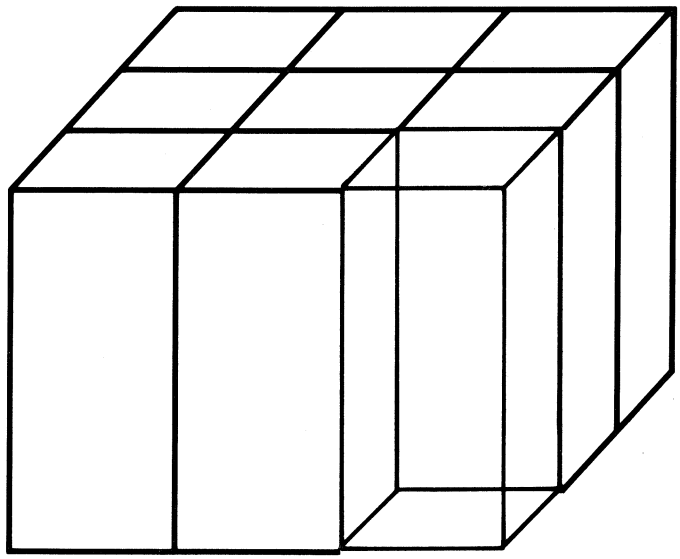
Networking
VSE/System Package



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VSE/System Package Networking

Version 2 Release 1

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This is a major revision of and obsoletes, SC33-6180-0 (an edition which IBM has not made generally available). This edition applies to Version 2, Release 1 of IBM Virtual Storage Extended/System Package (VSE/SP), Program Number 5666-316, and to all subsequent releases and modifications until otherwise indicated in new editions. Changes are made periodically to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest *IBM System/370, 30XX and 4300 Processors Bibliography*, GC20-0001, for the editions that are applicable and current.

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Preface

This publication is intended for the system administrator or the system programmer who is responsible for planning, installing, and maintaining an SNA network. Although the IBM licensed program Virtual Storage Extended/ System Package (VSE/SP) Version 2, Release 1 through the Interactive Interface, substantially reduces the effort to define a network, a skilled person familiar with IBM telecommunication products must plan and install it. Use the publications listed in the "Bibliography" on page 223 to obtain details on SNA, ACF/VTAM, ACF/NCP, VSE/SP, and related (optional) products.

This publication contains the following sections:

Chapter 1. Introduction describes briefly SNA concepts, networking terminology, and types of networks.

Chapter 2. Planning Your Network helps you plan the resources for the individual network components and the input to the networking dialogs and/or skeletons.

Chapter 3. Installing Your Network describes the dialogs, network skeleton, and the required input for cataloging the network.

Chapter 4. Operating Your Network describes how to initialize, tailor, monitor, and terminate the network.

Appendix A contains the configuration worksheets for the various products you want to configure.

Appendix B suggests a naming convention which you should use.

Appendix C lists the communication devices supported by VSE/SP.

Appendix D lists job skeletons.

Appendix E shows BSC IBM 3270 Polling and Device Selection Characters.

VSE/SP Library

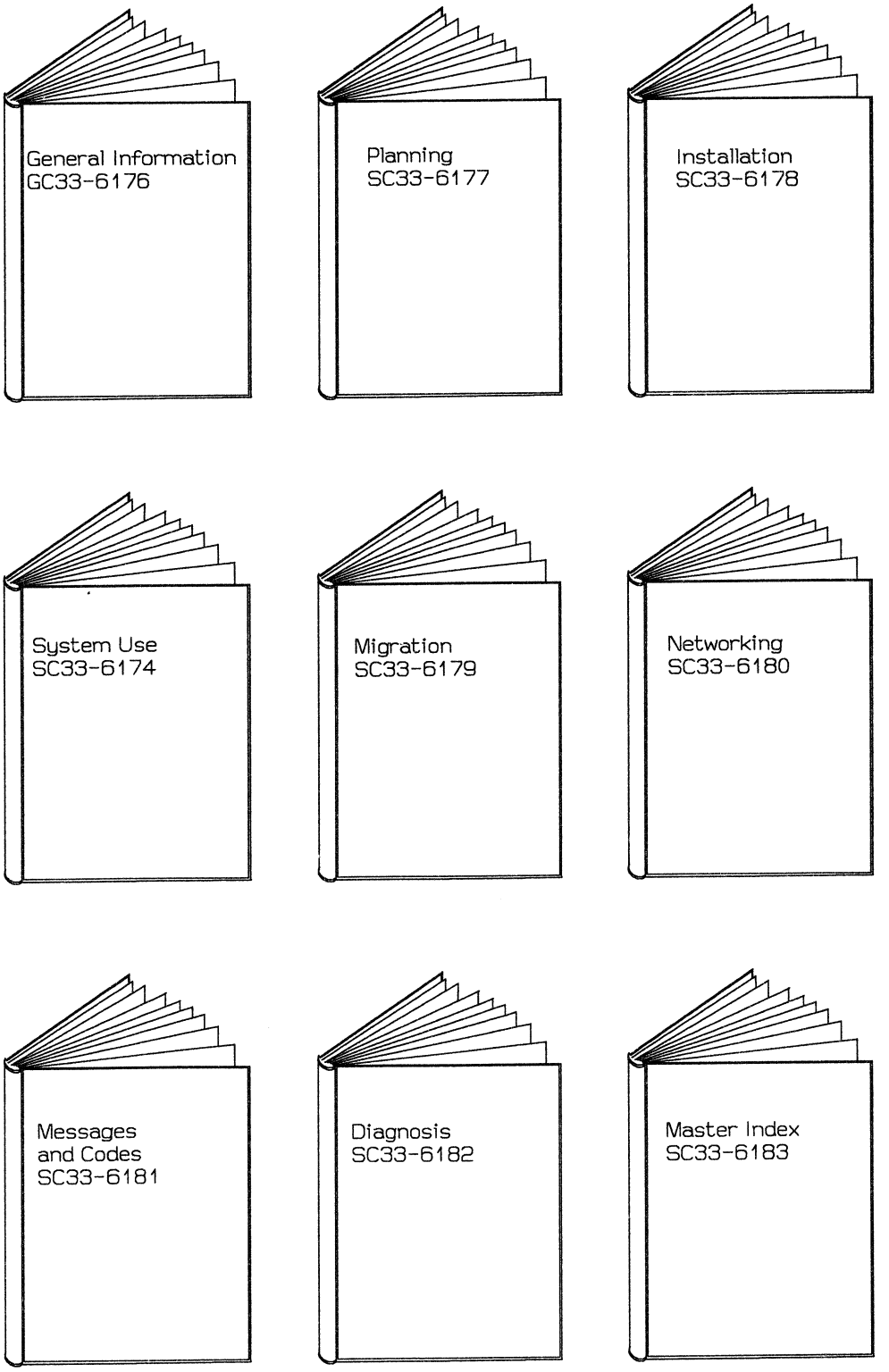

Figure 1. Overview of the VSE/SP Library

VSE/SP General Information — Introduces VSE/SP. It provides a general overview of the system, including:

- Why you should have VSE/SP.
- What functions VSE/SP offers.
- What types of VSE program products you can install.
- What hardware devices are supported.
- How you install and use VSE/SP.

VSE/SP Planning — Describes planning considerations for VSE/SP. The major sections of the book cover:

- Functions of VSE/SP.
- Functions of the component program products.
- Requirements for system installation.
- Overview of installation, operations, resource definition, programming, and diagnosis tasks.

VSE/SP Installation, *VSE/SP System Use*, and *VSE/SP Diagnosis* have detailed information for the specific tasks introduced in *VSE/SP Planning*. In addition, *VSE/SP Migration*, *VSE/SP Diagnosis*, and *VSE/SP Networking* contain planning information for their respective topics.

You will also sometimes need to use information in books for component program products to make a planning decision.

VSE/SP Installation — Detailed information for installing:

- VSE/SP.
- VSE/SP Generation Feature.
- VSE/SP optional programs and other VSE program products.
- IBM service.

VSE/SP System Use — Detailed information on how to do tasks like:

- Managing batch queues.
- Backing up and restoring data.
- Displaying system activity.
- Maintaining libraries and files.
- Tailoring the Interactive Interface.

VSE/SP Migration — Planning for migration to a VSE/SP system, with procedures and suggestions for actual migration. The book describes migration paths from several VSE-based systems and includes sample jobs.

VSE/SP Networking — Information on how to define remote devices and operate your system in a multiple-processor network. The book covers:

- Planning for networking.

- Using VSE/SP networking dialogs and skeletons.
- Network operation.

VSE/SP Diagnosis — Instructions for isolating the cause of operating problems and collecting data for further analysis. The book also describes utilities and aids for problem determination and resolution.

VSE/SP Messages and Codes — Messages which VSE/SP and the component program products issue and descriptions of what action, if any, you should take.

VSE/SP Master Index — An index for finding information in VSE/SP books and key publications for component program products. The entries in the index point to the books, not to specific page numbers. When you are referred to a book, you should use its more detailed index to locate page numbers.

For a list of related non-VSE/SP publications, see "Bibliography" on page 223.

How to Use this Book

Read the planning section of this book first. It lists sample configurations and for each sample, it shows you how to make sample worksheet entries. They are listed in brackets after the explanation. The worksheets are in the back; remove and copy them, if necessary. The data on the worksheets becomes the input to the remote configuration dialogs of VSE/SP 2.1. Therefore, if you use the worksheets for your individual system, you can

- better organize the necessary input data for the remote configuration dialogs for the configuration you are about to make and
- you can speed up the dialog sessions.

After you completed the worksheets, you are pointed to the Installation section of the book showing you how to actually use the dialogs. But you do not have to read the entire section, just the configuration part that applies to your particular configuration. The input to the dialogs is shown in red.

The Operation section is a general description of how to start, monitor, and terminate your network.

Contents

Figures

Chapter 1. Introduction

Do not read this part if you are familiar with SNA principles. Go directly to "Chapter 2. Planning Your Network" on page 5 .

Otherwise, read the short SNA refresher below. For more details, read *Systems Network Architecture - Concepts and Products.*

The term **network or networking** used in this manual always means **SNA network or SNA networking** unless otherwise specified. An SNA network is one kind of communication system; it is based on the SNA architecture which is the description of the:

- logical structure
- formats
- protocols or rules and
- operational sequences of information flow throughout the network.

Networks referred to in this manual are **user-application networks**, that is, a configuration of data processing products such as processors, communication controllers, and display stations that let a user at any display station in the network access application programs at any processor in the network.

SNA defines both the functional responsibilities of each network component and the rules for communication between components. SNA also defines the principles by which a network administrator specifies a network, arranges the network configuration, and controls the network functions according to the needs of the users.

Since SNA prescribes the manner in which a network function should be carried out, any two SNA products with equivalent functions can easily interact according to the principles of the SNA architecture. This is a major advantage because of the:

- Ability to interconnect diverse products into (a) unified system(s).
- Independence of users from the network configuration.
- Maximum flexibility in configuring a network.
- Preservation of investment when the network changes or expands.

- Connectivity of certain existing non-SNA display stations to SNA networks for easier transition.

We pointed out before that networks serve users. A user can be a person logging on to a display station to obtain a service. If that user interacts with the system via an application program, then that program is also considered a user in an SNA sense.

The user is not part of the network itself but part of the application area supported by the network. Therefore, in order to communicate with the network, **a user must be defined to SNA. This is accomplished via the logical unit (LU) concept.**

If a user (described as a LU) wants to communicate with another user (LU) or an application program (also an LU), then a so-called **session** is established between the two LUs.

Before two LUs establish a session they must agree on a set of protocols used for the entire session. This set is defined by **session parameters** which you can define in a **logon mode table**. Either user can end that session via pre-established rules (details are given in "Session Termination" on page 158). **Application program LUs are called primary LUs (PLU), display station LUs are called secondary LUs (SLU).**

To address each LU in the network, a **network name** is assigned. Before the LU-LU session begins, the network determines the **network address** via the network name. The units called network addressable units (NAUs), however, are not just display stations and application programs, as described above.

These NAUs can be hardware and programming components within display stations, controllers, and processors. SNA recognizes three different kinds of NAUs, the:

- Logical Unit (LU).
- Physical Unit (PU).
- System Services Control Point (SSCP).

LUs represent users to the system. Every LU in the network is associated with a **physical unit (PU)**. PUs are sets of SNA components providing services to control links, display stations, controllers, and processors in the network. Each controller and processor contains a PU.

SNA components for PUs and LUs are contained in **major and minor nodes**. Major and minor nodes are the controllable elements of the network. A major node is a set of minor nodes. Each major node can be controlled as a whole or parts of it, that is, through its minor nodes. **Application program major nodes** consist of one or more application program LU definitions which are the minor nodes. **SNA major nodes** consist of one or more PUs attached via a channel, an integrated communication adapter (ICA) or a communication controller. The **minor nodes** are the PUs (controllers) and the associated LUs (display stations).

Minor nodes are defined by definition statements, their names are listed in the corresponding statements. Major nodes are defined by combining these definition statements for the minor nodes into sets and by cataloging these sets in the library. The name of each major node is the book name assigned to the set.

SSCPs are also sets of SNA components. But unlike LUs and PUs which represent user and machine resources, the SSCP manages the entire SNA network (in case of single-processor networks) or significant parts of it (in case of multiple-processor networks).

The part which the SSCP manages is also called **domain**. Since the SSCP resides in the network processor (in single-processor networks there is only one), this network is called a **single-domain** network. If there is more than one processor in the network, we have more than one SSCP; consequently, such a network is called a **multiple-domain or cross-domain** network.

In a cross-domain network, you must also define the other domains and the resources in these domains. To do this, create a **cross-domain resource manager (CDRM)** and the **cross-domain resources (CDRSC)**, respectively.

The term **node** is used in SNA to indicate a point within the network that contains SNA components. Therefore, PUs and SSCPs, **but not LUs**, are SNA nodes.

Any network, be it a single domain or cross-domain network, can be broken down into SNA components or nodes and these can be grouped according to the services they provide. Nodes are either **subarea nodes** or **peripheral nodes**. A subarea node can receive messages from any origin and move them to any destination in the network provided that a link or group of links is available to connect the origin and the destination area. A peripheral node passes messages only between a NAU within that node and the subarea to which it is attached.

If a peripheral node (a PU) is directly attached to the processor, we speak of a processor subarea node with an SSCP and all the PUs being peripheral nodes. If PUs are attached via a communication controller, this communication controller is called a subarea node **without SSCP**, and all PUs being peripheral nodes. In this case, we have a subarea node **with SSCP**, a subarea node **without SSCP** , and **peripheral nodes**, that is, all the PUs to which in turn all LUs are attached. In a single-domain environment, you have only one subarea node with an SSCP; in a cross-domain environment, you have more than one SSCP, thus you have more than one subarea node with SSCPs.

Each subarea node has a **routing table** which contains all destination subareas that can be reached from that node.

Data transmission is carried out via **SDLC links**. Links with identical characteristics, that is, data-carrying capacity, can be grouped into so-called **transmission groups**. Such a group has better availability than a

single link. The term 'transmission group' itself, however, is also applied to single SDLC links and to channels.

The set of transmission groups underlying part of the path between the two subarea nodes involved in a session is called the **explicit route**. The remaining link - from the subarea node to the peripheral node - is called **route extension**.

SNA designers have implemented the concept of **multiple active routing** to provide more than one route between any two subarea nodes. Multiple routes clearly increase the probability that a route will be available when a session needs to be established.

Now continue with "Chapter 2. Planning Your Network" on page 5.

Chapter 2. Planning Your Network

After you have installed VSE/SP, you are ready to do your post-installation work, that is, plan and install your network. The following sections describe:

- Specific networking features of VSE/SP.
- Network types.
- Which networks you can define and how.
- Which hardware and software items you should consider.

Networking Features of VSE/SP

Some of the networking features provided by the Interactive Interface dialogs of VSE/SP help you make full use of your system without a user programming effort, others set the stage for a reduced programming effort.

1. CICS/VS and Other Applications
   - Remote Operation of System Console

     The system console of any interconnected system may be accessed to:

     - Cross-Domain Logon
       - To Applications on Other Systems

         A network skeleton provided with VSE/SP makes the definitions for these cross-domain applications easier (see "Overview" on page 53).

       - Monitoring of Cross-Domain Networks

         You can use NCCF/NPDA to monitor the network. Both are ACF/VTAM application programs and must be defined in an application program major node as a cross-domain resource (see "NCCF Tailoring" on page 161).

     - Display current content of the system console.

- Send commands to VSE/SP if authorized.
- Scroll through the hardcopy file.
- Access the on-line message file which is a copy of all messages documented in *VSE/SP Messages and Codes*
- Access help information describing frequently used commands.

  You can use this function, for example, to run a system or to monitor the execution of a program. Any commands entered are displayed on the system console and the remote operator console. No special definitions are necessary to use this feature.

For details, see "Remote Operating of System Console on VSE/ICCF Station" on page 161 and *VSE/SP System Use.*

2. IBM Personal Computer (PC) Support

   You can operate your PC if it is attached

   - to an IBM 3274 control unit (local or remote) or a display/printer adapter (DPA)
     - as an IBM 3270 PC
       - in control unit terminal (CUT) mode as an IBM 3278-2 or an IBM 3279-2A
       - in distributed function terminal (DFT) mode as **any** IBM 3278/79 except for an IBM 3278-5
     - as an IBM PC
       - in 3278/9 emulation in CUT mode as an IBM 3278-2

     File transfer to and from a PC is possible if the IBM PC or IBM 3270 PC is attached as a display station via DPA or an IBM 3274 control unit.

   - via an SDLC link to an integrated channel adapter (ICA) or an IBM 37X5
     - as an IBM PC with the SDLC Communication Adapter and the SNA 3270 Emulation and RJE Support Program Feature installed.

       If this is the case, the PC operates either as an IBM 3278 display station or as an IBM 3770 RJE workstation.

3. VSE/POWER/Networking (PNET) Applications - Job/File Transfer Capabilities

The VSE/POWER/PNET feature of VSE/POWER 2.2 lets you communicate with other systems that have VSE/POWER/PNET installed. They can be:

- Another VSE/SP 2.1.
- VSE/SP 1.1.0.
- SSX/VSE.
- VSE/Advanced Functions.

VSE/POWER/PNET also communicates with systems managed by VM/SP RSCS or MVS/SP JES 2 or MVS/SP JES 3.

The networking capabilities of VSE/POWER/PNET let you transfer jobs and files to other systems to be run there and they let you route the output to the same or a different system (see "Submitting Jobs to Other Systems" on page 162).

If you need the VSE/POWER/PNET capabilities in your system(s), you must replace the pre-generated VSE/POWER component in VSE/SP by one that includes PNET. To do this, you can either:

- Modify and install the IBM-supplied skeleton SKPWRNDT and SKPWRBSC - for BSC connections only (in VSE/ICCF library 59 - see also "VSE/POWER/PNET Node Definition Skeleton SKPWRNDT" on page 211); then, regenerate VSE/POWER using skeleton SKPWRGEN (see "VSE/POWER Generation Skeleton SKPWRGEN" on page 204) - for remote job submission and file transfer, use PNT$NODE and PNT$JCLT members
- or install a network definition tape containing your VSE/POWER/PNET node definitions (see "Installing a Network Tape" on page 125 and regenerate VSE/POWER as described above).

After completing the definition of the VSE/POWER/PNET nodes and regenerating VSE/POWER, use the dialogs to:

- submit jobs to interconnected systems (see "Submitting Jobs to Other Systems" on page 162)
- create jobstreams to transfer or retrieve VSE/VSAM files and VSE/ICCF library members across interconnected systems.

Transfer can be via SDLC links or BSC lines (see "Transferring/Retrieving Files to/from Other Systems" on page 163).

4. CICS/VS Inter-System Communication (ISC)

   ISC is not explicitly dialog-supported. With the special LUTYPE 6 (see *Systems Network Architecture - Sessions Between Logical Units*) and the necessary CICS/VS programming effort for the respective application programs on both systems, CICS/VS of system A will communicate with CICS/VS of system B. It will also communicate with the MVS/SP-based IMS/VS DB/DC system.

   Applications across systems must be defined as cross-domain resources when you set up your network. The network skeleton provided with VSE/SP will help you do that (see part CICS2 on page 116).

5. Network Tape Function

   As mentioned before, VSE/SP uses the network skeleton to define the resources for a cross-domain network. The skeleton makes it easier to control the definitions for the network. In a cross-domain network, VSE/SP can either be a peer to another VSE/SP, a subhost to an MVS/SP or VM/SP system or it can be the host system to another subhost, such as, for example, SSX/VSE.

   - Creating Network Tape

     After you defined the network via the network skeleton, you can create a tape containing the network definitions for the above described related systems. For planning aspects, see "Overview" on page 53. To actually create a tape, use the dialogs described in "Creating a Network Tape" on page 125.

   - Installing Network Tape

     If you receive a network tape from the host system administrator, you can install it using the dialog provided with VSE/SP (see "Installing a Network Tape" on page 125). Additional tasks may be necessary to tailor the subhost network to the needs of the overall network such as generating an ACF/NCP, loading an IBM 37X5 communication controller.

Network Types

Single-Domain Networks

The configuration of display products and workstations via the Interactive Interface dialogs is fully supported for single-domain network environments.

ICA Connections

VSE/SP includes the components ACF/VTAM and CICS/VS you need to run in an **integrated communication adapter** (ICA) environment. ACF/VTAM is the telecommunication access method. The newly-developed **Interactive Interface** with its remote configuration dialogs generates the necessary jobs or jobstreams to catalog your network, that is, all ACF/VTAM major node and CICS/VS TCT definitions as well as members PNT$NODE and PNT$JCLT.

IBM 37X5 Connections

If you use an **37X5 communication controller**, install the optional program products ACF/NCP and ACF/SSP using an VSE/SP-provided dialog. The planning section gives you details on how ACF/NCP jobstreams (created by the remote configuration dialogs) generate your ACF/NCP. In this environment, you can have both ACF/VTAM and BTAM-ES as telecommunication access methods.

However, for an IBM 370X or 37X5 communication controller environment with **EP/VS**, the configuration of BTAM-ES/CICS display products and workstations is not supported by the remote configuration dialogs. (To install the optional program product EP/VS, use the VSE/SP-provided dialog for these program products). You can use the remote configuration dialogs only for making the scanner and line definitions. By using skeleton SKPWRBSC and by making the necessary TCT entries, you can also define BTAM-ES/CICS display stations. BTAM-ES is part of the system; you do not have to install it separately. Again, the planning section will give you details on that.

