in appearance to the OS/2-based NetView GMF workstation data presentation.

NetView/6000 in combination with SNA Manager/6000 allows the integration of IP and SNA networks into a single coherent picture from where resources can be activated, monitored, graphed and recorded for management and other functions. Incoming SNA data information from host NetView enters the SNA Manager/6000 Graphics Data Server (GDS) before being passed to NetView/6000 for view conversion and screen presentation. NetView/6000 also has other products integrated into its functions to help manage non-IP networks.

1.3.3 AIX SNA Services/6000 V1.2

AIX SNA Services Version 1.2 is designed to provide end-user configuration functions and an application program interface that permits IBM and user-provided applications to communicate with other applications residing on SNA architectures. Among the capabilities of SNA Services V1.2 are:

- Support for LU types 0, 1, 2 and 3 over Ethernet, token-ring, X.25 and SDLC network interfaces

- Support for LU 6.2 APPN connections over IEEE 802.3, Ethernet 2, token-ring, SDLC and X.25 networks

- User interface to aid in network security and configuration

- Support for PU Type 2.1 LEN connections

The connectivity function provided by AIX SNA Services/6000 V1.2 or the newer SNA Server/6000 V2.1 is required by the SNA Manager/6000 product to communicate with host NetView. Physical and logical device attachments and connections to the SNA host are provided. In addition, a sophisticated control mechanism for starting and stopping resources, as well as the capability to show the status of the resources is provided. These tools are built into the AIX SMIT screen presentation for the SNA Services/6000 product. You can also use SNA Services commands (for example, `lssrc -ls sna`) outside of SMIT and in shell scripts.

1.3.4 AIX SNA Server/6000 V2.1

AIX SNA Server Version 2.1 builds on the earlier SNA Services/6000 V1.2 product and offers identical function for SNA Manager/6000. Many of the menu configuration items in AIX SMIT vary in their appearance and function from SNA Services/6000 V1.2. There are many other additional functions that are provided by SNA Server/6000 V2.1, but they are not needed to run SNA Manager/6000. SNA Server/6000 V2.1 now supports APPN networks, as well as provides gateway support. In addition, there are additional trace and debugging functions available.

1.3.5 AIX Trouble Ticket/6000 V1.0 and V2.0

AIX Trouble Ticket/6000 is a software application that works in conjunction with NetView/6000. It allows network management personnel to manage problems that arise within a distributed network environment.

The various alarms and events gathered by NetView/6000 are passed to the Trouble Ticket/6000 application. Trouble Ticket/6000 detects these device events and automatically creates incident reports for each of the conditions that match the filtering criteria that have been set.

Problem management staff are able to create trouble tickets for logical grouping of incident reports. The trouble tickets then become the primary tracking tool of a network administrator to follow and manage problems to successful resolution. In addition to this, comprehensive tools are provided to track and analyze trouble tickets and incident reports through the problem management process.

Throughout the life of a problem, from incident creation to the resolution and closing of a trouble ticket, the status of the problem is tracked by the application. In addition, whenever the problem is escalated, is left open for extended periods of time, or changes status, operations staff can be notified of the changes. In addition, any shell script can be driven during these change in states, permitting almost any function to be performed.

SNA network events captured by host NetView and sent to SNA Manager/6000 can end up as event cards in NetView/6000, and incidents to Trouble Ticket/6000. Once it becomes an incident it can be tracked, closed, combined with similar incidents, and resolved.

1.3.6 AIX Host Connection Program/6000

AIX Host Connection Program/6000 is a terminal emulation program that allows for tailoring and management of SNA logical unit mainframe session connections. HCON, in conjunction with either SNA Services/6000 or SNA Server/6000, provides session definition characteristics, keyboard mapping tools, file transfer utilities, auto logon and other utilities that allow for the control of screen SNA data. HCON allows activation of LU 2 display sessions, printer sessions (LU 1 and LU 3) and also APPN sessions that are essential for the communication process between host NetView and the SNA Manager/6000 product running on the NetView/6000 workstation.

Within the HCON/6000 product there is also wide support for IBM and OEM ASCII terminal types. This allows the RISC System/6000 workstation to emulate an extensive range of terminal types in addition to standard 327X IBM devices.

1.3.7 AIX Distributed Computing Environment (DCE) Product

IBM AIX DCE Base and DCE Threads/6000 support Open Software Foundation* (OSF) standards by allowing application and network programmers to exploit the inherent parallelism in a distributed environment by the use of concurrent programming. This allows an application to perform many tasks simultaneously.

DCE Base and/or DCE Threads/6000 are part of the OSF Encina family of application products and the installation of either is an essential prerequisite for the installation of the SNA Manager/6000 product code.

1.4 Overview of Host NetView Processes

The following information provides the reader with an overview of the relationships involved in achieving host NetView view, status and alert forwarding to SNA Manager/6000 and the dependencies with various individual elements.

For specific information on configuring host NetView V2R3 for operation with the SNA Manager/6000 product please refer to Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51 of this document.

1.4.1 Host View Accumulation

In order for the NetView STATMON function to obtain status information from VTAM*, you need to do some setup work. There is a preprocessor batch job that you need to run. This job looks at the VTAM definition statements, and builds a file that host NetView reads when starting the STATMON application. This file will permit you to monitor specific resources, and to exclude others. These batch jobs produce Status Monitoring (STATMON) and View creation output. There are a number of configuration tasks which are identified in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51 that outline how this is customized and which files are used by NetView.

There is also a preprocessor task that needs to be run to build the views that will be seen on the RISC System/6000 machine. Like STATMON, you will need to put a definition statement in one of VTAMs control members, and then run a batch job to create an output file that contains the views. The GRAPHOPT keyword is added to the VTAM configuration list to determine which resources will have their status sent to SNA Manager/6000. If you were connecting to an OS/2 workstation for OS/2 GMF, you would use the exact same syntax and batch jobs.

Host views of the network that have been captured by NetView are accumulated in a TSO data set member in binary data format. Depending upon the size of the network, or the scope of the view of the available network that has been requested, there may be several of these view files that are produced. Each of them is unique and may portray a separate cluster or backbone section of the network.

Within these network view files will be all the peripheral devices and line connections that pertain to the selected view. Each view is normally captured for every Network Control Program (NCP). A host that is identified as subarea 25 may have channel connections to multiple network control programs. All of the LAN, terminal, printer, lines, cluster controllers and other devices below each individual NCP will be captured in the NetView view of that particular domain.

1.4.2 Host Network View Download and Retrieval

The host NetView SNA views captured are then downloaded to either SNA Manager/6000 or to an OS/2 GMF workstation using some kind of file transfer facility. It is important to note that views created on host NetView for an OS/2 GMF workstation may be used unmodified by SNA Manager/6000. There is, however, a conversion process for the host views that must be run on SNA Manager/6000. These downloaded host views are processed by SNA Manager/6000 and sent to the NetView/6000 screen display where they are presented in graphics form under the AIX Windows Motif Manager X interface.

The SNA Manager/6000 end-user interface is consistent with OSF MOTIF 1 and conforms to SystemView Integration Level 1.

Any file transfer utility available at the session level (HCON, FTP) may be used to download the views from host NetView TSO data sets to the RISC System/6000 workstation. Examples of how this may be achieved are shown in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51.

1.4.3 Host NetView Alert and Status Forwarding

The host NetView views referred to above are the structure of the network as discovered by all the devices reported to NetView. To retrieve current resource status information, as well as alert information that a critical resource may have gone inactive, there are host NetView tasks running constantly whose only function is to forward data of this type to the OS/2 or NetView/6000 workstation.

In the case of the SNA Manager/6000 product there is an alert to trap conversion daemon (process) running under NetView/6000 which converts the incoming host NetView alerts to event records on the NetView/6000 control desk. The process is somewhat different in the case of an OS/2 GMF workstation due to the platform architecture and different processing mode requirements.

1.4.4 NetView to NetView/6000 Traffic Flow

Figure 3 shows the host NetView to NetView/6000 communications traffic flow.
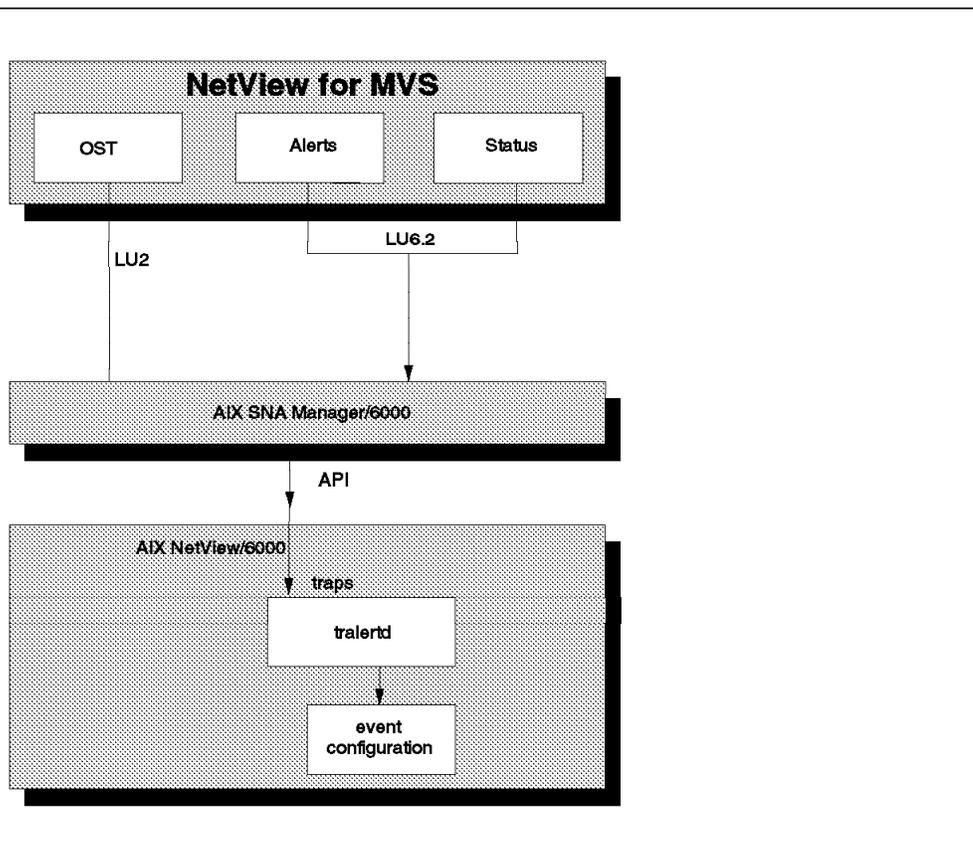
Figure 3. NetView to SNA Manager/6000 Communications Traffic Flow

1.5 AIX NetView/6000 General Topology Manager

We have seen from the above that SNA Manager/6000 provides a link between host NetView and the NetView/6000 workstation for subarea SNA management. There are two elements to the SNA Manager/6000 involvement in this process:

- SNA Manager/6000 Graphics Communications Server

- SNA Manager/6000 Graphics Data Server

These SNA Manager/6000 link and data process utilities forward information to the General Topology Manager in NetView/6000 where graphical display of SNA subarea topology and status is given.

1.5.1 Resource Status Limitations

It is important to note that although the display is dynamically updated in the NetView/6000 GTM after a status change, the SNA Manager/6000 does *not* dynamically update topology changes in the SNA network itself. If physical devices are removed from or added to the network, it is then necessary to create a new host NetView view of the changed resources. You must then download this to the SNA Manager/6000, from where it may be incorporated into the NetView/6000 GTM view of the network. It is possible to automate a lot of this process, since you are doing a predefined set of tasks.

1.5.2 SNA Manager/6000 NetView Command and Alert Support

SNA Manager/6000 provides an input screen on the NetView/6000 console interface that allows operators to manage the SNA resources displayed. Also, SNA Manager/6000 will display SNA alerts on NetView/6000 both dynamically when the event occurs and statically when a resource is selected from the graphical display. There are a lot of things that can be done with the automation functions that exist on NetView on the host. Many of the tasks that are required for SNA management with SNA Manager/6000 could be done by automation.

Chapter 2. AIX SNA Manager/6000 Environment/Recommendations

The following diagram presents an overview of the main network connections used in the ITSO laboratory test environment for production of this document. It should be noted that the RS60001 and RS60005 machines were both installed with AIX SNA Manager/6000 and other corequisite products and were the only AIX platforms machines used during the test process.
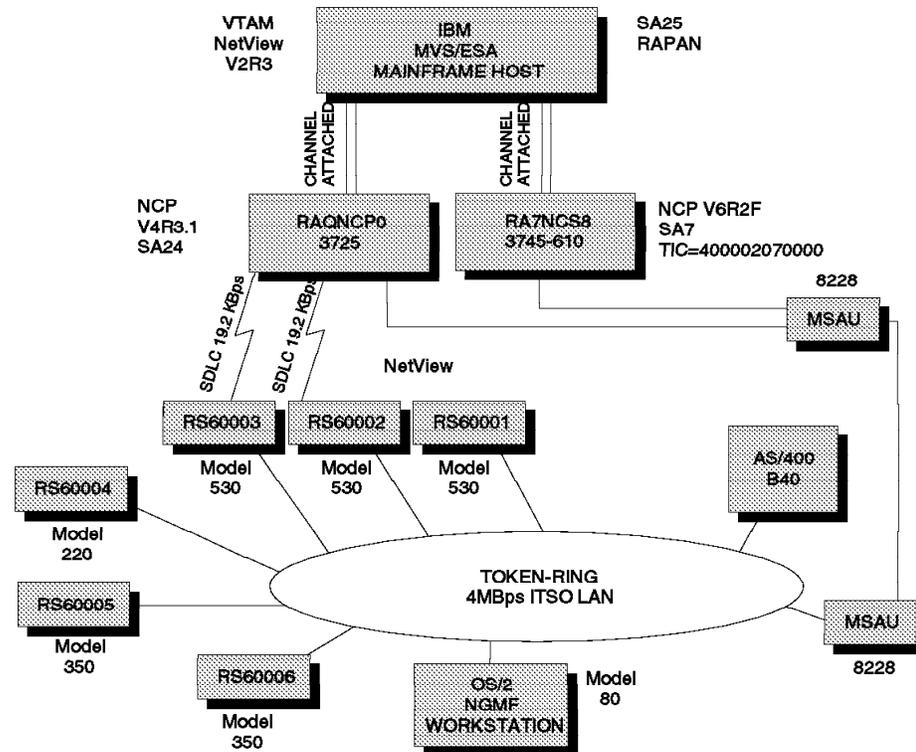
Figure 4. Main Laboratory Connections in Test Environment

2.1.1 Installed Hardware Test Environment Listing

The following hardware items were used in the laboratory testing environment used for the production of this document:

- IBM RISC System/6000 Model 350 (64MB RAM + 2GB Fixed Disk)
- IBM Model 130 XStation (token-ring LAN connected to AIX)
- IBM 6091-19 High Function Terminal Display
- IBM 7208 001 8mm External SCSI Tape Drive
- IBM 7210 001 External SCSI CD-ROM Drive

2.1.2 Installed Software Test Environment Products

The AIX products below were essential corequisites for the test environment used during the production of this book and were installed on the RS60001 and RS60005 machines referred to above. It is necessary to choose between either the SNA Services/6000 V1.2 or SNA Server/6000 V2.1 products as either may be used for the base physical SNA attachment and connection required for SNA Manager/6000.

It should be noted that the SNA Server/6000 V2.1 product was only installed on RS60001 and SNA Services V1.2 was only installed on RS60005. This was the only difference between the two machines from a software perspective and was thought valuable from a standpoint of allowing direct performance, ease of use and installation comparisons to be made between RS60001 (Model 530) and RS60005 (Model 350) during the production of this book.

- IBM AIX Base Operating System V3.2.4.(5756-030)
- IBM AIX SystemView NetView/6000 V2.1.0 (5696-362)
- IBM AIX SNA Manager/6000 V1.1.0 (5601-233)
- IBM AIX SNA Services/6000 V1.2.0 (5601-287)
- IBM AIX SNA Server/6000 V2.1.0 (5765-247)
- IBM AIX DCE Threads V1.1.0 (5765-232)
- IBM AIX 3270 Host Connection Program V1.3.0 (5601-260)
- IBM AIX Trouble Ticket/6000 V2.0.0 (5765-077)
- IBM AIX Windows V1.2.3 (5601-257)
- IBM AIX XStation Manager* V1.3.0 (5601-457)

2.2 AIX SNA Manager/6000 - Recommendations

The Raleigh ITSO Center is not a certified product testing laboratory and as such no performance modelling or calculations were undertaken during the production of this book. All data presented below has been received from IBM research staff instrumental in the development of the SNA Manager/6000 product. As such, all recommendations are advisory only and individual corporate installations may have requirements that depart from the general guide given below. It is recommended that an IBM technical professional be closely involved in the configuration of the AIX and SNA network products crucial to a particular installation.

2.2.1 AIX Maintenance Levels

For specific information regarding AIX product maintenance level requirements please refer to Appendix A, "SNA Manager/6000 Product/Maintenance Dependencies" on page 115.

2.2.2 Network Resources and SNA Manager/6000 Tiers

The AIX SNA Manager/6000 product is structured for individual networks. The base SNA Manager/6000 package assumes a configuration of no more than 1000 PUs as defined by your NetView view preprocessor definitions. If you want to use SNA Manager/6000 with more resources, you must order additional tiers from IBM. These additional tiers also have different minimum machine requirements. The available tiers in number of managed physical units are:

- 1 to 1,000 physical units

- 1001 to 5,000 physical units

- 5001 to 15,000 physical units

- Over 15,000 physical units

When you order additional tiers, you will receive specific instructions on how to install and configure these tiers on your system.

2.2.3 AIX GUI Display Type and Sizing

AIX SNA Manager/6000 is designed to operate in conjunction with the IBM AIX Windows graphic user interface environment and IBM AIX SystemView NetView/6000. With the SNA Manager/6000 and NetView/6000 providing full network monitoring and control of SNA and SNMP resources it is likely that a great deal of network information, comprising several network display windows, will need to be shown simultaneously. The larger the available display size and the higher the resolution of the accompanying screen video adapter, then the greater will be the ease of use and function of the NetView/6000 management system. It is recommended that users consider a minimum of an IBM 6091 19 inch display. That display along with the standard IBM Micro Channel* color graphics adapter was used in the production of this book.

2.2.4 AIX Memory Dependency

It is recommended that first time or minimal NetView users consider 64MB of memory. NetView/6000 performance, and therefore SNA Manager/6000 performance, is heavily dependent upon memory. Some guidelines for memory requirements are shown in Table 1.

2.2.5 Additional Performance Considerations

Subsystem I/O performance has a large impact on SNA Manager/6000's quickness in opening views. Consider placing the file system with /usr/OV/databases on the least active physical volumes and near the most active logical volumes on the physical volume.

Consider reviewing the *AIX Performance Monitoring and Tuning Guide* (SC23-2365-01).

For additional information relative to NetView/6000 performance, refer to *NetView/6000 Problem Determination* (SC31-7021-00).

2.2.6 SNA Manager Resource Table

The following chart uses the term "Additional". The numbers provided are just for the SNA Manager/6000 product. They do not include memory requirements for NetView/6000.

Table 1. AIX SNA Manager/6000 Resource Requirements				
NUMBER OF PUs/TIER LEVEL	Additional Megabytes Of Memory	Additional Megabytes Of Paging Space	Additional Megabytes Of Disk Space	COMMENTS
1 - 1000	16	40	50	Recommended configuration data from IBM product development sources.
1001 - 5000	16-48	40-120	50-70	Same as above
5001 - 15000	48-104	120-260	70-140	Save as above
15001 - Upwards	104+	260+	140+	Extremely large SNA network. Contact your local IBM Marketing Representative for configuration support.

Chapter 3. Preparing to Install AIX SNA Manager/6000

The following information is separated into host NetView and AIX installation activities. Only an overview of the processes is given here, pointing users to the specific configuration information that is provided in later chapters of this book.

3.1.1 NetView V2R3 Installation Tasks and Sequence

The tasks listed below need to be performed in host NetView and TSO to enable view creation as well as alerts and status information to flow to the NetView/6000 workstation running SNA Manager/6000:

1. Install host NetView maintenance PTFs as detailed in Appendix B, "Application Of Host NetView V2R3 Maintenance Levels" on page 117 of this document. Note that installation of these NetView V2R3 fixes will automatically update some data sets mentioned below.

2. Create or update your NetView View Preprocessor JCL configuration (see NUSBAUM.LIB.CNTL(VIEWPP23) data set member in Figure 30 on page 53 as a guide).

3. Create or update your NetView STATMON preprocessor JCL configuration (see NUSBAUM.LIB.CNTL(CNMDEF) data set member in Figure 31 on page 54 as a guide).

4. Create or update your network profile statement specifying the resources on the network you wish to create host views of (see NUSBAUM.LIB.CNTL(SA25VIEW) data set member in Figure 32 on page 55 as a guide).

5. Update your VTAMLST of resources to include the GRAPHOPT statement before your member list in the appropriate ATCCONPX member (see the ITSC.VTAMLST(ATCCONP0) example in Figure 34 on page 57).

6. In your VTAM network definitions add the correct PU and LU definitions to VTAMLST for the LU and PU that will be used for the LU 6.2 connection between NetView and SNA Manager/6000. An example of this can be found in RISC.VTAMLST(RA2RS6KY) in Figure 35 on page 58.

7. Submit the View Preprocessor job to TSO and ensure that you get representative data in the output data set specified in the JCL (see the NUSBAUM.NV23.RAPAN.VIEW.OUTPUT example screen in Figure 33 on page 56 as a guide). There may be many network view files created if you have a large SNA network. Each view file will be a binary file and will be numbered sequentially (for example, DUIVW000, DUIVW001).

8. Download the views to the SNA Manager/6000 workstation. Examples of this can be found in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51.

9. Configure the NetView DSIPARM(DSICMD) data set member to use the alert forwarding DSIAL2WS NetView task (see the NETVIEW.V2R3M0.RAPAN.DSIPARM(DSICMD) example in Figure 37 on page 59).

10. Configure the NetView DSIPARM(DSIDMN) SNA Manager/6000 alert customization tasks using the NETVIEW.V2R3M0.RAPAN.DSIPARM(DSIDMN) example in Figure 38 on page 60).

11. Check to ensure in member DSIPARM(DSIDMN) that the CNMTAMEL task specifies MEM=DUIISFP as shown in Figure 36 on page 59.

3.1.2 AIX V3.2.4 Installation Tasks and Sequence

The following tasks need to be performed on the NetView/6000 workstation to configure the base SNA HCON and LU 6.2 attachments, customize NetView/6000 trapd.conf and to set the SNA Manager/6000 snamgr_alert.conf file for correct alert initialization.

1. Install all SNA Manager/6000 prerequisite software as set out in Appendix A, "SNA Manager/6000 Product/Maintenance Dependencies" on page 115 of this book.

2. Install the SNA Manager/6000 product code as set out in Chapter 6, "Installing SNA Manager/6000" on page 47 of this book. For any difficulties refer to the *IBM AIX SNA Manager/6000 User's Guide* (SC31-7157-00).

3. Create your SNA Services/6000 V1.2 or SNA Server/6000 V2.1 LU 6.2 connection profiles as set out in Chapter 4, "AIX SNA Services/6000 V1.2 Configuration" on page 19 and Chapter 5, "AIX SNA Server/6000 V2.1 Configuration" on page 35.

4. Configure the AIX SNA Manager/6000 Graphics Communications Server as shown in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51 of this document.

5. Open an HCON, EM78 or X3270 LU 2 host NetView focal session (don't forget this is a separate LU-LU session with the host from the LU 6.2 APPN session you will start below). This step is optional.

6. Start SNA Manager/6000 using the SMIT menus or the /usr/snamgr/bin/snamgr_start command.

7. Convert the view sets that you have downloaded to the NetView/6000 workstation during the file transfer process. Then use the SNA Manager/6000 SMIT menus or the /usr/snamgr/bin/snamgr_convert command to convert the views.

8. Start the LU 6.2 communications connection between the host NetView application and SNA Manager/6000 by issuing the NETCONV command from the host NetView focal session (this is covered in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51).

Chapter 4. AIX SNA Services/6000 V1.2 Configuration

To run the SNA Manager/6000 product under NetView/6000 you need to use either SNA Services/6000 V1.2 or SNA Server/6000 V2.1 to give you the base physical SNA attachment and functions over which higher application layer traffic will run: specifically, SNA Manager/6000 and the LU 6.2 APPN traffic to host NetView. The following information is specific to the SNA Services/600 0 V1.2 product only.

4.1.1 Important Considerations Before You Start

- Before installing AIX SNA Manager/6000 code on your system you will need to prepare your RISC System/6000 workstation by either installing the SNA Services/6000 V1.2 or SNA Server/6000 V2.1 product.

- Ensure that you have the correct level of BOS and other maintenance (as detailed in Appendix A, "SNA Manager/6000 Product/Maintenance Dependencies" on page 115 of this document) applied to your system before creating the LU 6.2 communication profiles below. It is one thing for a product to install successfully and another for it to be able to function correctly when SNA communications are invoked.

- Installation of either of these products provides session level SNA support for the HCON and LU 6.2 links over the physical token-ring interface link between the host NetView and the NetView/6000 workstation used in this book's test environment. It is recommended when configuring the required SNA support profiles below that you work from the physical level upwards to the session level to ensure a logical flow for your configuration. This will also help you later on if you have to run any diagnostics.

- You should verify the SNA profiles you created using the SMIT Verify SNA Profiles panel to be assured you have workable definitions and that values you have specified in profiles do not overlap or contradict those in other definitions.

  Gather all the required network definitions before you start creating profiles. Very few wild-card fields are supported when working with SNA Services/6000 V1.2 and a great many fields are case-sensitive to input.

- Either export or remove all non-essential SNA Services physical and logical definitions that are not required before starting to configure the LU 6.2 SNA Manager/6000 profiles. If you choose to keep existing definitions be aware that the SNA Manager/6000 product has a mandatory requirement that the logical connection profile name must be snam6k. In addition, the TPL profile list must contain the TPN profile snam6kt. In all three cases, you need to use lower case.

- SNA services/6000 V1.2 has a limitation in that only one attachment (regardless of the number of sessions) may be active at any one time over a network interface adapter (for example, token-ring, Ethernet/802.3, FDDI, etc.). If you have existing attachments to a number of hosts you should consider using a separate adapter for the LU 6.2 host NetView communications required for SNA Manager/6000. If, for example, an additional token-ring adapter is added, then the first adapter will be "TR0" and the second adapter "TR1". It should be noted that a large number of LU session types will run over each physical attachment and if you are attaching

to the same host you can simply add an LU 6.2 host NetView session to the existing attachment you already have defined.

The following communications profiles for the SNA Services/6000 V1.2 product were successfully used in the laboratory test environment. For details of the equipment listing and the test environment conditions refer to Chapter 3, "Preparing to Install AIX SNA Manager/6000" on page 17.

4.1.2 Quickly Configuring an LU 6.2 Connection Profile

This profile specifies the remote and local LUs that will communicate over the base attachment token-ring adapter(s) in the workstation and the front end processor token-ring Interface Coupler (TIC) destination network interface adapter. With the exception of the token-ring DLC profile you will only need to run the Quickly Configure An LU 6.2 Connection selection to generate your complete set of connection profiles.

Significant Points to Watch

- The fully qualified LOCAL LU name is the name of your network ('USIBMRA' here) followed by the LU 6.2 LU that has been specified in your network VTAM listing (please refer to Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51 for the sample RISC.VTAMLST(RA2RS6KY) VTAM listing).

- In our case we have set up our LU 6.2 communications so that we may independently initiate LU 6.2 sessions to the host. If you do not require this flexibility and SNA Manager/6000 only requires host NetView to initiate sessions, then you should specify a local LU address from 1-255 for your dependent LU.

- In theory the XID node ID is only required for dependent LUs. In practice the LU 6.2 connection did not initialize without it. The first three characters represent the IDBLK field in the VTAM listing, while the remaining five characters point to the IDNUM parameter. Note that this dependency does not appear with SNA Server/6000 in that the * value for XID always appears to make the connection come active.