Cross-Domain Networks

For cross-domain networks, there are no dialogs. Instead, VSE/SP contains a network skeleton to define the ACF/VTAM books, the CICS/VS TCT definitions, and the VSE/POWER definitions for the VSE/POWER/PNET network definition table (NDT).

If your system is part of a network hierarchy including an MVS/SP or a VM/SP processor, fill out the skeleton and send it to the administrator of the respective 'upstream' system. He/she completes the skeleton, returns it to you on magnetic tape, and you install your network using a dialog. This is described in this book.

There is another way to define your system to another VSE/SP or SSX/VSE. VSE/SP contains skeletons for connecting your system to that VSE/SP or SSX/VSE, that is, you do not have to fill out the network skeleton. You define an **ACF/VTAM major node** using skeleton SKVTMCA2 (see "ACF/VTAM Major Node Definition Skeleton SKVTMCA2" on page 219), an **ACF/VTAM path definition table** using skeleton SKVTMPAT (see "ACF/VTAM Path Definition Table Skeleton SKVTMPAT" on page 218), and **cross-domain manager** and **cross-domain resource major nodes** using skeleton SKVTMCDR (see "Cross-Domain Manager and Resource Definition Skeleton SKVTMCDR" on page 217). For remote job submission and file transfer, you need PNT$NODE and PNT$JCLT.

However, if you consistently use the all-inclusive network skeleton, your network definition is less error-prone. Even if you only define the resources for the SSCP of your own node, it is advisable to use the network skeleton, that is, 'send' the network tape to yourself.

To install ACF/NCP on the system, you must use the appropriate ACF/NCP product description (see "Bibliography" on page 223). VSE/SP has no dialogs for that. In addition, if you want to install NCCF and NPDA, these ACF/VTAM applications must be defined by you; VSE/SP makes no provisions for that.

To assist you in installing NCCF and NPDA, read "Installing Additional Network Programs" on page 129.

For **cross-domain application communication** via SNA facilities from a processor with VSE/SP to another processor, the latter must have the following products installed:

1. VSE/SP Version 1 and ACF/VTAM Version 1.3 with MSNF (and ACF/NCP if you have an IBM 37X5 communication controller) **or** ACF/VTAME (if you are in an ICA-environment)

   or

2. VSE/SP Version 2 and ACF/VTAM Version 2 (and ACF/NCP if you have an IBM 37X5 communication controller)

   or

3. SSX/VSE Version 1.1 or later

   or

4. MVS/SP JES 2 Release 3 or later and ACF/VTAM Version 1.3 with MSNF

   or

5. MVS/SP JES 2 Release 3 or later and ACF/VTAM Version 2.1 or later (and ACF/NCP if you have an IBM 37X5 communication controller).

Job networking connections to other processors with SNA functions are possible via **SDLC links**, if the other processor has **one** of the following product categories installed:

1. VSE/SP Version 1 or Version 2.

2. SSX/VSE Version 1.1 or later.

3. VSE/Advanced Functions Version 1.3.0 **and**

   - VSE/POWER Version 2.1
   - ACF/VTAME **or** ACF/VTAM Version 1.3 or later with MSNF
   - ACF/NCP Version 2.1 (if you use an IBM 37X5 communication controller).

4. VSE/Advanced Functions Version 2.1.0 **and**

   - VSE/POWER Version 2.2
   - ACF/VTAM Version 2.1 or later
   - ACF/NCP Version 2.1, if you use an IBM 37X5 communication controller.

5. MVS/SP JES 2 Release 3 or later and

   - ACF/VTAM 1.3 or later with MSNF **or** ACF/VTAM 2.1 or later
   - ACF/NCP, if you use an IBM 37X5 communication controller.

Job networking connections to other processors via **BSC lines** are possible, if the other processor has **one** of the following product categories installed:

1. VSE/SP Version 1 or Version 2.
2. SSX/VSE Version 1.1 or later.
3. VSE/Advanced Functions Version 1.3.0 or later with VSE/POWER Version 2.1.
4. VSE/Advanced Functions Version 2.1.0 with VSE/POWER Version 2.2.
5. MVS/SP JES 2 Release 3 or later **or** MVS/SP JES 3 Release 3.1 or later.
6. VM/SP RSCS Release 2 or later.

Networking Requirements

Software Prerequisites

ACF/VTAM

For the network **as a whole**, you must define:

- Paths where the information will flow.
- Maximum number of subareas.

For **each host**, you must define the:

- Subarea number.
- Cross-domain managers.
- Cross-domain resources, that is, the display stations on this node accessing cross-domain applications.
- Applications to which users can log on.

All of the above items must be unique, that is, they are the unique resource names which you must enter on a specific selection panel when you install the network (for details, see "Unique Network Definitions" on page 127).

Note: If you use ACF/VTAM X.25 Communication Adapter Support (Feature Nr. 6027 and Nr. 6028) on your system, be sure to install the following PTFs (the related manuals are listed below):

- *X.21 Switched*

  Advanced Communication Function for VTAM Version 2 Library Supplement for X.21 Switched Network Support, Program Number 5666-280 (VSE), SC30-3270.

  Advanced Communication Function for VTAM Version 2 Library Supplement for X.21 Switched Network Support, Program Number 5666-280 (VSE), LY30-5567.

- *X.25 Hooks*

  Advanced Communication Function for VTAM Version 2 Library Supplement for X.25 Packed-Switched Data Network Support, Program Number 5666-280 (VSE), LY30-5568.

VSE/POWER

For your VSE/POWER/PNET applications, you need to create a unique node name for each processor in the network (PNET node). You must also plan the type of control an operator can exercise at each PNET node. For details, see item 7 under "Defining the Network" on page 54.

CICS/VS

For CICS/VS applications, you need to determine:

- Which display stations are authorized to log on to cross-domain applications.
- Whether or not the inter-system communication (ISC) feature should be installed.
- Which special TCT entries, if any, are needed for certain display stations.

Hardware Prerequisites

IBM 3274 Control Unit

You must customize **local and remote** IBM 3274 control units before you can use them. This is done off-line by responding to a series of questions presented on the screen attached to port 0 of the control unit. The result is a diskette which remains in the IBM 3274. When the unit is powered on, the microcode is loaded from the diskette. For details, see *IBM 3274 Control Unit Planning, Setup, and Customization Guide.*

If you have an integrated communication adapter installed in your IBM 43X1, a configuration table is included on the system diskette. It contains descriptive entries for each installed link. Certain link parameters can be set or changed either temporarily (by the operator) or permanently (by the IBM Customer Engineer).

Supported Communication Devices

For a complete list of supported communication devices, see Appendix C, "Supported Communication Devices" on page 177.

ACF/VTAM Buffer Pool Allocations

ACF/VTAM buffer pools are used to control transmission of data between ACF/VTAM and the network nodes. They are also used for internal control blocks.

Buffer pool allocations are given in the ACF/VTAM start list in VSE/ICCF member ATCSTR00 (see Figure 2 on page 14). They are either **basic** (the first three values of each poolname) or **dynamic** (the last two values). Depending on the varying degree of system usage during the day, many of

the buffers are dynamically allocated by ACF/VTAM. This improves system throughput.

```
LFBUF=(70,288,,6,),                                              *
LPBUF=(54,,6),                                                   *
SFBUF=(153,,20),                                                 *
SPBUF=(210,,20),                                                 *
VFBUF=28000,                                                     *
VPBUF=500000,                                                    *
WPBUF=(100,,10)
```

Figure 2. ACF/VTAM Buffer Pool Allocations in ATCSTR00

For more details, see Chapter 12 in *Advanced Communications Function for VTAM Version 2 - Planning and Installation Reference.*

Partition Sizes with ACF/VTAM, NCCF, and NPDA

To run ACF/VTAM with VSE/SP, you need at least three partitions for:

- ACF/VTAM
- VSE/POWER
- and one application program.

NCCF, NPDA, and other applications may need additional partitions. NCCF itself can be a subtask under ACF/VTAM, NPDA a subtask under NCCF.

The ACF/VTAM partition must have higher priority than partitions containing application programs.

The sizes of system partitions are defined during system startup by the ALLOC and ALLOCR commands. Both real and virtual storage must be allocated for the partition in which ACF/VTAM will run. Additional storage must be allocated for modules to be attached as ACF/VTAM subtasks. For calculating storage requirements, see Appendix F in *Advanced Communications Function for VTAM Version 2 - Planning and Installation Reference.*

Naming Convention

Before you start configuring your network, adhere to the naming convention shown under Appendix B, "Naming Convention" on page 175. This is only a suggestion. If you use your own naming scheme, modify the dialog-provided resource names accordingly. If you use previously defined resource names for your network, make sure they are consistent with the new naming convention you would use with VSE/SP.

Network Definitions

Sample Network Configurations

VSE/SP offers a range of remote configuration dialogs and skeletons which help you generate

- single-domain and
- cross-domain networks.

VSE/SP remote configuration dialogs support SDLC-protocol networks under ACF/VTAM. For BSC connections, only the generation of EP/VS is dialog-supported.

Adding a Terminal

If you want to add a terminal to your configuration, there are several tasks which you must perform. You use either one or both of the following books:

1. *VSE/SP System Use*
2. *VSE/SP Networking*

You must first define the hardware address in the hardware configuration table. You use the *Configure Hardware Addresses* dialog. The dialog is described in *VSE/SP System Use*.

After you define the address, you use one of five configuration dialogs. The dialog you use depends on the type of terminal you are defining and how it is connected. The dialogs are:

1. Configure ICA Connected Terminals
2. Configure NCP Connected Terminals
3. Configure EP Connected Terminals
4. Configure Local Non-SNA 3270s
5. Configure Local SNA 3270s

The first three dialogs are for remotely attached IBM 3270 display stations. They are described in this manual.

The other two (4 and 5) are for locally attached display stations. *VSE/SP System Use* describes these dialogs.

After you define the hardware address and complete the appropriate configuration dialog, you **must** access the *Create Startup Books* dialog. The information you specify **is not available** to the system until you complete the *Create Startup Books* dialog. The dialog creates the correct startup books, startup assignments, and CICS/VS TCT entries depending on

what you have defined. *VSE/SP System Use* describes the *Create Startup Books* dialog.

Figure 3 outlines the tasks you must perform to add a terminal to your configuration.

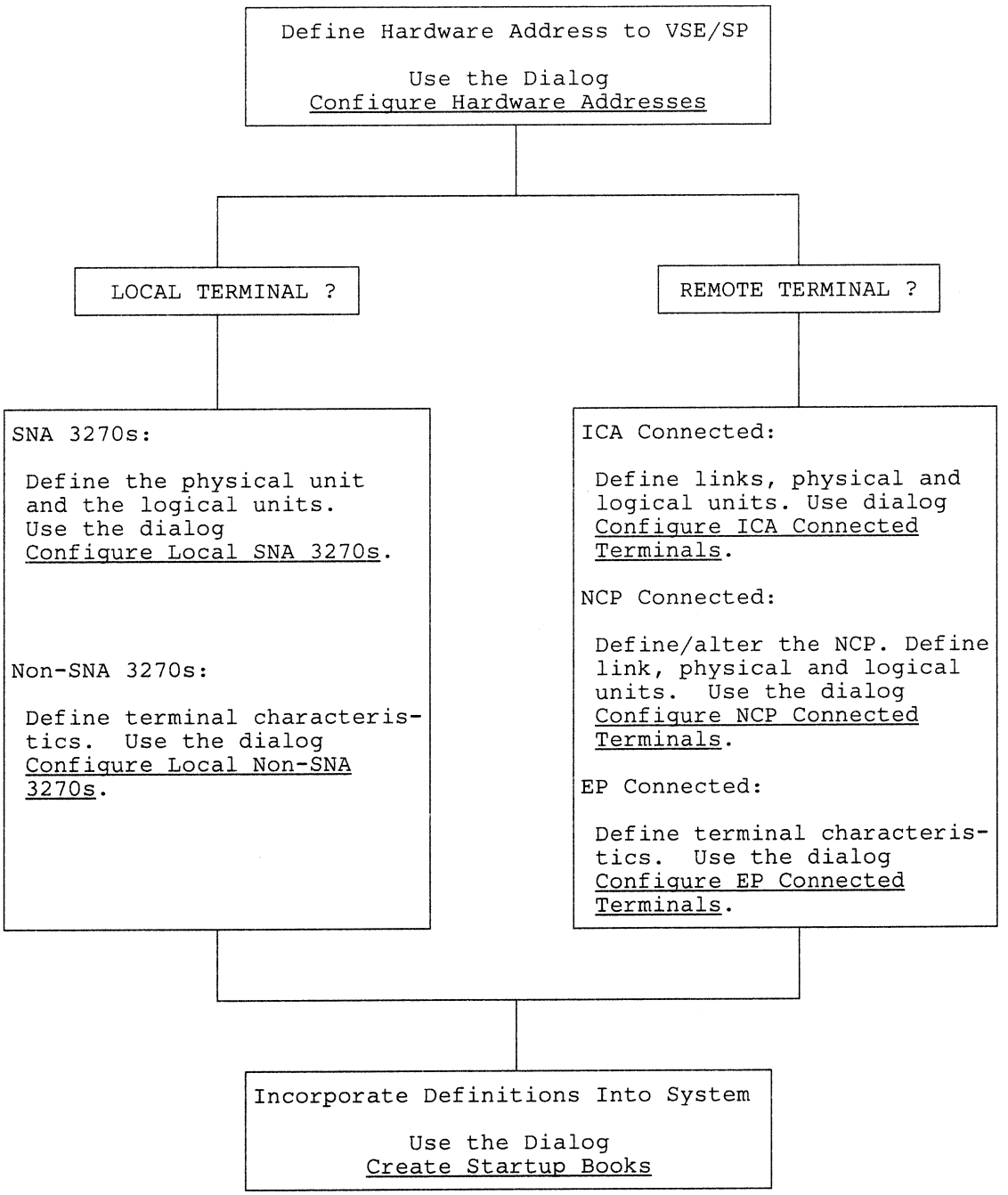

Figure 3. Tasks Needed to Add a Terminal to Your Configuration

This book uses a systems approach to network configuration, that is, it shows sample configurations and networks which you can trace throughout the book to help you configure your individual

configuration. Because you see relationships between the various components of VSE/SP, you can deduce very easily from these samples for an easy installation of your own network.

To define a network in a task-oriented manner, you want to:

- Define the connections for the various hardware and software components.
- Determine what kind of applications or transactions you want to perform.
- Use the remote configuration dialogs to create the necessary resource definitions for ACF/VTAM, CICS/VS, and ACF/NCP.

The VSE/SP Interactive Interface and various skeletons provided with VSE/SP let you define many network categories:

1. Under ACF/VTAM
   a. **SNA products** with SDLC protocol:
      - Local display products
      - Remote **display products** connected via:
        - an **integrated communication adapter (ICA)** installed in the IBM 4321, 4331, and 4361 processors
        - a **communication controller** IBM 37X5 (ACF/NCP).
      - Remote **RJE workstations** connected via:
        - an **ICA**
        - a **communication controller** IBM 37X5 (ACF/NCP).
      - **Cross-domain** networks with **VSE/POWER/PNET and VSE/POWER/RJE** (and ACF/NCP if you have an IBM 37X5 communication controller) and MVS/SP and VM/SP host systems.
2. Under BTAM-ES
   a. Display products and VSE/POWER/RJE workstations via a communication controller IBM 370X (EP/VS).

      Note: The term workstation applies to workstations which communicate with either **CICS/VS or VSE/POWER/RJE** *unless otherwise specified.*

Getting Started with Worksheets

Before you actually start configuring your particular network, fill out the worksheets for each of the above described connections (see Appendix A, "Configuration Worksheets" on page 167). For each configuration possibility, there is a sample configuration to help you plan and install your individual network. The entries to make on your worksheets are based on the samples provided; they are listed under 'Sample Worksheet Entries'. Some configuration panels are selection panels from which you can choose an option number the range of which is always listed in the respective

planning section. These option numbers which you enter also on your worksheets save you valuable time during the actual network installation session because they speed up data input to the VSE/SP remote configuration dialogs.

Look up the connection you want to configure in the following paragraphs containing these categories:

1. Local attachment
   - BTAM-ES - non-SNA Products - dialog-supported (see *VSE/SP System Use*)
   - ACF/VTAM - non-SNA Products - dialog-supported (see *VSE/SP System Use*)
   - ACF/VTAM - SNA Products - dialog-supported
2. Remote attachment
   - ACF/VTAM - SNA Products with SDLC Protocol - dialog-supported
   - ACF/VTAM - non-SNA Products with BSC Protocol - not dialog-supported
   - BTAM/ES - non-SNA Products with BSC Protocol - dialog-supported for EP/VS generation only!

ACF/VTAM and BTAM-ES - Local Non-SNA Products

Note: The configuration of these products is fully supported by dialogs (see VSE/SP System Use).

If you want to configure **local non-SNA** display products, go to "Local Non-SNA Display Products" on page 65.

ACF/VTAM - Local SNA Products

Note: The configuration of these products is fully supported by dialogs.

If you want to configure **local** SNA display products, go to "Local SNA Display Products" on page 20.

ACF/VTAM - Remote SNA Products with SDLC Protocol

Note: The configuration of these products is fully supported by dialogs.

If your **remote** devices are attached via an **ICA**, and you want to configure:

- **Display products**, go to "ICA-Attached Display Products" on page 24.
- **CICS/VS and VSE/POWER/RJE workstations**, go to "ICA-Attached CICS/VS and VSE/POWER/RJE Workstations" on page 31.

If your **remote** devices are attached via an **IBM 37X5(NCP)**, and you want to configure:

- **Display products and CICS/VS workstations**, go to "37X5(NCP)-Attached Display Products and CICS/VS Workstations" on page 36.
- **VSE/POWER RJE workstations**, go to "37X5(NCP)-Attached VSE/POWER/RJE Workstations" on page 49.

If you want to configure a **cross-domain** network, go to "Cross-Domain - Local and Remote Display Products" on page 53.

ACF/VTAM - Remote Non-SNA Products with BSC Protocol

Note: The configuration of these products is explained in this manual but there are no VSE/SP dialogs to support it.

If your **remote** devices are attached via an **ICA**, and you want to configure:

- **Display products**, go to "ICA-Attached Display Products" on page 69.
- **VSE/POWER/RJE workstations**, go to "ICA-Attached VSE/POWER/RJE Workstations" on page 72.

If your **remote** devices are attached via an **IBM 37X5(NCP)**, and you want to configure:

- **Display products**, go to "37X5(NCP)-Attached Display Products" on page 72.
- **VSE/POWER/RJE Workstations**, go to "37X5(NCP)-Attached VSE/POWER/RJE Workstations" on page 72.

BTAM-ES - Remote Non-SNA Products with BSC Protocol

Note: The configuration of these products is explained in this manual; the dialog support is for EP/VS only.

If you want to configure **ICA-attached display products and VSE/POWER/RJE workstations**, go to "ICA-Attached Display Products and VSE/POWER/RJE Workstations" on page 73.

If you want to configure **370X(EP)-attached display products and VSE/POWER/RJE workstations**, go to "370X(EP)-Attached Display Products and VSE/POWER/RJE Workstations" on page 75.

Local SNA Display Products

Your local channel-attached SNA display products (Figure 4 shows this configuration possibility) are defined to ACF/VTAM using the CONFIGURE LOCAL SNA 3270s dialog.

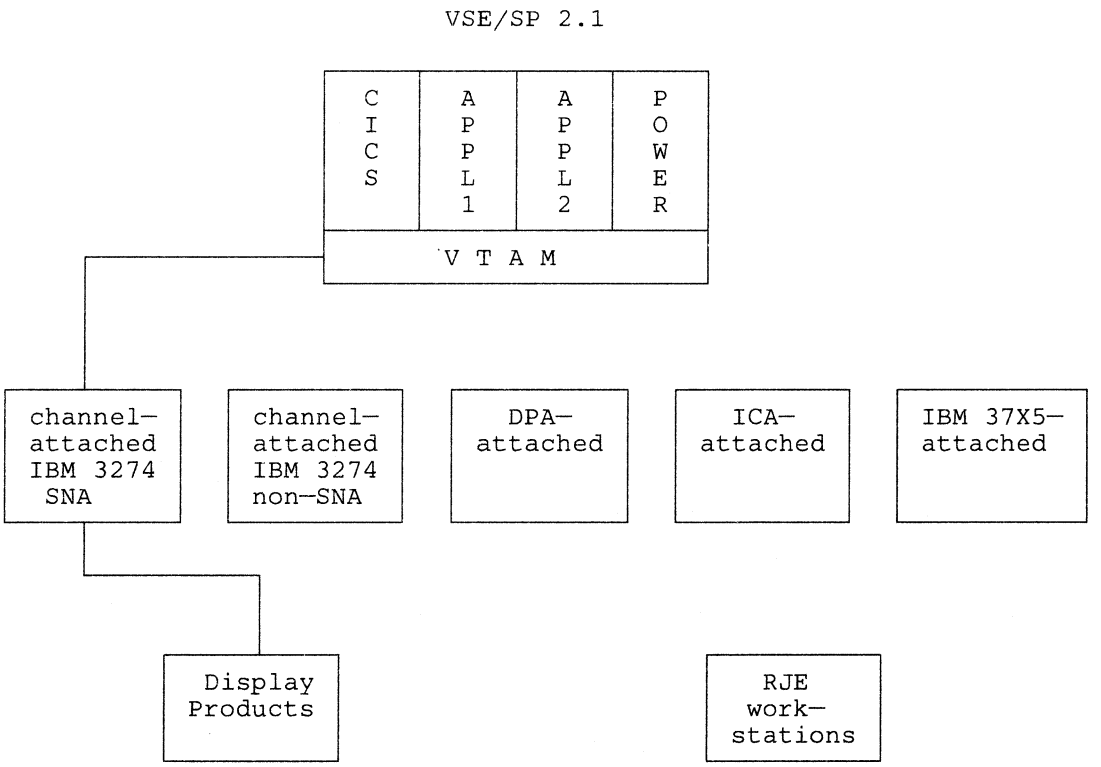

Figure 4. Configuration Diagram - Local SNA Display Products

How to Use Local SNA Display Products

With this configuration, you can:

- Access CICS/VS and other ACF/VTAM applications.
- Invoke the PC Move Utilities.
- Invoke the System Console panel.

  With that, you can, if your profile authorizes you:
  - View messages currently displayed on the system console.
  - Enter commands or reply to console messages.
  - Review previous console messages written to the VSE/SP hardcopy file.
  - Look up a message explanation using the VSE/SP Online Message File.

Sample Local SNA Display Products

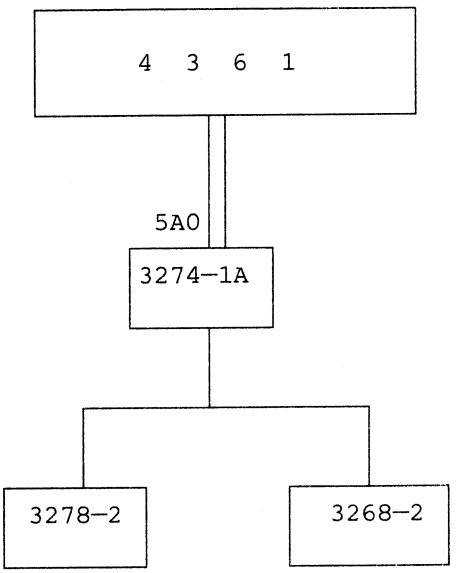

Figure 5. Sample Configuration - Local SNA Display Products

To configure local SNA display products, collect the information listed below. Use the sample configuration in Figure 5 above to plan and install your individual configuration.

In the sample above, we want tc configure a locally attached SNA 3278 display station and an IBM 3268 printer. They are to communicate with CICS/VS. Both devices attach to a control unit IBM 3274-1A which is channel-attached to an IBM 4361 processor (device address is 5A0). These devices, both physical and logical units, must be specified using the *Configure Hardware Addresses* dialog. You must define the IBM 3274-1A as an '3791L' device (for details, see *VSE/SP System Use*).

Now define the resources using the configuration worksheet (see "Local SNA Display Products Worksheet" on page 167).

Defining Resources

You must define the following:

- Device address (cuu)

  Enter on your worksheet: 5A0

- Physical unit

  You can only specify the following physical units:

  - 3274-1A
  - 3274-21A
  - 3274-31A
  - 3274-41A

  These devices cannot be loop-adapter attached devices such as an IBM 8775 or IBM 3276.

  Enter on your worksheet: 3274-1A

- Logical units

  You can define the following logical units by selecting one of the 19 choices in Figure 6 (option number 1 through 19):

```
-----------------------Display Stations--------------------------

1...3178 Display Station                3279 Color Display Stations:
                                 7........ Model S2A
    3278 Display Stations:       8........ Model S2B
2....... Model 2                 9........ Model S3A
3....... Model 3                10........ Model S3B
4....... Model 4                11........ Model S3G
5....... Model 5                12........ Model 2X
                                13........ Model 3X
6...3290 Information Panel

-------------------------Printers---------------------------------

14..3262 Model 3, 13             17... 3287 Model 1, 2
15..3268 Model 2                 18... 3287 Model 1C, 2C
16..3289 Model 1, 2              19... 5210 Model G01, G02
```

Figure 6. Logical Unit Selection

Enter on your worksheet: 2 for 3278-2 and 15 for 3268-2.

After you have filled out your worksheet, go through the dialogs. At the end of such a local configuration session, job VTAMDEFS is generated which catalogs the ACF/VTAM resource definition statements. Use the *CREATE STARTUP BOOKS* dialog to create job STARTUP which assembles and catalogs your TCT entries.

To use the dialogs provided with VSE/SP, go to "Local SNA Display Products" on page 81.

ACF/VTAM Access Method - SNA Products with SDLC Protocol

Single-Domain - Remote SNA Display Products

ICA-Attached Display Products

For a processor with an integrated communication adapter you can define up to eight communication links to which display products can be attached (see Figure 7 below).

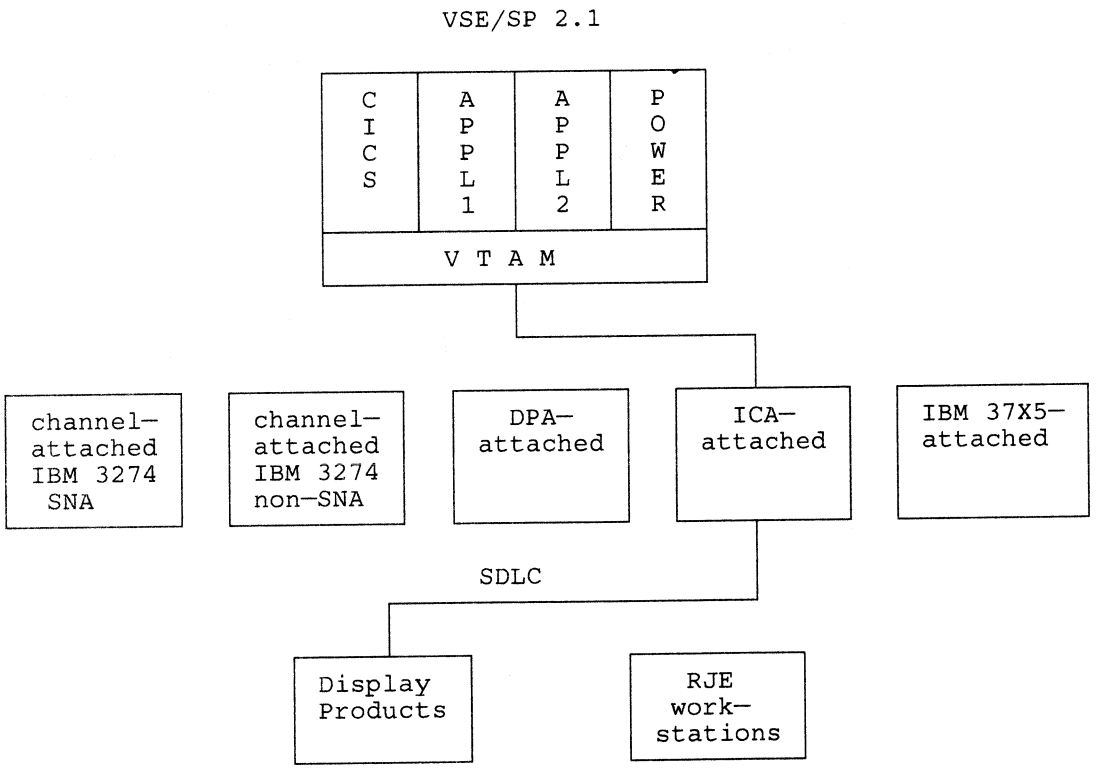

Figure 7. Configuration Diagram - ICA-Attached Display Products (SDLC)

With such a network, you can access **CICS/VS and other applications** defined to ACF/VTAM. CICS/VS accesses the VSE/SP Interactive Interface which lets you:

- Call the **System Console** function for an interconnected system for remote console operation by selecting 'Operations' and 'System Console'. This lets you:

  - Display most recent content of the system console.
  - Send commands to VSE/SP.
  - Scroll through the hardcopy file.
  - Access the online message file.
  - Access help information describing frequently used commands.

  This function can be used, for example, to run a system or to monitor the execution of a program. Any commands entered are displayed on the system console and the remote operator console.

- Invoke the **PC Move Utilities** to use an IBM Personal Computer as a CICS/VS 3270 terminal. With this feature you can:

  - Exchange data with the host system.
  - Use the host system as a repository for PC data.
  - Exchange data between PC's via the Host Transfer File.
  - Access host applications from a PC as an IBM 327X terminal.

Sample ICA-Attached Display Products (SDLC)

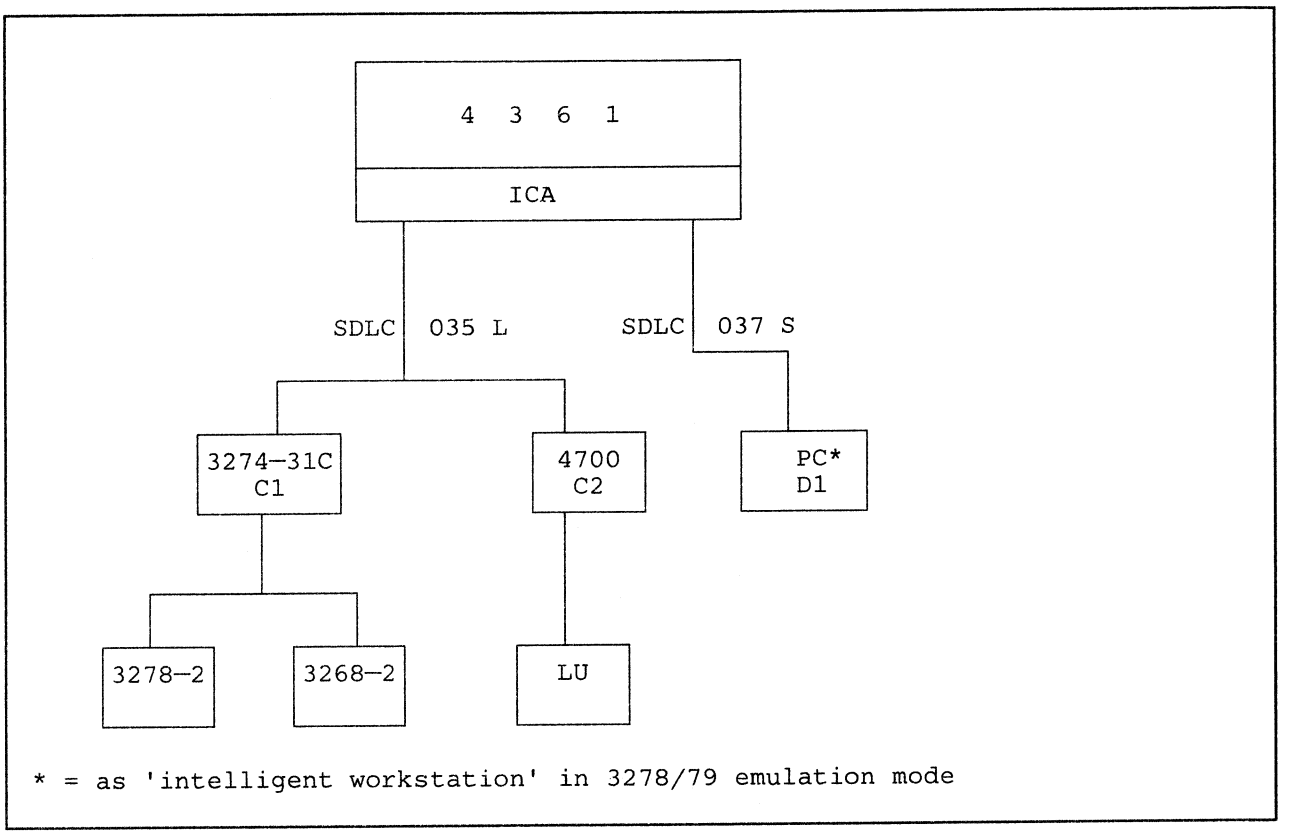

Figure 8. Sample Configuration - ICA-Attached Display Products (SDLC)

A sample configuration is used to help you plan and install your individual network (see Figure 8). In the sample above, we want to configure:

- A remotely attached IBM 3278-2 and an IBM 3268-2 printer.
- An IBM 4700 industry system with one logical unit.
- An IBM Personal Computer.

The first two products are ICA-attached via a leased SDLC link with channel unit address 035. The PC is ICA-attached via a switched SDLC link with address 037.

Defining Resources

A description of the ICA configuration possibilities follows. After reading this information, use the configuration worksheets (see "ICA and RJE Worksheets" on page 168) to collect the information relevant to your network. The worksheet entries for the above sample network are listed under "Sample Worksheet Entries" on page 30.

You must define the following:

1. **Channel unit address** for each link (the range usually is from 030 to 037)

2. **Protocol** for each link, i.e. SDLC or BSC.

   A link operating under an SDLC protocol provides connectivity between SNA products only; BSC (and Start/Stop) protocols are used for non-SNA connections.

   Note: Items 1 and 2 above are defined by the Configure Hardware Addresses dialog. They are mentioned here only for completeness so that you can properly fill out your worksheet.

3. **Type** of link, i.e. leased, switched, or cross- domain (1, 2, or 3, respectively)

   A leased link establishes a permanent connection; dialing is not necessary. A switched communication link requires dialing before a connection between data stations is established. A cross-domain link is a link physically connecting two domains.

   Whereas the dialogs create the necessary ACF/VTAM resource definitions for switched and leased SDLC links, the cross- domain links, both SDLC and BSC, must be defined manually. Also, all BSC-only lines must be defined manually. Check VSE/ICCF library 59 for VSE/POWER skeleton SKPWRBSC to define BSC connections to other systems.

4. SDLC **station address**.

   Specify a 2-character hexadecimal SDLC station address for the physical unit. This address must be **unique** for each physical unit attached to the link. The valid range is '01' through 'FE'. A **physical unit** is one of three types of network addressable units (NAU). In the case of ICA-attached display products, all physical units are peripheral nodes because the processor with the SSCP, i.e. ACF/VTAM, is the only subarea node in the network. There are no additional subarea nodes in a single-domain-ICA environment. For a leased link you can attach up to eight physical units; switched link connections attach one physical unit at a time (the one that dialed in) but you can of course define up to eight PUs.

5. Subsystem Group

   Select the **subsystem group** to which the physical unit belongs. You can choose from three categories (option number 1 through 3):

   - 1 for 'display system'.
   - 2 for 'industry system'.
   - 3 for 'intelligent workstation'.

6. Station Identification Number and Identification (ID) Block Number (for switched links only)

   This is a 20-bit identification number (specified in hexadecimal notation - 'xxxxx') which is required to identify the physical unit. The ID block number is generated automatically. Check the respective hardware manuals for that information. You can add up to 15 logical units for any given industry system or intelligent workstation.

7. Physical Units

   If you select 'industry system', go to item 9 on page 29.

   If you select 'intelligent workstation', go to item 10 on page 29.

   If you select 'display system', continue reading.

   After you defined your links, you need to specify the physical and logical units attached to each link. A physical unit could be an IBM 3274 control unit or any of the models listed in Figure 9 (option number 1 through 13).

```
1    Personal Computer
2    Displaywriter
3    8775 Display Terminal
4    5550 Model 1B Display Terminal

     3270 Information Display System:
5     ... 3274 Model 21C              10   ... 3276 Model 12
                                      11   ... 3276 Model 13
6     ... 3274 Model 31C              12   ... 3276 Model 14
7     ... 3274 Model 41C

8     ... 3274 Model 51C              13   ... 3274 Model 52C
9     ... 3274 Model 61C
```

Figure 9. Physical Unit Selection

8. Logical Units

   A logical unit is a means through which a user gains access to SNA network services. An application, such as CICS/VS, is a logical unit. In the case of link attachments, logical units are, for example, IBM 3278 display stations attached to a physical unit such as an IBM 3274 control

unit. Select one of the 19 choices shown in Figure 10 on page 29 (option number 1 through 19):

```
 1    3178 Display Station          3279 Color Display Stations:

                                    7     ... Model S2A
      3278 Display Stations:        8     ... Model S2B
 2    ... Model 2                   9     ... Model S3A
 3    ... Model 3                  10     ... Model S3B
 4    ... Model 4                  11     ... Model S3G
 5    ... Model 5                  12     ... Model 2X
 6    3290 Information Panel       13     ... Model 3X

------------------------------ Printers --------------------
14   3262 Model 3,13                17    3287 Model 1,2
15   3268 Model 2                   18    3287 Model 1C,2C
16   3289 Model 1,2                 19    5210 Model G01,G02
```

Figure 10. Logical Unit Selection

9. Physical Units for industry systems

   (option number 1 through 6)

```
1 ......4700 Finance Communication System
2 ......3630 Plant Communication System
3 ......3640 Plant Data Communication System
4 ......3650 Retail Store System
5 ......3660 Supermarket System
6 ......3680 Programmable Store System
```

Figure 11. Industry System Selection

10. Physical Units for intelligent workstations

    (option numbers 1 through 11)

```
1.......Personal Computer
2.......Scanmaster
3.......3770 Data Communication System
4.......3790 Communication System
5.......5520 Administrative System
6.......5280 Distributed Data System
7.......6670 Information Distributor
8.......8100 Information System
9.......Series/1
10......System/34
11......System/38
```

Figure 12. Intelligent Workstation Selection

Sample Worksheet Entries

For the example listed under "Sample ICA-Attached Display Products (SDLC)" on page 26, you would make the following entries on your worksheets:

1. 035 and 037 for channel unit addresses or link numbers.
2. SDLC as protocol.
3. 1 for a leased link 035 and 2 for switched link 037.
4. C1 for station identification address for link 035; C2 also for link 035, and D1 for link 037.
5. 1 for display product (3274), 2 for industry system, and 3 for intelligent workstation.
6. 0C1F3 for station identification number. 03D for ID block number (modify if necessary).
7. 6 for the IBM 3274-31C, 1 for the PC, and 1 for the IBM 4700.
8. 2 for the IBM 3278-2 and 15 for the IBM 3268-2.

After you have defined all resources of your network on the worksheet, go through the dialogs. At the end of such a remote configuration session, job VTAMDEFS is created which catalogs the ACF/VTAM resource definition statements.

To use the dialogs provided with VSE/SP, go to "ICA-Attached Display Products" on page 85.

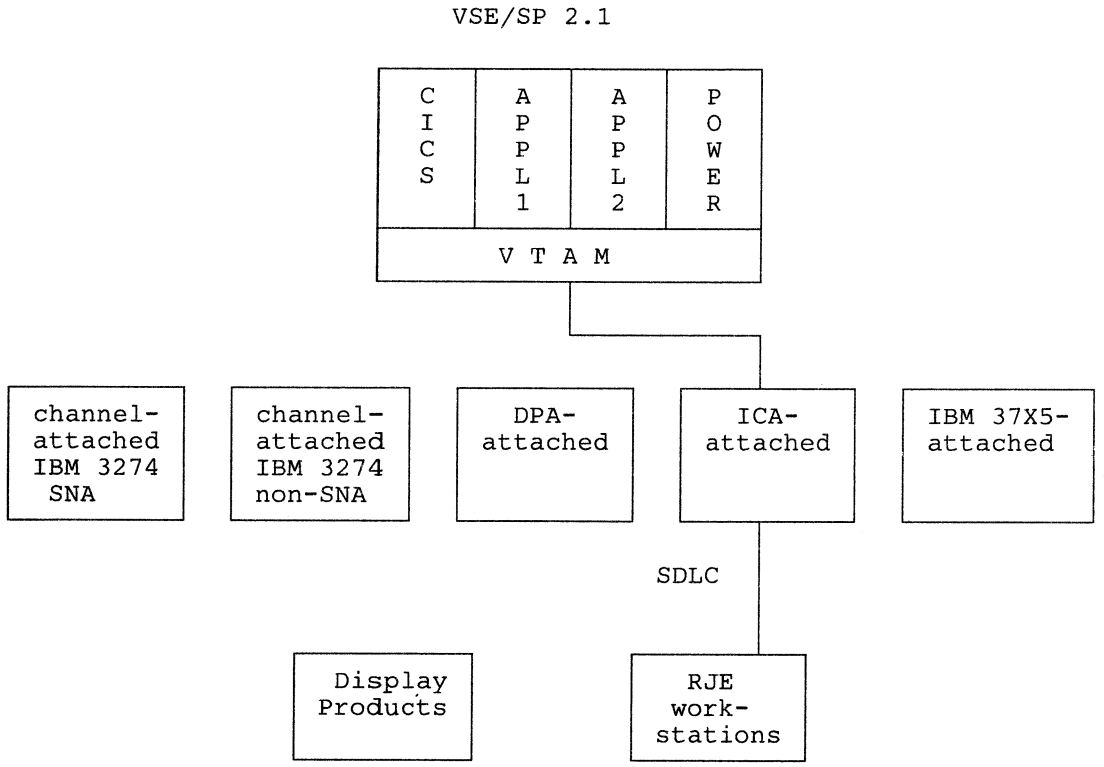

Figure 13. Configuration Diagram - ICA-Attached CICS/VS and VSE/POWER/RJE Workstations (SDLC)

How to Use ICA-Attached CICS/VS and VSE/POWER/RJE Workstations

With the remote job entry (RJE) function of VSE/POWER, you can send jobs from a remote workstation (such as the IBM 3770 Data Communication System or the IBM 3790 Communication System) to be processed on a VSE/SP system. **Other workstations can be attached** as long as they follow the **SNA rules defined for LUTYPE1**. (For more details on VSE/POWER and RJE, refer to *VSE/POWER Remote Job Entry User's Guide*. For more details on LUTYPE1, see *Systems Network Architecture - Sessions Between Logical Units*).

For a processor with an integrated communication adapter you can define up to eight communication links to which RJE workstations can be attached (see Figure 13).

Sample ICA-Attached CICS/VS and VSE/POWER/RJE Workstations (SDLC)

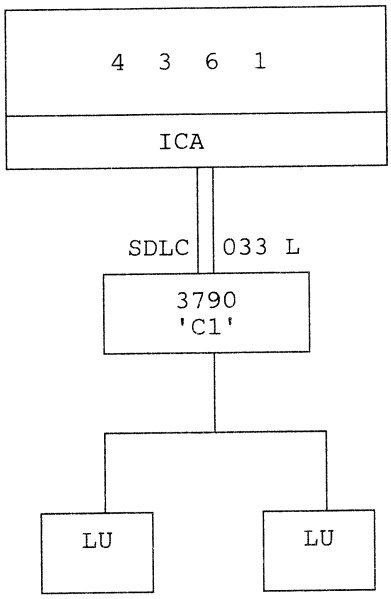

Figure 14. Sample Configuration - ICA-Attached CICS/VS and VSE/POWER/RJE Workstations (SDLC)

A sample configuration is used to help you plan and install your individual network (see Figure 14).

In the above sample, an IBM 3790 RJE workstation is ICA-attached via a leased link with address 033; in turn, two logical units are attached to the workstation.

Defining Resources

A description of the ICA configuration possibilities follows. After reading this information, use the configuration worksheets (see "ICA and RJE Worksheets" on page 168), to collect the information relevant to your network. The worksheet entries for the above sample network are listed under "Sample Worksheet Entries" on page 34.

You must define the following:

1. **Channel unit address** for each link (the range usually is from 030 to 037),

2. **Protocol** for each link, i.e. SDLC or BSC.

   A link operating under a SDLC protocol provides connectivity between SNA products only; the BSC protocol is used for non-SNA connections.

   Note: Items 1 and 2 above are defined by the Configure Hardware Addresses dialog. They are mentioned here for completeness so that you can properly fill out your worksheet.

3. **Type** of link, i.e. leased, switched or cross-domain.