- In the sample in Figure 5 on page 21 the "DSIL6MOD" represents the VTAM logmode name we have assigned to the LU 6.2 session. This must be exactly the same as the DLOGMOD value in VTAMLST.

- The local Transaction Program (TP) name is specified as the path to the SNA Manager/6000 Graphics Communications Server (GCS) code on the NetView/6000 workstation. In our case this was to the default /usr/snamgr/bin directory and the snamgr.gcs executable file path.

- The fully qualified remote LU name is the NetView application name followed by the host name where the NetView application is running.

- The remote Transaction Program name represents the characteristics of an application program on a remote LU. In this case we needed the hex value for the remote LU, which is 30F0F4F3.

- The attachment name will be defined from the token-ring physical attachment profile and is called snam6k.

- The link address represents the destination TIC address on the communications controller that will be connected to a remote SDLC line or channel connected to the host. This will provide the point from which our workstation token-ring adapter will communicate to. Most IBM front end

processor TICs will support at least 9000+ PU definitions, so do not be concerned if you see other link stations using the same TIC destination address (in our case, 400002070000).

```
                Quickly Configure an LU 6.2 Connection

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                  [Entry Fields]

  Quick Configuration NAME                        snam6k
  -----------------------------------------------
  Fully qualified LOCAL LU name                   [USIBMRA.RA62225Z]

  Local LU ADDRESS (1-255 0=Independent LU)       [0]

  If Local LU Address is specified (other than 0),
     XID node ID                                  [07162225]

  MODE name                                       [DSIL6MOD]

  Local Transaction Program (TP) name (full path) [/usr/snamgr/bin/snamgr_gcs]


  -----------------------------------------------
  Fully qualified REMOTE LU name                  [USIBMRA.RAPAN]

  Remote Transaction Program (RTP) name           [30F0F4F3]


  -----------------------------------------------
  ATTACHMENT                                      snam6k
  Link ADDRESS                                    [400002070000]



F1=Help          F2=Refresh         F3=Cancel         F4=List
F5=Undo          F6=Command         F7=Edit           F8=Image
F9=Shell         F10=Exit           Enter=Do
```

Figure 5. SNA Services/6000 V1.2 Quick LU 6.2 Configuration

4.2 Additional Screens for Checking Your Configuration

You can use the Quickly Configure an LU 6.2 Connection option from the SNA
Services/6000 V1.2 menu to provide you with a sample LU 6.2 working
configuration. This will let you communicate with the LU 6.2 connection on the
host NetView application. The following screens provide a working example of
the token-ring LU 6.2 attachment and connection.

4.2.1 LU 6.2 Control Point Profile

The SNA control point profile name we used is snam6k in lowercase. The Control
Point name is SNAM6KC, and is automatically converted to uppercase.

```
                     Change / Show SNA Control Point Profile

 Type or select values in entry fields.
 Press Enter AFTER making all desired changes.

                                                    [Entry Fields]


  CURRENT profile name                               snam6k
  NEW PROFILE name                                  []

  XID node ID                                       [07162225]

  NETWORK name                                      [USIBMRA]

  CONTROL POINT name                                [SNAM6KC]












 F1=Help              F2=Refresh          F3=Cancel           F4=List
 F5=Undo              F6=Command          F7=Edit             F8=Image
 F9=Shell             F10=Exit            Enter=Do
```

Figure 6. SNA Services/6000 V1.2 SNA Control Point

Note: The control point profile defines the SNA node of the physical unit (PU)
that has been defined in the system VTAMLST network definitions.

4.2.2 Initial SNA DLC Token-Ring Node Configuration

```
┌─────────────────────────────────────────────────────────────────────────────┐
│                      Add Token Ring Data Link Control                          │
│                                                                                │
│                                                                                │
│  Type or select values in entry fields.                                        │
│                                                                                │
│  Press Enter AFTER making all desired changes.                                 │
│                                                                                │
│                                                                                │
│                                                      [Entry Fields]            │
│    Device name                                       dlctoken                  │
│                                                                                │
│    DEPTH of the receive queue                        [32]                      │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│                                                                                │
│    F1=Help              F2=Refresh           F3=Cancel           F4=List        │
│    F5=Undo              F6=Command           F7=Edit             F8=Image       │
│    F9=Shell             F10=Exit             Enter=Do                           │
└─────────────────────────────────────────────────────────────────────────────┘
```

Figure 7. SNA Server/6000 V2.1 Token-Ring DLC Profile

Note: The token-ring data link control profile sets the characteristics of the
physical link between the token-ring workstation adapters and destination
token-ring network devices.

4.2.3 LU 6.2 Token-Ring Attachment Profile

With this profile you should check to ensure that you have the snam6k value (in lowercase) in the first four fields as shown in Figure 8. You should also check to see that the the registration profile name uses LDEFAULT. The Call type should be set to "call" if you are configuring an independent LU (it will be "listen" for a dependent LU). Check also that the link address (if chosen over link name) will be the same as in your previous LU 6.2 connection profile (400002070000 in our case). The remote SAP hex address will remain as the default value ('04').

```
                Change / Show SNA Token Ring Attachment Profile

 Type or select values in entry fields.
 Press Enter AFTER making all desired changes.

 [TOP]                                        [Entry Fields]

   CURRENT profile name                          snam6k
   NEW PROFILE name                              []

   CONTROL POINT profile name                    [snam6k]

   LOGICAL LINK profile name                     [snam6k]

   PHYSICAL LINK profile name                    [snam6k]

   STOP ATTACHMENT on inactivity?                no
      If yes, inactivity TIMEOUT (0-10 minutes)  [0]

   RESTART on deactivation?                      no
   LU address REGISTRATION?                      no
      If yes, LU address REGISTRATION PROFILE name  [LDEFAULT]

   CALL type                                     call
      If listen,
         AUTO-LISTEN?                            no
         MINIMUM SAP address (hex 04-ec)         [04]

         MAXIMUM SAP address (hex 04-ec)         [EC]

      If call, ACCESS ROUTING                    link_address
         If link-name, REMOTE LINK name          []

         If link-address,
            Remote LINK address                  [400002070000]

            Remote SAP address (hex 04-ec)       [04]

 [BOTTOM]


 F1=Help          F2=Refresh        F3=Cancel          F4=List
 F5=Undo          F6=Command        F7=Edit            F8=Image
 F9=Shell         F10=Exit          Enter=Do
```

Figure 8. SNA Services/6000 V1.2 Token-Ring Attachment

Note: The token-ring attachment profile contains fields that define the physical link characteristics of the SNA attachment.

4.2.4 LU 6.2 Token-Ring Physical Link Profile

For the physical link profile we are defining the characteristics of the interface that will send data to and from the host for our LU 6.2 communications session. If you have only one token-ring (or other type of adapter) adapter in your workstation then you should define the physical attachment datalink device name here as TOK0. If you want to set the characteristics of a second token-ring adapter you would use TOK1 (as we have below). Use the defaults for maximum number of logical links (32) and local SAP address (hex '04').

```
┌─────────────────────────────────────────────────────────────────────────┐
│              Change / Show SNA Token Ring Physical Link Profile           │
│                                                                           │
│  Type or select values in entry fields.                                   │
│  Press Enter AFTER making all desired changes.                            │
│                                                                           │
│                                                   [Entry Fields]          │
│                                                                           │
│    CURRENT profile name                            snam6k                 │
│    NEW PROFILE name                               []                      │
│                                                                           │
│    DATALINK device name                           [tok1]                  │
│                                                                           │
│    LOCAL LINK name                                []                      │
│                                                                           │
│    Maximum number of LOGICAL LINKS (1-255)        [32]                    │
│                                                                           │
│    Local SAP address (hex 04-ec)                  [04]                    │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│   F1=Help           F2=Refresh        F3=Cancel         F4=List           │
│   F5=Undo           F6=Command        F7=Edit           F8=Image          │
│   F9=Shell          F10=Exit          Enter=Do                            │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 9. SNA Services/6000 V1.2 Physical Link

Note: The token-ring physical link profile defines the characteristics of the interface adapter that will be used for network communications to the token-ring interface coupler (TIC) adapter in the host PU4 communications controller.

4.2.5 LU 6.2 Token-Ring Logical Link Profile

For this configuration you will only need to enter snam6k for the profile name
and accept the logical link default parameter values. The experienced user may
wish to tailor these values for link or trace monitoring purposes.

```
                 Change / Show SNA Token Ring Logical Link Profile

 Type or select values in entry fields.
 Press Enter AFTER making all desired changes.

 [TOP]                                          [Entry Fields]

   CURRENT profile name                           snam6k
   NEW PROFILE name                             []

   TRANSMIT window count (1-127)                [10]

   DYNAMIC window increment (1-127)             [1]

   RETRANSMIT count (1-30)                      [8]

   RECEIVE window count (1-127)                 [127]

   RING ACCESS priority                           0
   RETRY limit                                  [20]

   DROP LINK on inactivity?                       yes
   INACTIVITY timeout (1-120 seconds)           [48]

   RESPONSE timeout (1-40, 500 msec intervals)  [2]

   ACKNOWLEDGE timeout (1-40, 500 msec intervals)  [1]

   FORCE DISCONNECT timeout (1-600 seconds)     [120]

   DEFINITION of maximum I-FIELD size             system_defined
      If user-defined, max. I-FIELD SIZE (265-30729) [30729]

   TRACE link?                                    no
      If yes, TRACE SIZE                          short
 [BOTTOM]


 F1=Help            F2=Refresh         F3=Cancel          F4=List
 F5=Undo            F6=Command         F7=Edit            F8=Image
 F9=Shell           F10=Exit           Enter=Do
```

Figure 10. SNA Services/6000 V1.2 Logical Link

Note: The token-ring logical link profile defines the characteristics on the
token-ring interface and how the network interacts with the link
attachment.

4.2.6 LU 6.2 Local LU Profile

Make sure that your local LU name is correct (and in the correct case) and that you have selected the * value for the SSCP ID.

```
┌─────────────────────────────────────────────────────────────────────────────┐
│                  Change / Show SNA LU 6.2 Local LU Profile                    │
│                                                                               │
│  Type or select values in entry fields.                                       │
│  Press Enter AFTER making all desired changes.                                │
│                                                                               │
│                                                     [Entry Fields]            │
│                                                                               │
│    CURRENT profile name                              snam6k                    │
│    NEW PROFILE name                                 []                         │
│                                                                               │
│    TPN LIST profile name                            [snam6kt]                  │
│                                                                               │
│    NETWORK name                                     [USIBMRA]                  │
│                                                                               │
│    Local LU NAME                                    [RA62225Z]                 │
│                                                                               │
│    INDEPENDENT LU?                                   yes                       │
│       If no,                                                                   │
│          Local LU ADDRESS (1-255)                   [1]                        │
│                                                                               │
│          SSCP ID                                    [*]                        │
│                                                                               │
│                                                                               │
│                                                                               │
│                                                                               │
│                                                                               │
│  F1=Help           F2=Refresh         F3=Cancel           F4=List             │
│  F5=Undo           F6=Command         F7=Edit             F8=Image            │
│  F9=Shell          F10=Exit           Enter=Do                                │
└─────────────────────────────────────────────────────────────────────────────┘
```

Figure 11. SNA Services/6000 V1.2 Local LU

Note: The local LU profile describes the characteristics of the local LU as defined in the VTAMLST definitions (this is the LU of the NetView/6000 workstation you are working on).

4.2.7 LU 6.2 Logical Connection Profile

Check to see that the first three profile fields are snam6k and are in lower case and are snam6k. Also, make sure that the remote LU name is the same as the host APPLID name where your host NetView is running. Note that the remote TPN list profile name is snam6kr and is in lowercase. The interface type should be extended with a session concurrency value of single. Node verification is optional and may be set to off when using the preceding values.

```
                Change / Show SNA LU 6.2 Logical Connection Profile

  Type or select values in entry fields.
  Press Enter AFTER making all desired changes.

  [TOP]                                          [Entry Fields]

    CURRENT profile name                              snam6k
    NEW PROFILE name                                  []

    ATTACHMENT profile name                           [snam6k]

    LOCAL LU profile name                             [snam6k]

    NETWORK name                                      [USIBMRA]

    STOP CONNECTION on inactivity?                     no
       If yes, TIMEOUT (0-10 minutes)                 [0]

    REMOTE LU name                                    [RAPAN]

    SECURITY Accepted                                  none
       If conversation or already_verified,
       CONVERSATION SECURITY ACCESS LIST profile      [CONVDEFAULT]

          (If no name entered, /etc/passwd used)
    REMOTE TPN LIST profile name                      [snam6kr]

    MODE LIST profile name                            [snam6k]
    INTERFACE type                                     extended
       If extended, SESSION CONCURRENCY               single
    Node VERIFICATION?                                 no
  [BOTTOM]


  F1=Help          F2=Refresh        F3=Cancel          F4=List
  F5=Undo          F6=Command        F7=Edit            F8=Image
  F9=Shell         F10=Exit          Enter=Do
```

Figure 12. SNA Services/6000 V1.2 Logical Connection

Note: The logical connection profile defines the session parameters that will be used to establish and maintain the host NetView to NetView/6000 session.

4.2.8 LU 6.2 SNA Mode Profile Name

Check to ensure that your profile name is snam6k in lowercase and that the mode name is DSIL6MOD in your VTAM logmode definition for the LU 6.2 definition. Accept the defaults for all other values as shown below.

```
                    Change / Show SNA LU 6.2 Mode Profile

 Type or select values in entry fields.
 Press Enter AFTER making all desired changes.

                                               [Entry Fields]

  CURRENT profile name                          snam6k
  NEW PROFILE name                             []

  MODE name                                    [DSIL6MOD]

  Maximum number of SESSIONS (1-999)           [8]

  Minimum contention WINNERS (0-499)           [4]

  Minimum contention LOSERS (0-500)            [0]

  Auto ACTIVATIONS limit (0-500)               [0]

  RECEIVE pacing (0-63)                        [3]

  SEND pacing (0-63)                           [3]

  Maximum RU SIZE (256,288,...,3840)           [2816]

  RECOVERY level                                no_reconnect




 F1=Help            F2=Refresh      F3=Cancel          F4=List
 F5=Undo            F6=Command      F7=Edit            F8=Image
 F9=Shell           F10=Exit        Enter=Do
```

Figure 13. SNA Services/6000 V1.2 LU 6.2 Mode

Note: The LU 6.2 mode profile defines the session characteristics used in the BIND request after the XID exchanges information between the remote and local LUs.

4.2.9 LU 6.2 Transaction Program Name Profile

The TPN profile name must be snam6kt in lowercase. The transaction program that will directly talk to the host NetView application is snamgr.gcs. The conversation type should be basic (as opposed to mapped) and the SYNC level must be set for confirm. The GCS TPN field can have anything placed in it. The only restriction is that you can not use a ″_″ in a file name. you have set the correct path name to the GCS TPN (should be /usr/snamgr/bin/snamgr_gcs). The User ID field is not critical. We selected 201 in this instance. All other fields should be left as default values.

```
                      Change / Show SNA LU 6.2 TPN Profile

 Type or select values in entry fields.
 Press Enter AFTER making all desired changes.

 [TOP]                                         [Entry Fields]

   CURRENT profile name                           snam6kt
   NEW PROFILE name                               []

   Transaction program name is in HEXADECIMAL?    no
   TRANSACTION program name                       [snamgr.gcs]

   PIP data?                                      no
      If yes, SUBFIELDS (0-99)                    [0]

   CONVERSATION type                              basic
   RECOVERY level                                 no_reconnect
   SYNC level                                     confirm
   Full PATH to TPN executable                    [/usr/snamgr/bin/snamgr_gcs]

   MULTIPLE INSTANCES supported?                  no
   User ID                                        [201]

   SERVER synonym name                            [snam6kt]

   RESTART action                                 once
   COMMUNICATION type                             signals
      If IPC, communication IPC queue key         [0]

   Standard INPUT file/device                     [/dev/null]

   Standard OUTPUT file/device                    [/dev/console]

   Standard ERROR file/device                     [/dev/console]

   SECURITY Required                              none
      If access,
         RESOURCE SECURITY ACCESS LIST profile    [RSRCDEFAULT]

         (If no name entered, /etc/passwd used)
 [BOTTOM]


 F1=Help          F2=Refresh        F3=Cancel          F4=List
 F5=Undo          F6=Command        F7=Edit            F8=Image
 F9=Shell         F10=Exit          Enter=Do
```

Figure 14. SNA Services/6000 V1.2 Transaction Program Name

Note: The TPN profile contains fields that set and describe characteristics of a transaction program on the local LU.

4.2.10 LU 6.2 Transaction Program Name List Profile

Check to see that the TPN list profile name is snam6kt.

```
┌─────────────────────────────────────────────────────────────────────┐
│                          COMMAND STATUS                              │
│                                                                      │
│  Command: OK              stdout: yes            stderr: no          │
│                                                                      │
│  Before command completion, additional instructions may appear below.│
│                                                                      │
│  snam6kt                                                             │
│                                                                      │
│                                                                      │
│  F1=Help           F2=Refresh         F3=Cancel          F6=Command  │
│  F8=Image          F9=Shell           F10=Exit                       │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 15. SNA Services/6000 V1.2 Transaction Program List Profile

Note: The TPN list profile provides a list of TPN profiles that are available for use with a particular session.

4.2.11 LU 6.2 Remote Transaction Program Name Profile

Check to see that your profile matches that shown below. Pay particular attention to the remote transaction program name (RTPN) that is required by SNA Manager/6000.

```
                    Change / Show SNA LU 6.2 RTPN Profile

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

                                                 [Entry Fields]


  CURRENT profile name                           snam6kr
  NEW PROFILE name                               []

  RTPN name is in HEXADECIMAL?                    no
  RTPN name                                      [30F0F4F3]

  PIP data?                                       no
  CONVERSATION type                               basic
  RECOVERY level                                  no_reconnect
  SYNC level                                      confirm





  F1=Help          F2=Refresh       F3=Cancel          F4=List
  F5=Undo          F6=Command       F7=Edit            F8=Image
  F9=Shell         F10=Exit         Enter=Do
```

Figure 16. SNA Services/6000 V1.2 Remote Transaction Name Profile

Note: The RTPN list profile provides a list of remote transaction name profiles that are available for use with a particular session.

4.2.12 Further Important Considerations

In addition to the above-specified profiles, optionally, it may be be necessary for the user to configure LU 2, LU 1 and other SSCP-PU sessions under HCON to allow focal host NetView and TSO sessions on the NetView/6000 workstation.

It is important to note that this is normally done to allow for control and ease of use of the host sessions from the same workstation screen. However, this is optional and there is no impact on the SNA Manager/6000 application usage and function if the host NetView and other sessions are accommodated on a 327X dedicated station. All host NetView and other LU 6.2 session commands necessary for the operation of the SNA Manager are supported in this mode.

It should be noted, however, that if you wish to change the device or LU of the session that will be the focal point host NetView session, then you must ensure that any changes made are reflected in changes to the SNA Services/6000 profiles.

4.2.13 Host Connection/6000 Information

The Host Connection/6000 product is shipped with the HCONUTIL utility that allows for easy configuration of the many types of LU session supported. Among the many functions provided by HCONUTIL are keyboard session, color, auto logon, file transfer and other utilities. For details of these and other command line HCON sessions refer to the README files, online help and other documentation shipped with the Host Connection/6000 product.

Chapter 5. AIX SNA Server/6000 V2.1 Configuration

For general information applying to the use of SNA Server/6000 V2.1, please refer to Chapter 4, "AIX SNA Services/6000 V1.2 Configuration" on page 19 dealing with SNA Services/6000 V1.2.

SNA Server/6000 V2.1 is a more fully functional and flexible product than the SNA Services/6000 V1.2 product that it replaces. The following sets out the principal differences between the products:

- In SNA Services V1.2 it was only possible to have one attachment per physical LAN/Network interface. This limitation has been removed in SNA Server/6000 V2.1.

- SNA Server/6000 no longer has connection profiles. Thus the requirement to have a connection profile named snam6k that was a requirement of SNA Services/6000 has been removed in the SNA Server/6000 product.

- The presentation of many of the screens is different from that of SNA Services/6000 V1.2. This is true of both profile names and individual SNA terminology. For example, SNA Services/6000 V1.2 referred to attachments. This has been changed to link stations in SNA Server/6000 V2.1. Similarly, connections have become sessions in SNA Server/6000. Other differences exist and it is wise to refer to the latest documentation shipped with SNA Server/6000 V2.1 to be assured of current information.

5.1 Configuring SNA Server/6000 for LU 6.2 Communications

To set up workable LU 6.2 communications from the NetView/6000 workstation to host NetView it will be necessary to create profiles similar to those used for the token-ring LAN environment used in our laboratory tests. Each installation will vary to some extent and it is important to bear in mind that the following are representative working samples only and fine tuning or further experimentation with profiles may give enhanced performance in a different environment.

5.1.1 Initial SNA DLC Token-Ring Node Configuration

```
┌─────────────────────────────────────────────────────────────────────┐
│                     Add Token Ring Data Link Control                  │
│                                                                       │
│                                                                       │
│  Type or select values in entry fields.                               │
│                                                                       │
│  Press Enter AFTER making all desired changes.                        │
│                                                                       │
│                                                                       │
│                                               [Entry Fields]          │
│                                                                       │
│   Device name                                 dlctoken                │
│                                                                       │
│   DEPTH of the receive queue                  [32]                    │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│  F1=Help              F2=Refresh          F3=Cancel          F4=List  │
│  F5=Undo              F6=Command          F7=Edit            F8=Image  │
│  F9=Shell             F10=Exit            Enter=Do                     │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 17. SNA Server/6000 V2.1 Token-Ring DLC Profile

Note: The token-ring data link control profile sets the characteristics of the physical link between the token-ring workstation adapters and destination token-ring network devices.

5.1.2 Token-Ring Link Station Profile Configuration - Screen 1

```
                    Add Token Ring Link Station Profile - Screen 1

Type or select values in entry fields.

Press Enter AFTER making all desired changes.


[TOP]                                          [Entry Fields]

* Profile name                                 [snam6k]
  Use APPN Control Point's XID node ID?          no
    If no, XID node ID                         [07162225]
* SNA DLC Profile name                         [snam6k]
  Stop link station on inactivity?               no
    If yes, Inactivity time-out (0-10 minutes) [0]
  LU address registration?                       no
    If yes, LU Address Registration Profile name []
  Trace link?                                    no
    If yes, Trace size                           long

  Adjacent Node Address Parameters
    Access routing                               link_address
    If link_name, Remote link name             []
    If link_address,
        Remote link address                    [400002070000]
        Remote SAP address (04-ec)             [04]

  Adjacent Node Identification Parameters
    Verify adjacent node?                        no
    Network ID of adjacent node                [USIBMRA]
    CP name of adjacent node                   []
    XID node ID of adjacent node (LEN node only) [*]
    Node type of adjacent node                   len_node

  Link Activation Parameters
    Solicit SSCP sessions?                       yes
    Initiate call when link station is activated? yes
    Activate link station at SNA start up?       yes
[MORE...23]


F1=Help              F2=Refresh         F3=Cancel          F4=List
F9=Shell             F10=Exit           Enter=Do
```

Figure 18. SNA Server/6000 V2.1 Link Station Profile - Screen 1

5.1.3 Token-Ring Link Station Profile Configuration - Screen 2

```
                  Add Token Ring Link Station Profile - Screen 2


     Activate on demand?                              no
     CP-CP sessions supported?                        no
     If yes,
        Adjacent network node preferred server?       no
     Partner required to support CP-CP sessions?      no
     Initial TG number (0-20)                         [0]


  Restart Parameters
     Restart on normal deactivation?                  no
     Restart on abnormal deactivation?                no
     Restart on activation?                           no

  Transmission Group COS Characteristics
     Effective capacity                               [4300800]
     Cost per connect time                            [0]
     Cost per byte                                    [0]
     Security                                          nonsecure
     Propagation delay                                 lan
     User-defined 1                                   [128]
     User-defined 2                                   [128]
     User-defined 3                                   [128]


     Comments                                         []

  [BOTTOM]


  F1=Help              F2=Refresh           F3=Cancel            F4=List
  F5=Undo              F6=Command           F7=Edit              F8=Image
  F9=Shell             F10=Exit             Enter=Do
```

Figure 19. SNA Server/6000 V2.1 Link Station Profile - Screen 2

Note: The link station profile sets the characteristics of the SNA physical
attachment to host NetView (in our case).

5.1.4 SNA Node Profile Configuration

If you use SMIT, and go to the screen under SNA for system defaults, you will find the following values:

```
                          Add SNA Node Profile


Type or select values in entry fields.

Press Enter AFTER making all desired changes.


                                                    [Entry Fields]

* Profile name                                   sna

  Maximum number of sessions (1-5000)            [200]

  Maximum number of conversations                [200]
  (1-5000)

  Restart action                                 [once]

  Perform error logging                          [no]

  Restart resource manager (RRM)                  no
  enabled?

  Dynamic inbound partner LU definitions         [yes]
  allowed?

  NMVT action when no NMVT process               [reject]

  Standard output file/device                    [/dev/console]

  Standard error file/device                 [/var/sna/sna.stderr]



  Comments                                       []




F1=Help              F2=Refresh          F3=Cancel           F4=List
F5=Undo              F6=Command          F7=Edit             F8=Image
F9=Shell             F10=Exit            Enter=Do
```

Figure 20. Initial SNA Node Profile Configuration

Note: The SNA node profile describes the operating parameters for SNA Server/6000 on the local node. This profile is created during initial SNA Server/6000 installation.

5.1.5 SNA Control Point Profile Configuration

```
                            Add SNA Control Point Profile


Type or select values in entry fields.

Press Enter AFTER making all desired changes.


                                                      [Entry Fields]

* Profile name                                 node_cp

  XID node ID                                  [07162225]

  Network name                                 [USIBMRA]

  Control Point (CP) name                      [SNAM6KC]

  Control Point alias                          []

  Control Point type                           appn_end_node

  Maximum number of cached routing trees       [500]

  Maximum number of nodes in the TRS database  [500]

  Route addition resistance                    [128]



  Comments                                     []




F1=Help              F2=Refresh          F3=Cancel          F4=List
F5=Undo              F6=Command          F7=Edit            F8=Image
F9=Shell             F10=Exit            Enter=Do
```

Figure 21. SNA Server/6000 V2.1 Control Point Profile

Note: The SNA Control Point profile provides information for the Control Point
(CP) on the local network node and is created during SNA Server/6000
installation. It is important to note that there is only one control point
profile for an AIX workstation.

5.1.6 LU 6.2 Local LU Session Profile Configuration

```
┌─────────────────────────────────────────────────────────────────────┐
│                      Add LU 6.2 Local LU Profile                      │
│                                                                       │
│  Type or select values in entry fields.                               │
│                                                                       │
│  Press Enter AFTER making all desired changes.                        │
│                                                                       │
│                                                                       │
│                                                   [Entry Fields]      │
│  * Profile name                                   [snam6k]            │
│    Local LU name                                  [RA62225Z]          │
│    Local LU alias                                 []                   │
│    Local LU is dependent?                          no                  │
│       If yes,                                                          │
│          Local LU address (1-255)                 []                   │
│          System services control point                                │
│            (SSCP) ID (*, 0-65535)                 [*]                  │
│          Link Station Profile name                []                   │
│    Conversation Security Access List Profile name []                  │
│                                                                       │
│                                                                       │
│    Comments                                       []                   │
│                                                                       │
│  F1=Help             F2=Refresh         F3=Cancel         F4=List     │
│  F5=Undo             F6=Command         F7=Edit           F8=Image    │
│  F9=Shell            F10=Exit           Enter=Do                      │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 22. SNA Server/6000 V2.1 Local LU Profile

Note: The Local LU 6.2 profile describes the characteristics of the local LU and whether it can initiate communications itself (an independent LU) or whether the host must initiate sessions (a dependent LU).