   A switched communication link requires dialing before a connection between data stations is established. A leased link establishes a permanent connection; dialing is not necessary. For a leased link you can attach multiple physical units; switched link connections attach one physical unit at a time.

   The dialogs create the necessary ACF/VTAM resource definitions for switched and leased links.

4. SDLC **station address**.

   Specify a 2-character hexadecimal SDLC station address for the physical unit. This address must be **unique** for each physical unit attached to the link. The valid range is '01' through 'FE'. A **physical unit** is one of three types of network addressable units (NAU). In the case of ICA-attached RJE workstations, all physical units are peripheral nodes because the processor with the SSCP, i.e. ACF/VTAM, is the only subarea node in the network. There are no additional subarea nodes in a single-domain-ICA environment. For a leased link you can attach multiple physical units; switched link connections attach one physical unit at a time.

5. Subsystem Group

   Select the **subsystem group** to which the physical unit belongs. Although three options are possible, you must select '3':

   - 1 for 'display system'.
   - 2 for 'industry system'.
   - 3 for 'intelligent workstation'.

6. Physical units for intelligent workstations

   (option numbers 1 through 11)

```
1.......Personal Computer
2.......Scanmaster
3.......3770 Data Communication System
4.......3790 Communication System
5.......5520 Administrative System
6.......5280 Distributed Data System
7.......6670 Information Distributor
8.......8100 Information System
9.......Series/1
10......System/34
11......System/38
```

Figure 15. Intelligent Workstation Selection

7. Station Identification Number and Identification (ID) Block Number (for switched links only)

   If you want to configure an **intelligent workstation**, you need the station identification number. This is a 20-bit identification number (specified in hexadecimal notation - 'xxxxx') which is required to identify the physical unit. The ID block number is generated automatically. Check the appropriate hardware manuals for that information. You can add up to 15 logical units for any given intelligent workstation.

Sample Worksheet Entries

For the example listed under "Sample ICA-Attached CICS/VS and VSE/POWER/RJE Workstations (SDLC)" on page 32, you would make the following entries on your worksheets:

- 033 for channel unit address or link number.
- SDLC as protocol.
- 1 for a leased link.
- C1 for station identification address for link 033.
- 3 for subsystem group 'intelligent workstations'.
- 4 for the IBM 3790 PU.
- 0C1F3 for station identification number.
- 03D for ID block number (modify if necessary).

To include RJE workstations in your remote configuration, you must submit VSE/POWER definitions via the IBM-supplied **skeleton SKPWRSNA** in VSE/ICCF library 59 (see "VSE/POWER SNA Skeleton SKPWRSNA" on page 207). Do not modify the skeleton; include it with a '/INCLUDE SKPWRSNA' in a jobstream to regenerate VSE/POWER (see "VSE/POWER Generation Skeleton SKPWRGEN" on page 204).

After you have defined all resources of your network on the worksheets under "ICA and RJE Worksheets" on page 168, go through the dialogs. At the end of a dialog session, a jobstream is created which catalogs the ACF/VTAM resource definition statements.

To use the dialogs provided with VSE/SP, go to "ICA-Attached VSE/POWER/RJE Workstations" on page 92.

37X5(NCP)-Attached Display Products and CICS/VS Workstations

If your network display products are attached via an IBM 37X5 communication controller (see Figure 16 below), use the remote configuration dialogs to define resources for:

- ACF/NCP.
- CICS TCT entries.
- ACF/VTAM.

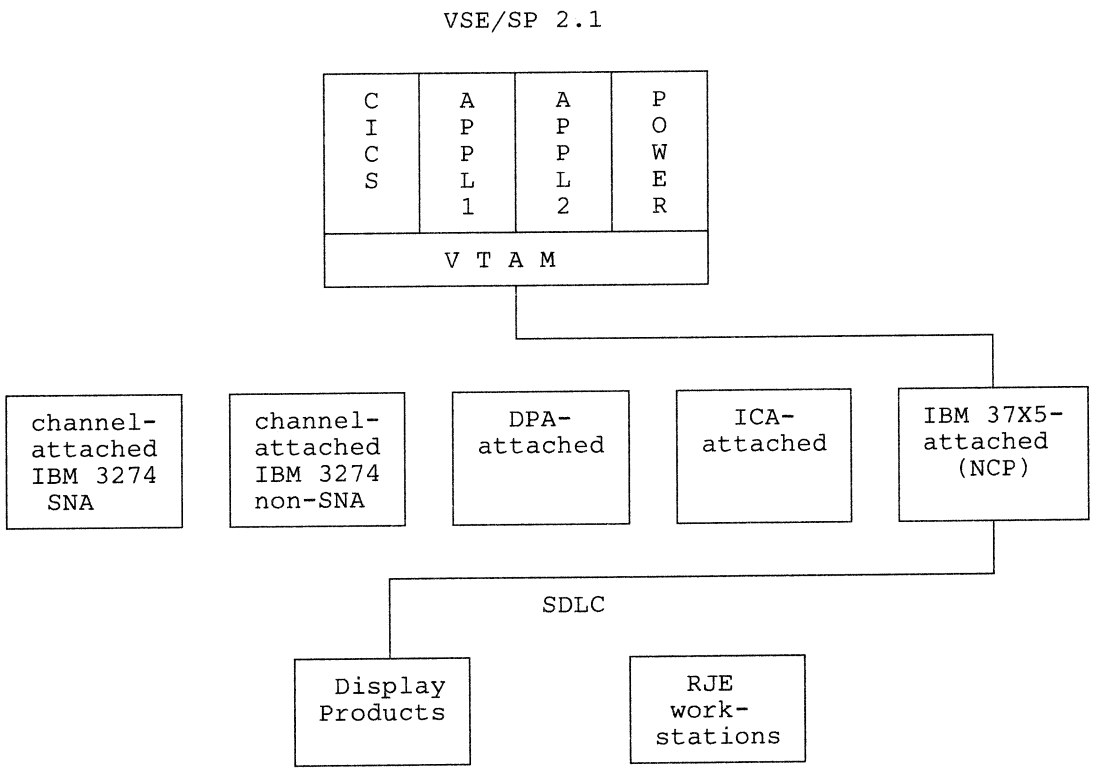

Figure 16. Configuration Diagram - 37X5(NCP)- Attached Display Products and CICS/VS Workstations (SDLC)

How to Use 37X5(NCP)-Attached Display Products and CICS/VS Workstations (SDLC)

With these display products, you can access **CICS/VS and other applications** defined to ACF/VTAM. CICS/VS accesses the VSE/SP Interactive Interface which lets you:

- Call the **System Console** function for remote console operation by selecting 'Operations' and 'System Console'. This lets you, from any display station remote from the machine room:
  - Display current content of the system console.

- Send commands to VSE/SP.
- Scroll through the hardcopy file.
- Access the Online Message File.
- Access help information describing frequently used commands.

  This function can be used, for example, to run an operatorless system or to monitor the execution of a program. Any commands entered are displayed on the system console and the remote operator console.

- Invoke the **PC Move Utilities** to use an IBM Personal Computer as a CICS/VS 3270 display station. With this feature you can

  - Exchange data with the host system.
  - Use the host system as a repository for PC data.
  - Exchange data between PC's via the Host Transfer File.
  - Access host applications from a PC as an IBM 327X display station.

Sample 37X5(NCP)-Attached Display Products, Industry Systems, and CICS/VS Workstations (SDLC)

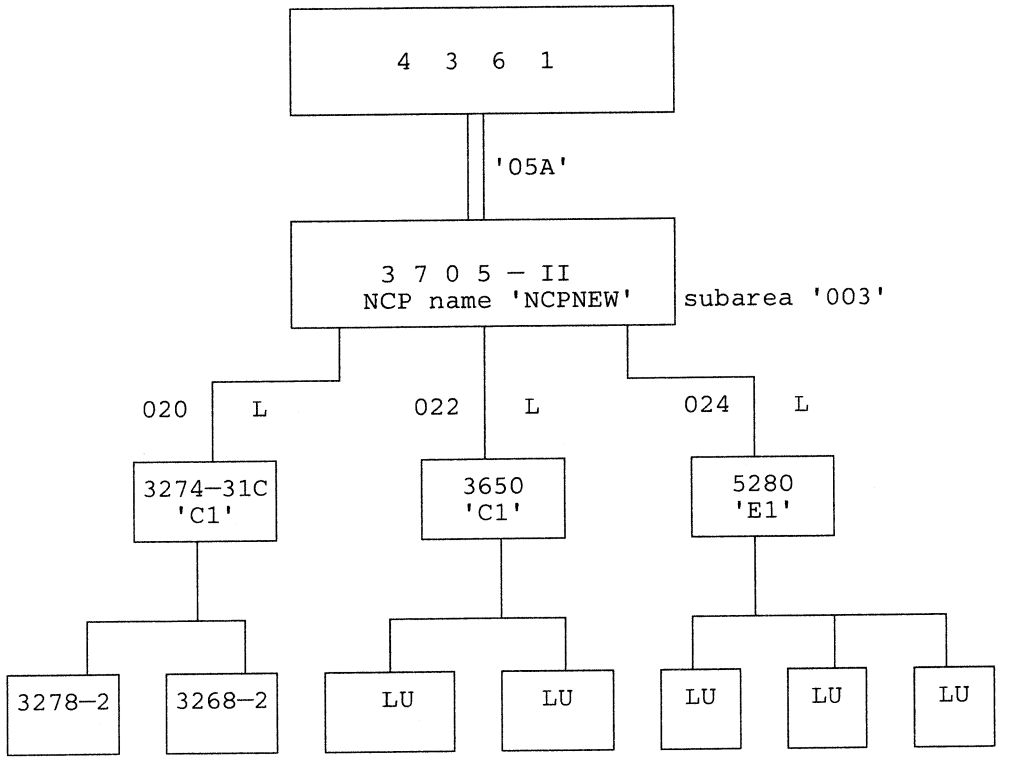

Figure 17. Sample Configuration - 37X5(NCP)-Attached Display Products, Industry Systems, and CICS/VS Workstations (SDLC)

A sample network is used to help you plan and install your individual network (see Figure 17).

In the sample above, the 3705-II communication controller is equipped as follows:

- A model J2 with 384 K of storage.
- A 'type 4' channel adapter in the base module.
- A 'type 4' channel adapter in the first expansion module.
- The communication scanner in the base module is a 'type 2' with 2400 bits per second (bps).
- The communication scanner in the first expansion module is a 'type 3' scanner with the combination 150, 600, 1200, and 2400 bps.
- It is channel-attached via 'cuu' 05A.

- Its subarea number is 003.
- The NCP name is NCPNEW.
- Three SDLC links are attached to the communication controller, 020, 022, and 024. All three have the same link characteristics:
  - Half duplex.
  - Line speed of 2400 bps.
  - No modem clocking.
  - Leased line.
  - Half duplex carrier facility.

All products shown in the sample communicate with CICS/VS.

Defining Resources

A description of the IBM 37X5 configuration possibilities follows. After reading this information, use the configuration worksheets (see "37X5(NCP) Worksheets" on page 170) to collect the information relevant to your network. The worksheet entries for the above sample network are listed under "Sample Worksheet Entries" on page 43.

You must define the following:

1. Unique name for the NCP program.
2. Host channel unit address to which the communication controller is attached. This is a three-digit hexadecimal number defining to ACF/VTAM where the NCP resides.
3. Three-digit NCP subarea number which should not exceed the network-wide maximum.
4. Model of communication controller with the following selections of (option number 1 through 4):
   - '1' for 3705 Model II
   - '2' for 3705 Model 80
   - '3' for 3725 Model 1
   - '4' for 3725 Model 2

   Enter 1, 2, 3, or 4, respectively, on your worksheet.

   If you configure an **IBM 3705 Model 80**, go to item 10 on page 42.

   If you configure an **IBM 3725 Model 1**, go to item 11 on page 43.

   If you configure an **IBM 3725 Model 2**, go to item 12 on page 43.

   If you have to configure an **IBM 3705 Model II, continue reading**.

The IBM 3705 Model II has the widest range of configuration possibilities. For detailed planning information, see *IBM 3704 and IBM Communications Controllers Principles of Operation.*

5. Storage size of the communication controller.

   Select one of nine values (option number 1 through 9):

   - '1' for 128K bytes
   - '2' for 160K bytes
   - '3' for 192K bytes
   - '4' for 224K bytes
   - '5' for 256K bytes
   - '6' for 320K bytes
   - '7' for 384K bytes
   - '8' for 448K bytes
   - '9' for 512K bytes

   The 3705 Model II communication controller has a submodel indicator. The submodel numbering is 'x' 'y'. The 'x' is an alpha code designating the number of frames in an IBM 3705 Model II where

   - 'E' means one frame
   - 'F' or 'J' means two frames
   - 'G' or 'K' means three frames
   - 'H' or 'L' means four frames

   In the submodels E, F, G, and H the storage is housed only in the first frame which has up to eight increments of monolithic storage.

   The submodels J, K, and L have 256 K bytes of storage in the first frame and 64 K bytes in the second frame. Additional storage in 64K increments may be installed in the second frame for a maximum of 512 K bytes.

   For example, an IBM 3705 Model II with submodel number J2 has 384 K bytes of storage; 256 K bytes in the first frame plus two (2) 64 K byte increments (or 128 K bytes) in the second frame.

6. Channel Adapters

   There are four channel adapter positions

   - Type 1
   - Type 2
   - Type 3
   - Type 4

   in the IBM 3705 Model II communication controller.

   The **first** adapter position is located in the base module. The **second** adapter position is either in the base module or in the first expansion module.

A **type 2 or type 4** channel adapter in the first adapter position can be installed in either the base module or the first expansion module.

A **type 3** adapter in the first adapter position is always installed in the first expansion module. Only a **type 4** channel adapter is permitted in the third and fourth adapter positions which are always installed in the first expansion module (option number 1 through 18):

Channel Adapters Types for 3705 — II

	Base Module	Expansion Module		Base Module	Expansion Module
1	Type 1	-	10	Type 3 -	Type 3 -
2	Type 2	-	11	Type 4 Type 2	- -
3	Type 3	-	12	Type 4 -	Type2 -
4	Type 4	-	13	Type 4 -	Type3 -
5	Type 1	Type 2	14	Type 4 Type 4	- -
6	Type 1	Type 3	15	Type 4 -	Type 4 -
7	Type 2	Type 2	16	Type 4 Type 4	- Type 4
8	Type 2	Type 3	17	Type 4 -	Type 4 Type 4
9	Type 3	Type 2	18	Type 4 Type 4	Type 4 Type 4

7. Communication Scanner Type

   For each module, i.e. the base and the three possible expansion modules, you must define a scanner type.

   Enter '0' if there is no scanner installed, a '2' if there is a type 2 scanner, and a '3' if there is a type 3 scanner installed. A **type 2 scanner** controls data transfer between storage of the communication controller and the line sets on a byte-for-byte basis. The valid **address ranges** with **type 2 scanners** are:

   - 020-05F for the base module.
   - 0A0-0FF for the first expansion module.
   - 120-17F for the second expansion module.
   - 1A0-1FF for the third expansion module.

   A **type 3 scanner** controls data transfer between storage of the communication controller and the line sets on a multi-byte (buffer) basis. The valid **address ranges** with **type 3 scanners** are:

   - 020-04F for the base module.
   - 0A0-0DF for the first expansion module.
   - 120-15F for the second expansion module.
   - 1A0-1DF for the third expansion module.

8. Communication scanner type 2 speeds (up to four).

   Each communication link must have a clocking mechanism to time the data rate. When this clocking mechanism is not provided by either the communication facility or the modem, then the IBM 3705 Model II must provide the clocking through the use of a business machine clock.

The business machine clocks are contained within a communication scanner. A clock in a communication scanner cannot be used by communication links attached to a communication scanner with a different clock rate.

A communication scanner is placed within a hardware frame of an IBM 3705 Model II. There can be a maximum of four hardware frames. Only one communication scanner can be installed per frame. The frame positions are designated base module, first expansion module, second expansion module, and third expansion module.

Each type 2 scanner must have **at least one** business machine clock with **each scanner** limited to a **maximum of four** clocks. If a scanner has at least one communication link attached where either the modem or the communication facility provides the clocking, then one of the possible four clocks in the scanner must be less than one-half the speed of the lowest speed of the externally clocked link attachment.

9. Communication scanner type 3 speeds.

   Each communication link must have a clocking mechanism to time the data rate. When this clocking mechanism is not provided by either the communication faciliy or the modem, then the IBM 3705 Model II must provide the clocking through the use of a business machine clock.

   The business machine clocks are contained within a communication scanner. A clock in a communication scanner cannot be used by communication links attached to a different communication scanner.

   A communication scanner is placed within a hardware frame of an IBM 3705 Model II. There can be a maximum of four hardware frames. Only one communication scanner can be installed per frame. The frame positions are designated base module, first expansion module, second expansion module, and third expansion module.

   Each type 3 scanner must have business machine clock speeds 150, 600, and 1200 bits per second (bps). Optionally, you can select either 2000 bps or 2400 bps for a total of three combinations:

   - '1' for 150, 600, 1200.
   - '2' for 150, 600, 1200, 2000.
   - '3' for 150, 600, 1200, 2400.

   Enter '1', '2', '3' respectively on your worksheet. If a scanner has at least one communication link attached where either the modem or the communication facility provides the clocking, then one of the possible four clocks in the scanner must be less than one-half the speed of the lowest speed of the externally clocked link attachment.

   If you configure an IBM 3705-II, skip to item 9 on page 44.

10. Select one of three possibilities for **IBM 3705 Model 80 channel adapters**:

- '1' for type 1.
- '2' for type 4.
- '3' for type 4, type 4.

The **type 1** channel adapter communicates with the processor byte-multiplexer channel with one-, two-, three-, or four-byte transfers.

The channel adapter **type 4** has two modes of operation. It operates:

- Like a type 1 channel adapter transferring one, two, three or four bytes
- or it operates in cycle-steal mode with up to 248 bytes of data across a block-multiplexer channel or a selector channel.

Only one mode of operation can be used at any time. With the dual type-4 channel adapters installed, each can connect to different channel types and each type 4 channel adapter can operate in a different mode.

Now skip to item 9 on page 44.

11. Select one of three storage sizes for the **IBM 3725 Model 1** communication controller. They are:

    - '1' for 512K Bytes
    - '2' for 768K Bytes
    - '3' for 1024K Bytes

    Specify the six channel adapters and whether they will be operated with a two-processor switch. For each channel adapter position (0 through 5) you must specify whether the channel adapter is installed ('yes' or 'no') and whether there is a two-processor switch ('yes' or 'no').

    Now skip to item 9 on page 44.

12. Select **nothing** for the **IBM 3725 Model 2**. This communication controller:

    - Comes with 512K bytes of storage
    - Attaches up to 24 duplex or half-duplex links.
    - Attaches up to two host processor channels.

    The IBM 3725 Model 2 is upgradable in the field to IBM 3725 Model 1.

Sample Worksheet Entries

For the example listed under "Sample 37X5(NCP)-Attached Display Products, Industry Systems, and CICS/VS Workstations (SDLC)" on page 38, you would make the following entries (shown in brackets) on your worksheets; first, the communication controller definitions and then the SDLC link-specific definitions:

1. NCP name - [NCPNEW].

2. Host channel unit address - [05A].

3. Subarea number - [003].

4. [1] for 3705-II.

5. [7] for 384K storage size.

6. [15] for type 4 channel adapter for base, type 4 for first expansion.

7. [2400] bps for base module for communication scanner type 2.

8. [3] for communication scanner type 3 for the 150, 600, 1200, 2400 bps combination.

9. Specify SDLC link connections.

   Each link requires the following link attributes:

   - Link address (see address ranges depending on whether you have a communication scanner type 2 or type 3).

     [020, 022, 024]

   - Data mode (HDX for half-duplex and FDX for full-duplex).

     [HDX for each link]

   - Link speed (data rate at which the physical unit communicates with the communication controller).

     [2400 bps for each link]

     The range is from 45 bps to 19200 bps.

     If business machine (internal) clocking is used, the data rate must be that of one of the oscillators installed in the communication controller where this link is attached to. If modem (external) clocking is used, the rate must be the clocking rate of the modem. Specify the data rate in bps omitting fractions (if the link speed is 134.5 bps, use 134).

10. Modem Clocking.

    Specify '1' for modem clocking and '2' if the communication scanner provides the clocking.

    [2 for each link]

11. Link Type.

    Specify '1' for leased links and '2' for switched links.

    [1 for each link]

12. Carrier Facility (links and modems).

    Specify '1' for half-duplex and '2' for full-duplex. However, this value describes only the physical characteristics of the communication facility. **Do not confuse these values with 'HDX' and 'FDX' for data transfer.**

    [1 for each link]

13. SDLC **station address.**

    Specify a 2-character hexadecimal SDLC station address for the physical unit. This address must be **unique** for each physical unit attached to the link. The valid range is '01' through 'FE'. A **physical unit** is one of three types of network addressable units (NAU). For a leased link you can attach multiple physical units; switched link connections attach one physical unit at a time

    [C1 for 020, C1 for 022, E1 for 024]

14. Subsystem Group

    Select the **subsystem group** to which the physical unit belongs. You can choose from three categories (option number 1 through 3):

    - 1 for 'display system'.
    - 2 for 'industry system'.
    - 3 for 'intelligent workstation'.

      [1 for 3274-31C, 2 for 3650, 3 for 5280]

15. Station Identification Number and Identification (ID) Block Number (for switched links only)

    If you want to configure an **industry system** or an **intelligent workstation** or an **IBM 3274-52C**, for example, the IBM 4700 controller, you need the station identification number. This is a 20-bit identification number (specified in hexadecimal notation - 'xxxxx') which is required to identify the physical unit. The ID block number is generated automatically. Check your hardware manuals for that information. You can add only up to 15 logical units for any given industry system or intelligent workstation.

    [0C1F3].

16. Physical Units

    If you select 'industry system', go to item 18 on page 47.

    If you select 'intelligent workstation', go to item 19 on page 47.

    If you select 'display products', continue reading.

After you defined your links, you need to specify the physical and logical units attached to each link. A physical unit could be an IBM 3274 control unit or any of the models listed in Figure 18 (option number 1 through 13).

```
1    Personal Computer
2    Displaywriter
3    8775 Display Terminal
4    5550 Model 1B Display Terminal

     3270 Information Display System:
5     ... 3274 Model 21C             10   ... 3276 Model 12
                                     11   ... 3276 Model 13
6     ... 3274 Model 31C             12   ... 3276 Model 14
7     ... 3274 Model 41C

8     ... 3274 Model 51C             13   ... 3274 Model 52C
9     ... 3274 Model 61C
```

Figure 18. Physical Unit Selection

[6 for 3274-31C]

17. Logical Units

    A logical unit is a means through which a user gains access to SNA network services. An application, such as CICS/VS, is a logical unit. In the case of link attachments, logical units are, for example, IBM 3278 display stations attached to a physical unit such as an IBM 3274 control unit. Select one of the 19 choices shown in Figure 19 on page 47 (option number 1 through 19):

```
-----------------------Display Stations---------------------------

1...3178 Display Station                3279 Color Display Stations:
                                         7........ Model S2A
    3278 Display Stations:               8........ Model S2B
2....... Model 2                         9........ Model S3A
3....... Model 3                        10........ Model S3B
4....... Model 4                        11........ Model S3G
5....... Model 5                        12........ Model 2X
                                        13........ Model 3X
6...3290 Information Panel

--------------------------Printers--------------------------------

14..3262 Model 3, 13                    17... 3287 Model 1, 2
15..3268 Model 2                        18... 3287 Model 1C, 2C
16..3289 Model 1, 2                     19... 5210 Model G01, G02
```

Figure 19. Logical Unit Selection

[2 for 3278-2, 15 for 3268-2]

18. Physical Units for Industry Systems

(option number 1 through 6)

```
1 ......4700 Finance Communication System
2 ......3630 Plant Communication System
3 ......3640 Plant Data Communication System
4 ......3650 Retail Store System
5 ......3660 Supermarket System
6 ......3680 Programmable Store System
```

Figure 20. Industry System Selection

[4 for 3650]

19. Physical Units for Intelligent Workstations

(option numbers 1 through 11)

```
1.......Personal Computer
2.......Scanmaster
3.......3770 Data Communication System
4.......3790 Communication System
5.......5520 Administrative System
6.......5280 Distributed Data System
7.......6670 Information Distributor
8.......8100 Information System
9.......Series/1
10......System/34
11......System/38
```

Figure 21. Intelligent Workstation Selection

[6 for 5280]

After you have defined all resources of your network on the worksheets, go through the dialogs. At the end of such a remote configuration session, a jobstream is generated which catalogs the ACF/VTAM and CICS/VS resource definition statements.

Note: If you want to define more than one ACF/NCP, make sure that the resource names of all ACF/NCPs are unique. This means that you must make the appropriate changes before you catalog your definitions.

To use the dialogs provided with VSE/SP, go to "37X5(NCP)-Attached Display Products, Industry Systems, and Workstations (CICS/VS and VSE/POWER/RJE)" on page 95.

37X5(NCP)-Attached VSE/POWER/RJE Workstations

If your network workstations are attached via an IBM 37X5 communication controller (see Figure 22 below), use the remote configuration dialogs to define resources for:

- ACF/NCP
- CICS TCT entries
- ACF/VTAM

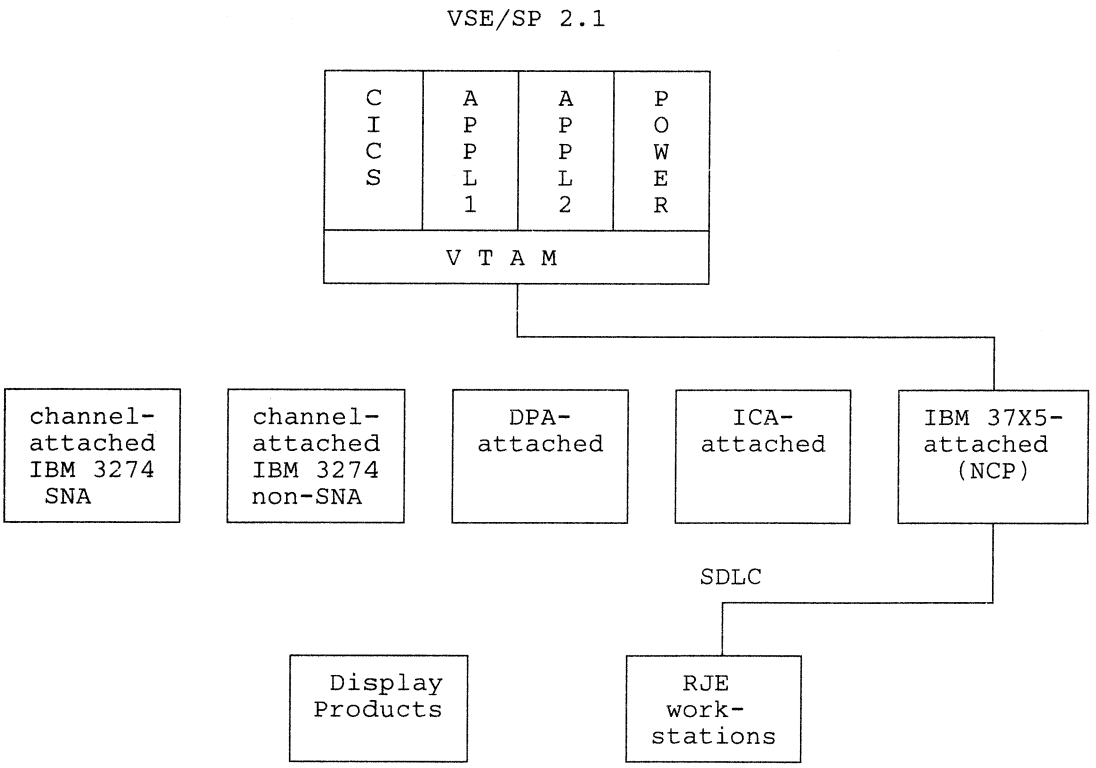

Figure 22. Configuration Diagram - 37X5(NCP)-Attached VSE/POWER/RJE Workstations (SDLC)

How to Use 37X5(NCP)-Attached VSE/POWER/RJE Workstations (SDLC)

With the remote job entry (RJE) function of VSE/POWER, you can send jobs from a remote workstation (such as the IBM 3770 Data Communication System) to be processed on a VSE/SP system. **Other workstations can be attached** as long as they follow the **SNA rules defined for LUTYPE1**. (For more details on VSE/POWER and RJE, refer to *VSE/POWER Remote Job Entry User's Guide*. For more details on LUTYPE1, see *Systems Network Architecture - Sessions Between Logical Units*).

Sample 37X5(NCP)-Attached VSE/POWER/RJE Workstations (SDLC)

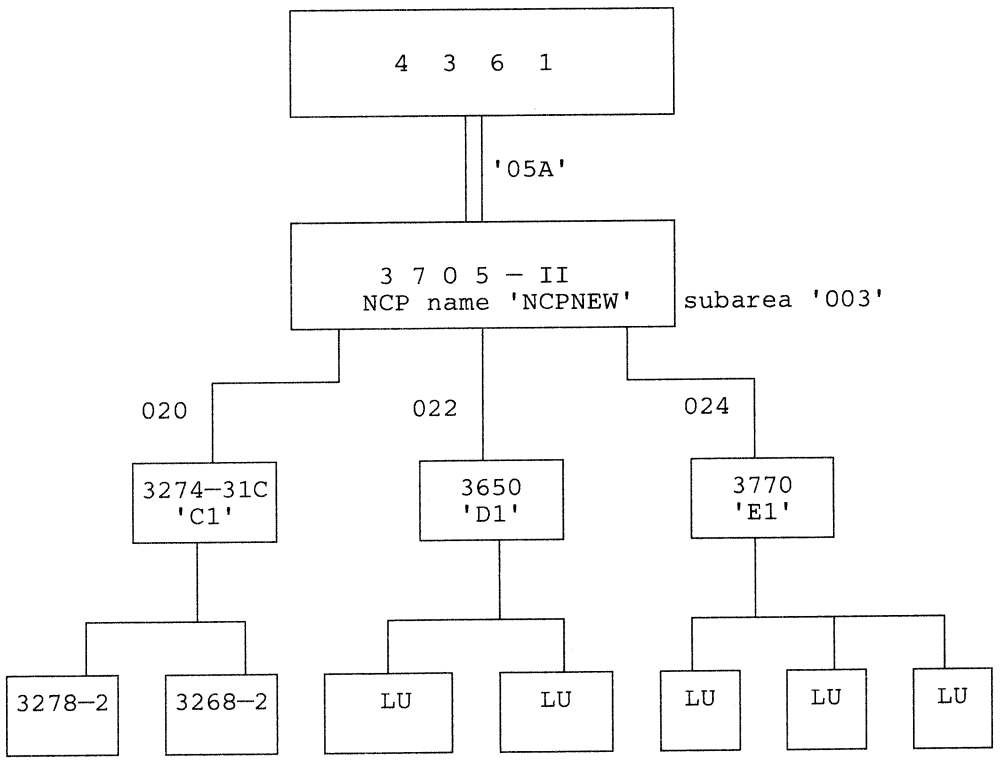

Figure 23. Sample Configuration - 37X5(NCP)-Attached Display Products, Industry Systems, and VSE/POWER/RJE Workstations (SDLC)

A sample network is used to help you plan and install your individual network (see Figure 23).

In the sample above, the 3705-II communication controller is equipped as follows:

- A model J2 with 384K of storage.
- A 'type 4' channel adapter in the base module.
- A 'type 4' channel adapter in the first expansion module.
- The communication scanner in the base module is a 'type 2' with 2400 bps.
- The communication scanner in the first expansion module is a 'type 3' scanner with the combination 150, 600, 1200, and 2400 bps.
- The communication controller is channel-attached via 'cuu' 05A.
- The subarea number is 003.

- The NCP name is NCPNEW.

- There are three SDLC links attached to the communication controller, 020, 022, and 024. All three have the same link characteristics:

  - Half duplex.
  - Line speed of 2400 bps.
  - No modem clocking.
  - Leased line.
  - Half duplex carrier facility.

All products shown in the sample communicate with CICS/VS **except for the IBM 3770 RJE workstation** which is attached via a leased link with address 024 and **runs under VSE/POWER** (as described at the end of this section).

Now, using the configuration worksheets (see "37X5(NCP) Worksheets" on page 170), collect the information listed below.

Defining Resources

The resources you define for this network sample are the same as the ones listed under "Defining Resources" on page 39. The SDLC link specifications are the same with two exceptions:

- Item 13 has a different SDLC station address.

- Item 19 has a different PU.

Sample Worksheet Entries

These entries are identical with the ones listed under "Sample Worksheet Entries" on page 43 except for items 13 and 19, which is D1 for link 022 and a 3770 instead of a 5280, respectively.

After you have defined all resources of your network on the worksheets, go through the dialogs. At the end of such a remote configuration session, jobstreams are generated which catalog the ACF/VTAM, CICS/VS and ACF/NCP resource definition statements.

Note: If you want to define more than one ACF/NCP, make sure that the resource names of all ACF/NCPs are unique. This means that you must make the appropriate changes before you catalog your definitions.

To include VSE/POWER/RJE workstations in your remote configuration, you must submit VSE/POWER definitions via the IBM-supplied skeleton SKPWRSNA (in library 59). Do not modify the skeleton; include it with a '/INCLUDE SKPWRSNA' in a jobstream to regenerate VSE/POWER (see "VSE/POWER Generation Skeleton SKPWRGEN" on page 204).

You can use the dialogs under "37X5(NCP)-Attached Display Products, Industry Systems, and Workstations (CICS/VS and VSE/POWER/RJE)" on

page 95 except that you specify an IBM 3770 instead of an IBM 5280 workstation.

Go to "37X5(NCP)-Attached VSE/POWER/RJE Workstations" on page 101 for details.

Cross-Domain - Local and Remote Display Products

Overview

VSE/SP provides a skeleton for the definition of cross-domain networks (see "Cross-Domain - Local and Remote Display Products" on page 102). Use this skeleton (see "Cross-Domain Network Skeleton SKDTRNET" on page 181) to create the necessary resource definitions for ACF/VTAM, CICS/VS, VSE/POWER PNET, and VSE/SP.

For **ACF/VTAM**, the definitions include parts that define:

- Cross-domain ICA link connections.
- A path table.
- Cross-domain resource managers.
- Cross-domain resources.
- A message entry for USS tables.
- Logon commands for USS tables.

For **CICS/VS**, there are skeleton parts that define TCT entries for:

- Terminals defined in other domains.
- Program-to-program communication using intersystem communication (ISC).

For **VSE/POWER/PNET**, there are skeleton parts for:

- A node definition table (NDT).
- A listing of PNET nodes.

For **VSE/SP**, there are VSE/ICCF members:

- PNT$NODE for PNET nodes.
- PNT$JCLT table for node JCL-IDs.
- A set of node-specific JCL for file transfer/receive (VSAM and VSE/ICCF).

Network Connections

An VSE/SP processor can be a peer-to-peer processor, a subhost to an MVS/SP or VM/SP processor, or a host to a subhost SSX/VSE processor The definitions described in the overview above are created at the host domain.

If the host is a **VSE/SP system**, you can fill out the skeleton using VSE/ICCF. With a dialog you can copy the completed skeleton to tape. This tape is called a network definition tape. The dialog for creating the network definition tape prompts you for the address of a tape device and the VSE/ICCF member name of the completed network skeleton (see "Creating a Network Tape" on page 125).

The tape is transferred to the remote domain. The remote domain system administrator can easily install such a network definition tape using a VSE/SP dialog (see "Installing a Network Tape" on page 125). After installing the network definition tape, the system administrator incorporates the network resource definitions into the operating system using procedures determined by the installation. Some of these procedures, however, are provided with VSE/SP, for example, VSE/POWER tailoring skeletons. **Also, for the host itself, you need to create a networking tape.** This dialog creates a jobstream that assigns the system reader to the tape drive on which the network definition tape is to be mounted.

If the host is an **MVS/SP or VM/SP system**, additional steps are necessary. For example, the VSE/SP system administrator can copy the skeleton (a VSE/ICCF member) to tape using a dialog. The tape is sent to the host where the skeleton data is retrieved using central-site utilities. The host system administrator then uses an editor, for example TSO under MVS/SP, to complete the skeleton. A network definition tape is created for each VSE/SP in the network that requires one. When the network definition tape arrives at the VSE/SP system, a dialog is used to install it.

Defining the Network

To define the network, you must:

- Gather information about the network as shown in Figure 26 on page 61 and Figure 27 on page 62.
- Complete the network skeleton (see "Cross-Domain - Local and Remote Display Products" on page 102).
- Create a network definition tape (see "Creating a Network Tape" on page 125).
- Send one network definition tape to each remote administrator with instructions.

You must:

1. Use **unique names** for all network resources; take existing network definitions into consideration. A special selection panel CHANGE VTAM

APPLICATION NAME AND/OR SUBAREA NUMBER lets you define different resource names for the interconnected systems (see "Unique Network Definitions" on page 127).

2. Check the suggested **naming convention** list under Appendix B, "Naming Convention" on page 175.

3. **Override the DFHSIT** with ISC=YES for ISC communication.

4. Define **direct** links to interconnected systems (for PNET only):

   - Without alternate routes.
   - With alternate routes.

5. Define **indirect** links to interconnected systems **via adjacent node** (for PNET only):

   - Without alternate routes.
   - With alternate routes.

6. Define the **display stations on remote nodes** which can access resources in this node.

7. Plan **operator control possible at each PNET node**. Using:

   - NET - the operator at the interconnected node can manipulate all entries in this node's VSE/POWER queues using PNET networking commands.
   - JOB - in addition to general operator console display functions, the interconnected node operator can manipulate the following contents of the VSE/POWER queues at this node:
     - Any job which originated from the interconnected node.
     - Any output produced by a job that originated at the interconnected node.
     - Any output which is destined for the interconnected node.
   - NOJOB - the operator at the interconnected node may issue only some general operator console display commands. No manipulation of this node's VSE/POWER queues is allowed.

8. Define which **nodes you will use for job transfer as well as VSAM file and VSE/ICCF file transfer or retrieval**.

9. For file transfer, plan the **use of the required JCL-ids** for each node (VSE/SP or non-VSE/SP) set up for file transfer. When using the VSE/SP-supplied dialogs for file transfer/ retrieval to or from another node, the job control which you supply via the network skeleton (see SP4 below) is used to supplement the job control created automatically

by the dialog. You must supply at least a JOB statement to transfer files to/from an MVS/SP system. No job control is needed to transfer data between VSE/SP systems or between VSE/SP and SSX/VSE systems. Job control you supply in the skeleton is cataloged with member type U in the source library. When the file is transferred, VSE/SP generates job control via the dialog and places it behind the job control retrieved from the source library. The VSE/VSAM file or VSE/ICCF member follows the two sets of generated job control.

The dialog needs its own interactive partition everytime you invoke it.

If you do not provide your own JCL for exchanging a VSE/VSAM file between your VSE/SP system and another node, VSE/SP generates a job statement as well as job control for storing and retrieving the VSE/VSAM file.

The JCL statements to be stored in the source library relating to a JCL-id are specified in part SP3.

You can transfer VSE/VSAM files or VSE/ICCF library members to other systems or receive copies of VSE/VSAM files or VSE/ICCF library members from other systems. Both KSDS and ESDS files can be sent or received. A maximum record length of 32K blocks is supported.

Using a JCL-id with the dialog (fast path 39) assumes that:

- An entry for the specified node-id exists in the table PNT$JCLT. For VSAM file transfer, this entry may specify the names of the input and output files or the name of the user catalog.

  Part of the information in the network definition tape is a table with JCL-ids. These are necessary for exchanging VSE/VSAM files and VSE/ICCF library members between systems. JCL-ids have a corresponding node-id. Occasionally, you may have to update these JCL-ids. If you make changes, and later receive a new network definition tape, the original entries are overridden.

  To update JCL-ids, edit VSE/ICCF library member PNT$JCLT in library 2. A sample is shown in Figure 24 on page 57.

- A source member type U exists with JCL to be added to the dialog-created job.

A JCL-id is necessary for transfer/retrieve:

- For MVS/SP nodes.

  At least a job statement is required. For VSAM files, a STEPCAT statement may be required.

- For retrieving a VSE/ICCF member from a VSE system without VSE/SP or SSX/VSE, if there is no permanent assignment for the DTSUTIL file (SYS010).

```
NODE-ID=MVS1
              TRANSFER-JCL-ID=MVS1A
              TRANSFER-JCL-ID=MVS1B
                      FROM-FILE=MINIFILE
                      TO-FILE=SP2.MINIFILE
              RETRIEVE-JCL-ID=MVS1A
              RETRIEVE-JCL-ID=MVS1C
                      FROM-FILE=SSX.MINIFILE
                      TO-FILE=MINIFILE.NEW

NODE-ID=SSX2
              TRANSFER-JCL-ID=SENDMINI
              TRANSFER-JCL-ID=MVS1B
                      FROM-FILE=MINIFILE
                      TO-FILE=MINIFILE
                         DISP=(NEW,SHR)
              RETRIEVE-JCL-ID=GETMINI
                      FROM-FILE=MINIFILE.WORK
                      TO-FILE=MINIFILE.UPDATE

NODE-ID=SSX3
              TRANSFER-JCL-ID=SENDMINI
                      FROM-FILE=MINIFILE
                      TO-FILE=MINIFILE
```

Figure 24. Sample Member PNT$JCLT

The sample above defines JCL-ids for three network nodes, MVS1, SSX2, and SSX3.

- MVS1A is a JCL-id that can be used when sending data to the MVS system named MVS1. No specific sending or receiving files are defined for it.

- MVS1B is also a JCL-id for system MVS1. Associated with MVS1B are two file names, MINIFILE and SSX.MINIFILE. The data in MINIFILE is always sent to SSX.MINIFILE when MVS1B is entered as JCL-id.

- SENDMINI for SSX2 has a DISP parameter following the TO-FILE name, MINIFILE. This causes MINIFILE to be reset when it is opened for output.

  DISP (NEW,SHR) is only for reusable VSE/VSAM files - files that were defined with the REUSE option. THE DISP parameter is added to the DLBL JCL statement for the TO-FILE.

Note that for MVS systems, the default disposition is DISP=SHR. For VSE/SP, no DISP parameter is used unless you code it in PNT$JCLT.

Editing Source Books: When you change JCL-ids, library PRD2.CONFIG is searched for a book with the name 'JCL-id'.U. The content of this book is job processing information. It is placed in front of the specified file.

For example, if you send a file to the node MVS1 (see above) and used JCL-id MVS1A, VSE/SP would search library PRD2.CONFIG for a book named MVS1A.U. The content of MVS1A.U is put ahead of the file data. This might only be an MVS job statement such as:

```
//SSXJOB  JOB  (FROM SSX1),'XFER TO MVS1',MSGLEVEL=1
```

Besides the job statement, the book may have one or more job steps (see Figure 25).

```
//SSXSMF   JOB  (FROM SS1),'FILEXFER TO MVS1',MSGLEVEL=1
//DEFCL  EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=A
//SYSIN  DD  *
   DELETE DD SSX.MINIFILE CLUSTER   PURGE
   DEFINE CLUSTER  -
          ( NAME (SSX.MINIFILE) -
            RECORDS (40 20) -
            TO (99366) -
            INDEXED -
            KEYS (8 0) -
            RECORDSIZE (1000 6000) -
            VOLUMES (PN01DG)) -
          DATA -
( NAME (SSX.MINIFILE.DATA) CISZ(6144)) -
          INDEX -
          ( NAME (SSX.MINIFILE.INDEX) CISZ(512)) -
          IF LASTCC NE 0 THEN CANCEL JOB
          ELSE
```

Figure 25. Sample Source Book for JCL-ID

A book associated with a JCL-id must:

- Start with a job statement that is valid for the receiving system.
- Contain no VSE/POWER job entry control language.
- Substitute @* for /*.
- Have no /&.

After you entered the JCL-id in skeleton SKDTRNET and after you run the job, the JCL-id is cataloged in PRD2.CONFIG.

Cross-Domain Network Sample

A sample network is used to help you plan and install your individual network (see foldout page).

```
************************************************************
*                                                          *
*                                                          *
*                  TURN PAGE AND FOLD OUT                  *
*                                                          *
*                                                          *
************************************************************
```

OPEN HERE

The following description applies to system SYS1 networking definitions only. For SYS2, you must make separate definitions. The sample is for leased lines only.

The values L12DPA37, L13DPA37, and LB103337 contain the subarea number 55 in the last two positions in hexadecimal notation (X'37').