5.1.7 LU 6.2 Side Information Profile Configuration

```
┌─────────────────────────────────────────────────────────────────────┐
│                     Add LU 6.2 Side Information Profile               │
│                                                                       │
│  Type or select values in entry fields.                              │
│                                                                       │
│  Press Enter AFTER making all desired changes.                       │
│                                                                       │
│                                                                       │
│                                                    [Entry Fields]     │
│                                                                       │
│  * Profile name                                    [snam6k]           │
│                                                                       │
│    Local LU or Control Point alias                 [RA62225Z]         │
│                                                                       │
│    Provide only one of the following:                                │
│                                                                       │
│      Partner LU alias                              []                 │
│                                                                       │
│      Fully qualified partner LU name               [USIBMRA.RAPAN]    │
│                                                                       │
│    Mode name                                       [DSIL6MOD]         │
│                                                                       │
│    Remote transaction program name (RTPN)          [30F0F4F3]         │
│                                                                       │
│    RTPN in hexadecimal?                             no                │
│                                                                       │
│                                                                       │
│    Comments                                        []                 │
│                                                                       │
│                                                                       │
│  F1=Help            F2=Refresh          F3=Cancel          F4=List    │
│  F5=Undo            F6=Command          F7=Edit            F8=Image   │
│  F9=Shell           F10=Exit            Enter=Do                      │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 23. SNA Server/6000 LU 6.2 Side Information Profile

Note: The Local LU 6.2 side information profile specifies the characteristics an LU will use when establishing a conversation with a remote transaction program.

5.1.8 LU 6.2 Partner LU Profile Configuration

```
┌─────────────────────────────────────────────────────────────────────────┐
│                      Add LU 6.2 Partner LU Profile                        │
│                                                                           │
│  Type or select values in entry fields.                                   │
│                                                                           │
│  Press Enter AFTER making all desired changes.                            │
│                                                                           │
│                                                                           │
│                                                     [Entry Fields]        │
│    Current profile name                              snam6k               │
│                                                                           │
│    New profile name                                 []                    │
│                                                                           │
│    Fully qualified partner LU name                  [USIBMRA.RA62225]     │
│                                                                           │
│    Partner LU alias                                 []                    │
│                                                                           │
│    Parallel sessions supported?                      yes                  │
│                                                                           │
│    Session security supported?                       no                   │
│                                                                           │
│    Conversation security level                       none                 │
│                                                                           │
│                                                                           │
│    Comments                                         []                    │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│  F1=Help              F2=Refresh          F3=Cancel          F4=List       │
│  F5=Undo              F6=Command          F7=Edit            F8=Image      │
│  F9=Shell             F10=Exit            Enter=Do                         │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 24. SNA Server/6000 Partner LU 6.2 Profile

Note: The Partner LU 6.2 profile specifies parameters for an LU - LU session
with a particular remote LU

.

5.1.9 LU 6.2 Mode Profile Configuration

```
┌─────────────────────────────────────────────────────────────────────────┐
│                        Add LU 6.2 Mode Profile                            │
│                                                                           │
│  Type or select values in entry fields.                                   │
│                                                                           │
│  Press Enter AFTER making all desired changes.                            │
│                                                                           │
│                                                                           │
│                                                      [Entry Fields]        │
│  * Profile name                                      [DSIL6MOD]            │
│                                                                           │
│    Mode name                                         [DSIL6MOD]            │
│                                                                           │
│    Maximum number of sessions (1-5000)               [8]                  │
│                                                                           │
│    Minimum contention winners (0-5000)               [4]                  │
│                                                                           │
│    Minimum contention losers (0-5000)                [0]                  │
│                                                                           │
│    Auto activate limit (0-500)                       [0]                  │
│                                                                           │
│    Upper bound for adaptive receive pacing window    [16]                 │
│                                                                           │
│    Receive pacing window (0-63)                      [7]                  │
│                                                                           │
│    Maximum RU size (128,...,32768: multiples of 32)  [1024]               │
│                                                                           │
│    Minimum RU size (128,...,32768: multiples of 32)  [128]                │
│                                                                           │
│    Class of Service (COS) name                       [#CONNECT]           │
│                                                                           │
│                                                                           │
│    Comments                                          []                   │
│                                                                           │
│                                                                           │
│                                                                           │
│  F1=Help            F2=Refresh          F3=Cancel          F4=List        │
│  F5=Undo            F6=Command          F7=Edit            F8=Image       │
│  F9=Shell           F10=Exit            Enter=Do                          │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 25. SNA Server/6000 LU 6.2 Mode Profile

Note: The LU 6.2 mode profile determines the control and pacing characteristics that the LU 6.2 Local - Remote LU session will use.

5.1.10 LU 6.2 Transaction Program Name Configuration

```
                        Add LU 6.2 TPN Profile


Type or select values in entry fields.

Press Enter AFTER making all desired changes.



                                              [Entry Fields]

* Profile name                                [snam6kt]
  Transaction program name (TPN)              [snamgr.gcs]
  Transaction program name (TPN) is in hexadecimal?  no
  PIP data?                                   no
     If yes, Subfields (0-99)                 [0]

  Conversation type                           basic
  Sync level                                  confirm
  Resource security level                     none
     If access, Resource Security Access List Prof.  []

  Full path to TP executable       [/usr/snamgr/bin/snamgr_gcs]

  Multiple instances supported?               no
  User ID                                     [100]
  Server synonym name                         []
  Restart action                              once
  Communication type                          signals
     If IPC, Communication IPC queue key      [0]
  Standard input file/device                  [/dev/console]
  Standard output file/device                 [/dev/console]
  Standard error file/device                  [/dev/console]



  Comments                                    []


F1=Help             F2=Refresh         F3=Cancel          F4=List
F5=Undo             F6=Command         F7=Edit            F8=Image
F9=Shell            F10=Exit           Enter=Do
```

Figure 26. SNA Server/6000 LU 6.2 TPN Profile

Note: The LU 6.2 TPN profile specifies the characteristics of a target transaction program that runs on the local host system.

Chapter 6. Installing SNA Manager/6000

In order to install SNA Manager/6000, you will need to:

1. Log in as ROOT user.

2. Stop AIX NetView/6000 cleanly, since the installation process for SNA Manager/6000 stops all the currently running AIX NetView/6000 daemons.

3. Install the SNA Manager/6000 software as detailed below.

4. Review the README documentation provided with the SNA Manager/6000 product. These README files contain information that is not found in the base documentation. These files are located in the /usr/lpp/snamgr directory.

5. Restart the AIX NetView/6000 application.

6. Configure the graphic communication server (GCS) component of SNA Manager/6000 using SMIT.

7. Configure SNA Manager/6000 to receive alerts from host NetView as described in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51 of this document.

8. Start SNA Manager/6000 as described later in this chapter.

9. Download and convert the host NetView view set as described in Chapter 7, "Host NetView V2R3 and SNA Manager/6000 Customization" on page 51.

10. Install the tier support that is required to support the number of physical units present in your SNA network.

6.1 Installing SNA Manager/6000 Code

6.1.1 SMIT Install Process

The SMIT installation process places the SNA Manager/6000 code into the /usr/snamgr/bin directory. You should consider creating a separate /usr/snamgr file system to stop conflicts caused by filling up the /usr file system. Set this new file system to one physical partition. The SNA Manager/6000 installation process increases the file system size as needed.

It is also recommended that you add the /usr/snamgr/bin directory to your PATH environment statement in your logon profile so that SNA Manager/6000 commands are easier to issue.

The following figure shows the initial SMIT Installation entry screen. The directory where you have the binary code for the software will go after its path location as shown below if you are installing from disk. If you are installing from tape you will need to specify the device path (for example, /dev/rmt0).

```
┌─────────────────────────────────────────────────────────────────────────┐
│                    Install Software at Latest Available Level             │
│                                                                           │
│  Type or select a value for the entry field.                             │
│  Press Enter AFTER making all desired changes.                           │
│                                                                           │
│                                                           [Entry Fields]  │
│                                                                           │
│  * INPUT device / directory for software          [/u/rt/snamgr_beta3bin]  + │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│  F1=Help              F2=Refresh        F3=Cancel         F4=List         │
│  F5=Undo              F6=Command        F7=Edit           F8=Image        │
│  F9=Shell             F10=Exit          Enter=Do                          │
└─────────────────────────────────────────────────────────────────────────┘
```
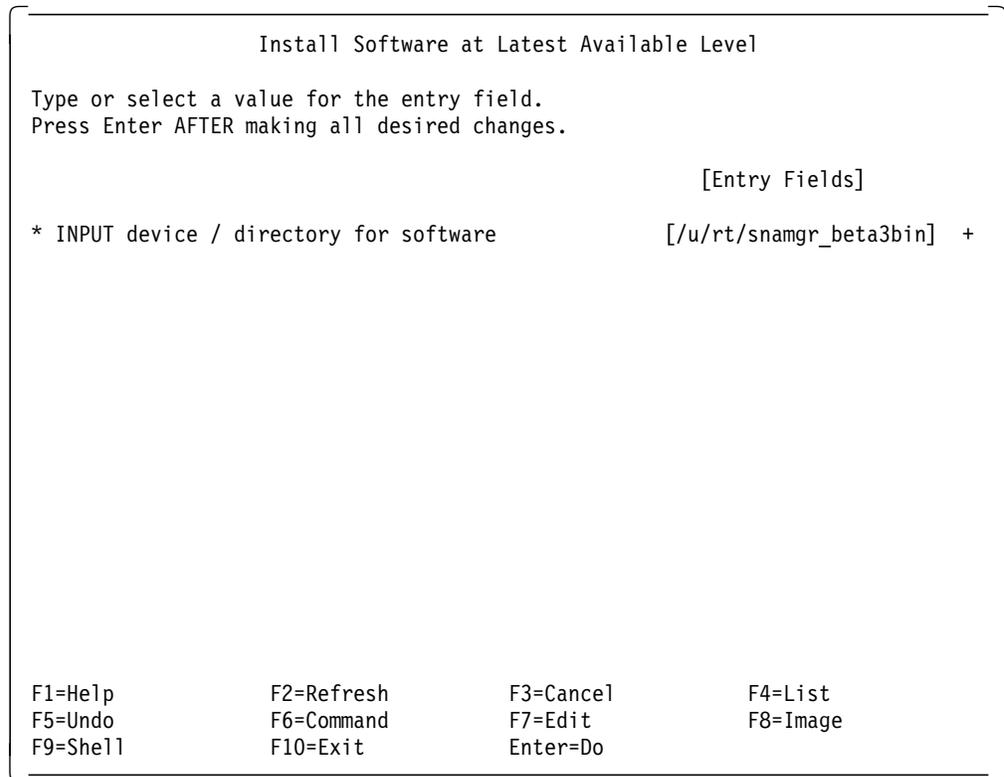
Figure 27. First SMIT Install Screen for SNA Manager/6000

The next SMIT screen will prompt you for the installation options that you wish to select. The screen below shows the installation options used for the installation of the SNA Manager/6000 software in the laboratory test environment used in this book.

```
                        Install Software at Latest Available Level

   Type or select values in entry fields.
   Press Enter AFTER making all desired changes.

                                                  [Entry Fields]


 * INPUT device / directory for software          /u/rt/snamgr_beta3bin
 * SOFTWARE to install                            [all]
   Automatically install PREREQUISITE software?   yes                      +
   COMMIT software?                               yes                      +
   SAVE replaced files?                           no                       +
   VERIFY Software?                               no                       +
   EXTEND file systems if space needed?           yes                      +
   REMOVE input file after installation?          no                       +
   OVERWRITE existing version?                    no                       +
   ALTERNATE save directory                       []




   F1=Help            F2=Refresh          F3=Cancel            F4=List
   F5=Undo            F6=Command          F7=Edit              F8=Image
   F9=Shell           F10=Exit            Enter=Do
```

Figure 28. Second SMIT Install Screen for SNA Manager/6000

The installation process may take significant time, especially if you have specified in your installation options that verification of the software files take place.

If all is correct with your system you will see a completion status of OK returned to the SMIT screen. SMIT has now successfully added the software to the correct path directories and installed the SMIT menu options for SNA Manager/6000.

The installation process by default allows the SNA Manager/6000 to be used with up to 1000 SNA physical units. If you wish to use SNA Manager/6000 with more than 1000 PUs, then you must purchase additional tiers from your IBM representative. When the additional tier enabling software has been obtained, it is then a matter of selecting the Configuring for Additional Tier Packages option from the SMIT SNA Manager/6000 main entry menu.

6.1.2 SNA Manager/6000 Removal Process

If you have not committed the AIX SNA Manager/6000 software under the AIX V3.2.4 base operating system then you are able to remove SNA Manager/6000 and all related directories from your workstation. Once you have removed the SNA Manager/6000 code you may then reinstall it.

The following is the sequence of steps to carry out that will enable removal of the software using the SMIT interface:

1. Access SMIT from the AIX command prompt.

2. Select SOFTWARE INSTALLATION AND MAINTENANCE from the initial SMIT screen.

3. Select MANAGE APPLIED SOFTWARE from the List, Commit, Reject, Remove option.

4. Select REMOVE APPLIED SOFTWARE PRODUCTS.

5. Select the List button next to the SOFTWARE NAME field if you are accessing SMIT under the AIX Windows interface. Otherwise, press the PF4 key to list the software to select from.

6. Select the desired components of SNA Manager/6000 - then select OK.

7. Select DO.

Note: If you remove snamgr.base.obj then you must remove snamgr.info.obj. However, you can remove snamgr.info.obj without removing snamgr.base.obj.

Chapter 7. Host NetView V2R3 and SNA Manager/6000 Customization

The following information in this chapter will assist in host NetView configuration. Reference material guidance is also available in a number of other IBM publications, including the *NetView Installation and Administration Guide Version 2 Release 3* (SC32-6125-01).

7.1 Host NetView to RISC System/6000 View Process

Figure 29 gives an overview of the relationships that exists between the host NetView and NetView/6000 products. Intervening between is SNA Manager/6000 acting as an intermediary for SNA resources. Output from the SNA Manager/6000 product is then directed to the NetView/6000 General Topology Manager and to the screen display.
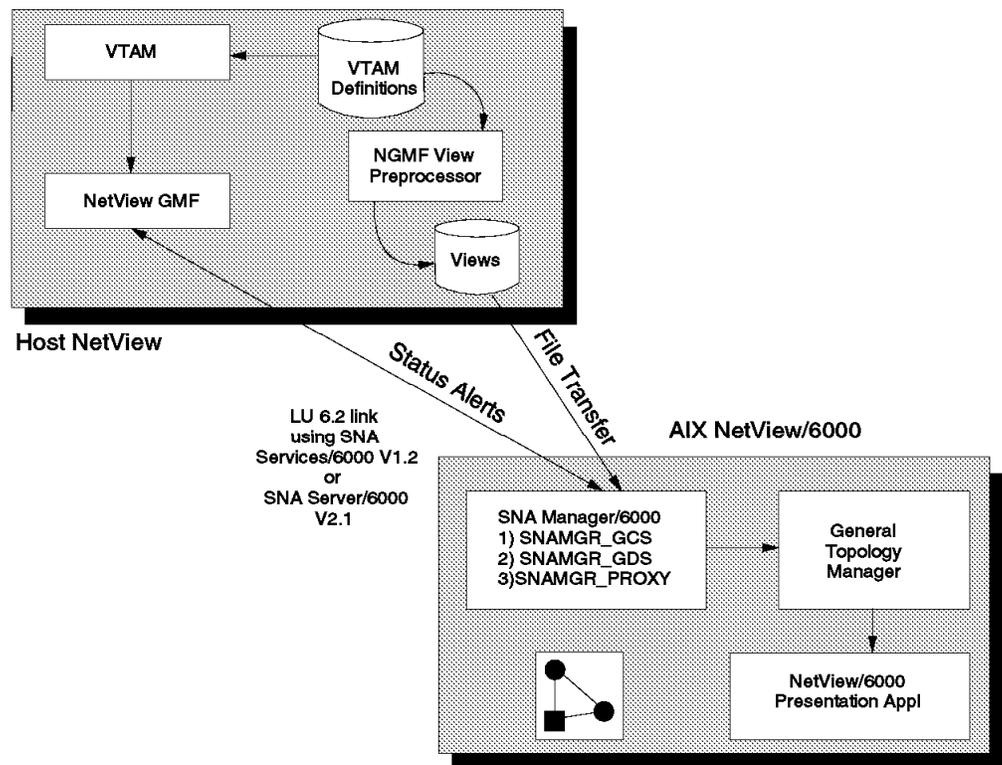
Figure 29. Host NetView - SNA Manager/6000 View Processes

7.2 Host Creation of the NetView V2R3 GMF View

Creating the host NetView views that are later downloaded to the NetView/6000 workstation involves various sequences and the views that NetView creates of SNA resources are unformatted in nature. These views require further processing before they can be used at the NetView/6000 workstation level to monitor the network. For specific information on the NetView processes involved and details of installation procedures, refer to the *NetView Installation and Administration Guide (MVS) Version 2 Release 3* (SC31-6125-01).

7.2.1 Process Overview

To create the host NetView views, two tasks are run from TSO:

1. JCL for the Status Monitor Preprocessor (STATMON).

2. JCL for the View Preprocessor.

STATMON output allows for further processing to monitor the status of network resources, while the view preprocessor runs a routine against a network profile data set that gives the view output data that can be used by an OS/2 GMF workstation or a NetView/6000 workstation. In the case of SNA Manager/6000 the view preprocessor output is downloaded from host NetView to the workstation and the views are then converted to a format used by NetView/6000 in conjunction with SNA Manager/6000. The following information and screens highlight and show tasks that must be performed in host NetView to secure a working environment.

7.2.2 Before You Start

There are a number of PTFs that NetView V2R3 requires prior to full alert support from host NetView being available. The maintenance levels required are documented in Appendix B, "Application Of Host NetView V2R3 Maintenance Levels" on page 117 and it is strongly advised that this maintenance is applied prior to the beginning any TSO configuration of host NetView data sets.

7.2.3 NetView GMF View Preprocessor Configuration

Depending on the SMP/E installation procedure used to install your host NetView there will exist a view preprocessor sample named VIEWPP (in the DUISJ001 by default). In the sample below we have specified NUSBAUM.LIB.CNTL(SA25VIEW) as the user profile used by TSO to create the view output to the NUSBAUM.NV23.RAPAN.VIEW.OUTPUT data set member.

```
 BROWSE -- NUSBAUM.LIB.CNTL(VIEWPP23)
 COMMAND ===>
 ****************************** TOP OF DATA  **********************
 //NUSBAUM1 JOB '647931,A37,500,RTP,1292','VIEW PREPROCESSOR',
 //        CLASS=A,MSGCLASS=O,MSGLEVEL=(1,1),NOTIFY=NUSBAUM
 //******************************************************************
 //*                                                               *
 //*    (C) COPYRIGHT  IBM  CORPORATION 1990, 1992                 *
 //*                                                               *
 //******************************************************************
 //*    LAST CHANGE:  06/01/91                                     *
 //*    DESCRIPTION: VIEW PREPROCESSOR PROCEDURE                   *
 //*    IEBCOPY     SELECT MEMBER=((DUISJ001,VIEWPP,R))            *
 //*    DUISJ001 CHANGED ACTIVITY:                                 *
 //*    CHANGE CODE  DATE      DESCRIPTION                         *
 //*    -----------  ----      -----------                        *
 //******************************************************************
 //* NOTE: TO MAKE THIS JCL A SYSTEM STARTED PROCEDURE, MAKE COMMENTS*
 //*       OUT OF BOTH LINES OF THE JOB STATEMENT, THE PEND STATEMENT*
 //*       AND THE LAST EXEC STATEMENT IN THE JOB.                 *
 //******************************************************************
 //*IEWPP PROC Q1='NETVIEW.NV23.RA3AN', ** LVL DSN QUALIFIER-NETVIEW *
 //VIEWPP PROC PS=3,              ** HIGH LVL INDEX -SYSTEM DSNS
 //       SOUTA='*',             ** SYSOUT CLASS DEFAULT
 //       REG=0,                 ** GET STORAGE AS REQUIRED
 //       SS=1                   ** SECONDARY SPACE FOR TEMP WORK FILES
 //STEP1    EXEC  PGM=DUIPROAM,REGION=&REG.K
 //STEPLIB  DD DSN=SYS1.NETVIEW.V2R3MO.CNMLINK,DISP=SHR
 //USERPROF DD DSN=NUSBAUM.LIB.CNTL(SA25VIEW),DISP=OLD
 //OUTPUT   DD DSN=NUSBAUM.NV23.RAPAN.VIEW.OUTPUT,DISP=OLD
 //WDS1     DD DSN=&&WORK1,SPACE=(CYL,(&PS,&SS)),UNIT=SYSDA
 //WDS2     DD DSN=&&WORK2,SPACE=(CYL,(&PS,&SS)),UNIT=SYSDA
 //WDS3     DD DSN=&&WORK3,SPACE=(CYL,(&PS,&SS)),UNIT=SYSDA
 //WDS4     DD DSN=&&WORK4,SPACE=(CYL,(&PS,&SS)),UNIT=SYSDA
 //SYSPRINT DD SYSOUT=&SOUTA
 //SYSUDUMP DD SYSOUT=&SOUTA
 //******************************************************************
 //* NOTE: MAKE COMMENTS OUT OF THE NEXT TWO STATEMENTS ALONG WITH THE *
 //*       JOBCARD WHEN MAKING THIS A SYSTEM STARTED PROCEDURE.     *
 //******************************************************************
 // PEND
 //NDEF    EXEC PROC=VIEWPP
 ****************************** BOTTOM OF DATA ************************
```

Figure 30. NetView GMF View Preprocessor Configuration

7.2.4 NetView GMF STATMON Preprocessor JCL Configuration

The following shows the Status Monitor preprocessor JCL used for preparing the environment for Statmon. This is required if you wish to use that function and to get the status of resources. Notice that the output from this TSO job is placed into DSIPARM(DSINDEF).

```
 BROWSE -- NUSBAUM.LIB.CNTL(CNMNDEF)
 COMMAND ===>
******************************* TOP OF DATA  *************************
//NUSBAUMS JOB 'ACCOUNTING INFORMATION','NDEF STARTUP PROC',
//        CLASS=A,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=NUSBAUM
//*  NAME(CNMNDEF)  SAMPLE(CNMSJ007)  RELATED-TO()              *
//*  DESCRIPTION: STATMON PREPROCESSOR PROCEDURE                *
//*  CNMSJ007 CHANGED ACTIVITY:                                 *
//CNMNDEF PROC Q1='NETVIEW.V2R3M0',
//       DOMAIN=RAPAN,         ** NETVIEW DOMAIN NAME
//*
//       SQ1='NETVIEW.NV23FB.FEATURE', ** DSN HIGH LEVEL QUALIFIER
//*
//       START=COLD,           ** TYPE START - WARM OR COLD
//STEP2   EXEC  PGM=CNMPP,REGION=&REG.K,
// PARM='&START,LIST=&LIST,HOSTSA=25'
//*
//STEPLIB  DD DSN=&SQ1..CNMLINK,DISP=SHR
//CNMVTAM  DD DSN=RISC.VTAMLST,DISP=SHR
//         DD DSN=ITSC.VTAMLST,DISP=SHR
//CNMNDEF  DD DSN=&Q1..&DOMAIN..DSIPARM(DSINDEF),
//         DISP=SHR
//SYSPRINT DD SYSOUT=&SOUTA
//SYSUDUMP DD DUMMY
//SYSUT1   DD UNIT=&UNIT,SPACE=(CYL,(&PS,&SS))
//* NOTE: MAKE COMMENTS OUT OF THE NEXT TWO STATEMENTS ALONG WITH THE
//*       JOBCARD WHEN MAKING THIS A SYSTEM STARTED PROCEDURE.
// PEND
//NDEF     EXEC PROC=CNMNDEF
******************************* BOTTOM OF DATA **********************
```

Figure 31. NetView GMF STATMON Preprocessor Configuration

7.2.5 NetView GMF View Statements

The following JCL demonstrates the resources we wish to retrieve host views from. Note that we have specified an include statement that will pull in network resource definitions from the RISC.VTAMLST and ITSC.VTAMLST VTAM resource definitions. We have specifically requested Cluster views of the ISTPUS25, RA7NCS8 and RAQNCPP0 NCP resources. These will form the backbone views of the network that will be written to the TSO output data set we have nominated. The PMAX=75 statement limits the collection to a maximum of 75 network views.

```
00178 EDIT -- NUSBAUM.LIB.CNTL(SA25VIEW)
00179 COMMAND ===>
00180 ***************************** TOP OF DATA ***********************
00181 000001 *  EXIT=PPEXIT
00182 000002 *
00183 000003    CODEPAGE=037
00184 000004 *
00185 000005    INCLUDE=RISC.VTAMLST,ITSC.VTAMLST,
00186 000006    LIST=PO,CNMCON=PO
00187 000007 *
00188 000008    CLUSTER=RALEIGH_TEST
00189 000009    USIBMRA.ISTPUS25
00190 000010    USIBMRA.RA7NCS8
00191 000011    USIBMRA.RAQNCPO
00192 000012 *
00193 000013    CLUSVIEW=RALEIGH_REGION
00194 000014    RALEIGH_TEST
00195 000015 *
00196 000016    BBVIEW=TEST_NET
00197 000017    RALEIGH_TEST
00198 000018 *
00199 000019    BBVIEW=BIG_NET
00200 000020    RALEIGH_TEST
00201 000021
00202 000022    NETNAME=USIBMRA
00203 000023    NETTEXT=ITSC_RALEIGH
00204 000024 *
00205 000025    PMAX=75
00206 000026 *
00207 ************************** BOTTOM OF DATA ***********************
```

Figure 32. NetView Network View Statements

7.2.6 Sample NetView View Output

The following screen shows three sample views of the network. These are the views that were downloaded to the RISC System/6000 for NetView/6000 to use. Note that in our case the DUIVMAP file does not require downloading to the NetView/6000 workstation. Only the DUIVWPKG and DUIVW000 members (the latter as binary) need to be downloaded.

```
 BROWSE - NUSBAUM.NV23.RAPAN.VIEW.OUTPUT
 COMMAND ===>
 NAME                 VV.MM  CREATED     CHANGED     SIZE  INIT   MOD
 DUINMAP
 DUIVWPKG
 DUIVW000
 **END**
```

Figure 33. Sample NetView View Output

7.2.7 VTAM Node Support Configuration

The list of SNA nodes shown below in the ITSC.VTAMLST(ATCCONP0) member are representative nodes that are started when host VTAM is activated. The GRAPHOPT statement is required for GMF and must be at line 1 to ensure that status monitoring of all VTAM member list resources occurs. If you want to control which members are used, then you can place the GRAPHOPT statement at the appropriate location within the VTAMLST member.

```
EDIT -- ITSC.VTAMLST(ATCCONP0)
COMMAND ===>
**************************** TOP OF DATA  ***************************
000001 *              GRAPHOPT
000002 RAPBNSYS,
000003 RAPP42,RAPPB5,RAPCRAK,RAPCRAI,RAPQ40,
000004 RAPBTSO,RAPBNJE,RAPBMXX,RAPBHCF,RAPBNPM,
000005 RA$BVMD,RAPBNVAS,RAPBNVA2,RAPBNETC,
000006 RAPBNVR3,RAKBNV3T,RAPBNVCT,
000007 RAPEOO,RAPBSAM,
000008 RAPJADJ,SWX25,LOC1121,
000009 MODELS,RAPBCICS,
000010 RA$RRAB,RA$RMK21,RA$RSC02,RA$RRAS,RA$RRTP,RA$RRAI,
000011 RA$WRA,RA$RCICS,RA$RMK34,
000012 RA$RRA3,RA2RS6KX,RA2RS6KY,RA7NCS8,RAQNCP0,RAPCRAT
000013 *
**************************** BOTTOM OF DATA ***************************
```

Figure 34. VTAM Node Configuration Statement

7.3 Configuring Host NetView Alert Support

In order to set up the environment for the host to forward alerts, there are many things that need to be modified. The alerts will flow across the LU 6.2 connection to the NetView/6000 workstation. These alerts are processed by the host NetView DSIAL2WS and CNMTAMEL tasks and sent to SNA Manager/6000.

7.3.1 VTAM Token-Ring Switched Node Definition

VTAM PU and LU definitions appear below for the switched major node RA2RS6KY defined and used for the RISC System/6000 machines in use. The PU in our laboratory test setup (RA62225) was connected via a token-ring LAN connection. The RA62225Z LU was used as the LU 6.2 local LU for communication between the NetView/6000 workstation and the host NetView application running on the RAPAN host in subarea 25.

The VTAM logmode parameter (DLOGMOD value) should be defined as shown below with logmode DSIL6MOD. This is also coded in the SNA Manager/6000 product and is part of the LU 6.2 connection profile setting that is defined in both SNA Services/6000 V1.2 or SNA Server/6000 V2.1.