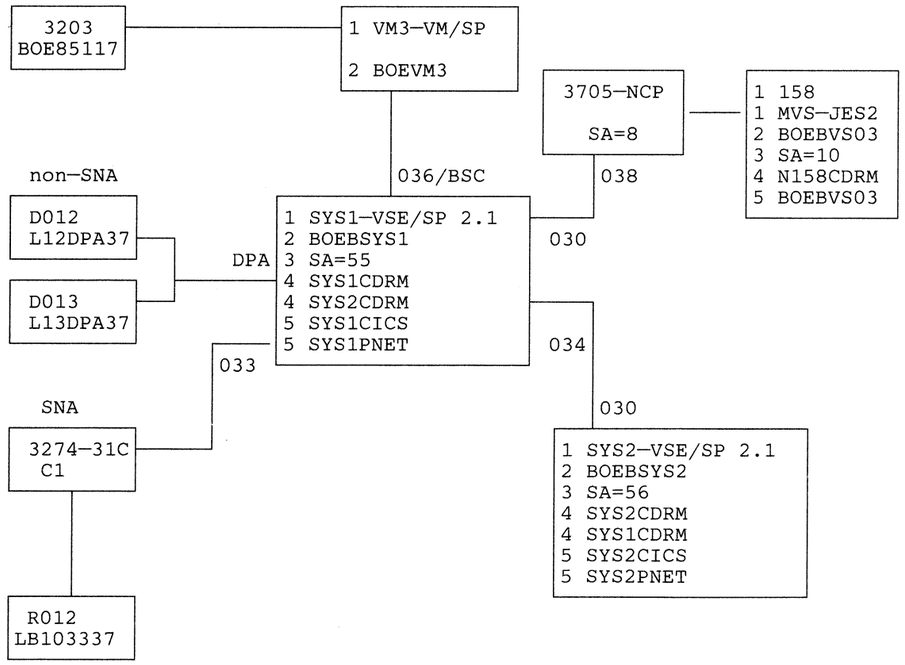

Figure 26. Cross-Domain Network Sample

The numbers 1 through 5 have the following meaning:

```
1  =  System name and operating system
2  =  Node-id
3  =  Subarea number
4  =  Name of cross-domain manager
5  =  Name of cross-domain resources/nodes
```

The network skeleton consists of 14 distinct parts for which you must collect information. Each of these parts is a VSE/ICCF member. The skeleton itself resides in PRD2.CONFIG. During the actual installation, you can modify these members according to your own definitions.

Figure 27 on page 62 lists the 14 parts of the skeleton and shows the definitions you would have to make for the above described system SYS1 which is only one part of the total network.

Part	Description	Required Information	Remarks
VTAM1	Cross—Domain Links	V101 — GROUP137 V102 — LNK03437,LNK03037 V103 — 034,030 V104 — PU103437,PU103037 V105 — PUTYPE 5, PUTYPE 4 V106 — SUBAREA 56, SUBAREA 8	Unique names describing your resources
VTAM2	Cross—Domain Path Table	V201 — 56, 08 V202 — 10 V203 — 56, 08 V204 — 1 V205 — 0	
VTAM3	Cross—Domain Resource Manager	V301 — SYS1CDRM V302 — 55, V303 — SYS2CDRM,N158CDRM V304 — 56, 10	
VTAM4	Cross—Domain Resources	V401 — SYS2CICS,SYS2PNET V402 — SYS2CDRM,SYS2CDRM	
VTAM5	Application Logon Commands	V501 — SYS1CICS V502 — SYS2CICS	
VTAM6	Application Selection Menu	V601 — SYS1CICS V602 — SYS2CICS	
VTAM7	System Acti—vation of Commands and Message	none	
Part	Description	Required Information	
CICS1	TCT Entries for Cross—Domain Term. (local and remote)	C101 — X001.....X00n C102 — L12DPA56,L13DPA56... C103 — 24.....nn C104 — term. features (AUDALARM)	
CICS2	TCT Entries for ISC	none	

Figure 27 (Part 1 of 2). Information Table for Network Sample

Part	Description	Required Information
PNET1	PNET Nodes and Routing	P101 — IESPNDT P102 — BOEBSYS1 (this node) P103 — SYS1PNET (")
		P102 — BOEBSYS2 (direct link (to interconn. (system w/o (alt. route) P104 — SYS2PNET P109 — NET P102 — BOEBVS03 P104 — BOEBVS03 P109 — NET P107 — BOEVM3
		none — direct link for interconn. syst. with altern. route
		P106 — BOE85117 (indir. link P109 — NOJOB (to interconn. P107 — BOEVM3 (syst. via adj. (node w/o alt. (route)
		none — indir. link to interconn. syst. via adj. node with — alt. route
SP1	PNODE List	S101 — 55 S102 — 63 S103 — SYS1CICS S104 — SYS1PNET S105 — IESPNDT S106 — BOEBSYS2, BOEVM3, BOEBVS03
SP2	PNODE List	S201 — BOEBSYS1 S202 — BOEBSYS2 S203 — VSP MVS S204 — char. string (comments)
SP3	Node JCL for Job ident.	S301 — BOEBVS03 S302 — TVSAM S304 — TEXT.FILE S310 — RVSAM S311 — TEXT.FILE S312 — MVS.FILE
		S302 — TICCF
SP4	Node JCL for Job ident.	S302 — TVSAM S401 — MTVSAM S303 — RVSAM S402 — MRVSAM S303 — TICCF S402 — MTICCF

Figure 27 (Part 2 of 2). Information Table for Network Sample

Tailoring the Network

After installing the network tape, you **have to** do the following depending on the information in the network definition tape:

- Complete dialog *CHANGE VTAM APPLICATION NAME AND/OR SUBAREA NUMBER*
- Assemble a CICS/VS TCT.
- Tailor VSE/POWER and assemble a network definition table (NDT).

and you **may** have to:

- Assemble an ACF/VTAM USS table.
- Tailor ACF/VTAM start options.
- Generate an ACF/NCP and load an IBM 37X5 communication controller.
- Create files for NCCF and NPDA.

Now go to "Cross-Domain - Local and Remote Display Products" on page 102.

ACF/VTAM Access Method - Non-SNA Display Products and Workstations with BSC Protocol

Local Non-SNA Display Products

Note: For the configuration of local non-SNA display products, read the following part. This information is an excerpt from the VSE/SP System Use *manual; check that manual for more details.*

Configure Local Non-SNA 3270s

You use the *CONFIGURE LOCAL non-SNA TERMINALS* dialog to define and update your local non-SNA terminal configuration. The dialog is for both ACF/VTAM and BTAM-ES systems. The information you specify is for:

- CICS/VS Terminal Control Table (TCT).
- ACF/VTAM startup book.
- CICS/VS terminal assignments for BTAM-ES startup.

There are other tasks you may have to do either before or after you use this dialog. Refer to "Additional Considerations" on page 68 for information.

A FULIST displays the addresses and characteristics of the terminals. These devices were defined in the hardware configuration table with device type codes 3277 or 3277B.

Note: The hardware configuration table is maintained by the *Configure Hardware Addresses* dialog.

The options you can select are at the top of the FULIST. Enter the option number in the "OPT" field to the left of the device you want to process. Option 6 is described in "Define Terminal Features" on page 67.

If you delete a terminal (option 5), the dialog also deletes the device address from the hardware configuration table.

After you update the definitions, press PF6. The dialog updates the terminal configuration and redisplays the selection panel.

You can change any terminal characteristic, except for the address. Type in the characteristics in the appropriate column.

The terminal characteristics differ for ACF/VTAM and BTAM-ES. They depend on the telecommunications method you selected during the initial installation of VSE/SP. The information you need is described below.

Input for ACF/VTAM and BTAM-ES Users

Both BTAM-ES and ACF/VTAM users need the following information.

MODEL

Enter the **real** model number for the terminal. If the terminal is a system console, you **must** enter CONSOLE. This is necessary because system console devices cannot be configured for CICS/VS or ACF/VTAM.

If the device was sensed during initial VSE/SP installation, this field contains a default value. Verify that the value is correct.

In the *Configure Hardware Addresses* dialog, 327x and 328x devices had device type codes 3277 or 3277B. These were needed as the IPL device type. You must specify the real model number so the system can determine the correct default terminal feature table. Therefore, the "MODEL" field may have a different value than the device code in the hardware configuration table.

TERM-ID

This is the four character CICS/VS terminal-id. The dialog provides one of the following default values. The defaults are based on the devices that were or were not sensed when the initial VSE/SP system was installed. The xxx is the address (cuu) of the terminal.

- Dxxx - For display terminals that were sensed, and for other devices that could **not** be sensed.
- Pxxx - For printer terminals that were sensed.

You can enter a different terminal-id.

FEATURE NAME

The name of the feature definition table.

The CICS/VS TCT contains various terminal and mapping characteristics. Instead of asking you to enter each value for each terminal, VSE/SP uses feature definition tables to store the values.

VSE/SP ships twenty default feature tables. Each table is used for a specific terminal device. The dialog automatically selects the table that matches the terminal type. You can use the default VSE/SP feature table or you can specify a different table.

You can also modify the VSE/SP default tables or create your own table. Refer to "Define Terminal Features" on page 67.

VSE/SP Planning describes the VSE/SP default tables and features. Review these descriptions before you modify or create a feature table.

Additional Input for ACF/VTAM Users

If you selected ACF/VTAM as the telecommunications access method during VSE/SP initial installation, the following fields are also shown on CONFIGURE LOCAL NON-SNA 3270S.

NETNAME
A 1 - 8 character terminal identification. This is used for ACF/VTAM startup and by CICS/VS TCT to relate the two subsystems.

The dialog provides a four character default value that is the same value as the terminal-id (TERM-ID). If you have a single domain environment, you can use the default. If you have a networking environment, you **must** change the netname. Refer to *VSE/SP Networking* for more information.

PRT-ID
The four character terminal-id of a CICS/VS printer terminal. CICS/VS uses the id to print the screen image when the PA1 key is pressed.

Additional Input for BTAM-ES Users

If you selected BTAM-ES as the telecommunications access method during VSE/SP initial installation, the selection panel displays the "LOGICAL UNIT" field. Enter the programmer logical unit (SYSxxx) for the terminal.

Define Terminal Features

VSE/SP ships twenty terminal definition feature tables. *VSE/SP Planning* describes the default tables.

You can modify the VSE/SP tables or define your own feature table. Enter **6** in the "OPT" column on CONFIGURE LOCAL NON-SNA 3270S.

DEFINE TERMINAL FEATURES displays the default tables and the tables you have created. You can:

- Add a new table.
- Update an existing table.
- Delete a table.

Enter an option number in the "OPT" field to the right of the table name you want to process. The terminal features you can define are:

```
Copy                    Selector pen
Color                   Transparency
Print                   Text keyboard
BMS Paging              Programmed symbols
Page sizes              Extended highlight
Screen sizes            Typewriter keyboard
Audible alarm           Extended data stream
```

Refer to CICS/VS documentation for information about the features.

Additional Considerations

1. You **cannot add** terminals with this dialog. If you want to add a new terminal, first use the *Configure Hardware Addresses* dialog. This defines the terminal address in the hardware configuration table. After you add the address, use this dialog to define the terminal characteristics.

2. If you **delete** a terminal the dialog automatically deletes it from the hardware configuration table.

3. After you complete this dialog, use the *CREATE STARTUP BOOKS* dialog to assemble and catalog the TCT and other startup books.

   The information you specify in this dialog is not available to the system in a useable form until you complete the *CREATE STARTUP BOOKS* dialog.

Single-Domain - Remote Non-SNA Display Products

ICA-Attached Display Products

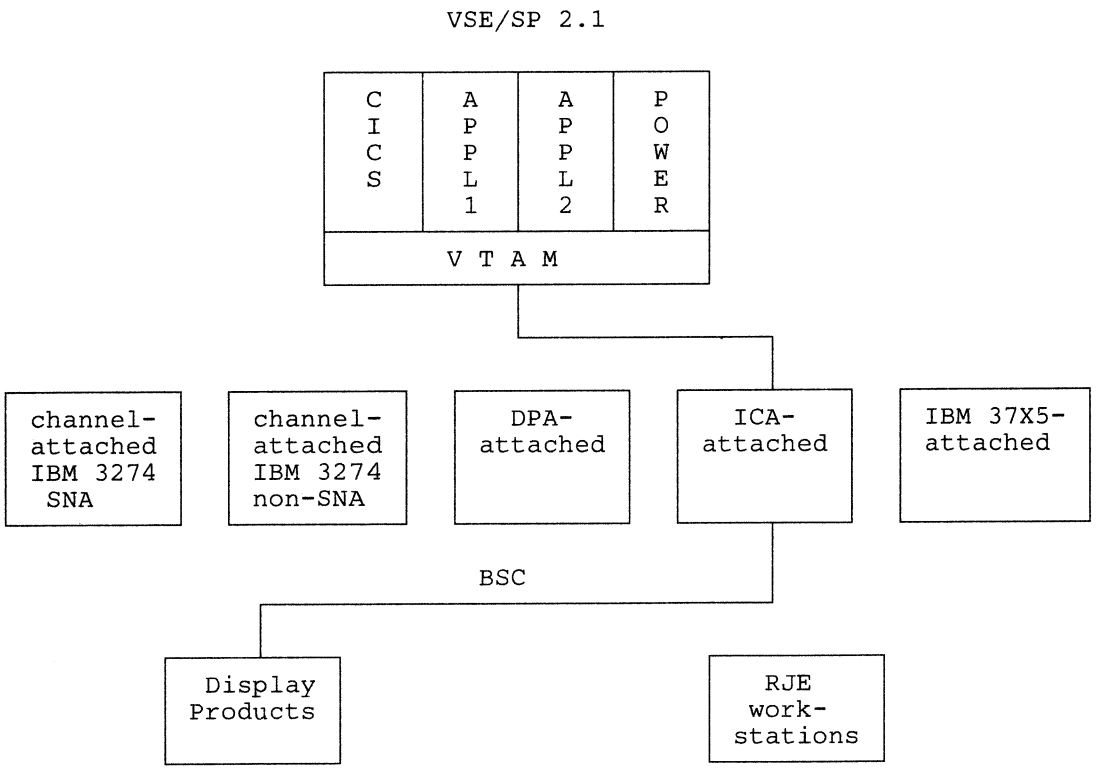

Figure 28. Configuration Diagram - ICA-Attached Display Products (BSC)

The configuration of BSC display products (see Figure 29 on page 70 below) is not dialog-supported by VSE/SP.

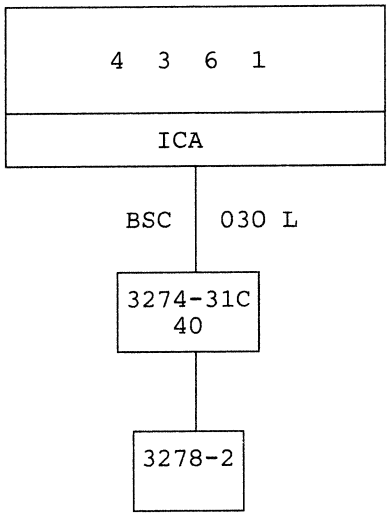

Figure 29. Sample Configuration - ICA-Attached Display Products (BSC)

To define non-SNA display products to ACF/VTAM, you need to define a ACF/VTAM major node. Collect the following information:

1. Define the communication adapter, that is, the **number of lines** attached to it (maximum of eight).

2. Each must have a **unique address** (from 030 to 037).

   Note: Items 1 and 2 above are defined by the Configure Hardware Addresses dialog. They are mentioned for completeness only so that you can properly fill out your worksheet.

3. **Line group characteristics** such as polled vs. non-polled terminals and leased vs. switched lines. That means that all lines must be grouped for the same characteristics.

4. **Line characteristics** such as clusters and terminals attached to the lines.

   For the **cluster controller**, you need:

   - A unique user-defined resource name.
   - The type and model.
   - The polling characters.
   - The application to which terminals attached to this cluster will automatically be logged on.

   For the **terminals** attached to the cluster, you need:

- A unique user-defined resource name.
- The address.
- Type and model.
- The application to which the terminals will automatically be logged on.

To actually define the integrated communication adapter to ACF/VTAM, you must define a **VBUILD** macro, that is, a major node with TYPE = CA (see Figure 30 on page 72). **GROUP** defines the line as a BSC line. **LINE** shows the channel unit (cuu) address. The **CLUSTER** operand defines the control unit to which the terminals are attached. In a non-SNA environment, each control unit is polled by assigning a special polling address to it. If it is the first control unit, the polling address is '40' (GPOLL = 40), the second control unit would be C1, and so on (see Appendix E, "BSC IBM 3270 Polling and Device Selection Characters" on page 221). The control unit (CUTYPE) is defined as 3271 or 3275; SNA control units IBM 3274 and IBM 3276 are defined as 3271. **TERMINAL** defines the terminal address which is called device selection character. Similar to assigning polling addresses to control units, you need device selection characters for each terminal. '40' is the first character, 'C1' the second, and so on (see Appendix E, "BSC IBM 3270 Polling and Device Selection Characters" on page 221). For **TERM**, use:

- 3277 for 3277, 3278, 3279
- 3284 for 3284
- 3286 for 3286, 3287, 3288, or 3289

ISTATUS = ACTIVE means that this terminal will be activated when its associated major node is activated. **LOGAPPL = DBDCCICS** is the application program major node name to which the terminal will automatically be logged on. If you do not specify LOGAPPL, the operator or the application program must initiate the logon. **FEATUR2** states that you specified 1920-character screen size or print buffer.

You must create your TCT entries for CICS/VS manually. With this type of configuration, you can access those CICS/VS applications authorized for each terminal, that is, these terminals are dedicated to one application only. You can of course attach an IBM Personal Computer which you can operate in 3277/3278 emulation mode using the PC Move Utilities dialog provided with VSE/SP. Also, remote operation of the system console is possible from these non-SNA BSC protocol terminals running under ACF/VTAM.

```
major node     VBUILD     TYPE=CA
GRH1           GROUP      LNCTL=BSC
LRH1           LINE       ADRESS=030
CRH0C40        CLUSTER    GPOLL=40,CUTYPE=3271
D72R300        TERMINAL   CUADDR=40,                              X
                          TERM=3277,                              X
                          ISTATUS=ACTIVE,                         X
                          LOGAPPL=DBDCCICS,                       X
                          FEATUR2=(MODEL2)
```

Figure 30. ACF/VTAM Major Node Definition for BSC Protocol

ICA-Attached VSE/POWER/RJE Workstations

Like in the section above (ICA-Attached Display Products), you must define an ACF/VTAM major node, use skeleton SKPWRBSC to define the workstations, and then regenerate VSE/POWER using skeleton SKPWRGEN.

37X5(NCP)-Attached Display Products

For these display products, you must define an ACF/VTAM major node, complete the ACF/NCP dialogs provided with VSE/SP, and generate your TCT entries manually. For ACF/NCP details, see "Defining the Network" on page 95.

37X5(NCP)-Attached VSE/POWER/RJE Workstations

For these workstations, define an ACF/VTAM major node, generate your ACF/NCP, complete skeleton SKPWRBSC to include the particular workstations, and regenerate VSE/POWER using skeleton SKPWRGEN.

ICA-Attached Display Products and VSE/POWER/RJE Workstations

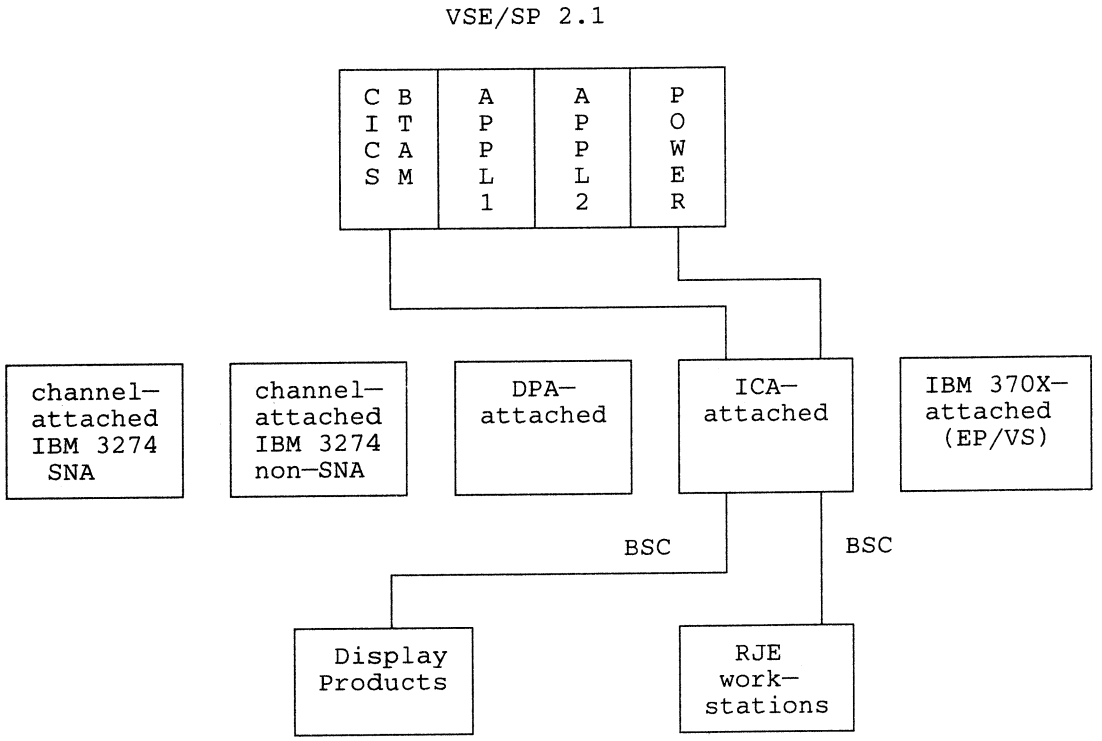

Figure 31. Configuration Diagram - ICA-Attached Display Products and VSE/POWER/RJE Workstations (BSC)

The configuration of BSC devices (see Figure 32 on page 74 below) is not dialog-supported by VSE/SP.

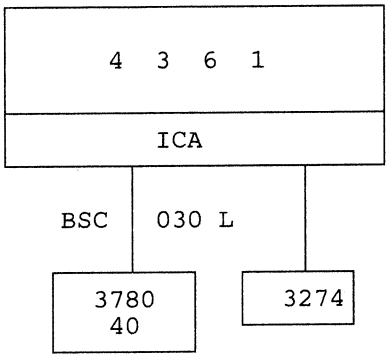

Figure 32. Sample Configuration - ICA-Attached Display Products and VSE/POWER/RJE Workstations (BSC)

If you want to define display products and VSE/POWER/RJE workstations operating with BSC protocol, define the BSC line via the *Configure Hardware Addresses* dialog, the display products via TCT entries, and the workstation via the skeleton SKPWRBSC provided by VSE/SP in library 59 (see "VSE/POWER BSC Skeleton SKPWRBSC" on page 209). Then regenerate VSE/POWER using skeleton SKPWRGEN in library 59 (see "VSE/POWER Generation Skeleton SKPWRGEN" on page 204).

For more details, see *VSE/POWER Remote Job Entry User's Guide.*

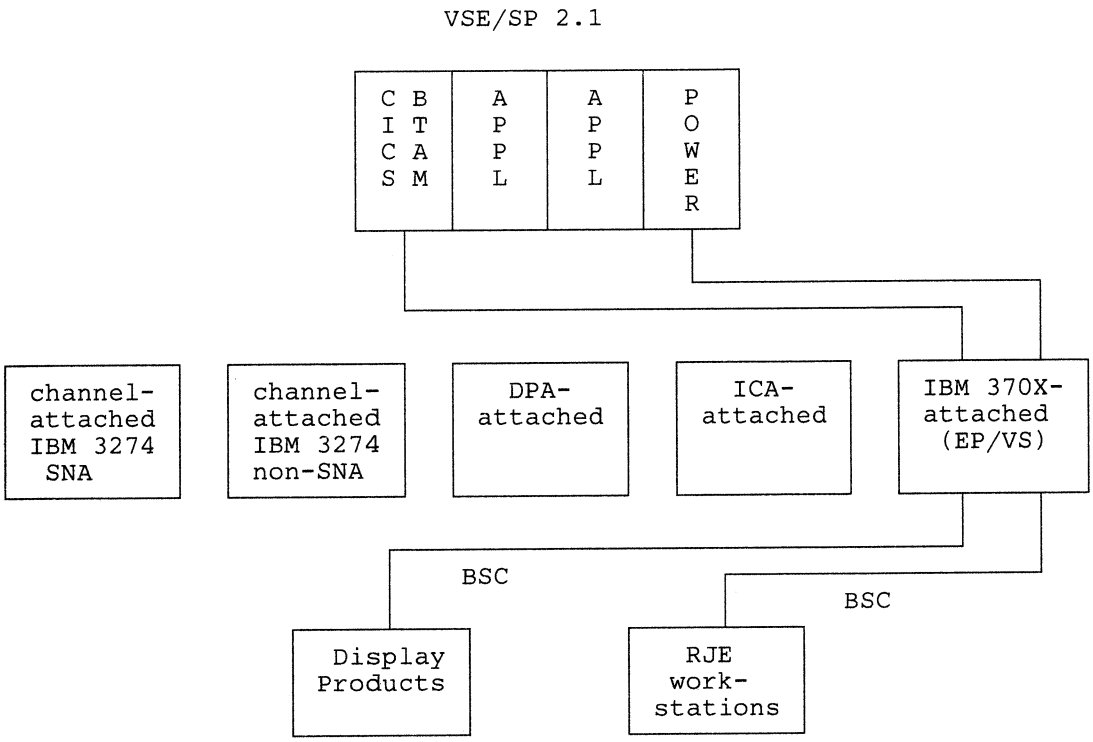

Figure 33. Configuration Diagram - 370X(EP)-Attached Display Products and VSE/POWER/RJE Workstations (BSC)

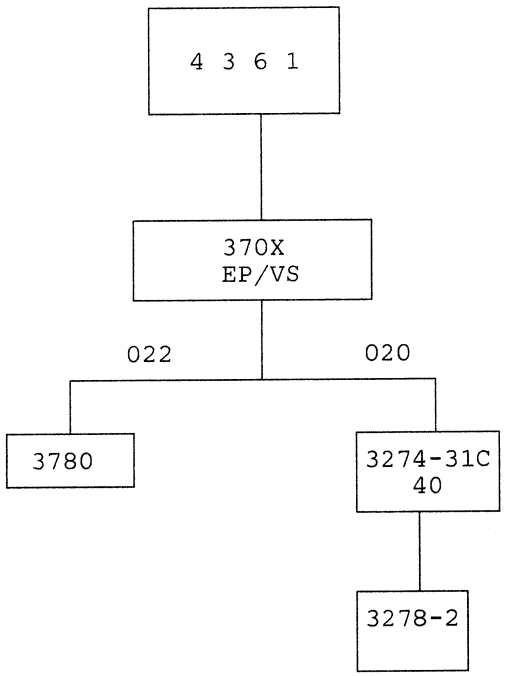

Figure 34. Sample Configuration - 370X(EP)-Attached Display Products and VSE/POWER/RJE Workstations (BSC)

A sample network is used to help you plan and install your individual network (see Figure 34). In the above sample, a non-SNA control unit and terminal as well as an IBM 3780 RJE workstation and two communication lines are defined for the Emulation Program (EP/VS).

VSE/SP contains a sample EP/VS to be loaded into the communication controller. Use the dialogs provided with VSE/SP to generate this emulation program. You can either take the default values contained in the dialogs or you can define your own values according to your system needs.

Before you start configuring your EP/VS, collect the following information about the 370X communication controller and fill out the EP/VS configuration worksheet (see "370X(EP) Worksheet" on page 173).

1. Controller model

   Supported are:

   - 3704
   - 3705-80
   - 3705-II

   This value supplies the MODEL parameter for the BUILD macro.

2. Channel adapter types

   A channel adapter **type 1** can be used only on a S/360 or S/370 bytemultiplexer channel. The amount of data transfer is 1, 2, 3, or 4 bytes.

   A **type 4** channel adapter can be attached to a S/360 byte multiplexer channel or to a S/370 byte multiplexer, block multiplexer, or selector channel. Groups (known as bursts) of up to 32 bytes can be transferred at a time.

3. Number of channel adapters:

   - 3704 - one type 1 or type 4 channel adapter.
   - 3705-80 and 3705-II - one of either type **or** two type 4 channel adapter.

     This generates the CA value of the BUILD macro.

     The assumptions for the dialog-provided defaults, for all lines, are:

     - BSC protocol.
     - Non-switched.
     - Terminals 3270, 3740, 3770, and 3780.
     - No TWX lines.
     - No WT teletype terminals.
     - Half-duplex lines.
     - 3705-II model communication controller

4. Subchannel address range:

   - Upper limit

     This is the highest subchannel address associated with the channel adapter. This address must be equal to or higher than the highest subchannel address you enter later when you define your lines. This value generates the HICHAN parameter in the BUILD macro.

   - Lower limit

     This is the lowest subchannel address associated with the channel adapter. It generates the LOCHAN parameter in the BUILD macro.

     You can make best use of storage by contiguous assignment of all emulated subchannels. Each unassigned subchannel address between upper limit and lower limit requires 10 bytes of EP/VS storage.

5. Scanner types

   The selection panel for the scanner definitions can be displayed repeatedly for as many scanners as you have to define.

   - For a 3704, you can have a maximum of **two** scanners.
   - For a 3705, you can have a maximum of **four** scanners.

   In a 3704, you can have **type 1 or type 2**.

   In a 3705-80, you can have **type 1, type 2, or type 3**.

   In a 3705-II, you can have **either type 2 or type 3**.

   This generates the TYPE parameter of the CSB macro.

6. Wraparound line address

   This address generates the WRAPLN parameter of the CSB macro. You specify the line interface address from which the communication controller will receive test data for a wraparound test. During a wraparound test, test data entered at the control panel of the 370X is transmitted through the 370X to the line set. This data is then looped through the line set and sent back to the 370X on the line specified in the WRAPLN parameter.

   Using the line definition selection panels, you must define a line with the same address as the wrap line. The address of the wrap test line will be used to determine which expansion module will be defined in the CSB macro. No expansion module may be defined if the expansion module with the next lowest number is not present. For example, expansion module one may not be created if expansion module zero has not been created.

   Specify a wrap test line address for each expansion module you require. Note that the 3704 has only **one** module.

7. Scanner speeds

   You can have up to four oscillators (business machine clocks) in each scanner. Specify the rate of each oscillator in bits per second. Enter the speeds in the order in which the oscillators are installed in your scanner. Leave blank any fields you do not need.

   - Bit rate 45 means 45.5
   - Bit rate 56 means 56.89
   - Bit rate 74 means 74.2
   - Bit rate 134 means 134.5

   This generates the SPEED parameter of the CSB macro.

8. Line definition

   Specify line name, line address, and line speed.

   - Line name

     This must be a unique name. It must be eight characters or less and the first character must be alphabetic. This generates the name associated with the LINE macro for this line.

   - Line address

     This is the line interface address. It generates part of the ADDRESS parameter in the LINE macro. **Do not duplicate this address within your EP/VS specifications**.

   - Line speed

     This is the data rate in bits per second. This is the rate at which terminals on this line transmit to the communication controller and vice versa. It generates the SPEED parameter in the LINE macro.

     The following assumptions have been made for the EP/VS dialog provided here.

     - All lines are BSC protocol (LNCTL=BSC in GROUP macro).
     - No dial lines (DIAL=NO in GROUP macro).
     - Interrupt priority for all lines is 1 (INTPRI=1 in LINE macro).
     - EP/VS emulates a 2703 (CU=2703 in LINE macro).
     - If you configure a 3705-II with **one** channel adapter type 4, it must be in the base module.
     - If you configure a **3705-80 or 3705-II** with **two** channel adapters type 4, one is in the base module and the other in the first expansion module.
     - Group names for the GROUP macro are supplied by VSE/SP.
     - No line clocking is specified. Modem clocking (CLOCKNG=EXT) is assumed for BSC lines. If you have no modems, say CLOCKNG=INT in the LINE macro.

9. Line definitions - Terminal types

   Specify the terminal type with which EP/VS communicates via this line. The following types are supported:

   - 2703, 2770, 3741, 3747, 3780, 3275, 3277, 3278, 3284, 3286

   This generates the TERM parameter in the LINE macro.

10. Subchannel address

    This address must be within the range you specified as lower and upper limit in the previous selection panel. You can specify **more than one subchannel address only**, if your communication controller has **one or two** type 4 channel adapters.

    This generates the ADDRESS parameter of the LINE macro.

    Repeat this procedure for all terminals you have to define.

With this, you have collected all the information necessary to generate your EP/VS. After you completed the last selection panel, three jobs are created:

- EPIPF
- EPSTG1
- EPSTG2

You can choose your own names for these jobs and file them in your library.

Be sure to edit, according to your system needs, the jobs that generate EP/VS. Submit EPIPF to VSE/POWER so that the macros defined in the dialogs can be cataloged in the source library. Then, submit the two generation jobstreams EPSTG1 and EPSTG2. Check that they run successfully.

Now go to "370X(EP)-Attached Display Products and VSE/POWER/RJE Workstations" on page 142 to install your network.

Chapter 3. Installing Your Network

Local SNA Display Products

The sample configuration in Figure 35 is described below using the VSE/SP configuration dialogs. The names of the selection panels are given in capital letters.

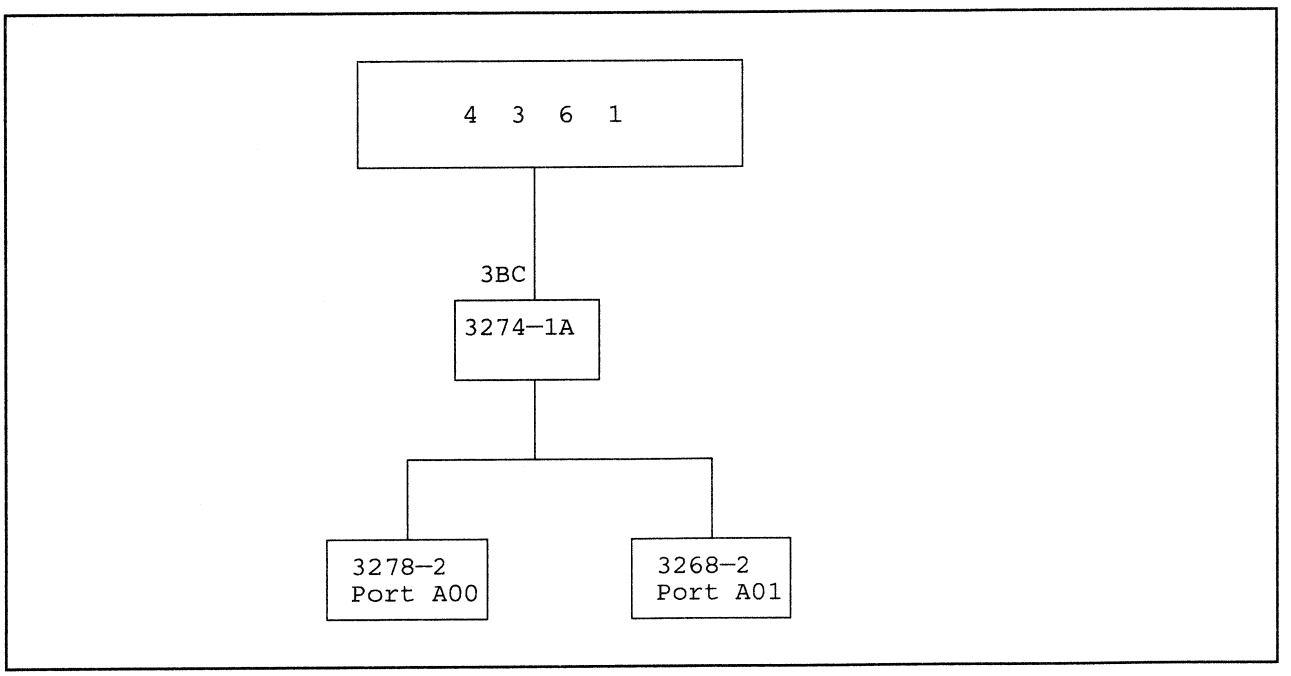

Figure 35. Installing Local SNA Display Products

Defining the Network

Before you go through the local SNA dialogs, you must add the physical unit to the hardware configuration table (HCT). For details, see *VSE/SP System Use*. After logging on to VSE/SP, FUNCTION SELECTION displays. To select the Local SNA dialogs, type **2**.

On RESOURCE DEFINITION, type 4 for 'Local Configuration and IPL'. On LOCAL CONFIGURATION AND IPL, type **3** for 'Configure Local SNA 3270s'.

The following panel contains the addresses from the hardware table created during installation of the system. On this panel, you can:

- Define physical units.
- Define logical units for a defined physical unit.
- Display logical units configured during a previous session.
- Delete physical unit definitions.

For each address you must specify the attached IBM 3274 controller model and later on the logical unit(s) on a different panel. Start out by selecting option '1' to define the physical unit. On the next panel, CONFIGURE LOCAL SNA 3270S, type **1** for 3274-1A. Again, on CONFIGURE LOCAL SNA 3270S, type **2** to define the logical units. On 3270 DEVICE SELECTION MENU, type **2** for 3278-2. On DESCRIBE TERMINALS ON CONTROLLER, type **x** for A00. On SPECIFIED TERMINALS ON CONTROLLER, press **ENTER** to add more LUs.

3270 DEVICE SELECTION MENU displays again. On 3270 DEVICE SELECTION MENU, type **15** for 3268-2. On DESCRIBE TERMINALS ON CONTROLLER, type **x** for A01. On SPECIFIED TERMINALS ON CONTROLLER, press **PF6** to process your specifications.

Cataloging the Network

Now you have completed the definitions for all controllers. Press **PF6** on CONFIGURE LOCAL SNA 3270S to leave the configuration dialog. Panel JOB DISPOSITION is displayed. Modify it, if necessary, to generate a job called VTAMDEFS (see Figure 37 on page 83). VTAMDEFS catalogs ACF/VTAM major node definitions for local SNA terminals. The major node name is VTMSNA. After you run this job, the major node is cataloged as VTMSNA.B. The VSE/ICCF member VTMSNA (shown in Figure 36) resides in library 51:

```
VTMSNA     VBUILD   TYPE=LOCAL
DP13BC01   PU       CUADDR=3BC,                    X
                    PUTYPE=2,                      X
                    ISTATUS=ACTIVE,                X
                    MAXBFRU=(1,2)
L013BC01   LU       LOCADDR=2,                     X
                    SSCPFM=USSSCS,                 X
                    USSTAB=VTMUSSTR,               X
                    PACING=1,                      X
                    VPACING=2,                     X
                    ISTATUS=ACTIVE,                X
                    LOGAPPL=DBDCCICS
L113BC01   LU       LOCADDR=3,                     X
                    SSCPFM=USSSCS,                 X
                    USSTAB=VTMUSSTR,               X
                    PACING=1,                      X
                    VPACING=2,                     X
                    ISTATUS=ACTIVE,                X
                    LOGAPPL=DBDCCICS
```

Figure 36. ACF/VTAM Major Node VTMSNA

You can modify this member according to your requirements.

VTMSNA, the major node name for these SNA display products, is listed in ATCCON00.B which is shipped with the system (see "Configuration List" on page 149).

```
* $$ JOB JNM=VTAMDEFS,CLASS=0,DISP=D,PRI=1,
* $$ NTFY=YES,LDEST=*
// JOB VTAMDEFS
* ******************************************************
* THIS JOB CATALOGS A VTAM MAJOR NODE DEFINITION FOR
* LOCAL SNA TERMINALS.  THE MAJOR NODE NAME IS VTMSNA.
* ******************************************************
// EXEC LIBR,PARM='MSHP'
ACCESS SUBLIB=PRD2.CONFIG
CATALOG     VTMSNA.B          REPLACE=YES
* $$ SLI ICCF=(VTMSNA),LIB=(51)
/+
/*
/&
* $$ EOJ
```

Figure 37. Job VTAMDEFS

Check library 51 for VSE/ICCF member DTRTCTS. This member includes the TCT entries for the above configuration (see Figure 38). This is automatically generated.

```
S001     DFHTCT TYPE=TERMINAL,                                  X
               TRMIDNT=S001,                                    X
               NETNAME=L013BC01,                                X
               DEFSCRN=(24,80),                                 X
               FEATURE=(AUDALARM),                              X
               TRMTYPE=LUTYPE2,                                 X
               TRMMODL=2,                                       X
               ACCMETH=VTAM,                                    X
               TIOAL=(1024,4096),                               X
               RELREQ=(NO,YES),                                 X
               TRMSTAT=TRANSCEIVE,                              X
               RUSIZE=1024,                                     X
               BUFFER=1536,                                     X
               BRACKET=YES,                                     X
               PGESTAT=PAGE,                                    X
               CHNASSY=YES,                                     X
               GMMSG=YES,                                       X
               TCTUAL=255
S002     DFHTCT TYPE=TERMINAL,                                  X
               TRMIDNT=S002,                                    X
               NETNAME=L113BC01,                                X
               TRMTYPE=LUTYPE3,                                 X
               TRMMODL=2,                                       X
               ACCMETH=VTAM,                                    X
               TRMSTAT=TRANSCEIVE,                              X
               RUSIZE=256,                                      X
               BUFFER=256
```

Figure 38. TCT Entries for Local SNA Terminals - VSE/ICCF Member DTRTCTS

Any previously defined members with that name are overridden, they are not included in the TCT assembly.

Now you must create job STARTUP to assemble the TCT entries including member DTRTCTS which were just created. To do that, go to FUNCTION SELECTION, type **2**; on RESOURCE DEFINITION, type **7**. On CREATE STARTUP BOOKS, type **x** for 'CICS Terminal Control Table'.

Assemble a TCT phase after all necessary configuration dialogs have been completed; not after each individual dialog.

CREATE STARTUP BOOKS displays where you must type **1** if you want to continue or **2** if you have yet to configure your local non-SNA display products. JOB DISPOSITION displays to create job STARTUP which you can modify (see Figure 39).

To view STARTUP, type **5** on FUNCTION SELECTION and **1** on PROGRAM DEVELOPMENT. Then check your primary library.

```
* $$ JOB JNM=STARTUP,CLASS=0,DISP=D,PRI=3,                    C /===/*
* $$ NTFY=YES,LDEST=*                                           *===*
// JOB STARTUP  CATALOG STARTUP MEMBERS AND PHASES              *===*
* $$ SLI ICCF=(DTRTCTJV),LIB=(51)                              *===*
/&                                                             *===*
* $$ EOJ                                                       *===*
```

Figure 39. Job STARTUP for Local SNA Display Products

After the TCT assembly job has finished, you must bring down CICS/VS and start it again with the TCT modifications just assembled.

If you change your HCT, you must re-IPL to activate the changes. If you did not change the HCT, shut down CICS/VS and ACF/VTAM and start up again.

This completes the installation of local SNA display products.

To operate your network, see "Chapter 4. Operating Your Network" on page 147.

ACF/VTAM Access Method - SNA Products with SDLC Protocol

Single-Domain - Remote SNA Display Products

ICA-Attached Display Products

The sample configuration in Figure 40 is described below using the VSE/SP remote configuration dialogs. The names of the panels are given in capital letters.