```
 BROWSE -- RISC.VTAMLST(RA2RS6KY)
 COMMAND ===>
 **************************** TOP OF DATA ****************************
 000001 * RA62225 IS FOR RS60005
 000002 *
 000003 RA62225  PU   ADDR=13,
 000004               IDBLK=05D,
 000005               IDNUM=62225,
 000006               MODETAB=AMODETAB,
 000007               MAXPATH=2,
 000008               MAXDATA=265,
 000009               MAXOUT=7,
 000010               PACING=7,
 000011               ANS=CONTINUE,
 000012               PASSLIM=7,
 000013               PUTYPE=2,
 000014               DISCNT=(NO),
 000015               ISTATUS=ACTIVE,
 000016               VPACING=8
 000017 *
 000018 RA622250 LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000019 RA62225A LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000020 RA62225B LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000021 RA62225V LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000022 RA62225W LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000023 RA62225X LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000024 RA62225Y LU   LOCADDR=0,MODETAB=MODEVR,DLOGMOD=M2SDLCQ
 000025 RA62225Z LU   LOCADDR=0,MODETAB=AMODETAB,DLOGMOD=DSIL6MOD
 *
 **************************** BOTTOM OF DATA ****************************
```

Figure 35. Switched Major Node VTAM Listing

7.3.2 NetView CNMTAMEL Task Status

Check to make sure that member DSIDMN has the task statement for task CNMTAMEL specified with MEM=DUIISFP. Also check to ensure that the tasks CNMCALRT and CNMTAMEL have the INIT=Y flag in their status or are started by an automation task.

```
EDIT -- NETVIEW.V2R3MO.RAPAN.DSIPARM(DSIDMN)
COMMAND ===>
000013 *********************** TOP OF DATA **************************
000014 *
000015 * NOTE: THE FOLLOWING TASK STATEMENT IS NECESSARY TO ALLOW   *
000016 *         RESOURCE STATUS FORWARDING FROM A STATUS COLLECTOR  *
000017 *         TO A STATUS FOCAL POINT                             *
000018 *
000019   TASK    MOD=DSIZDST,TSKID=CNMTAMEL,MEM=DUIISFP,PRI=6,INIT=Y
000020 *
*************************** BOTTOM OF DATA *************************
```

Figure 36. CNMTAMEL Task Status

7.3.3 NetView DSIPARM(DSICMD) Configuration

The NetView task DSIAL2WS forwards alerts to the SNA Manager/6000 running on a NetView/6000 workstation when the coding is as shown below. The statements appearing below need to be added to the DSIPARM member DSICMD if they have not been already defined.

Note: The statements below were inserted by the PTF process specified in Appendix B, "Application Of Host NetView V2R3 Maintenance Levels" on page 117. They need to be uncommented before they can be used, and NetView will have to be restarted.

```
EDIT ---- NETVIEW.V2R3MO.RAPAN.DSIPARM(DSICMD)
COMMAND ===>
*************************** TOP OF DATA ****************************
000824 *
000824 * Allows NetView DSIAL2WS to forward alerts to RS6K SNA MANAGER
000825 *
000826 DSIBKA2W CMDMDL MOD=DSIBKA2W,RES=Y,TYPE=D
000827 DSIBKTRM CMDMDL MOD=DSIBKTRM,RES=Y,TYPE=D
000828 *
*************************** BOTTOM OF DATA *************************
```

Figure 37. NetView - SNA Manager/6000 Alert Forwarding 1

7.3.4 NetView DSIPARM(DSIDMN) Configuration

Add the following two statements as shown below. Ensure that the task DSIAL2WS is run at the same priority as task BNJDSERV and that the CNMTAMEL task (also in member DSIDMN) is run at a higher priority than both BNJDSERV and the DSIAL2WS tasks. A priority one level higher for CNMTAMEL is adequate.

```
EDIT -- NETVIEW.V2R3MO.RAPAN.DSIPARM(DSIDMN)
COMMAND ===>
**************************** TOP OF DATA ****************************
000001 *
000002 * FOR SNA MGR 6000 ALERT CUSTOMIZATION
000003 *
000004   TASK     MOD=DSIZDST,TSKID=DSIAL2WS,MEM=DSIBKMEM,PRI=8,INIT=N
000005 *
000006 ****************************************************************
000007 *
000008 * NOTE: THE FOLLOWING TASK STATEMENT IS NECESSARY FOR THE    *
000009 *        MVS/XA* SOFTWARE ALERT FORWARDING FUNCTION          *
000010 *
000011   TASK     MOD=CNMCALRT,TSKID=CNMCALRT,PRI=5,INIT=Y
000012 *
**************************** BOTTOM OF DATA ************************
```

Figure 38. NetView - SNA Manager/6000 Alert Forwarding 2

7.3.5 NetView DSIPARM(DSIBKMEM) Configuration

The following function descriptions need to be added to the DSIBKMEM member as indicated below. For the NetView V2R3 user, the PDS member name that is shipped on the PTF is CNMS1083, and will need to be renamed to DSIBKMEM.

```
EDIT -- NETVIEW.V2R3M0.RAPAN.DSIPARM(DSIBKMEM)
COMMAND ===>
**************************** TOP OF DATA  ***************************
000001 *
000002 DSTINIT FUNCT=OTHER
000003 DSTINIT DSRBO=1
000004 DSTINIT XITDI=DSIBKINT
000005 *
*************************** BOTTOM OF DATA **************************
```

Figure 39. NetView Function Description

The following material shows how to configure the necessary NetView/6000 and SNA Manager/6000 files to allow LU 6.2 communications flow, alert support and initial startup of the SNA Manager/6000 interface.

7.4 NetView/6000 and SNA Manager/6000 Alert Customization

All you need to configure the GCS is the LU 6.2 resource name that exists in your host VTAMLST definition. In our case, we used RA62225Z, which is part of the PU RA62225 in our switched major node.

7.4.1 Configuring The AIX Graphic Communication Server

```
                        Configure Graphic Communication Server


  Type or select values in entry fields.

  Press Enter AFTER making all desired changes.


                                                    [Entry Fields]

  * SNA LU name of workstation:                     [RA62225Z]







  F1=Help              F2=Refresh         F3=Cancel          F4=List
  F5=Undo              F6=Command         F7=Edit            F8=Image
  F9=Shell             F10=Exit           Enter=Do
```
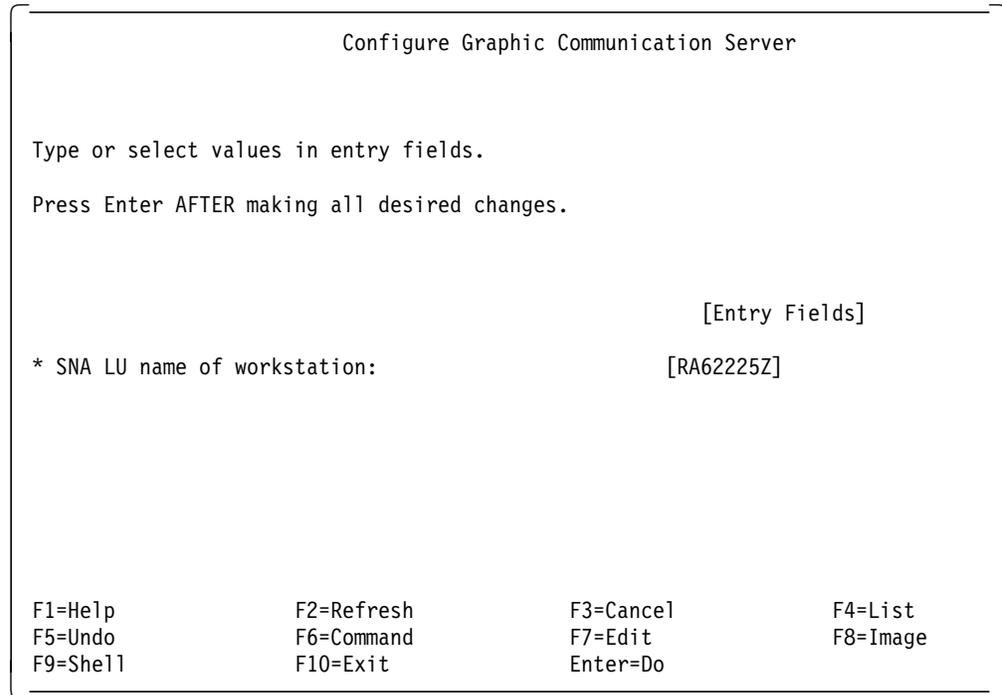
Figure 40. AIX Graphics Communications Server SMIT Screen

7.5 Configuring SNA Manager/6000 and NetView/6000 Alert Support

The following section deals with the configuration process to ensure that host NetView alert processing is available on the NetView/6000 workstation under which SNA Manager/6000 is running.

7.5.1 Customizing the snamgr_alert.conf File

Host NetView forwards alerts (records that pass the SRFilter AREC filters) to the LU 6.2 connected NetView/6000 workstation. The following is a sample of the snamgr_alert.conf configuration file:

```
                    Timer= 60 seconds
                    Enterprise-Generic= 1.3.6.1.4.1.2.6.27.1
                    Enterprise-Non-Generic= 1.3.6.1.4.1.2.6.27.2
                    Variable_OID= 1.3.6.1.4.1.2.5.1
                    ARC_Protocol= 1.3.6.1.2.1.2.2.1.3.76
                    GRAPH_PROTOCOL= 1.3.6.1.2.1..2.2.1.3.54
                    COMC
                    LINE
                    CTRL
                    DEV
                    DISK
                    PRT
                    PU
                    LU
```

Figure 41. Sample /usr/OV/conf/snamgr_alert.conf File

The timer variable of 60 seconds is an interval for detecting loss of contact with the host. This value is a minimum setting. In effect, the host is polled at the specified number of seconds in the absence of alert activity occurring on the communications link. Specifying a value of less than 60 seconds for this value produces no effect, as the field defaults to 60 seconds.

The coding of the lines Enterprise-Generic and Enterprise-Non-Generic should not be modified. Host NetView alerts sent to SNA Manager/6000 are converted to traps. These traps are always enterprise-specific and have only the trap enterprise ID shown in the coding above.

From lines 7 and on in the sample snamgr_alert.conf file above all entries are optional. If you wish to have *all* host NetView alerts sent to the workstation then you should not specify any resource types. It is advisable to do as much filtering at the host as you can using the normal host NetView recording filters. If an alert passes those filters and goes over the LU 6.2 interface to SNA Manager/6000 and NetView/6000, you can still filter it out. Of course, if you are going to filter all occurrences of a resource type out, you should do it closest to the source to save time and resources. If you were to let all alerts flow from host NetView, you could have an impact on performance. The sample entries in Figure 41 from line 7 onwards show representative Line, Disk, PU, LU and other network resources that are being selectively filtered for at the workstation level. You must specify the resource type that you wish to include on a separate line for each entry.

7.5.2 Configuring NetView/6000s trapd.conf File

The configuration of the trapd.conf file is done from the command line by entering the command `snamgr_alert_config` from the /usr/snamgr/bin directory (or from the home directory if you have a correct path statement). This adds enterprise IDs SNA_Manager/6000-G 1.2.3.1.4.1.2.6.27.1 and SNA_Manager/6000-N 1.2.3.1.4.1.2.6.27.2 to the trapd.conf configuration file, which is located in /usr/OV/conf. Further customization may be achieved by using the NetView/6000 event configuration utilities function. This allows the addition of a wide range of IBM and OEM industry-wide products to be given trap support under SNA Manager/6000.

7.6 Downloading Host NetView GMF Views with HCON

Any host file transfer utility may be used to download the host NetView SNA views of the network (EM78, FTP, HCON, etc.). The choice of such a utility is a personal one. In the laboratory environment chosen for this book we have used the Host Connection/6000 (HCON) utility to provide LU 2 and LU 3 host SNA sessions from the RAPAN host in Subarea 25. The following scenario for downloading the host NetView views uses the HCONUTIL utility under HCON. It is an easy utility to use and provides additional keyboard mapping, color definition and session control characteristics in addition to file transfer.

Before you download the host NetView views you should consider the following:

- The views are packaged and referenced to a text file that will have a suffix of pkg (for example, duivwpkg in our case). This single file is a text file and must be downloaded to the workstation as such.

- The actual views are downloaded as binary executable files to the workstation and will have a numerical ending suffix to their filename (for example, in our case DUIVW000, DUIVW001, and so on).

To download a file from the host SNA session using the HCONUTIL function of HCON you should do the following:

- Start your SNA Services/6000 or SNA Server/6000 attachment and connection for the host session on your workstation.

- Start a host LU 2 terminal access session to your host by entering e789 A (or, B, C, etc. for the session you wish to initialize).

- Log on to your TSO host and ensure that all the views are available in the output data set for downloading. Check their number and size.

- Make sure that you are not in ISPF, but in TSO ready mode.

- From the HCON host session press CTL + V on the keyboard.

- Select the Explicit File Transfer option from the HCONUTIL main menu.

- Enter the name of your host session (A, B, C, etc.).

- Select your host type (invariably TSO).

- In Source File select the full data set path name (for example, NETVIEW.NV23MO.RAPAN.VIEW.OUTPUT).

- In Destination File specify the /usr/snamgr/databases/views directory to download to the workstation.

- Specify a Transfer Direction of Down.

- Ensure in the Translation field that the host NetView package file is sent down as a text file and that the host NetView views are sent down as binary files (choosing Text for the package file and No for the binary file network views will do this).

- Accept all other defaults.

- You will notice that a message `Explicit File Transfer Being Attempted` will come up and may take some time to complete for the larger binary files of the network views that are being downloaded.

- You will need to download each individual file. Progress and select options for each different file and location if need be.

- When all files have been downloaded their number and format should be checked (just to make sure you haven't downloaded a binary executable file as a readable text file). When you have all the required files you will then need to perform the SNA Manager/6000 conversion process as shown below.

- Alternatively, you can write a small shell that uses the fxfer command and transfer all the files one after the other without any intervention.

- Another alternative is to use TCP/IP FTP and use the mget command to get all the files you need.

7.6.1 HCON File Transfer

The following screens, Figure 42 through Figure 43 on page 66 show you how to create the views. After creating the views you will need to use some a transfer program (ftp) to get them to the RISC System/6000.

Figure 42. JCL to Build the Views

Figure 42 shows the JCL used to create the views. The important MVS DD cards to notice are:

- USERPROF - the input file
- OUTPUT - where the view files are placed

After you run this batch job, it will produce three files. You can use many different ways to transmit them from your MVS system to your AIX system. Since we did not have TCP/IP installed on the MVS machine we used the XMIT/RECEIVE function to send it to VM. From the VM machine, we used ftp to send it to the RISC System/6000.

We also used the hconutil function on AIX to get the file from TSO directly to the RISC System/6000.

Figure 43. Syntax for the Views

Figure 43 shows the syntax that we used to build our views. The same syntax would be use to build GMF views for the OS/2 workstation, or for SNA Manager/6000. We specified the location of our VTAM control files, as well as the names of the host and communication controller physical units. Once the views are moved over to the AIX system, and converted to SNA Manager/6000 format, we will be able to use them with NetView/6000. We will be able to open submaps with those resources on them, and also submaps with resources contained within the views. For example, USIBMRA.RA7NCS8 is an NCP. In that NCP, we have a physical unit called P07174B. That physical unit is a 3270 cluster controller that is defined for one of our RISC System/6000s. In Figure 68 on page 89 we will be working with that device during the problem determination process.

7.6.2 HCON File Transfer Setup

In order to use HCON, there is some tailoring that will be required on AIX. In Figure 44 through Figure 49 on page 69 we show how to define the HCON session so that you can use it for a 3270 session and for file transfer capabilities.
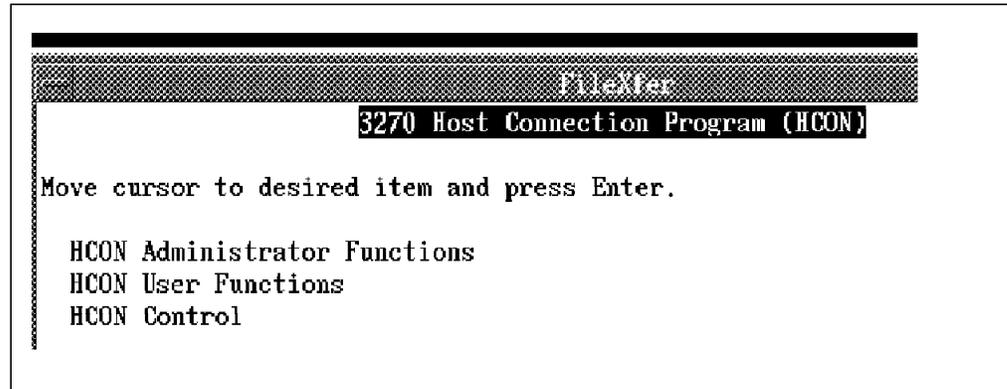
Figure 44. HCON Initial Screen

Figure 44 is the first screen you see if you enter smitty hcon. If you select HCON user functions, then the option to add an HCON session, you will get a screen similar to Figure 45
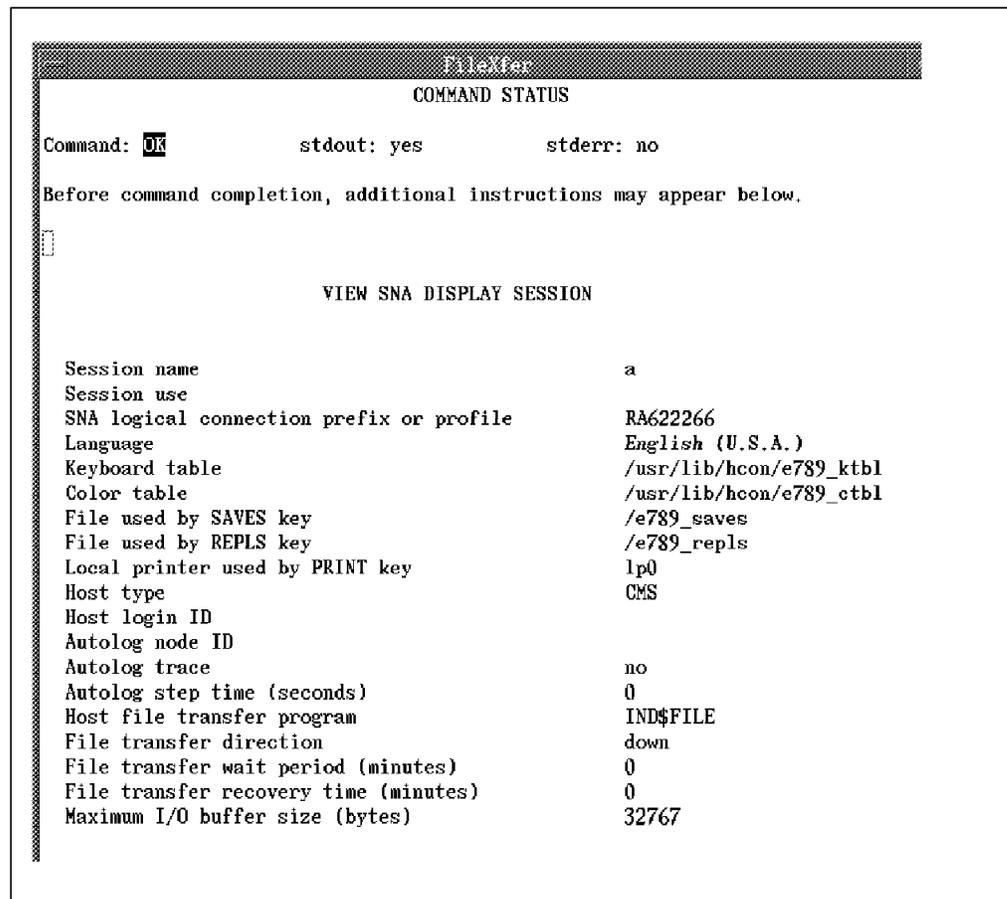
Figure 45. Configuring HCON SNA Session

We configured an SNA display session in Figure 45. You will need to specify the SNA logical connection. This matches up with the attachment that you will be

using for your 3270 sessions. You can also fill in the session use filed, so that when you start your HCON session, using the command e789 a, it will show up on the bottom of the aixterm window. The default I/O buffer size for HCON sessions was causing the file transfer to take too long. We changed the value to be 32767. There is no restriction on the size unless you are using VM pass-through for your session.

```
                                  FileXfer
                 Change / Show SNA LU2 Local LU Profile                 ↕

Type or select values in entry fields.
Press Enter AFTER making all desired changes.


                                              [Entry Fields]
        CURRENT profile name                   RA622266
        NEW PROFILE name                       []
        NETWORK name                           []
        Local LU name                          []
        Local LU address (1-255)               [6]               #
        SSCP ID                                [050000000019]
        Number of ROWS (1-255)                 [24]              #
        Number of COLUMNS (1-255)              [80]              #
```
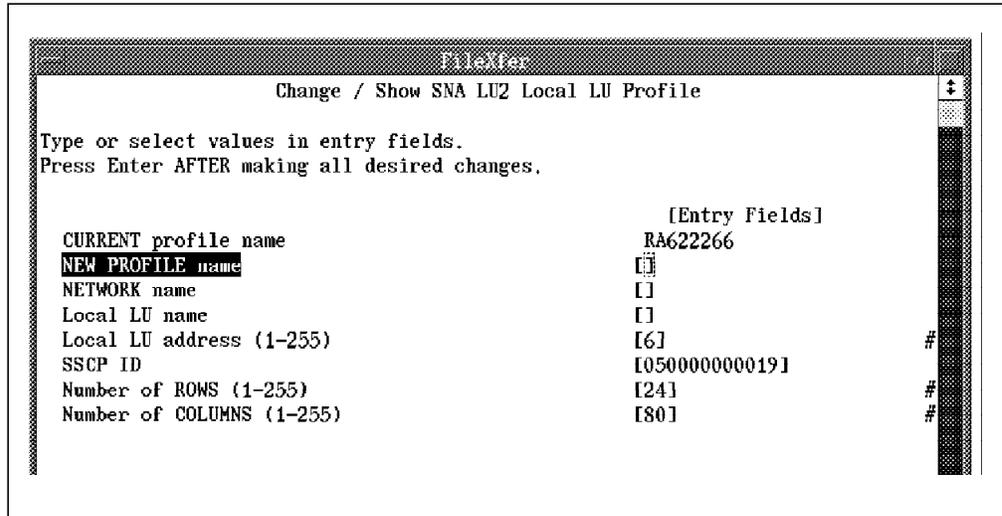
Figure 46. SNA Logical LU Profile

Figure 46 shows the SNA logical LU profile for the LU2 definition we specified in Figure 45 on page 67.

```
                                  FileXfer
               Change / Show SNA LU2 Logical Connection Profile         ↕

Type or select values in entry fields.
Press Enter AFTER making all desired changes.


                                              [Entry Fields]
        CURRENT profile name                   RA622266
        NEW PROFILE name                       []
        ATTACHMENT profile name                [RA62226]         +
        LOCAL LU profile name                  [RA622266]        +
        NETWORK name                           []
        REMOTE LU name                         []
        STOP CONNECTION on inactivity?          no               +
            If yes, TIMEOUT (0-10 minutes)     [0]               #
        NOTIFY support?                         no               +
```

Figure 47. SNA Logical Connection

Note that in Figure 47 the SNA LU2 logical connection profile name matches the SNA logical connection profile defined in Figure 45 on page 67.

```
                         ┌─────────HCON Utility Program─────────┐              █
                         │──────────────Main Menu───────────────│
                         │
                         │         Move the cursor to entry you want and press <enter>.
                         │  COLOR Redefinition
                         │  KEYBOARD Redefinition
                         │  Explicit File Transfer
                         │  Logon Facility
                         │  Logoff Facility
                         │  Configure AUTOLOG profiles (genprof)
                         │
                         │
                         │
                         │
                         │
```
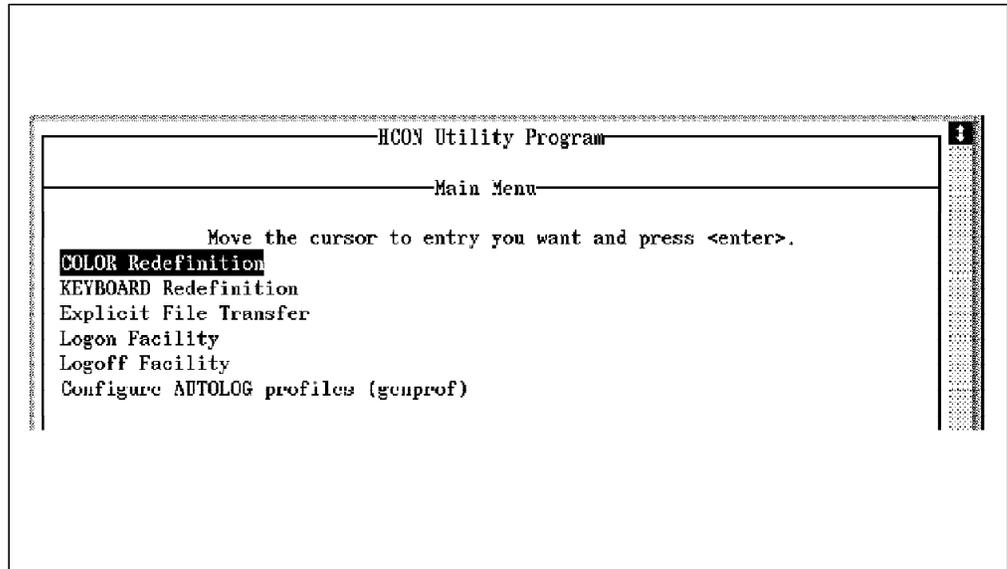
Figure 48. HCON Utility Program

Once we have configured our LU2 connections, and started the connection, we
need to transfer the file from the host session to AIX. The command to start the
utility function is hconutil. After issuing that command, the aixterm window will
be replaced with a window similar to Figure 48 In order to setup the parameters
for the file transfer, you just need to select the Explicit File Transfer function.

```
                        ┌─────────HCON Utility Program─────────┐              █
                        │──────────────Explicit File Transfer──│
                        │
                        │            HCON session profile is 'a'. Press <enter> to run.
                        │  Host type:               TSO
                        │  Source file name:        ['nusbaum.nv23.rapan.view.output(duivw000>
                        │  Destination file name:   [/usr/snamgr/databases/views/DUIVW000]
                        │  Transfer direction:      down
                        │  Translation:             no
                        │  Replace:                 no
                        │  Append:                  no
                        │  Record type:             default
                        │  Logical record length:   [80]
                        │  Code Set:                default
                        │
```
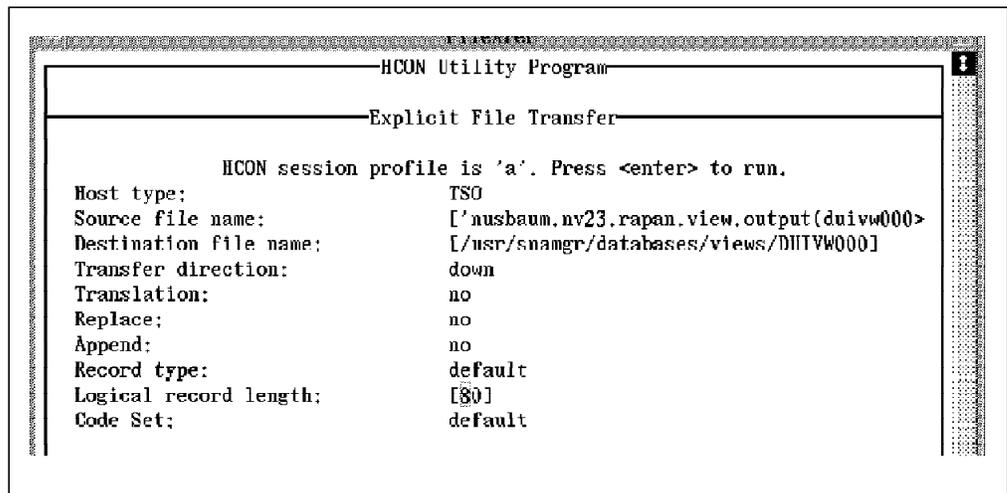
Figure 49. HCON File Transfer

In Figure 49 we specified that we were going to transfer a file down to the RISC
System/6000 from a TSO session. Note that if we are sending a binary file such
as DUIVW000, the translation field has a value of no. If we were to send a text
file such as DUIVWPKG, we would use the text option.

7.6.3 Converting Downloaded Host NetView NGMF Views

To convert the host NetView views that have been downloaded to SNA
Manager/6000 you need to to do the following:

1. Make sure that you have started SNA Manager/6000 using either the shell
   script /usr/snamgr/bin/snamgr_start or the SMIT screens.

2. Select Communications Applications and Services from the initial SMIT entry menu.

3. Select the AIX SNA Manager/6000 entry on the following screen.

4. Select the Convert View Set option on the next screen.

5. The next display screen will prompt you for the location of the view set that you have downloaded to convert. There may be many SNA views that have been downloaded and these should have been put in the /usr/snamgr/databses/views directory. The individual view files (DUIVW000, etc. from our example) are binary files and are not required to be selected. All you need to specify is the package file for the resulting views. For example, you would specify the View Set that you wish to convert as /usr/snamgr/databases/views/duivwpkg. This may take some time if you have a large network and a consequential large number of views to convert.

With the view set conversion complete you are ready to move onto other configuration tasks as set out in Chapter 3, "Preparing to Install AIX SNA Manager/6000" on page 17.

7.7 Starting AIX SNA Manager/6000

The following material demonstrates the actions to be taken and their sequence to allow the SNA Manager/6000 product to initialize under NetView/6000. Setup of the SNA Manager/6000 installed product and customizing of the user interface to accommodate various SNA network architectures is beyond the scope of this book. For guidance in these areas please refer to *IBM AIX SNA Manager/6000 User's Guide* (SC31-7157-00).

7.7.1 Startup Sequence of SNA Manager/6000

1. Start host NetView if it is not already active.

2. Depending on the product you are using, start SNA as a process under SNA Services/6000 V1.2 or SNA Server/6000 V2.1. This can be done from the SMIT menu panel for these products by selecting START SNA. You may choose to monitor that this process is actually active by issuing ps -ef | grep sna from the AIX command line.

3. Start NetView/6000 if it is not already active.

4. Start your SNA Services/6000 V1.2 attachment or SNA Server/6000 V2.1 link station from the menu entry under these products in SMIT for the LU 6.2 host NetView to NetView/6000 link.

5. Start your SNA Services/6000 V1.2 connection or SNA Server/6000 V2.1 session from the menu entry under these products in SMIT for the LU 6.2 host NetView to NetView/6000 session.

6. An optional step is to request a 3270 LU 2 session with the host and log on to the NetView operator user ID of your status focal point NetView.

7. Check that host NetView alert forwarding is active by issuing the command list dsial2ws.

8. Start the SNA Manager/6000 product by either going to SMIT and selecting the Start SNA Manager/6000 option from the SNA Manager/6000 menu, or, by issuing the command snamgr_start (either by specifying the /usr/snamgr/bin directory or by adding this directory to your PATH statement, either in the system or your personal profile).

9. Establish an LU 6.2 communications session between your NetView host and the NetView/6000 workstation by issuing the panel operator command NETCONV ACTION=START, LU=XXXXXXXX where XXXXXXXX is the LU that has been allocated to the LU 6.2 session from the VTAM listing.

10. You should have the SNA Manager/6000 logo present as an icon in the NetView/6000 Tool Bar. To initialize the SNA Manager/6000 under NetView/6000 you may either double-click on the icon, or move your mouse cursor to the icon and, holding down the center mouse button, drag the icon from the Tool Bar to an open display area.

11. Following the above operation you will see (after one to two minutes) a copyright screen appear and eventually a logon screen to allow you to log onto your focal point NetView over the LU 6.2 session that was started earlier. After entering your logon information and password for host NetView you will see another screen appear with a message at the bottom giving the time and date that the LU 6.2 link to host NetView has been up. You will also see a selection panel on that same screen of entries that may be each selected to bring up a different network view under NetView/6000.

   Please note that at the time of logging in over the LU 6.2 link you will be given the opportunity to mark a highlighted box on the logon area marked "commands". If you wish to issue commands over the LU 6.2 session to host NetView you should ensure that this box has been selected before you enter your focal host NetView user ID and operator password. We did not use an automated operator in our examples, but you might try that.

12. With successful initialization of the SNA Manager/6000 product under NetView/6000 you will see the SNA logon object appear on the NetView/6000 Root Map. You will also be able to select from the SNA Manager/6000 menu of collected views from the bottom portion of the NetView/6000 console display. By selecting any of these cluster or peripheral views of the network with a double click of the mouse, you will open up a new submap view of that configuration. It will then be possible to move through each succeeding layer of the SNA resource. From there you may select either the menu options for an object view or click on the right mouse button while the object is selected to perform control actions with the displayed resource.

7.7.2 LU 6.2 LU Status Prior to Attachment/Connection and NETCONV

Figure 50 shows the status of LU RA62225Z prior to the start of the SNA Services/SNA Server attachment/connection and prior to issuing the NETCONV command required to start LU 6.2 communications between the snamgr_gcs and the host NetView application as program network peers.

```
NCCF                         N E T V I E W    RAPAN WTWKSH2
C RAPAN    DISPLAY NET,ID=RA62225Z,SCOPE=ALL
  RAPAN    IST097I  DISPLAY  ACCEPTED
' RAPAN
IST075I  NAME = RA62225Z         , TYPE = CDRSC
IST486I  STATUS= ACTIV     , DESIRED STATE= ACTIV
IST599I  REAL NAME = ***NA***
IST977I  MDLTAB=***NA*** ASLTAB=***NA***
IST861I  MODETAB=AMODETAB USSTAB=***NA*** LOGTAB=***NA***
IST934I  DLOGMOD=DSIL6MOD USS LANGTAB=***NA***
IST597I  CAPABILITY-PLU ENABLED  ,SLU ENABLED  ,SESSION LIMIT NONE
IST231I  CDRSC   MAJOR NODE = ISTPDILU
IST1044I  ALSLIST = RA62225
IST1131I  DEVICE = ILU/CDRSC
IST654I  I/O TRACE = OFF, BUFFER TRACE = OFF
IST171I  ACTIVE SESSIONS = 0000000000, SESSION REQUESTS = 0000000000
IST314I  END
-------------------------------------------------------------------------
```

Figure 50. NetView D NET,ID=RA62225Z,SCOPE=ALL Command 1

7.7.3 LU 6.2 LU Status After Attachment/Connection and NETCONV

After starting the connection, we see that the attachment/connection is active and the `NETCONV ACTION=START,LU=RA62225Z` command has been issued resulting in successful communications. In particular the NetView IST6351 references point to active and primary and secondary link end data flow with Send/Receive counts being advanced.

Note: You can use the incrementing of these Send/Receive panels produced when you issue a VTAM command under NetView of a resource to monitor the level of link activity that is occurring.

```
 NCCF                     N E T V I E W    RAPAN WTWKSH2
 C RAPAN    DISPLAY NET,ID=RA62225Z,SCOPE=ALL
   RAPAN     IST097I  DISPLAY  ACCEPTED
 ' RAPAN
 IST075I  NAME = USIBMRA.RA62225Z , TYPE = ADJACENT CP
 IST486I  STATUS= ACT/S     , DESIRED STATE= ACTIV
 IST977I  MDLTAB=***NA*** ASLTAB=***NA***
 IST861I  MODETAB=AMODETAB USSTAB=***NA*** LOGTAB=***NA***
 IST934I  DLOGMOD=DSIL6MOD USS LANGTAB=***NA***
 IST597I  CAPABILITY-PLU ENABLED  ,SLU ENABLED  ,SESSION LIMIT NONE
 IST231I  CDRSC    MAJOR NODE = ISTPDILU
 IST1044I  ALSLIST = RA62225
 IST1131I  DEVICE = ILU/CDRSC
 IST654I  I/O TRACE = OFF, BUFFER TRACE = OFF
 IST171I  ACTIVE SESSIONS = 0000000003, SESSION REQUESTS = 0000000000
 IST206I  SESSIONS:
 IST10811  ADJACENT LINK STATION = RA62225
 IST634I  NAME     STATUS       SID          SEND RECV VR TP NETID
 IST635I  RAPAN    ACTIV-S   F88F01645500D92D 0002 0003  0  0 USIBMRA
 IST635I  RAPAN    ACTIV-P   F88F01645500D92F 000D 0003  0  0 USIBMRA
 IST635I  RAPAN    ACTIV-P   F88F01645500D92E 0000 003F  0  0 USIBMRA
 IST314I  END
  ---------------------------------------------------------------------
```

Figure 51. NetView DISPLAY NET, ID=RA62225Z, SCOPE=ALL Command 2

7.7.4 NetView - Unsuccessful LU 6.2 Session Establishment

Figure 52 shows the result of a failed NETCONV start command. If this occurs be sure to check that your SNA Services/6000 or SNA Server/6000 Attachment/Link Station and Connection/Session have both been started and are active. You can monitor this under SMIT by selecting the SNA monitoring resource facilities built into both SNA Services/6000 and SNA Server/6000. These will tell you the status of the SNA AIX process and its process number as well as the status of links and logical connections. You can also issue lssrc or sna commands to check the status.

Also check that the snamgr_gcs (Graphics Communications Server) is active by searching for the active process in AIX (either from SMIT under System Processes, or by ps -ef | grep sna from the command line).

Note: Be aware that an active physical attachment and logical connection that are active from the SNA Services/6000 or SNA Server/6000 standpoint do not imply communications. Until the NETCONV command is issued and a session established, all you have is a physical link with low-level keep alive polling state. It is only when the NetView application transaction program and the AIX Graphics Data Server are in session with each other that the LU 6.2 link is active to the host.

```
NCCF                    N E T V I E W    RAPAN WTWKSH2
* RAPAN     NETCONV ACTION=START LU=RA62225Z
- RAPAN     DUI100W LU 6.2 COMMUNICATIONS SETUP FOR LU RA62225Z HAS FAILE
            THE NETCONV START COMMAND IS REJECTED.
 ------------------------------------------------------------------------
```

Figure 52. NetView NETCONV ACTION=START,LU=RA62225Z Command 1

7.7.5 NetView - Successful LU 6.2 Session Establishment

This is the display host NetView will return when all is correct following the NETCONV command statement issue. With the LU 6.2 end to end programs now active to each other it is possible to pull down the SNA Manager/6000 TOOLBAR icon from the NetView/6000 console screen and start the SNA Manager/6000 product.

```
NCCF                    N E T V I E W    RAPAN WTWKSH2
* RAPAN     NETCONV ACTION=START,LU=RA62225Z
- RAPAN     DUI101I NETCONV COMMAND PROCESSED SUCCESSFULLY. COMMUNICATION
            TO LU RA62225Z STARTED.
 ------------------------------------------------------------------------
```

Figure 53. NetView NETCONV ACTION=START,LU=RA62225Z Command 2

7.7.6 Logging on to Host NetView

After you drag the SNA Manager/6000 ICON off the tool palette, you will get the following window:

Figure 54. Panel You will See After Dragging Icon Logon with Same User ID as Host NetView

Your authority to issue commands will be based upon the host NetView. Once you have successfully signed onto host NetView, you will see a new window appear that will list all the SNA Manager/6000 views. From this window, some of the functions that you can perform are:

- Select any of the views and create a new submap
- Locate a resource
- List suspended resources
- Sign off SNA Manager/6000
- Adjust resource aggregation
- Adjust status mapping
- Create command profiles

7.7.7 Views Downloaded from the Host

Figure 55. Views for SNA Manager/6000 Submaps

Figure 55 is a list of the views that we have set up for AIX SNA Manager/6000 from our host SNA network. This information is extracted from the converted view set (from the file that we transferred from the host using HCON or FTP).

7.7.8 Sample Views

Figure 56 through Figure 58 on page 80 provide you with a sample view of what the SNA Manager/6000 submaps look like. The submaps will have the resources color coded according to their status. When the status of the resource changes, the color will also change. You can change the default colors if you wish to. You may wish to change the color status when you are working with aggregate resources.
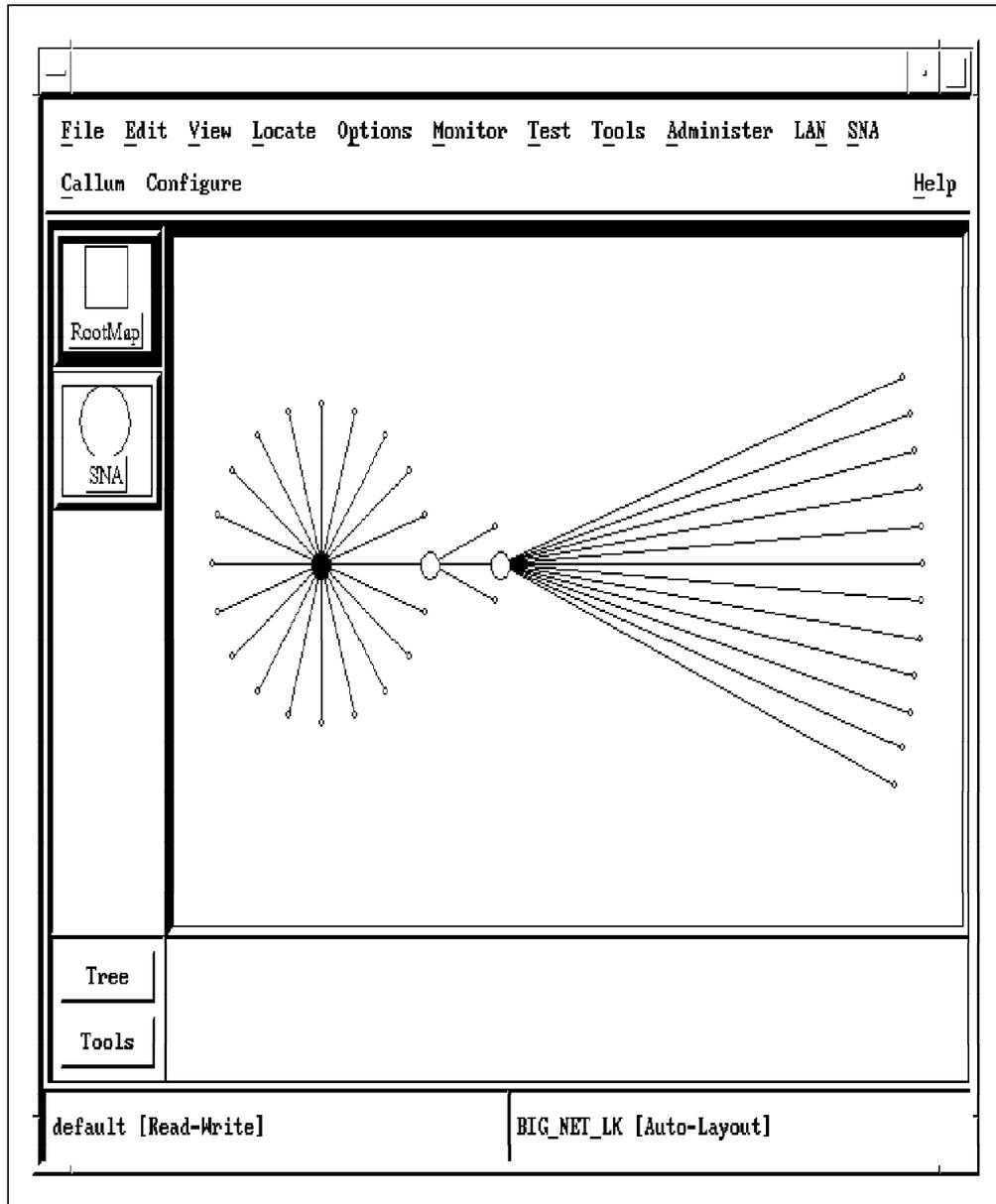
Figure 56. First Submap View of Network

In Figure 57 on page 79 we show an NCP (USIBMRA.RA7NCS8) and all the physical units that are attached to it. If the status of any of the resources on the submap changes, it would be reflected by a change in the color.
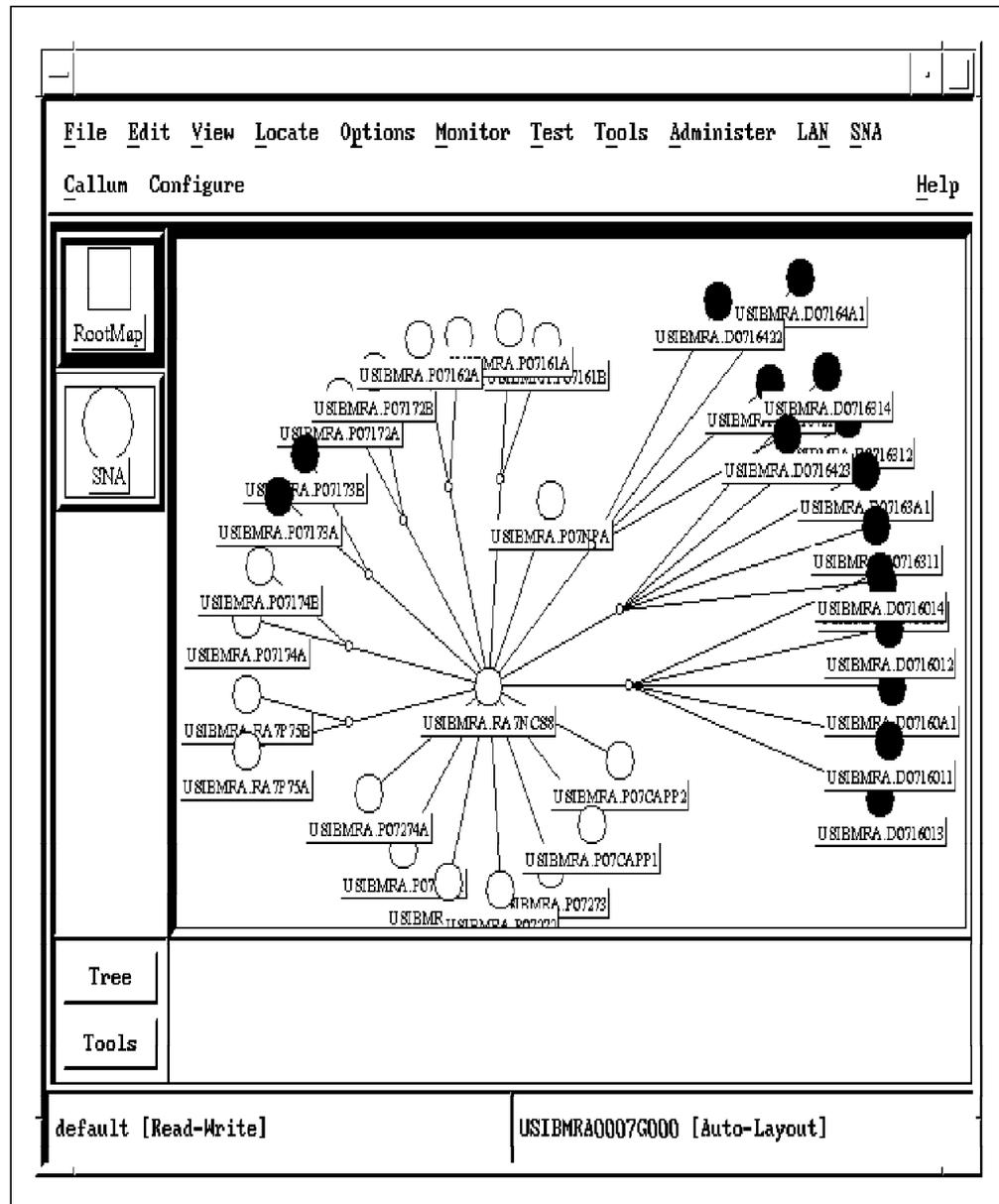
Figure 57. Second Submap View of Network

In Figure 58 on page 80, we have created a view of all of the VTAM APPLIDs. Since APPLIDs are also VTAM resources, you will see the status of each APPLID on the submap. In addition, the network name of each APPLID is shown on the submap.
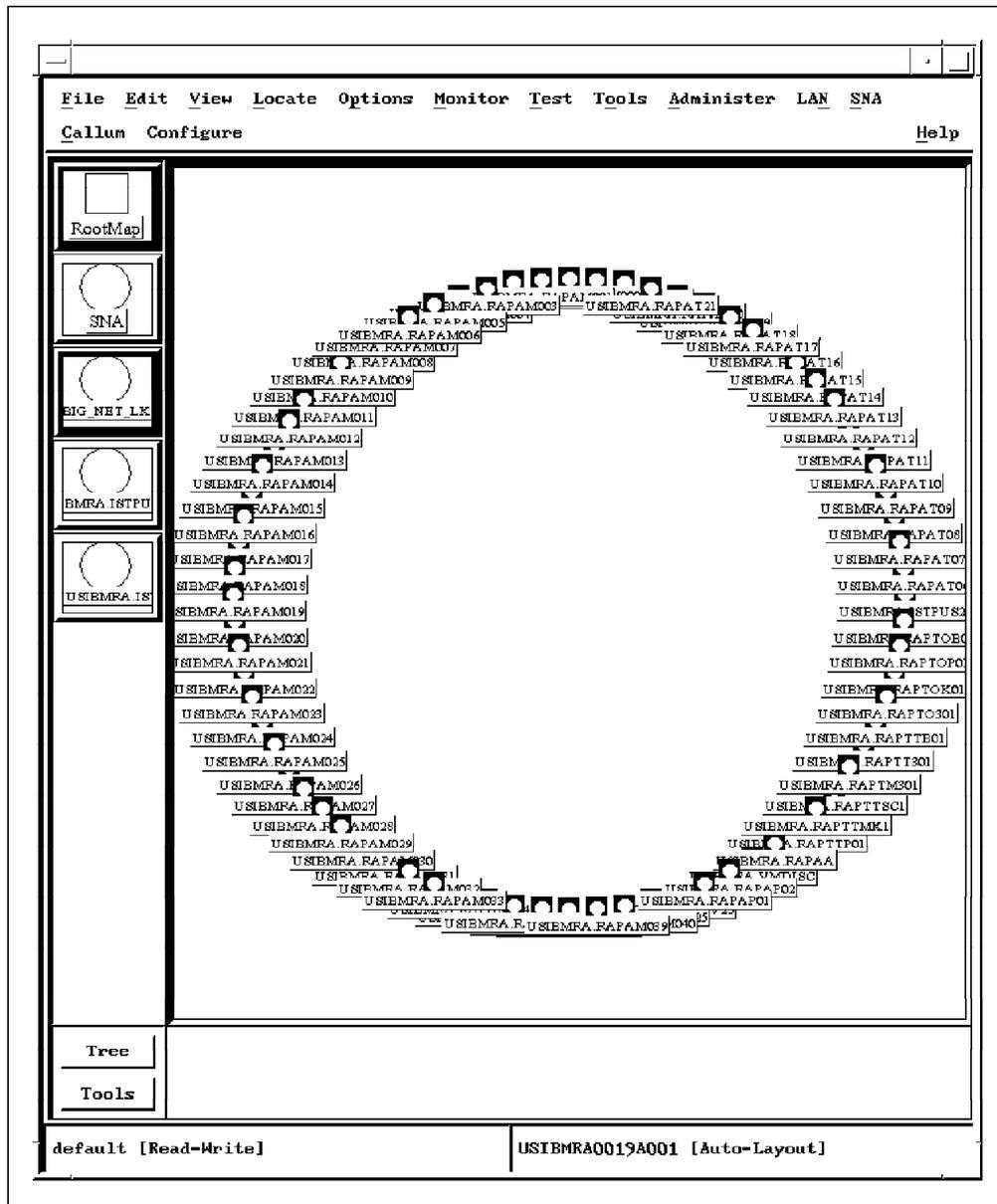
Figure 58. Third Submap View of Network

7.7.9 Host NetView Alerts

The first line in Figure 59 shows the start command to enable traffic to flow over the interface. If you review Figure 54 on page 76 you will notice that we had used the WTWKSH4 user ID to issue the NETCONV command to establish the LU 6.2 session. A few lines down you can see the DWO214I message, which indicates that alerts can flow over RA62225Z from NetView task DSIAL2WS.

```
  STATMON.BROWSE      ACTP   NETWORK LOG FOR 01/18/94 (94018) COLS 001 078   17:44  ↕
         HOST25                  *1*     *2*    *3*    *4*                        SCROLL: CSR

   056306 WTWKSH4   RAPAN       16:27:08    NETCONV ACTION=START LU=RA62226Z
   056307 WTWKSH4   RAPAN       16:27:20    DU11011 NETCONV COMMAND PROCESSED SUCCESSF
   056308 RAPANSIR  RAPAN       16:27:58    $HASP317 NO OUTPUT GROUPS RELEASED
   056309 RAPANSIR  RAPAN       16:27:58    $HASP000 OK
   056310 RAPANSIR  RAPAN       16:27:58    $HASP656 NO OUTPUT GROUPS CANCELLED
   056311 DSIAL2WS  RAPAN       16:29:07    DWO214I ALERTS WILL BE SENT TO LU=RA62226Z
   056312 RAPANSIR  RAPAN       16:29:17    IXXITCI : UNKNOWN X'0000' NMVT -- WILL PAS
   056313 RAPANPPT  RAPAN     % 16:29:17    BNJ030I 01/18 16:29 PERM ALERT RECEIVED FR
   056314 RAPANPPT  RAPAN     % 16:29:17    BNJ146I 01/18 16:29 G TYPE=PERM DESC=8000
   056315 RAPANSIR  RAPAN       16:29:23    IXXITCI : UNKNOWN X'0000' NMVT -- WILL PAS
   056316 RAPANPPT  RAPAN     % 16:29:23    BNJ030I 01/18 16:29 PERM ALERT RECEIVED FR
   056317 RAPANPPT  RAPAN     % 16:29:23    BNJ146I 01/18 16:29 G TYPE=PERM DESC=8000
   056318 RAPANSIR  RAPAN       16:29:29    IXXITCI : UNKNOWN X'0000' NMVT -- WILL PAS
   056319 RAPANPPT  RAPAN     % 16:29:29    BNJ030I 01/18 16:29 PERM ALERT RECEIVED FR
   056320 RAPANPPT  RAPAN     % 16:29:29    BNJ146I 01/18 16:29 G TYPE=PERM DESC=8000
   056321 RAPANSIR  RAPAN       16:29:36    IXXITCI : UNKNOWN X'0000' NMVT -- WILL PAS
   056322 RAPANPPT  RAPAN     % 16:29:36    BNJ030I 01/18 16:29 PERM ALERT RECEIVED FR
   056323 RAPANPPT  RAPAN     % 16:29:36    BNJ146I 01/18 16:29 G TYPE=PERM DESC=8000

  CMD==>
   1=HLP 2=END 3=RET 4=TOP 5=BOT 6=ROL 7=BCK 8=FWD 9=RPF        11=RGT 12=ALL
  2B"                                                    a:
```

Figure 59. Browse of NETLOGA

7.7.10 NPDA Alerts-Dynamic

Figure 60 shows the Alerts-Dynamic display from the hardware monitor component that runs on the host NetView product. This display gets dynamically updated every time an alert flows to NetView. The items that reference RA7NCS8 are alerts that will flow over the LU 6.2 connection to AIX NetView/6000. If we configure the alerts on NetView/6000, we will see them show up as event cards. We can also execute shells on the NetView/6000 system if we want to.

```
                                         RAPAN
                              * ALERTS-DYNAMIC *


         RAPAN RA7NCS8   COMC 17:04 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 17:03 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 17:03 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 16:56 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 16:55 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 16:55 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 16:03 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 16:03 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 16:02 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA622260  NODE 16:02 RESOURCE AVAILABLE:LVIEW RESOURCE
         RAPAN RA7NCS8   COMC 15:55 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 15:55 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN RA7NCS8   COMC 15:55 CONFIG/CUSTOMIZATION ERR:CONFIGURATION
         RAPAN 9_24_96_  DEV  15:13 PROBLEM RESOLVED:REMOTE NODE
         RAPAN 9_24_96_  DEV  15:13 PROBLEM RESOLVED:COMMUNICATIONS INTERFACE



     ???
    CMD==>
    2B"                                               a:
```

Figure 60. NPDA ALD

7.7.11 NetView/6000 Events Window

Figure 61 shows the alerts from the host displayed as events. The events that are for RA7NCS8 match the alerts that were in the host hardware monitor display (NDPA). You can select which types of events you would like to receive or filter out. Of course you should filter them closest to the source whenever possible.
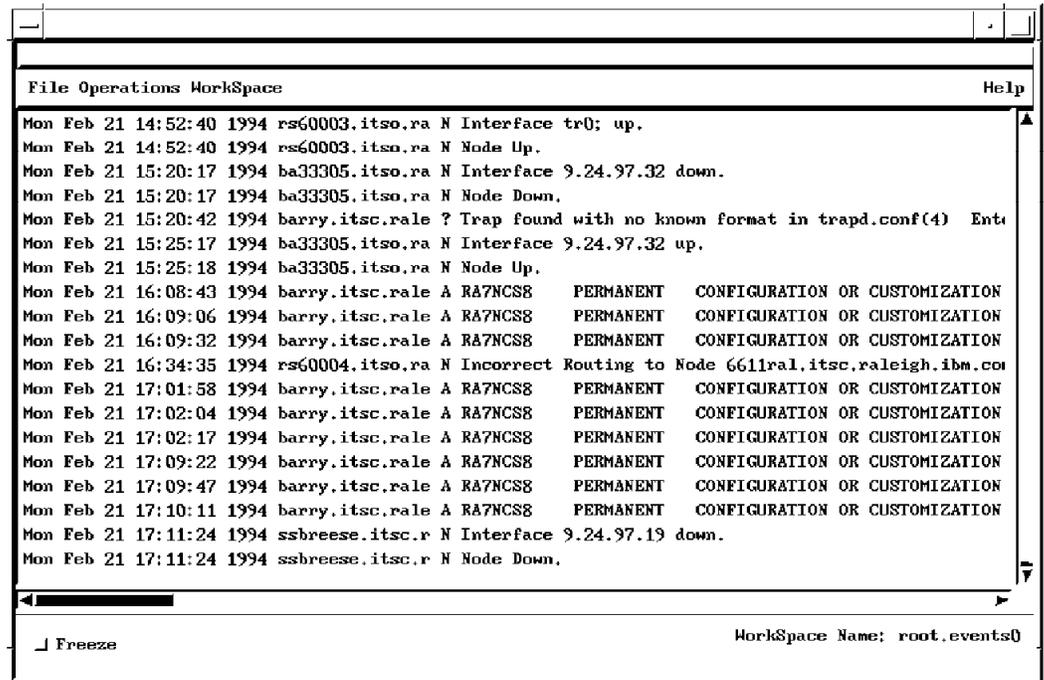
Figure 61. NPDA ALD

7.7.12 NetView/6000 Event Configuration

We can also use the event configuration application in NetView/6000 to customize and configure the events. For an example of this see Figure 62.

```
┌─────────────────────────────────────────────────────────────────────────┐
│  ─                                                                  ┘  │ │
│        ┌────────────────────── EVENT IDENTIFICATION ──────────────────────┐ │
│        Enterprise Name     Enterprise ID                  Generic  Specific │
│        ┌──────────────────────────────────────────────┐        ┌──────────┐ │
│        │SNA_Manager/6000-G  1.3.6.1.4.1.2.6.27.1     │▲│       │  6      1 │ │
│        │SNA_Manager/6000-S  1.3.6.1.4.1.2.6.27.2     │ │       │  6      2 │ │
│        │ibm                 1.3.6.1.4.1.2            │ │       │  6      3 │ │
│        │cisco               1.3.6.1.4.1.9            │ │       │  6      4 │ │
│        │hp9000_300          1.3.6.1.4.1.11.2.3.2.2   │ │       │  6      5 │ │
│        │hp9000_800          1.3.6.1.4.1.11.2.3.2.3   │▼│       └──────────┘ │
│        └──────────────────────────────────────────────┘         Add New Trap... │
│               ── Add New Enterprise...                   ┘    Hex Display │
│        ┌────────────────────── FORMAT SPECIFICATION ──────────────────────┐ │
│        Event Log Format                                           ┌────────┐ │
│        ┌──────────────────────────────────────────────────┐      │ Reset  │ │
│        │$3 $8 $10 $6\n$11\n$12\n$13\n$14\n$15\n$16       │      └────────┘ │
│        └──────────────────────────────────────────────────┘      ┌────────┐ │
│           Event Category      New Status      Severity   Source   │Replace │ │
│                                                          ┌──┐     └────────┘ │
│          ⌄ Log Only        ⌄ Default status  ⌄ Cleared  │A │     ┌────────┐ │
│                                                          └──┘     │ Delete │ │
│          ⌄ Threshold Events ⌄ Unknown        ⌄ Indeterminate      └────────┘ │
│          ⌄ Network Topology Events ⌄ Up       ^ Warning                     │
│          ^ Error Events     ⌄ Marginal       ⌄ Minor                        │
│          ⌄ Status Events    ⌄ Down           ⌄ Critical                     │
│          ⌄ Node Configuration Events ⌄ User1  ⌄ Major                       │
│          ⌄ Application Alert Events  ⌄ User2                                 │
│                              Alert Editor...                                 │
│        Optional Command and Argument Format                                  │
│        ┌──────────────────────────────────────────────────┐                 │
│        │^                                                 │                 │
│        └──────────────────────────────────────────────────┘                 │
│        ┌────────┐     ┌────────┐     ┌────────┐     ┌────────┐               │
│        │  OK    │     │ Apply  │     │ Cancel │     │  Help  │               │
│        └────────┘     └────────┘     └────────┘     └────────┘               │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 62. Event Configuration

From the NetView/6000 window menu bar, we selected:

Options->Event Configuration->Trap Customization SNMP

7.7.13 Example of Filter Control

We turned off all filters for our lab, but you can specify your own filters. It's possible that some of that filtering should be done back at the host NetView.
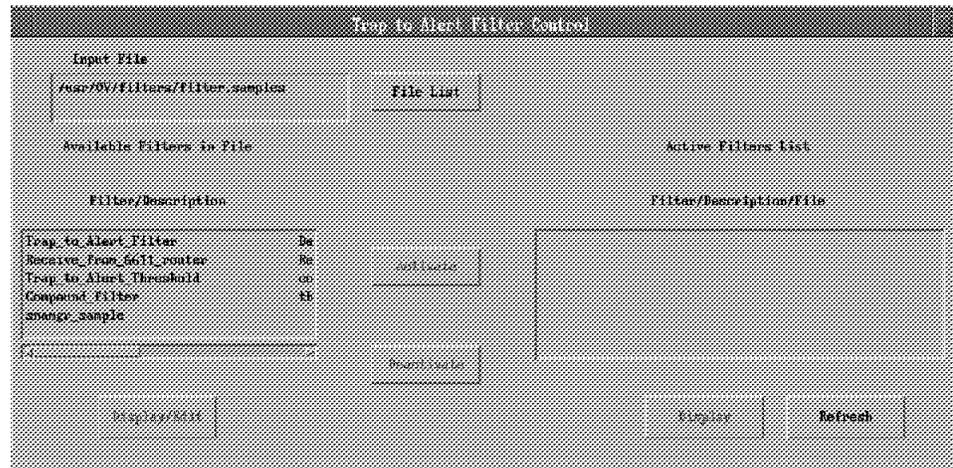
Figure 63. SNA Manager/6000 Filters - None Set

If you wish to set up your own filters or modify existing ones, you should use the trap to alert filter control function from the event configuration pull-down menu.
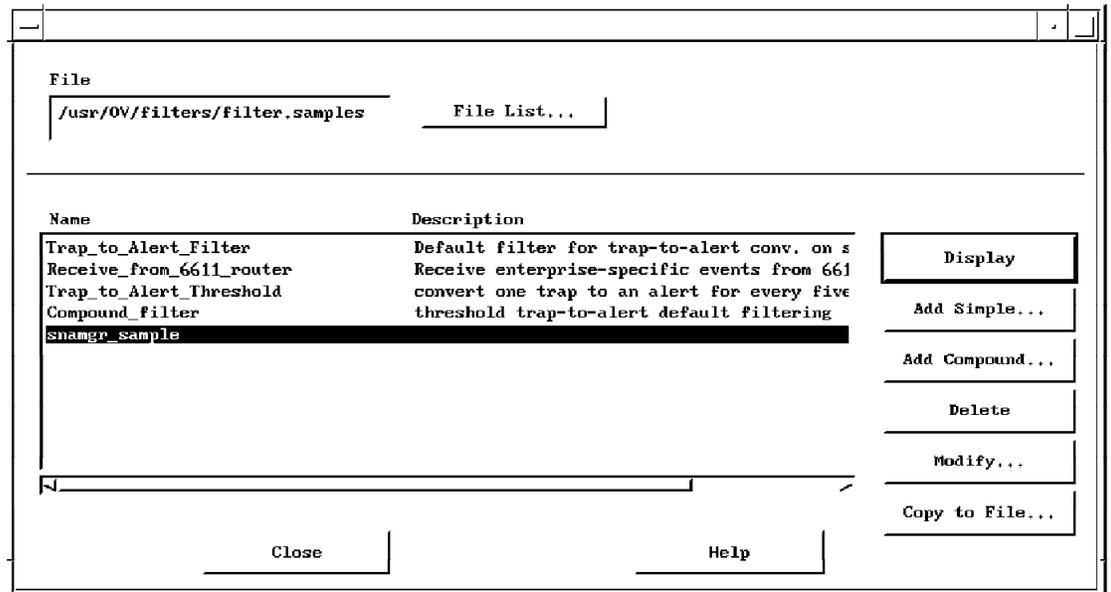
Figure 64. Setting up Filters

Figure 65 is a sample filter that we setup for our host NetView that we used for our lab.
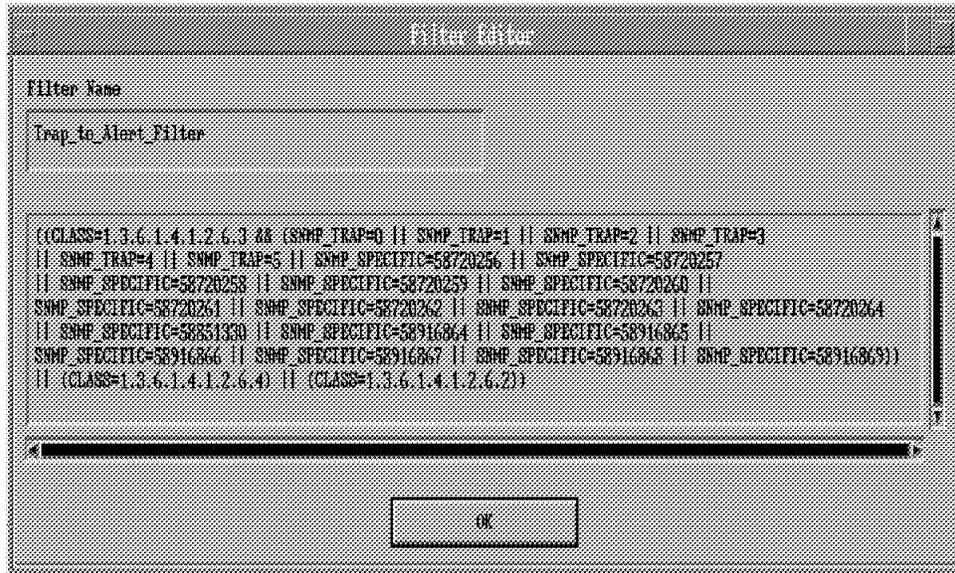
Figure 65. Sample Filter for SNA Manager/6000

7.7.14 Using SNA Manager/6000 - Further Resources

Users familiar with the NetView/6000 product will have no difficulty with SNA Manager/6000, as all resources are managed and monitored with the same workstation console interface as that of NetView/6000.

For further guidance on using AIX SNA Manager/6000 users should refer to the *IBM AIX SNA Manager/6000 User's Guide* (SC31-7157-00).

Chapter 8. Resolving Problems

The following chapter will show one possible way to resolve a problem that has occurred within the SNA network. The resolution will take place with the help of AIX NetView/6000, SNA Manager/6000 and NetView on MVS/ESA.

In this scenario, a physical unit has had a problem, and its status has changed from active to inactive. In this scenario we will show what screens are updated on NetView on the host to reflect this status change, as well as which submaps have their status updated for this network outage. After we recognize that there is a problem in the network, we will take some actions to resolve the problem. We can do this with the help of NetView/6000 and NetView on the host. All of this SNA network management can occur from an AIX workstation.

8.1 Sample Problem Resolution Using AIX SNA Manager/6000


```
                                  HOSTNETV
NCCF                       N E T V I E W    RAPAN WTWKSH4  06/07/94 16:24:28
C RAPAN     DISPLAY NET,ID=P07174B,SCOPE=ALL
  RAPAN     IST097I DISPLAY ACCEPTED
' RAPAN
IST075I  NAME = P07174B          , TYPE = PU_T2.1
IST486I  STATUS= ACTIV    , DESIRED STATE= ACTIV
IST1043I  CP NAME = ***N&***, CP NETID = USIBMRA , DYNAMIC LU = YES
IST081I  LINE NAME = L07174  , LINE GROUP = G07S1   , MAJNOD = RA7NCPQ
IST654I  I/O TRACE = OFF, BUFFER TRACE = OFF
IST355I  LOGICAL UNITS:
IST080I  T07174B1 NEVAC       T07174B2 NEVAC       T07174B3 NEVAC
IST080I  T07174B4 NEVAC       T07174B5 NEVAC       T07174B6 ACTIV
IST080I  T07174B7 NEVAC       T07174B8 NEVAC
IST314I  END
-------------------------------------------------------------------------



???

2B"                                                          8:
```

Figure 66. Status of the Physical Unit P07174B

In Figure 66 we see on NetView on the MVS/ESA system that the physical unit P07174B is active. In this particular case, we only care about the status of the physical unit and not any of the logical units. The session for user ID WTWKSH4 was on an aixterm (3270) window on the same machine as SNA Manager/6000.

This is not a requirement of the product. We could have used a remote operator, an operator on another display station, or an automated operator if we needed to.
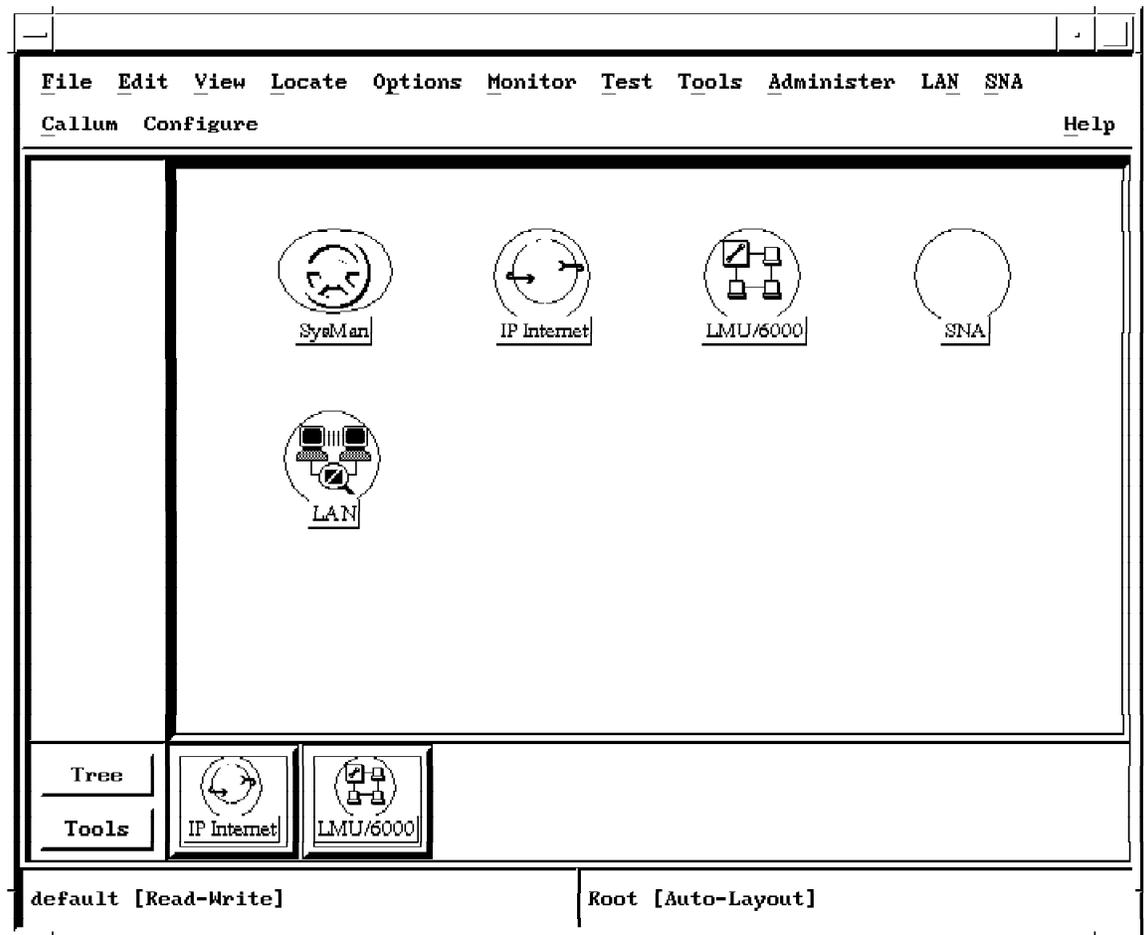
Figure 67. NetView/6000 Family of Products on the Root Map

From a NetView/6000 perspective, the operator could possibly begin their monitoring process from a submap such as Figure 67. During this project, we used several NetView/6000 family members. Some of them have placed their symbol on the root map.
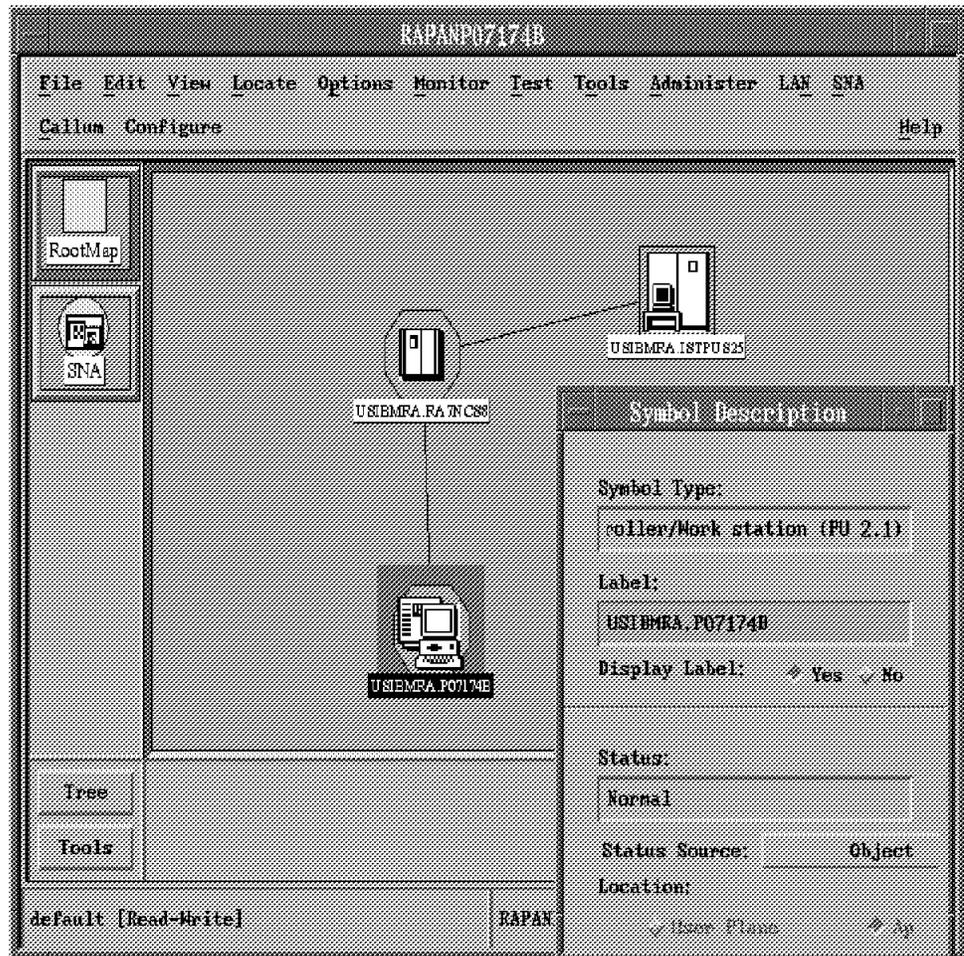
Figure 68. Submap for Physical Unit P07174B When It Is Operational

There are many different ways to locate the submap which has the resource of the physical unit (P07174B) that we wish to view. At this point, we are just checking to see that the physical unit is in a normal state and operational. SNA Manager/6000 gets its status information by way of the LU 6.2 connection to NetView on MVS. In Figure 68 the symbols that we see represent the host physical unit, the communications controller physical unit, and the physical unit for a remote controller. This remote controller is a 3270 emulator that is running on AIX (HCON).

On the NetView/6000 submap, colors can represent the state of a symbol. In Figure 68 we selected USIBMRA.P07174B and using the right mouse button, requested the status of the symbol in NetView/6000's database. This can be done by selecting edit->modify/describe->symbol.

Figure 69. Hardware Monitor Alerts Dynamic Function on NetView for MVS

Figure 69 shows the dynamic alerts screen for host NetView. This screen will automatically be updated whenever an alert (that has not been filtered) is sent to NetView. In addition to typical alerts from hardware problems, it is possible for applications to send alerts. In addition, alerts can be send from within REXX EXECs and CLISTs. For this scenario, we had a 3270 controller called P07174B defined on the RISC System/6000. Our physical unit was connected to a 3745 communications controller using an SDLC connection. To force the error in this scenario, we placed the modem in loop back mode. This caused a timeout for the device. The timeout of the device caused the hardware monitor in host NetView to update the dynamic alerts screen. The fifth entry down from the top in Figure 69 is the entry that was created.

Since we have an LU 6.2 connection between SNA Manager/6000 and host NetView, the change in status for that physical unit will also be sent to SNA Manager/6000. We will see on Figure 76 on page 97 that the NetView/6000 submap will be updated with the new status of the device.

```
┌─────────────────────────────────────────────────────────────────┐
│░░░░░░░░░░░░░░░░░░░░░░░░░░░░HOSTNETV░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░ ▓│
│                              RAPAN                              ▓│
│              * RECOMMENDED ACTION FOR SELECTED EVENT *           │
│   RAPAN      RA7NCPQ    L07174      P07174B                      │
│                                                                 │
│              ┌─────────┐         ┌─────────┐                    │
│              │         │         │         │                    │
│              └─────────┘         └─────────┘                    │
│           ─ REMOTE DEVICE POWER OFF/NOT INITIALIZED OR COMMUNICATION│
│             LINE SWITCH IN WRONG POSITION OR REMOTE MODEM POWER OFF│
│           ─ D001 - CORRECT THEN RETRY                           │
│           ─ REMOTE DEVICE ADDRESS OR SPEED SELECTION INCORRECT  │
│             LINE GEN PARAMETER INCORRECT (OSC, SPEED, NRZI, ADDRESS, ETC.)│
│             COMMUNICATION LINE NOT INSTALLED                    │
│             TWO REMOTE DEVICES WITH SAME ADDRESS                │
│           ─ D006 - CORRECT GENERATION PROBLEM                   │
│           ─ REMOTE DEVICE OR LINE OR LOCAL/REMOTE MODEM         │
│             COMMUNICATION CONTROLLER HARDWARE                   │
│           ─ D003 - RUN LINE TESTS                               │
│             D004 - RUN REMOTE DEVICE TESTS                      │
│             D002 - RUN MODEM TESTS                              │
│             D005 - CONTACT APPROPRIATE SERVICE REPRESENTATIVE   │
│       ST                              D                         │
│                                                                 │
│ ???                                                             │
│ CMD==> d                                                        │
│ 2B                                            a                 │
└─────────────────────────────────────────────────────────────────┘
```

Figure 70. Detail Information for the Alert From the Timeout

When viewing the dynamic alerts screen you can press the enter key and that
will place you into the static alerts screen. From the static alerts screen, you
can select individual entries to look at in further detail. In Figure 70 we see the
recommended action panel for the timeout of they physical unit P07174B. There
are additional screens that we can look at on host NetView for this particular
problem, but we know that this problem is usually caused by a remote device
being powered off or unreachable.

```
┌─────────────────────────────────────────────────────────────────┐
│ ─                              HOSTNETV                        ▐█▌│
├─────────────────────────────────────────────────────────────────┤
│ NCCF                    N E T V I E W   RAPAN WTWKSH4  06/07/94 16:37:32 █│
│ C RAPAN   DISPLAY NET,ID=P07174B,SCOPE=ALL                        │
│   RAPAN   IST097I DISPLAY ACCEPTED                                │
│ ' RAPAN                                                           │
│ IST075I NAME = P07174B          , TYPE = PU_T2                    │
│ IST486I STATUS= PREQC     , DESIRED STATE= ACTIV                  │
│ IST1043I CP NAME = ***N&***, CP NETID = USIBMRA , DYNAMIC LU = YES│
│ IST081I LINE NAME = L07174  , LINE GROUP = G07S1   , MAJNOD = RA7NCP0│
│ IST654I I/O TRACE = OFF, BUFFER TRACE = OFF                       │
│ IST355I LOGICAL UNITS:                                            │
│ IST080I T07174B1 NEVAC     T07174B2 NEVAC     T07174B3 NEVAC      │
│ IST080I T07174B4 NEVAC     T07174B5 NEVAC     T07174B6 INOP       │
│ IST080I T07174B7 NEVAC     T07174B8 NEVAC                         │
│ IST314I END                                                      │
│ ─────────────────────────────────────────────────────────────── │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│ ???                                                               │
│                                                                   │
│ 2B"                                              8:               │
└─────────────────────────────────────────────────────────────────┘
```

Figure 71. Status of the Resource in Text Mode

We can issue the VTAM display command for the physical unit from the host
NetView as shown in Figure 71, or we can use the SNA Manager/6000 pull-down
menu option, as is shown in Figure 77 on page 98.

In Figure 71 we see that the status of the physical unit has changed to PREQC.
This means that the host is not communicating with the physical unit, but once
the physical unit requests a connection, it should come back up. In our case, we
will need to issue the SNA Services/6000 (or SNA Server/6000) startsrc command
to restart the attachment.
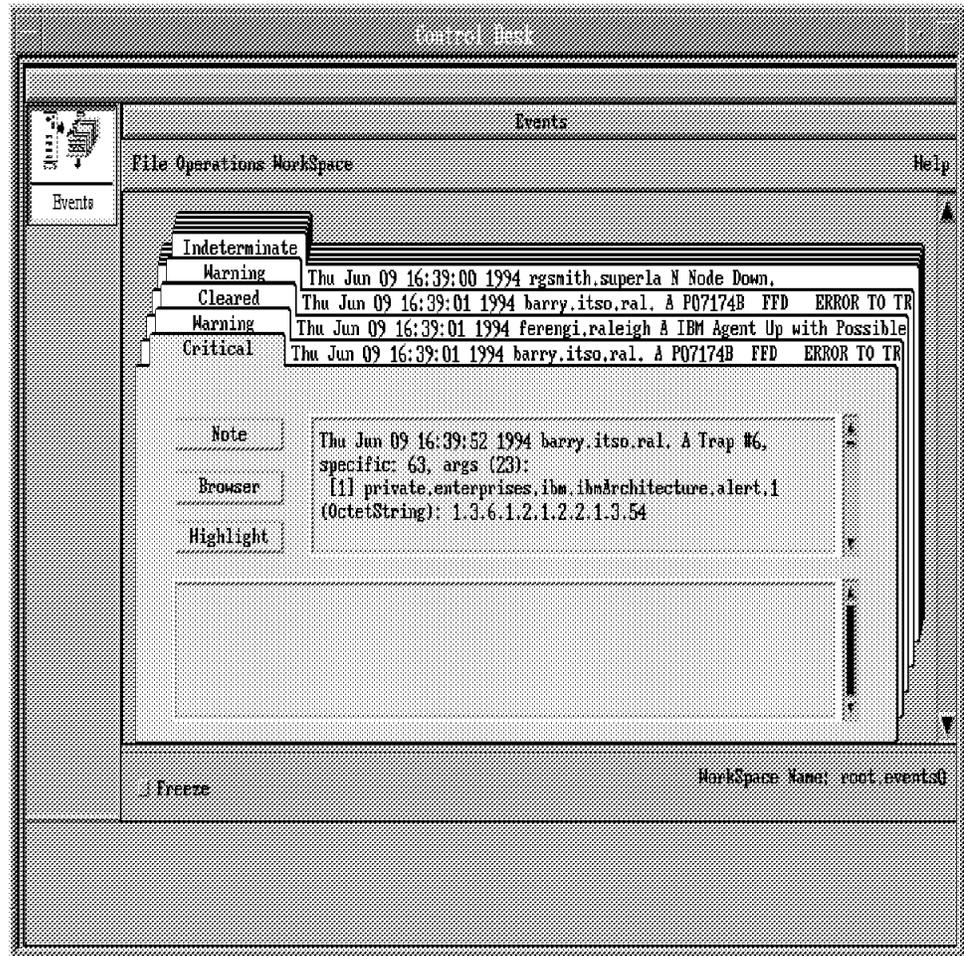
Figure 72. Event Card for the Physical Unit Problem

The event card shown in Figure 72 correlates to the host NetView alert that was shown in Figure 69 on page 90. We used the information in this event card to help configure the event for some automated recovery action in our environment.

8.2 SNA Manager/6000 Functions

In the previous section, we showed how to use host NetView facilities to review a problem with the physical unit in the network. We will now use some of the facilities of SNA Manager/6000, SNA Services/6000 and NetView/6000 to observe the problem and take corrective action. These functions will all be performed from a single AIX workstation.
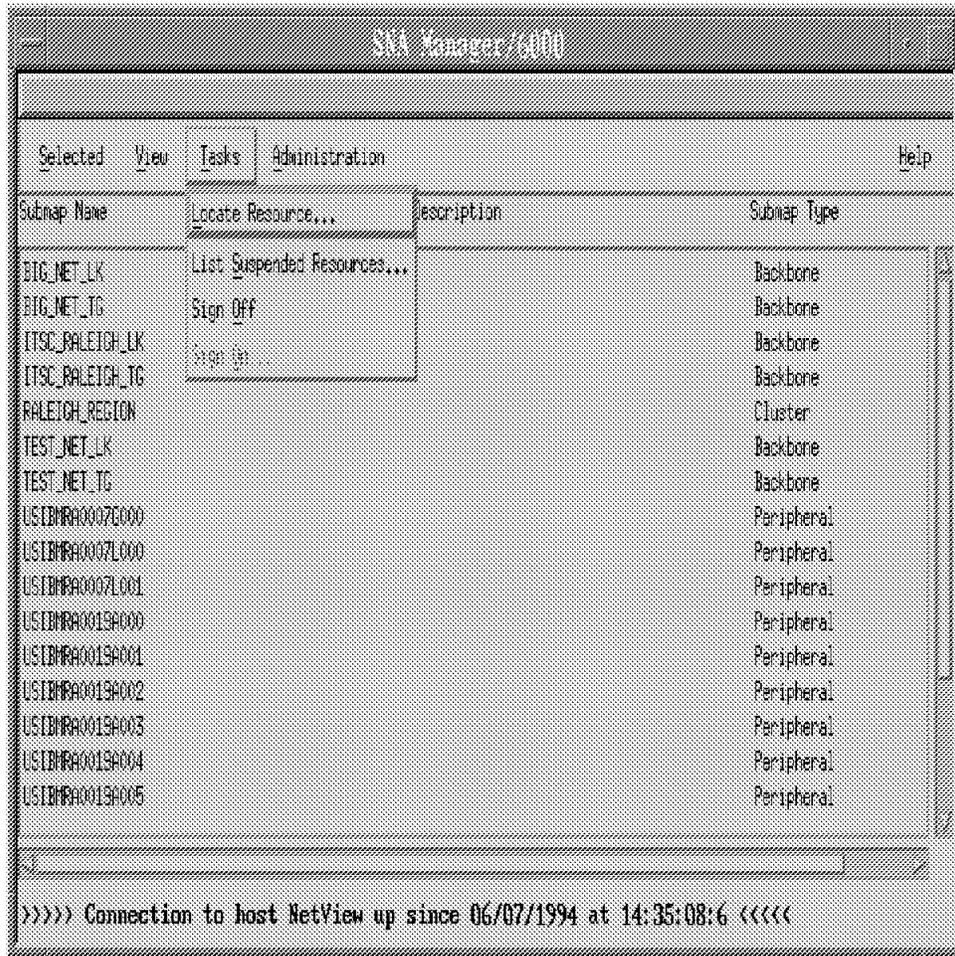
Figure 73. Main Menu for SNA Manager/6000

In Figure 73 we see the main menu for SNA Manager/6000. In addition to listing all of the views that we had built back on host NetView, there are several pull-down menu options available. One of the options, Tasks, will permit the user to locate specific resources in the SNA environment. Since we will be notified of a resource problem for the physical unit P07174B, as shown in Figure 72 on page 93, we will want to do some further investigation. The way that you might be informed of a problem is by using the event configuration facility, or just observing that the status of an SNA resource change has caused the SNA submaps to change color.

Figure 74. How to Locate an SNA Resource Using SNA Manager/6000

Using the locate pull-down option, we can request to open a view of P07174B. As shown in Figure 74, you can ask for the Configuration Parents, or for Any view with the resource. If we request any view, we will get a choice of several submaps to view. Some of them might be to complex to do any problem determination from. When we chose the Any view option, one of the views that we were provided with, was the one in Figure 75 on page 96. This has too many resources on the submap to be of much help in the problem determination process. It was easier to address the problem using the Configuration Parents option. That option provided us with the submap in Figure 76 on page 97.
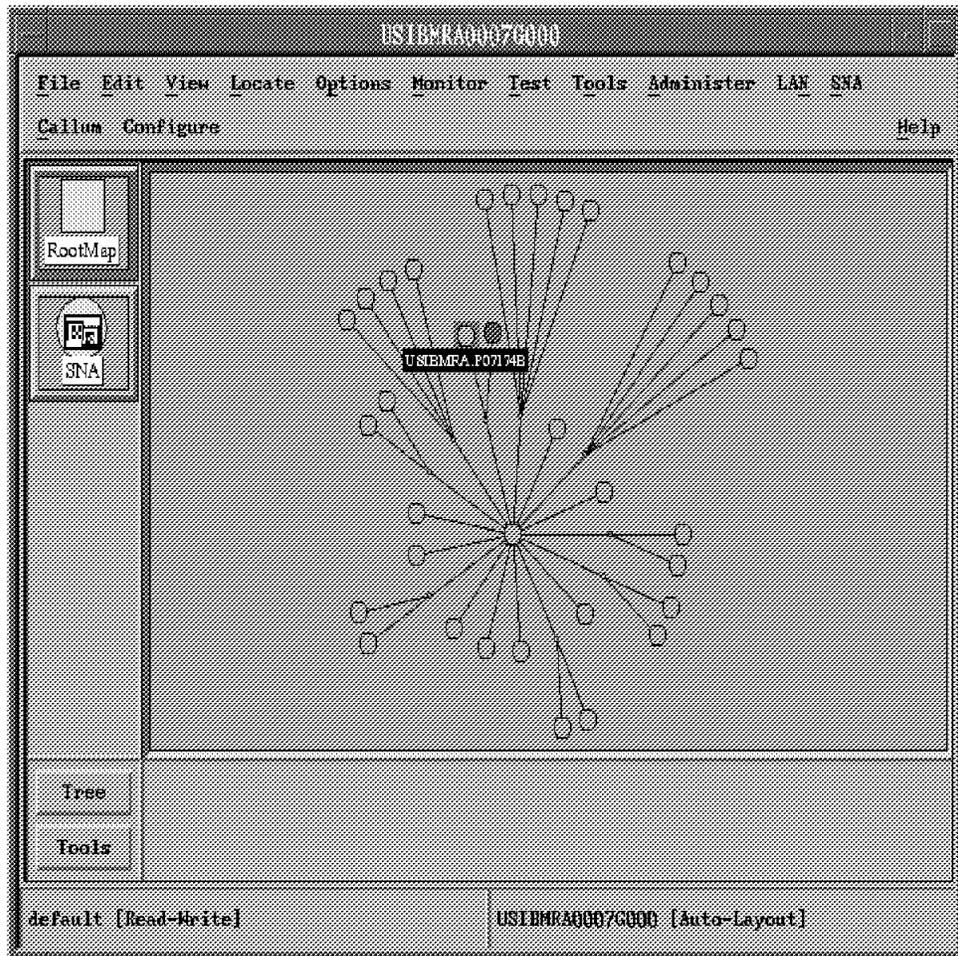
Figure 75. A View of the SNA Network

In the submap view in Figure 75 we see that the physical unit USIBMRA.P07174B was highlighted, and its label is shown on the submap. This view has many resources on it, so it was easier to use the other view to begin our problem determination.
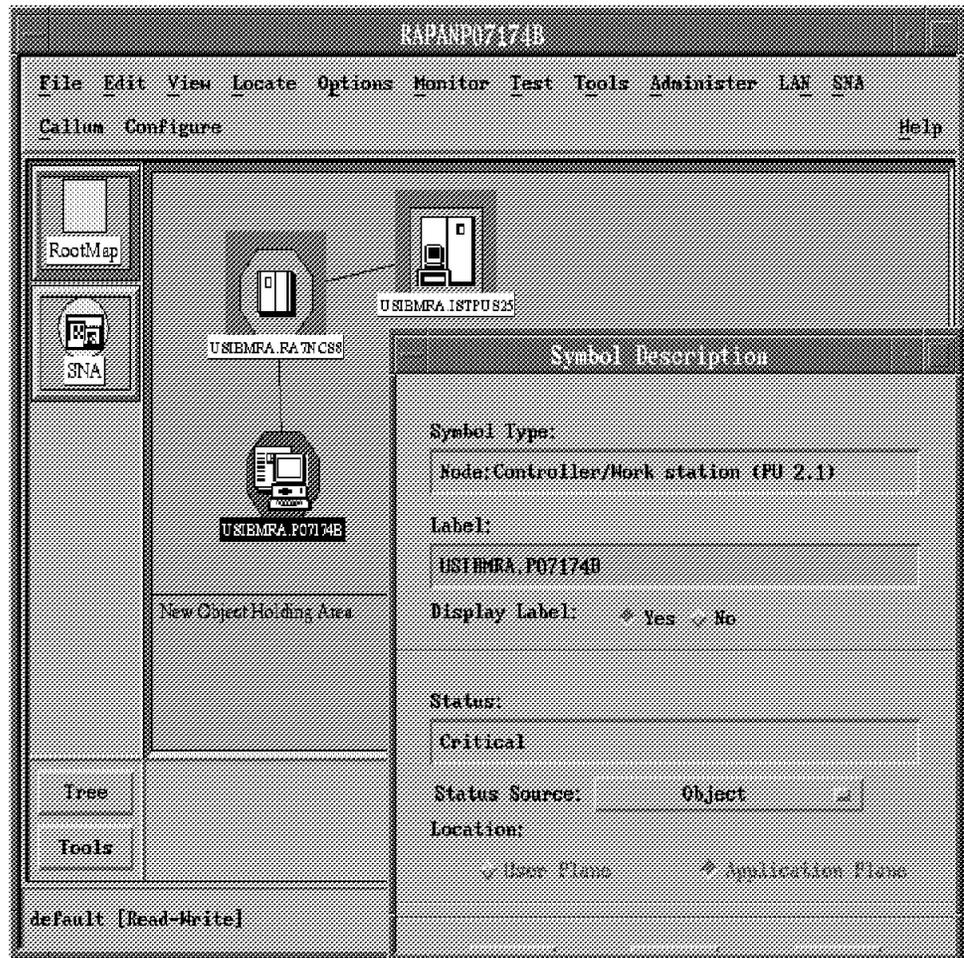
Figure 76. Status Display for P07174B

We can see in Figure 76 that the status of the physical unit is critical. If we were looking at the color monitor it would be displayed in red. Using the right mouse button, we had selected edit, modify/describe, then symbol. This provided us with the symbol description, which also has the status of the resource.
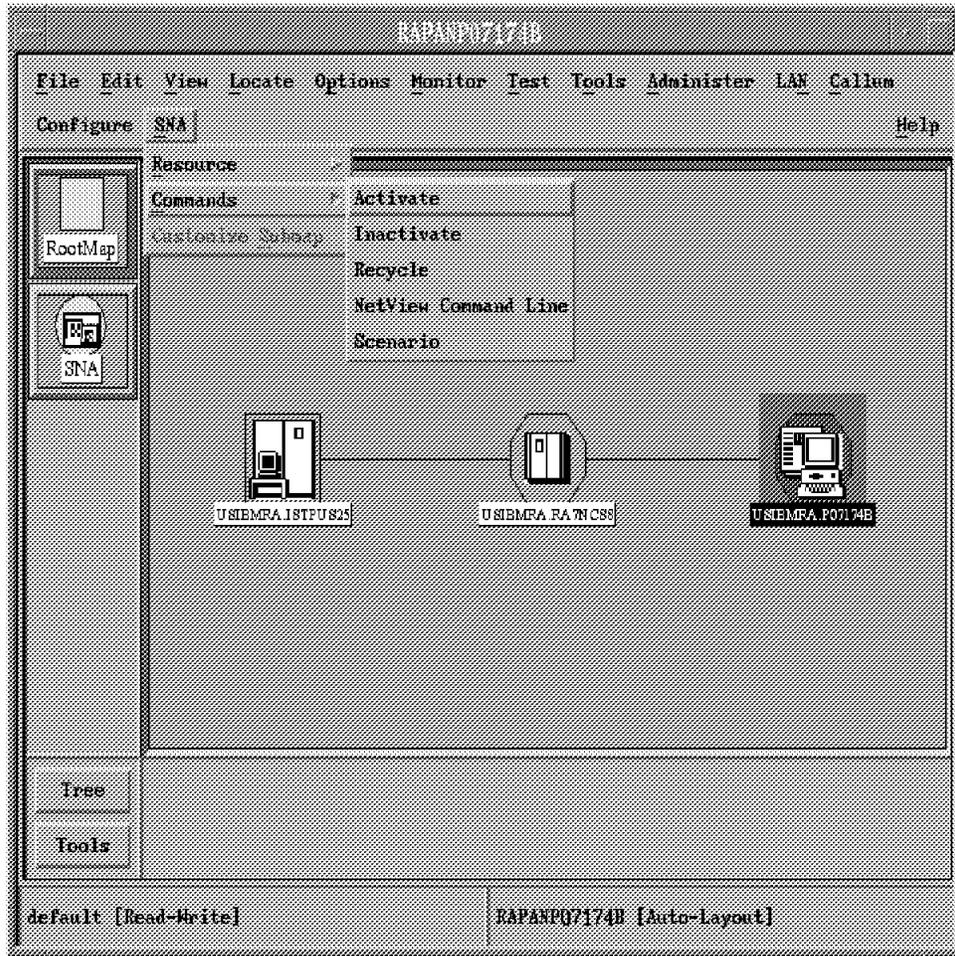
Figure 77. Using the Pull-Down Menu Options to Recover P07174B

Since the physical unit is down, we can try and take some corrective action then reactivate it. One possible way to do that is to have the VTAM command v net,act,id=p07174b issued. Using the integrated NetView/6000 and SNA Manager/6000 facilities, we can do it from the submap displayed in Figure 77. In addition to activating the resource, we can also request a window that will let us enter any NetView for MVS command. We could have added other procedures to this list. We added the pull-down option Scenario to the list. Since the physical unit was already selected (in NetView/6000 terms) and highlighted on the submap, any function that we wish to issue will be for that resource.
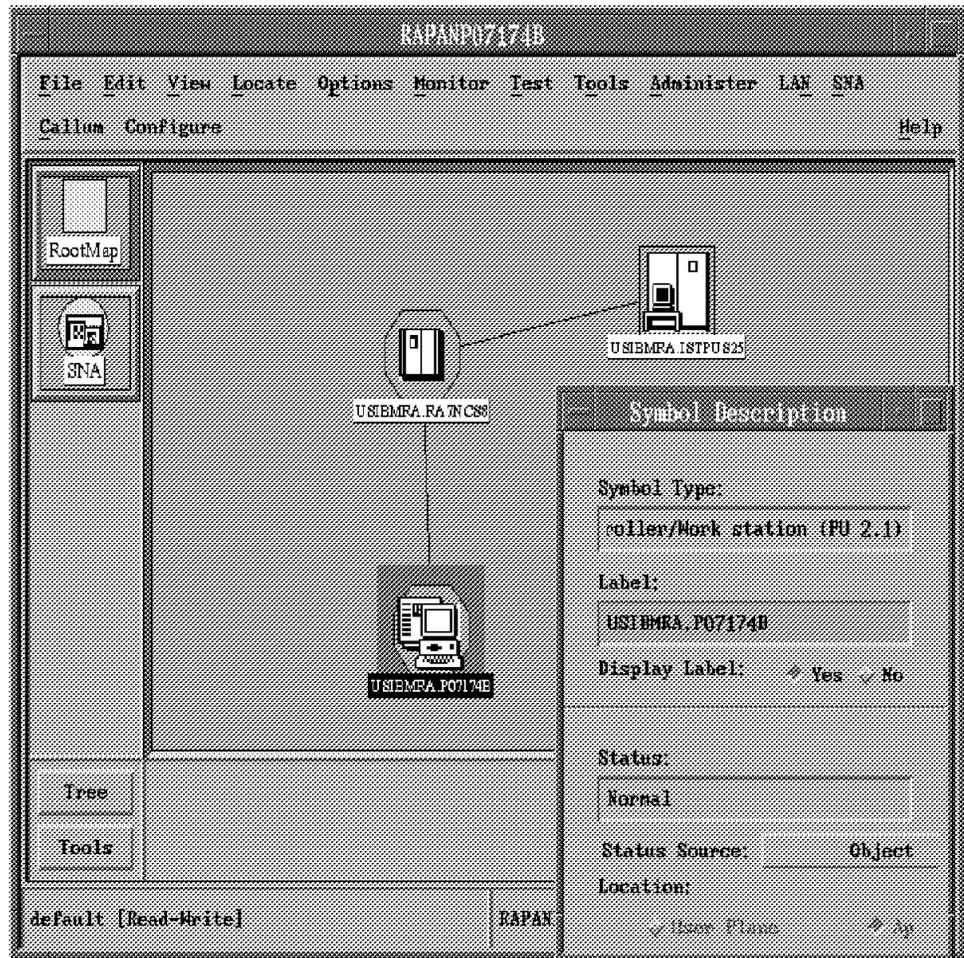
Figure 78. Status of P07174B After Issuing a VTAM Activate Command

After we issued the Activate command, the resource status on the submap changed from red to green. Using the edit function of NetView/6000, we can see that the status of the resource changed to Normal in Figure 78.

8.3 Adding Your Own Commands

In addition to using the default command list that SNA Manager/6000 provides you with, and the NetView command line, you can create your own commands. We add one in Figure 79 on page 100 to help reactivate a resource. You can add any function; we just chose Activate for this example.

Figure 79. SNA Manger/6000 Command Profile Table

The entry that we added in Figure 79 is the entry labeled Scenario. This entry can be any CLIST or REXX procedure as shown in Figure 80 on page 101. The SNAFIX command that we added to the command list is just a simple CLIST that places some notes in the log of NetView on the host, and activiates the resource. There are many other things that you could do in this simple shell. Another thought if you were using AIX NetView Service Point, would be to issue a runcmd to tell NetView/6000 that the problem was resolved. In addition, if you had MVS TCP/IP installed, you could have your CLIST send an snmp trap independent of AIX SNA Manager/6000 functions.
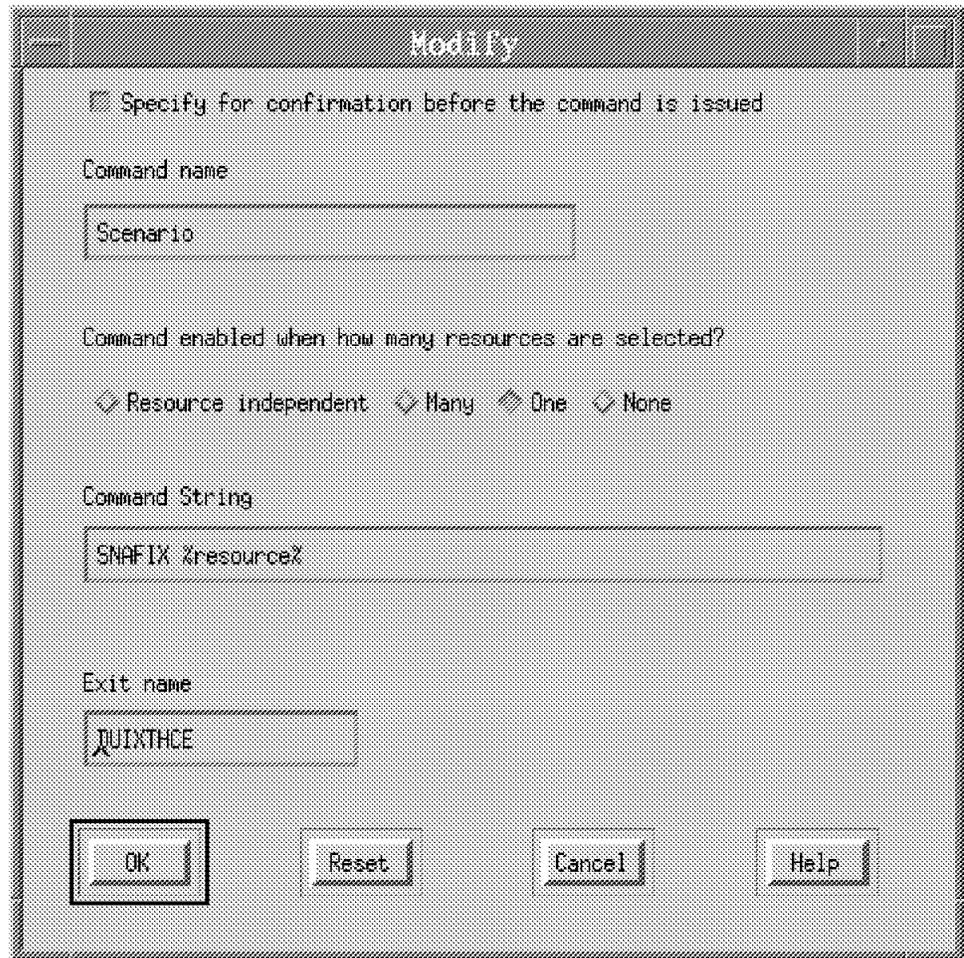
Figure 80. Updated Command Table Entry

The command string SNAFIX %resource% in Figure 80, will cause a CLIST that is running on NetView on the host to be executed. A copy of that simple CLIST is shown in Figure 81.
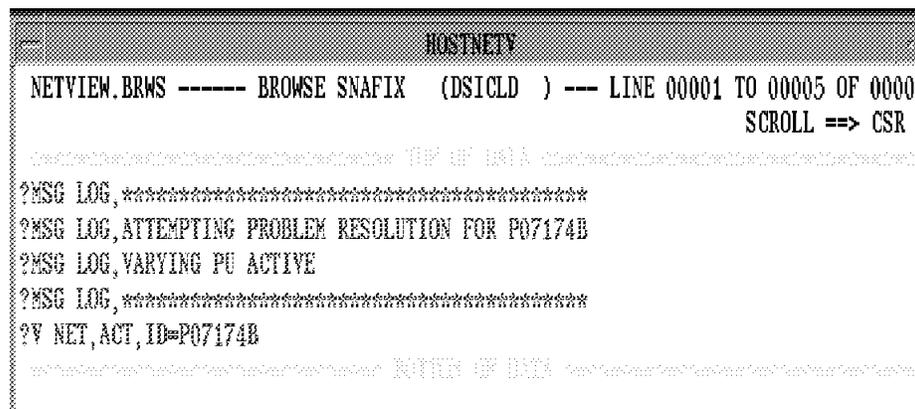
Figure 81. NetView Clist to Execute on the Host

Figure 81 show a view of the clist that we used in the scenario. We issued the command br snafix to view this clist.
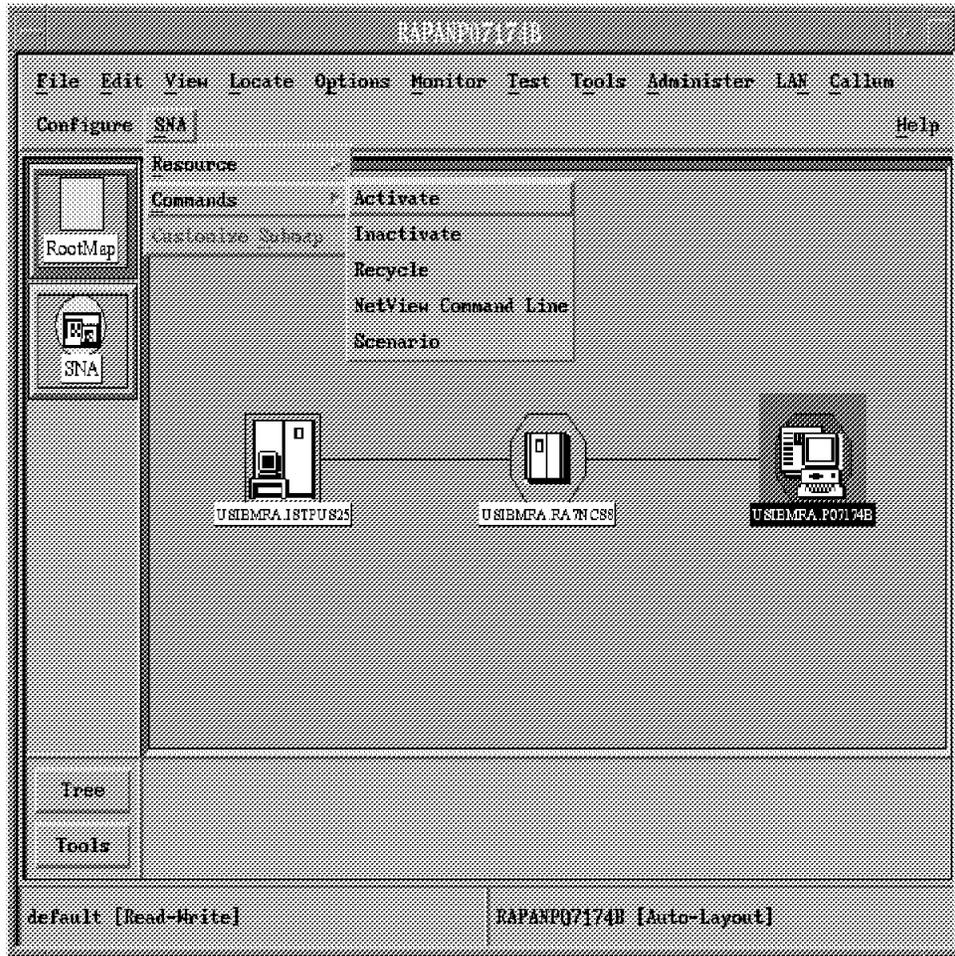
Figure 82. Reactivation Using the Scenario Command

After issuing either the Activate or the Scenario SNAFIX command in Figure 82 the physical unit became active.

Sometimes, just issuing host NetView commands is not enough to resolve a problem. It is possible that the attachment (physical unit) is not started on the SNA Services/6000 machine. We used event configuration in NetView/6000 to help us notify the operator when a resource went down. We then provided a small shell to send the start attachment command to a remote RISC System/6000.

8.4 Event Configuration and Shell Scripts

Event configuration is a function of NetView/6000. In Figure 83 on page 103 we configured generic trap 6 and enterprise specific trap 63 to issue a shell that was located in /u/barry/snamgr/redbook/start.attach. This trap is one that is issued when a physical unit times out. We had seen the trap in the event card in Figure 72 on page 93. Notice that we needed to selected SNA Manager/6000s Enterprise ID before we could select the trap number. We knew which trap was related to the timeout because we looked at the events window and also at /usr/OV/log/trapd.log.
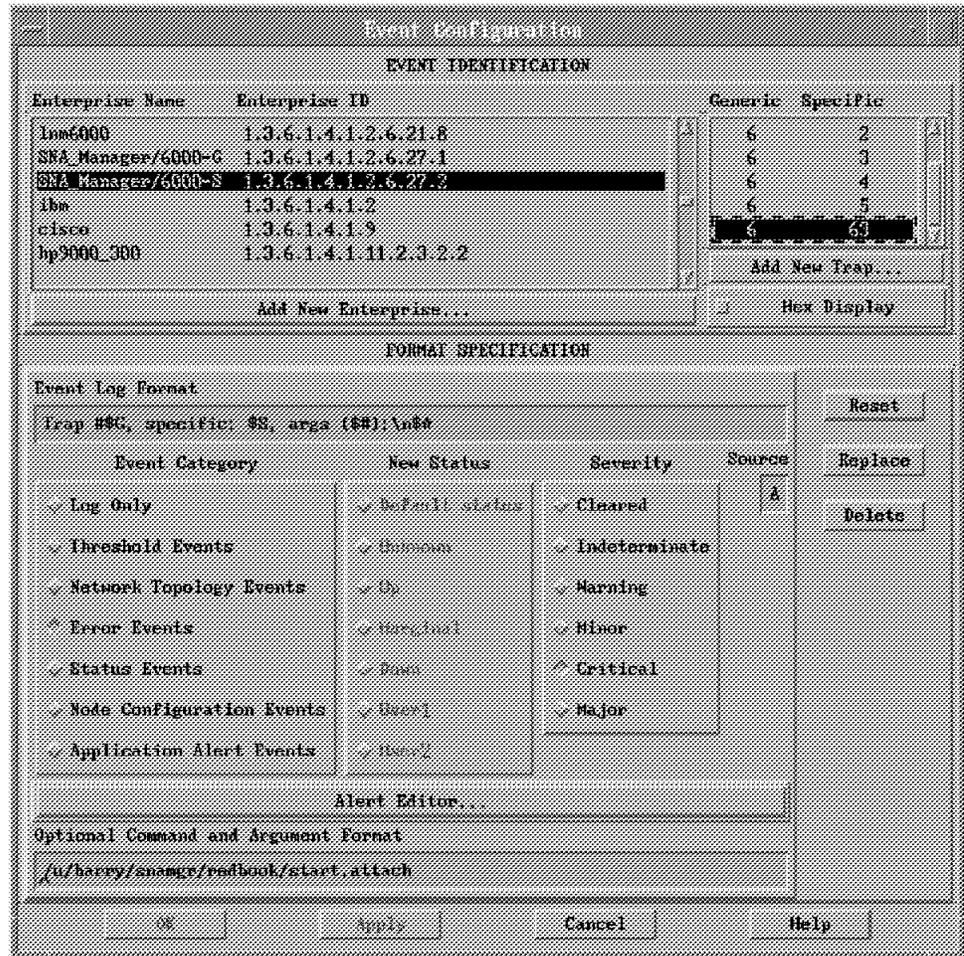
Figure 83. Event Configuration to Issue a Shell

```
┌─────────────────────────────── Barry ─────────────────────────────┐
│Do you wish to attempt to re-activate P07174B?                    │▲│
│yes                                                               │ │
│0513-124 The P07174B subserver has been started.                  │ │
│P07174B              Attachment    - active                       │ │
│CONTROLP             Control Point - active                       │ │
│SDLCLLP              Logical Link  - opened                        │ │
│SDLC232P             Physical Link - opened                       │ │
│SDLC                 Logical Link Type                            │ │
│RS232C               Physical Link Type                           │ │
│Secondary            Local Station Type                           │ │
│                   1 Remote Station Address                       │ │
│                   0 Test Commands Sent                           │ │
│                   0 Test Command Failures                        │ │
│                   0 Test Commands Received                       │ │
│                   4 Data Frames Transmitted                      │ │
│                   0 Data Frames Retransmitted                    │ │
│                   0 Contiguous Frames Retrans.                   │ │
│                   3 Data Frames Received                         │ │
│                   0 Invalid Frames Received                      │ │
│                   0 Adapter Detected Rcv Errors                  │ │
│                   0 Adapter Detected Xmit Errors                 │ │
│                   0 Secondary Inactivity Timeouts                │ │
│                   0 Primary Polls Sent                           │ │
│                   0 Primary Repolls Sent                         │ │
│                   0 Primary Contiguous Repolls                   │ │
│barry:/u/barry/snamgr/redbook > pg start.attach                   │ │
│echo 'Do you wish to attempt to re-activate P07174B?'             │ │
│read ANSWER                                                       │ │
│if [ yes = "$ANSWER" ]                                            │ │
│then                                                              │ │
│rexec rs60002 startsrc -t'attachment' -o'P07174B'                 │█│
│rexec rs60002 lssrc -l -t'attachment' -o'P07174B'                 │█│
│fi                                     □                          │█│
└──────────────────────────────────────────────────────────────────┘
```

Figure 84. Sample Shell to Restart the Attachment

The shell that we configured in Figure 83 on page 103 is shown at the bottom of Figure 84. This shell is very simple and the point of it is just to show you the linkages between event configuration, driving a shell, and helping to resolve a problem. Many different functions can be performed in a shell.
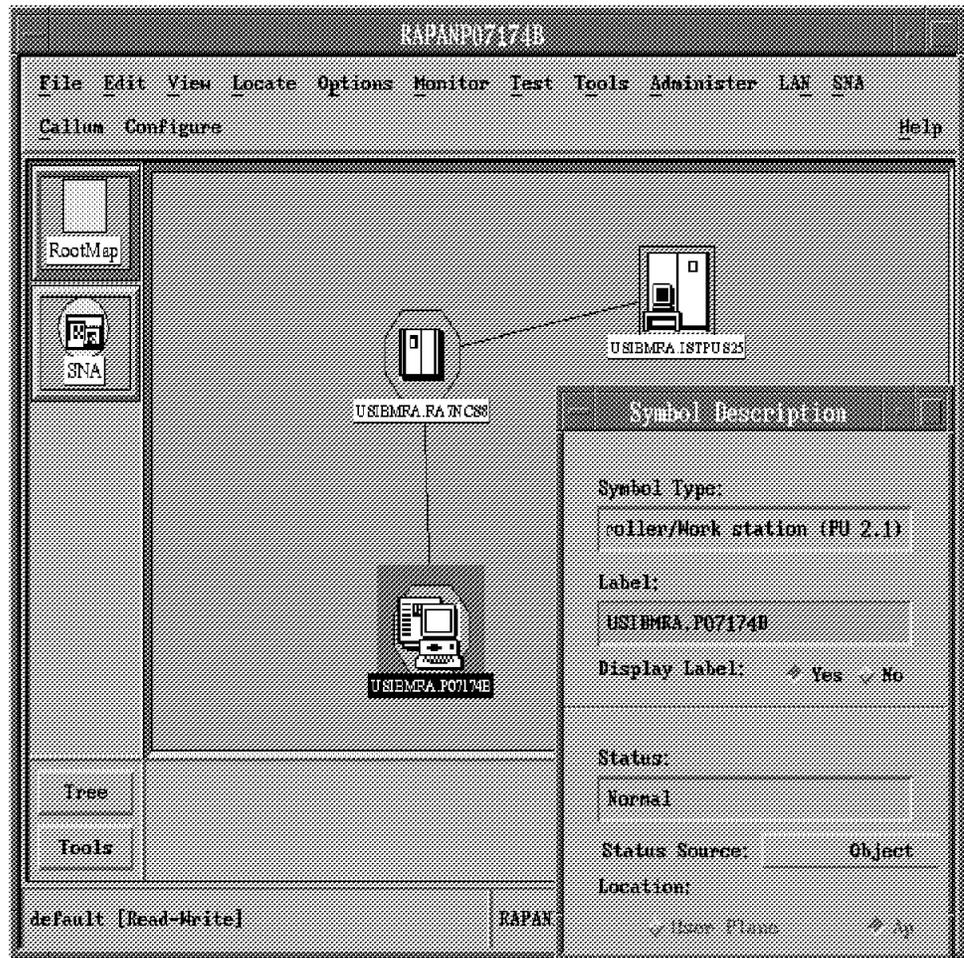
Figure 85. Status of P07174B After Running Restart Shell

After we issued the startsrc on the remote machine, the physical unit changed its state to active. We can see the status of the resource in Figure 85.
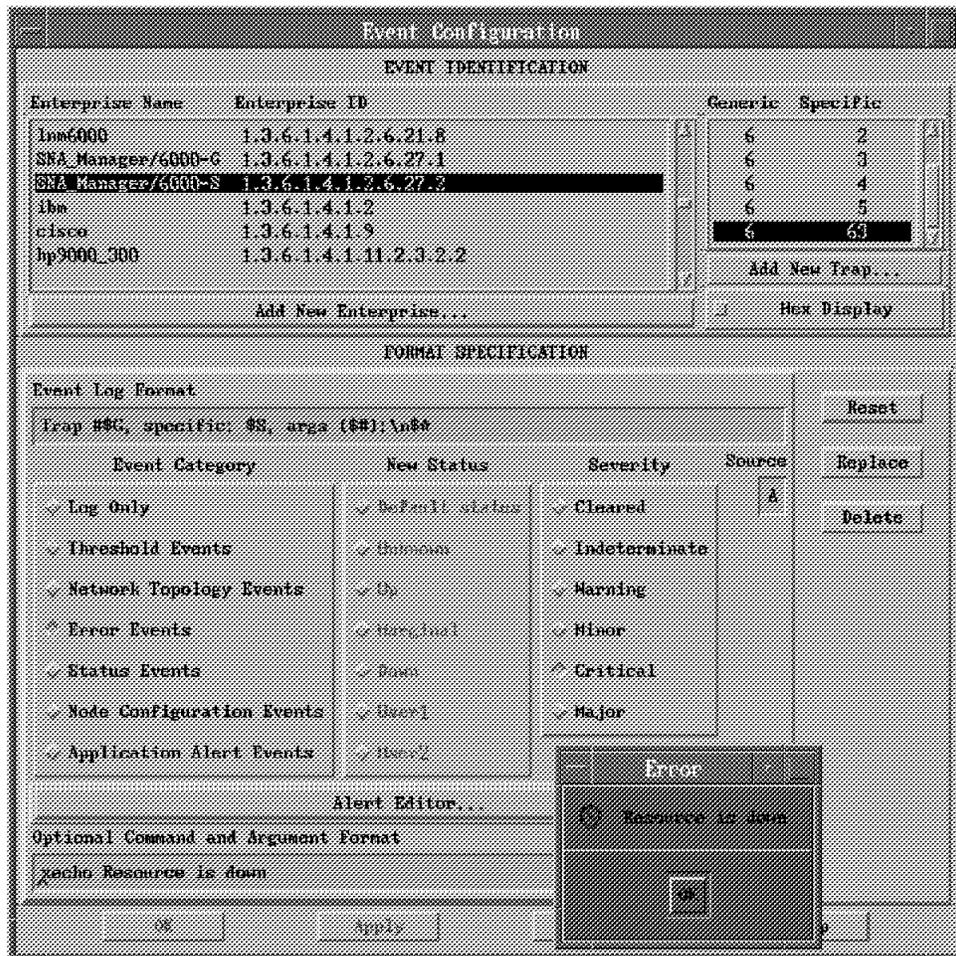
Figure 86. Xecho Command to Inform Operator of a Problem

If we decided to just notify the NetView/6000 operator of a problem instead of starting a shell, we could use the xecho command to pop up a window with some information in it. In Figure 86 we show how set up the xecho command and the result of the command being issued. We could have used the command xecho Resource $3 is down, which would have filled in the name of the resource that was down. For this scenario we chose to use a generic down message. To get more information on the symbolic replacement values in the event configuration function, you can use NetView/6000's help facility. An example of this is shown in Figure 87 on page 107.

Event Configuration Dialog Box   Lines: 136   to   197 of   451

Event Log Format
    Required read-write field. Specify what is entered in
    the Description column of the /usr/OV/log/trapd.log
    file, and what appears on the Event Cards or List when
    the trap is received by the management station.

    You can enter special characters to give you control of
    the formatted output. The format can include standard
    C printf formats, for example, \n inserts a newline and
    \t inserts a tab. You can also include information
    from the incoming trap by using the $(arg) format
    specification, following the arg formats below:

    C   Displays the trap community string.

    E   Displays the enterprise as a text string, if
         possible; otherwise, displays as in the $e arg.

    e   Displays the enterprise as an Object ID string of
         numbers.

    A   Displays the name of the node that sent the event.
         If the name server knows about this node, the node
         name will be displayed; otherwise, the IP address
         will be displayed.

    G   Displays the generic-trap.

    S   Displays the specific-trap.

    T   Displays the time-stamp. This is the remote
         machine's time in hundredths of a second between
         the last initialization of the device and the
         generation of the trap.

    *   Displays all the variables supplied by the trap as
         name-type:value strings.

    #   Displays the number of variables in the trap.

    $ Displays the $ character.

    n   Displays the value of the nth variable in the
         trap, where n is the variable sequence number
         starting at 1 as it appears in variable bindings.

    *n   Displays the nth variable as a name-type:value
         string, where n is the variable sequence number
         starting at 1 as it appears in variable bindings.

    +n   Displays the nth variable as a name:value string,
         where n is the variable sequence number starting
         at 1 as it appears in variable bindings.

    Ln   Displays the nth variable as LANtern time string
         (INTEGER & Epoc=1/1/00), where n is the variable
         sequence number starting at 1 as it appears in
         variable bindings.

    %n   Displays corresponding text associated with the
         codepoint defined in variable #n. If the next
         variable is associated with the subvector,

Search for: [   ]   Find Next Find Previous

              Print   Quit

Chapter 9. IP And SNA Network Utilization

Figure 88 shows the installed SNA Manager/6000 product up and available to host NetView and running under the Root submap of NetView/6000.

In this instance, both the SNMP and SNA object resources are managed and the status of events in both network types are being retrieved and updated on the NetView/6000 submaps. The symbols on the submaps will change color according to current status and network topology.

Figure 88. Root Submap for AIX NetView/6000

9.1.1 SNMP & SNA Resources Navigation Tree Map

Figure 89 will give an indication of the Navigation Tree submap in which a logical hierarchy of IP and SNA resources is shown from the highest view level down.

Note that each individual resource at any level of this sample submap may be selected, displayed, managed and logged from the NetView/6000 console using the Root map or submap options menu.
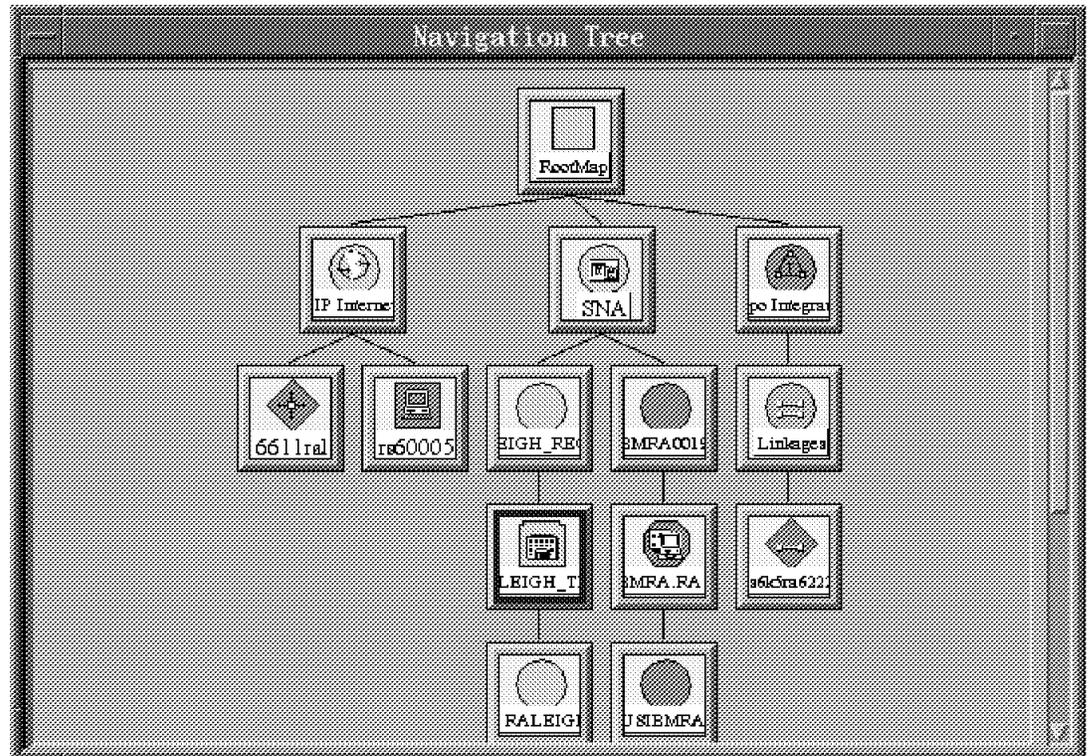
Figure 89. Navigation Tree with SNA Manager/6000

9.1.2 SNMP Resources Managed - SNA Resources Unmanaged

Figure 90 shows where only SNMP resources have been selected for management. The Root map and submap resources displayed pertain only to network TCP/IP devices and interfaces.

Within the Root map is the target 9.24.97 IP network, the 6611 Router subnet and other IP local hosts and clients.
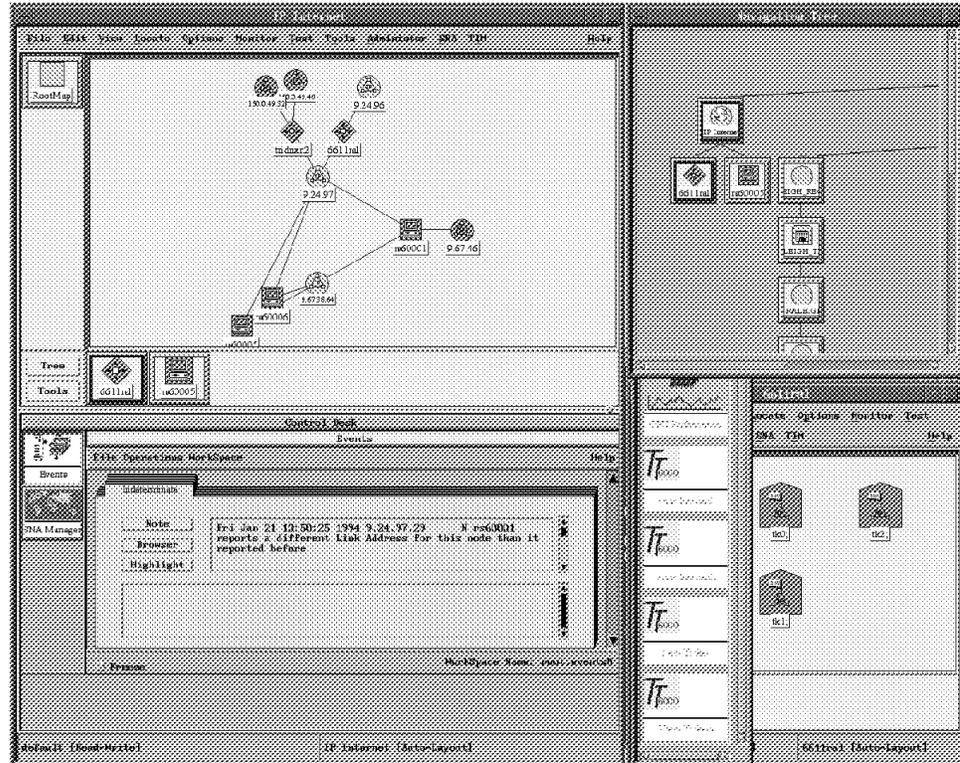
Figure 90. IP-only View of the Network

9.1.3 SNMP Resources Unmanaged - SNA Resources Managed

Figure 91 shows a sample screen from NetView/6000 that shows the SNA first level resources below the Root map. All IP resources have been unmanaged from the Root options menu.

Particular notice should be taken of the lower section of the screen titled SNA Manager/6000. Here we see the retrieved host NetView views displayed in line format by backbone, cluster and peripheral type. Each of these views types can be individually or collectively displayed on the NetView/6000 console. At the lower line of the display area for these views is a status line giving the current status and time up information for the LU 6.2 link from the SNA Manager/6000 to host NetView.
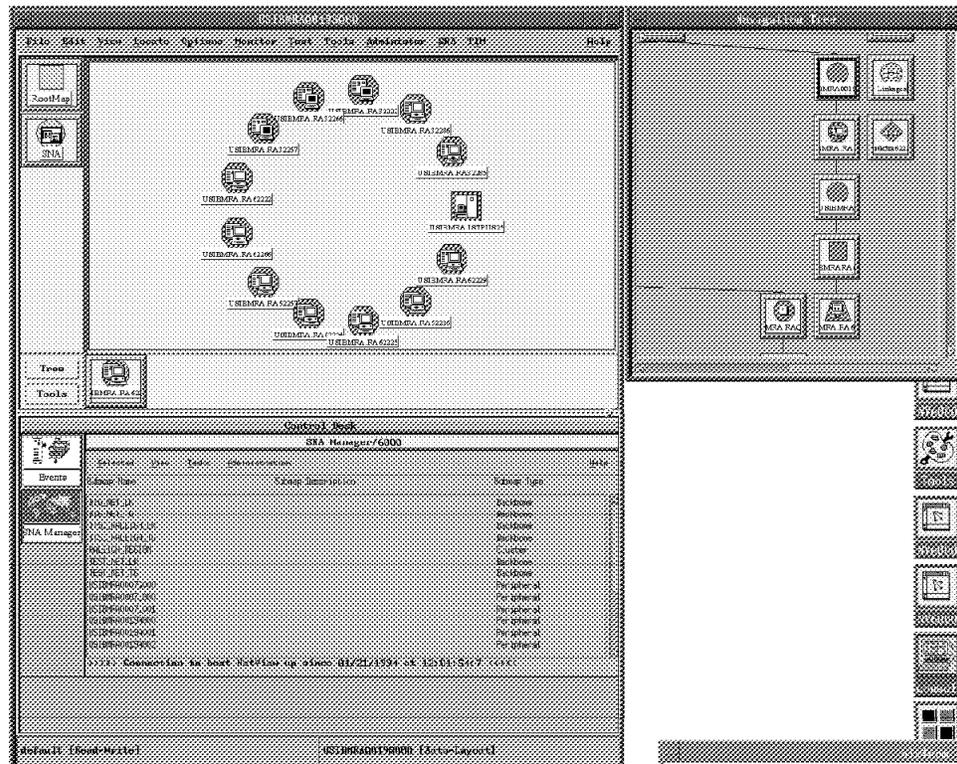
Figure 91. Managing Only SNA Resources

9.1.4 SNA Manager/6000 - Sample PU Resource Display

Figure 92 shows the RA62225 Physical Unit and the lower level Logical Units configured there from via the network VTAM definitions.

The network topology of these devices came from the host NetView views that were downloaded to the NetView/6000 workstation. The actual status and alert information flow is from host NetView via the LU 6.2 channel circuit that we have configured with either the SNA Services/6000 V1.2 or SNA Server/6000 V2.1 products.
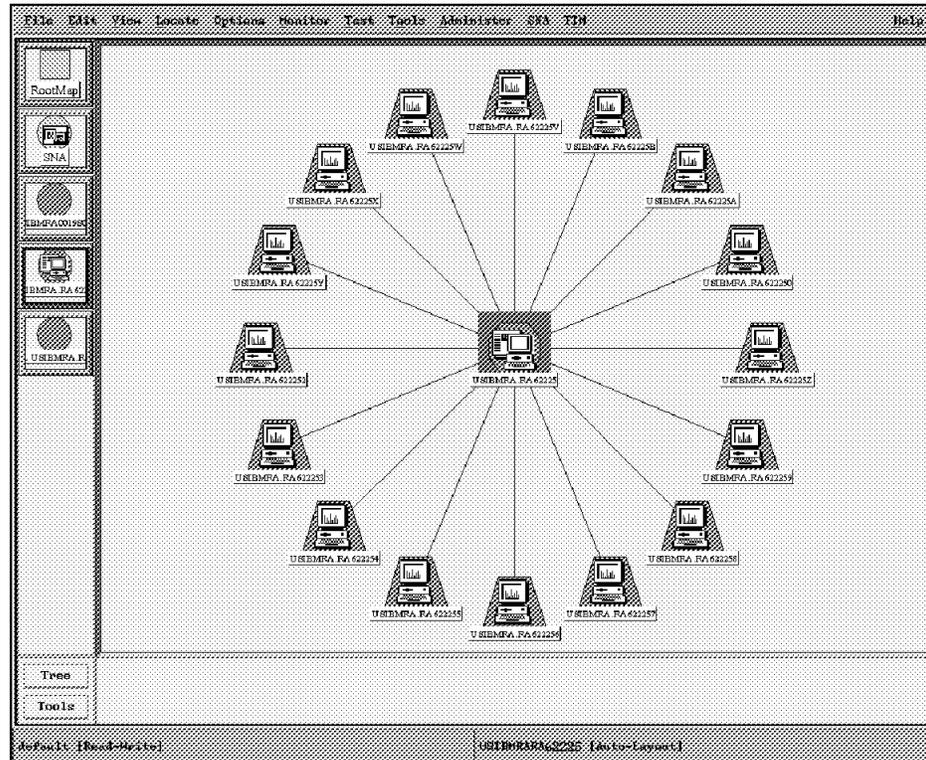
Figure 92. View of the PU for RA62225Z

Appendix A. SNA Manager/6000 Product/Maintenance Dependencies

The AIX SNA Manager/6000 product requires installation of the following IBM products at the indicated release levels or higher:

- IBM Host NetView V2R3 or V2R4

- AIX Base Operating System V3.2.4 (or greater)

- AIX SystemView NetView/6000 V2.1.0

- AIX SNA Services/6000 V1.2.0 or AIX SNA Server/6000 V2.1.0

- AIX DCE Threads V1.1 or AIX DCE Base Services V1.2.0

- Host To AIX File Transfer Utility (FTP, HCON, etc.)

Appendix B. Application Of Host NetView V2R3 Maintenance Levels

The following information relates to the NetView V2R3 MVS/ESA Alert Support for SNA Manager/6000.

B.1.1 Important Restrictions

AIX SNA Manager/6000 does not require the GMFHS Feature of NetView.

Below are the three fixes that need to be received and applied:

- MVS/ESA -- OWO1811
- MVS/XA -- OWO1812
- MVS/ESA -- VM57818

The prerequisites PTFs are:

- UY96162
- UY93934
- UY97341
- UY95931
- UY98259
- UY93613

After all fixes have been applied the following changes need to be made:

1. Update DSIDMN to include the new task statement. The new task statement for task DSIAL2WS is in CNMS1007.

2. Update DSICMD to include the new CMDMDL statements for task DSIAL2WS. The CMDMDL statements are DSIBKA2W and DSIBKTRM and are in CNMS1005.

3. Copy part BNJHEADR to the BNJPNL2 data set. If you have customized this part, then you need to merge the new lines (lines 8-19) into the existing part.

4. Copy part CNMS1083 to the DSIPARM data set and rename it to DSIBKMEM.

5. Copy DSIDWO21 to the DSIMSG data set.

6. Recycle the host NetView application.

The task DSIAL2WS:

- Must be active for alerts to be sent to the workstation.
- Requires CNMTAMEL to be a status focal point.
- Requires the PPI to be active.

There are two items missing from our version of the code fixes:

- The online message help (there are six new messages).
- The Kanji translations.

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**Integration of AIX SNA Manager/6000 into the
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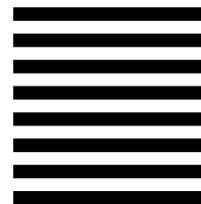
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