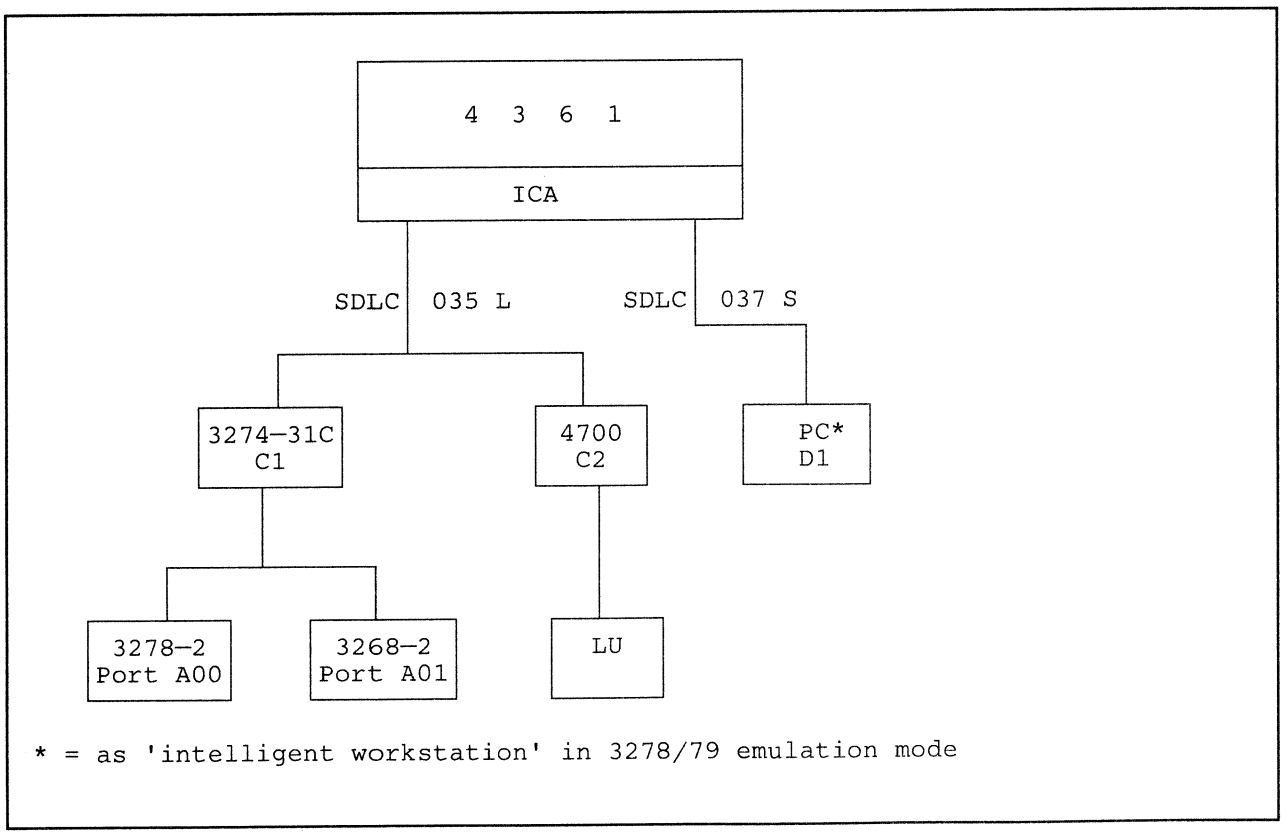

Figure 40. Installing ICA-Attached Display Products (SDLC)

Defining the Network

Before you go through the local SNA dialogs, you must add the physical units to the HCT. For details, see *VSE/SP System Use.* After logging on to VSE/SP, FUNCTION SELECTION displays.

To select the ICA configuration panels, type **2** on FUNCTION SELECTION.

On RESOURCE DEFINITION, type **5** for 'Remote Terminal Configuration'.

On REMOTE TERMINAL CONFIGURATION, type **1** for ICA-attached terminals. The following panel, CONFIGURE ICA CONNECTED TERMINALS, contains the **links**, i.e. addresses and protocols, from the hardware table created during installation of the system. On this panel, you can:

- Define the links.
- Define the physical units.
- Display the physical units configured during a previous session.
- Delete a previously defined link.

For each link, you must specify if it is a **leased, switched, or cross-domain** link.

You can define the SDLC links further by specifying the **physical unit** and later on the **logical unit** on a different panel. The BSC links and cross-domain links are only displayed for convenience. The BSC links must be defined using the VSE/POWER SKPWRBSC skeletons in VSE/ICCF library 59 or manually, respectively.

We start out by using option '1' to define an SDLC link, in the example, **link 035**. Tab the cursor to link 035 and type **1**. On CONFIGURE ICA CONNECTED TERMINALS, type **1** for 'leased link'. The previous panel displays the link TYPE as 'L'. Repeat this procedure for link 037 except that you type **2** for switched links.

Now define the PUs for link 035 by typing **2** on CONFIGURE ICA CONNECTED TERMINALS.

Panel DESCRIBE PHYSICAL UNIT displays. Type **C1** for SDLC station address.

SUBSYSTEM SELECTION MENU is displayed next. Type **1**, **2** or **3** depending on the system you want to configure.

In our example, type **1** for 'display system' which displays panel DISPLAY SYSTEM PRODUCT SELECTION MENU where you specify the physical unit, in the example, an IBM 3274 Model 31C control unit. Type **6**.

On panel 3270 DEVICE SELECTION MENU you select the logical unit, in the example, an IBM 3278 Model 2. Type **2**.

The port numbers to which logical units such as this IBM 3278 Model 2 are attached, you can enter on panel DESCRIBE TERMINALS ON CONTROLLER by typing an **x** for the respective port. In the example, type **x** for 'A00'.

Panel SPECIFIED TERMINALS ON CONTROLLER displays what you just defined. Press **ENTER** if you want to define more LUs (as is the case in our example) or exit with **PF6**.

On panel 3270 DEVICE SELECTION MENU, type **15** to define the IBM 3268-2 printer.

On panel DESCRIBE TERMINALS ON CONTROLLER, type **x** under 'A01'. Press **ENTER**.

Since there are no more logical units to add for this physical unit, press **PF6** on panel SPECIFIED TERMINALS ON CONTROLLER to process the definitions.

SPECIFIED PHYSICAL UNITS now displays what you have specified for this link so far. Press **ENTER** to add more PUs for link 035; if you had no more PUs for link 035, you would process the definitions by pressing **PF6**.

In our example, add the **second** physical unit for link 035, the IBM 4700.

On DESCRIBE PHYSICAL UNIT, type **C2**.

The IBM 4700 controller you want to add is an industry product, so type **2** on SUBSYSTEM SELECTION MENU.

On panel INDUSTRY SYSTEM PRODUCT SELECTION MENU, type **1** for the IBM 4700 controller.

On panel SPECIFY LOGICAL UNITS FOR CONTROLLER, type the number of logical units you want to attach (but not more than 15); in our case, **1** (which is the default).

SPECIFIED PHYSICAL UNITS gives you an overview of the definitions you made so far. Press **PF6** to process the definitions since there are no more physical units to add for link 035.

Now start again with CONFIGURE ICA CONNECTED TERMINALS to **specify link 037** which is a **switched link**. Type **2** to define physical units.

On DESCRIBE PHYSICAL UNIT, type the 2-character hexadecimal value for station address, in the example, **D1**.

On SUBSYSTEM SELECTION MENU MENU, type **3** to select the Personal Computer which serves as 'intelligent workstation'.

On INTELLIGENT WORKSTATION SELECTION MENU, type **1** for Personal Computer.

On SPECIFY IDENTIFICATION NUMBER, type in the 20-bit identification number (hex 'xxxxx') which is required to identify physical units attached via switched links. This is always a hexadecimal number, in the example, **0C1F3**.

On SPECIFIED PHYSICAL UNITS, all physical units defined so far for link 037 are displayed including the product specific identification block number which is generated automatically with the dialog. Since there are no more link definitions to be made, press **PF6** to process your specifications. CONFIGURE ICA CONNECTED TERMINALS displays again.

Cataloging the Network

Now you have completed the definitions for all links. Press PF6 on CONFIGURE ICA CONNECTED TERMINALS to exit from the configuration path altogether. JOB DISPOSITION is displayed next. It shows that job VTAMDEFS will be created, if you press ENTER. However, you can modify this panel as needed. VTAMDEFS (see Figure 41) catalogs the ACF/VTAM resource definitions reflecting your configuration. The CICS/VS TCT definitions also generated must be assembled later on. VTAMDEFS is stored in your primary VSE/ICCF library.

After that, the REMOTE TERMINAL CONFIGURATION panel comes up again. That is where you started out. Press **PF4**. On FUNCTION SELECTION, type **5** for 'Program Development' and **1** on PROGRAM DEVELOPMENT to display job VTAMDEFS from your primary library (see Figure 41).

```
* $$ JOB JNM=VTAMDEFS,CLASS=0,DISP=D,PRI=3,                    C /===/*
* $$ NTFY=YES,LDEST=*                                            *===*
// JOB VTAMDEFS                                                  *===*
* ************************************************************  *===*
* THIS JOB CATALOGS VTAM MAJOR NODE DEFINITION(S) FOR ICA        *===*
* CONNECTED TERMINALS.                                          *===*
* THE FOLLOWING MAJOR NODES ARE CATALOGED:                      *===*
*    VTMCA1 - DEFINES LEASED LINKS, AND FOR EACH LINK ITS       *===*
*             ATTACHED PHYSICAL UNITS AND LOGICAL UNITS         *===*
*    VTMCA3 - DEFINES SWITCHED LINKS (CALL-IN)                  *===*
*    VTMSW1 - DEFINES PHYSCIAL AND LOGICAL UNITS ATTACHED VIA   *===*
*             SWITCHED LINKS                                    *===*
* ************************************************************  *===*
// EXEC LIBR,PARM='MSHP'                                         *===*
ACCESS SUBLIB=PRD2.CONFIG                                       *===*
CATALOG     VTMCA1.B          REPLACE=YES                       *===*
* $$ SLI ICCF=(VTMCA1),LIB=(51)                                  *===*
/+                                                              *===*
CATALOG     VTMCA3.B          REPLACE=YES                       *===*
* $$ SLI ICCF=(VTMCA3),LIB=(51)                                  *===*
/+                                                              *===*
CATALOG     VTMSW1.B          REPLACE=YES                       *===*
* $$ SLI ICCF=(VTMSW1),LIB=(51)                                  *===*
/+                                                              *===*
/*                                                              *===*
/&                                                              *===*
* $$ EOJ                                                        *===*
```

Figure 41. VSE/ICCF Member VTAMDEFS - Cataloging ACF/VTAM Major Nodes

It includes VSE/ICCF members VTMCA1, VTMCA3, and VTMSW1 with all the major node definitions for ACF/VTAM for leased and switched link connections. These three members are cataloged under the names VTMCA1, VTMCA3, and VTMSW1 in library 51, respectively; they are listed in Figure 42 on page 89.

```
VTMCA1     VBUILD   TYPE=CA
GRPLSDLC   GROUP    LNCTL=SDLC,                              X
                    DIAL=NO,                                 X
                    ISTATUS=ACTIVE
LNK03501   LINE     ADDRESS=035,                             X
                    MAXBFRU=(1,2),                           X
                    ISTATUS=ACTIVE
DP103501   PU       ADDR=C1,PUTYPE=2,MAXOUT=7,               X
                    MAXDATA=265
L0103501   LU       LOCADDR=2,                               X
                    SSCPFM=USSSCS,                           X
                    USSTAB=VTMUSSTR,                         X
                    PACING=1,                                X
                    VPACING=2,                               X
                    ISTATUS=ACTIVE,                          X
                    LOGAPPL=DBDCCICS
L1103501   LU       LOCADDR=3,                               X
                    SSCPFM=USSSCS,                           X
                    USSTAB=VTMUSSTR,                         X
                    PACING=1,                                X
                    VPACING=2,                               X
                    ISTATUS=ACTIVE,                          X
                    LOGAPPL=DBDCCICS
IS203501   PU       ADDR=C2,                                 X
                    PUTYPE=2,MAXOUT=7,MAXDATA=265
L1203501   LU       LOCADDR=1,PACING=2,VPACING=3,            X
                    SSCPFM=USSSCS,ISTATUS=ACTIVE
-------------------------------------------------------------

VTMCA3     VBUILD   TYPE=CA
GRPSSDLC   GROUP    LNCTL=SDLC,                              X
                    DIAL=YES,                                X
                    ISTATUS=ACTIVE
LNK03701   LINE     ADDRESS=037,ANSWER=ON,CALL=IN,           X
                    MAXBFRU=(1,2),ISTATUS=ACTIVE
PU03701    PU       MAXLU=2,ISTATUS=ACTIVE
-------------------------------------------------------------

VTMSW1     VBUILD   TYPE=SWNET
WS103701   PU       ADDR=D1,IDBLK=03D,IDNUM=0C1F3,           X
                    PUTYPE=2,MAXOUT=7,MAXDATA=265
L2103701   LU       LOCADDR=2,                               X
                    SSCPFM=USSSCS,                           X
                    USSTAB=VTMUSSTR,                         X
                    PACING=1,                                X
                    VPACING=2,                               X
                    ISTATUS=ACTIVE,                          X
                    LOGAPPL=DBDCCICS
```

Figure 42. ACF/VTAM Resource Definitions for Switched Lines

After running job VTAMDEFS, all ACF/VTAM definitions are cataloged in PRD2.CONFIG.

Check library 51 for VSE/ICCF member DTRTCTR. This member includes the TCT entries for the above configuration (see Figure 43 on page 90).

```
R001    DFHTCT   TYPE=TERMINAL,                          X
                 TRMIDNT=R001,                          X
                 NETNAME=L0103501,                      X
                 DEFSCAN=(24,80),                       X
                 FEATURE=(AUDALARM),                    X
                 TRMTYPE=LUTYPE2,                       X
                 TRMMODL=2,                             X
                 ACCMETH=VTAM,                          X
                 TIOAL=(1024,4096),                     X
                 RELREQ=(NO,YES),                       X
                 TRMSTAT=TRANSCEIVE,                    X
                 RUSIZE=1024,                           X
                 BUFFER=1536,                           X
                 BRACKET=YES,                           X
                 PGESTAT=PAGE,                          X
                 CHNASSY=YES,                           X
                 GMMSG=YES,                             X
                 TCTUAL=255

R002    DFHTCT   TYPE=TERMINAL,                          X
                 TRMIDNT=R002,                          X
                 NETNAME=L1103501,                      X
                 TRMTYPE=LUTYPE3,                       X
                 TRMMODL=2,                             X
                 ACCMETH=VTAM,                          X
                 TRMSTAT=TRANSCEIVE,                    X
                 RUSIZE=256,                            X
                 BUFFER=256

R003    DFHTCT   TYPE=TERMINAL,                          X
                 TRMIDNT=R003,                          X
                 NETNAME=L2103701,                      X
                 DEFSCAN=(24,80),                       X
                 FEATURE=(AUDALARM),                    X
                 TRMTYPE=LUTYPE2,                       X
                 TRMMODL=2,                             X
                 ACCMETH=VTAM,                          X
                 TIOAL=(1024,4096),                     X
                 RELREQ=(NO,YES),                       X
                 TRMSTAT=TRANSCEIVE,                    X
                 RUSIZE=1024,                           X
                 BUFFER=1536,                           X
                 BRACKET=YES,                           X
                 PGESTAT=PAGE,                          X
                 CHNASSY=YES,                           X
                 GMMSG=YES,                             X
                 TCTUAL=255
```

Figure 43. CICS/VS TCT Resource Definitions for Leased and Switched Lines

There is a dialog that lets you incorporate these TCT entries into your system. Go to FUNCTION SELECTION, type **2**, and on RESOURCE DEFINITION, type **7**. On panel CREATE STARTUP BOOKS, type an **x** for 'CICS Terminal Control Table'.

CREATE STARTUP BOOKS displays where you must enter **1** if you want to continue or **2** if you have yet to configure your local non-SNA display products.

Then JOB DISPOSITION displays to create job STARTUP which you can modify. STARTUP assembles and catalogs the TCT entries including the one just created in member DTRTCTR. Previously defined DTRTCTR members with that name are overridden, they are not included in the assembly. Assemble a TCT phase after all necessary configuration dialogs have been completed; not after each individual dialog. Press ENTER or modify the panel as needed.

After the assembly job has finished, you must bring down CICS/VS and start it again with the TCT modifications just assembled. To view job STARTUP, type **5** on FUNCTION SELECTION and **1** on PROGRAM DEVELOPMENT. Then display the job from your primary library (see Figure 44).

```
* $$ JOB JNM=STARTUP,CLASS=0,DISP=D,PRI=3,
* $$ NTFY=YES,LDEST=*
// JOB STARTUP  CATALOG STARTUP MEMBERS AND PHASES
* $$ SLI ICCF=(DTRTCTJV),LIB=(51)
/&
* $$ EOJ
```

Figure 44. Job STARTUP

This completes the installation of an ICA-connected display products network with SDLC protocol.

To operate your network, see "Chapter 4. Operating Your Network" on page 147.

The sample configuration in Figure 45 is described below using the VSE/SP remote configuration dialogs. The names of the panels are shown in capital letters.

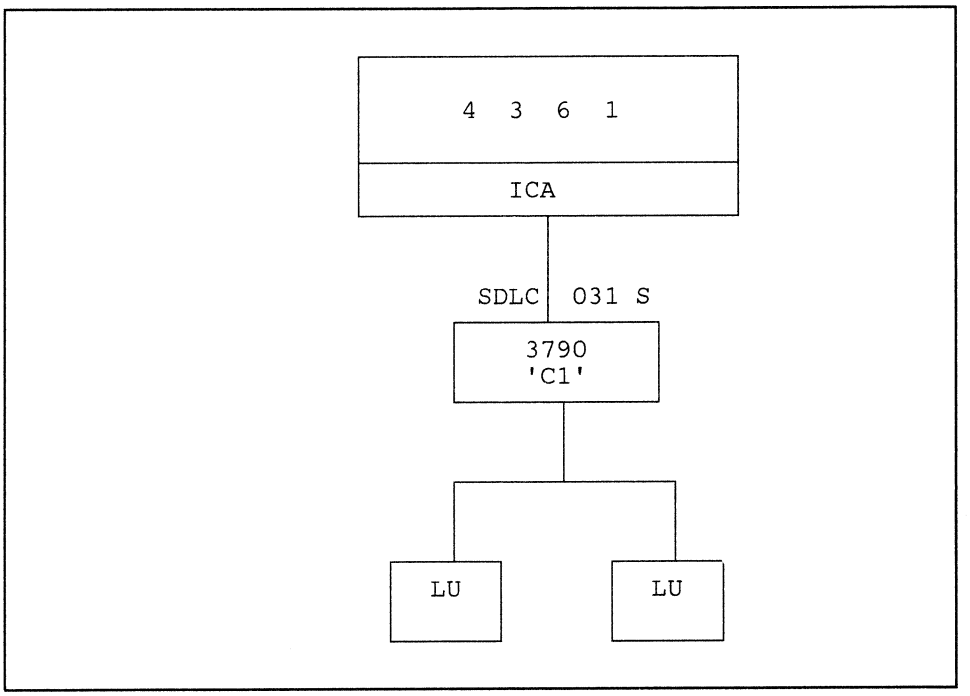

Figure 45. Installing ICA-Attached RJE Workstations (SDLC)

Defining the Network: Before you go through the local SNA dialogs, you must add the physical unit to the HCT. For details, see *VSE/SP System Use*. To select the ICA configuration panels, type **2** on FUNCTION SELECTION.

On RESOURCE DEFINITION, type **5** for 'Remote Terminal Configuration'.

On REMOTE TERMINAL CONFIGURATION, type **1** for ICA-attached terminals. The following panel, CONFIGURE ICA CONNECTED TERMINALS, contains the **links**, i.e. addresses and protocols, from the hardware table created during installation of the system. On this panel, you can:

- Define the links.
- Define the physical units.
- Display the physical units configured during a previous session.
- Delete a previously defined link.

For each link, you must specify if it is a **leased, switched, or cross-domain** link. You can specify one link at a time or all at once.

You can define the SDLC links further by specifying the **physical unit** and later on the **logical unit** on a different panel. The BSC links are only displayed for convenicence; they must be defined using the VSE/POWER SKPWRSNA skeletons in VSE/ICCF library 59.

We start out by using option '1' to define an SDLC link, in the example, **link 031**. Tab the cursor to link 031 and type **1**.

On CONFIGURE ICA CONNECTED TERMINALS, type **2**. The previous panel displays the link TYPE as 'S'.

Now define the PU for link 031 by typing **2**. Panel DESCRIBE PHYSICAL UNIT displays. Type **C1** for SDLC station address.

SUBSYSTEM SELECTION MENU is displayed next. Type **1**, **2** or **3** depending on the system you want to configure.

In our example, type **3** for 'intelligent workstations' which displays panel INTELLIGENT WORKSTATION SELECTION MENU where you specify the physical unit, in the example, an IBM 3790 system. Type **4**.

On SPECIFY IDENTIFICATION NUMBER, type the station identification number **0C1F3**. Then, type **2** on SPECIFY LOGICAL UNITS FOR CONTROLLER because you want to add two LUs.

SPECIFIED PHYSICAL UNITS now displays what you have specified so far for link 031. The ID-block number is generated automatically by the dialog. Since there are no more physical units to add, press **PF6** to process your definitions.

Cataloging the Network

Now you have completed the link definitions. Press **PF6** to exit. JOB DISPOSITION is displayed next. It shows that job VTAMDEFS will be created, if you press ENTER. You can modify this panel as needed. VTAMDEFS catalogs the ACF/VTAM resource definitions reflecting your configuration and generates CICS/VS resource definitons which must be assembled later on.

On panel JOB DISPOSITION, you can, if you want to, alter the jobname (in the example VTAMDEFS in library 51) which is stored in your primary VSE/ICCF library. After that, REMOTE TERMINAL CONFIGURATION comes up again. Press **PF4**. Type **5** for 'Program Development' on FUNCTION SELECTION and **1** on PROGRAM DEVELOPMENT to display job VTAMDEFS residing in your primary VSE/ICCF library. It includes members VTMCA1, VTMCA3, and VTMSW1 with all the major node definitions for ACF/VTAM for leased and switched link connections. Member VTMCA1 is not needed since it includes **leased line specifications only**. Therefore, catalog only members VTMCA3 and VTMSW1. Both members are listed in Figure 46 on page 94.

```
VTMSW1      VBUILD   TYPE=SWNET
WS103101    PU       ADDR=C1,IDBLK=006,IDNUM=0c1f3,      X
                     PUTYPE=2,MAXOUT=7,MAXDATA=265
L1103101    LU       LOCADDR=1,ISTATUS=INACTIVE
L2103101    LU       LOCADDR=2,ISTATUS=INACTIVE

-------------------------------------------------------------

VTMCA3      VBUILD   TYPE=CA
GRPSSDLC    GROUP    LNCTL=SDLC,                         X
                     DIAL=YES,                           X
                     ISTATUS=ACTIVE
LNK03101    LINE     ADDRESS=031,ANSWER=ON,CALL=IN,      X
                     MAXBFRU=(1,2),ISTATUS=ACTIVE
PU03101     PU       MAXLU=2,ISTATUS=ACTIVE
```

Figure 46. ACF/VTAM Resource Definitions for Switched Lines

After running job VTAMDEFS, all ACF/VTAM definitions are cataloged in PRD2.CONFIG.

After configuring your RJE workstations, you must supply VSE/POWER definitions via skeleton SKPWRSNA; then regenerate VSE/POWER using skeleton SKPWRGEN (see "VSE/POWER Generation Skeleton SKPWRGEN" on page 204). Do not modify skeleton SKPWRSNA.

This completes the installation of an ICA-connected RJE workstation network with SDLC protocol.

To operate your network, see "Chapter 4. Operating Your Network" on page 147.

37X5(NCP)-Attached Display Products, Industry Systems, and Workstations (CICS/VS and VSE/POWER/RJE)

The sample configuration in Figure 47 is described below using the VSE/SP remote configuration dialogs. The names of the panels are shown in capital letters.

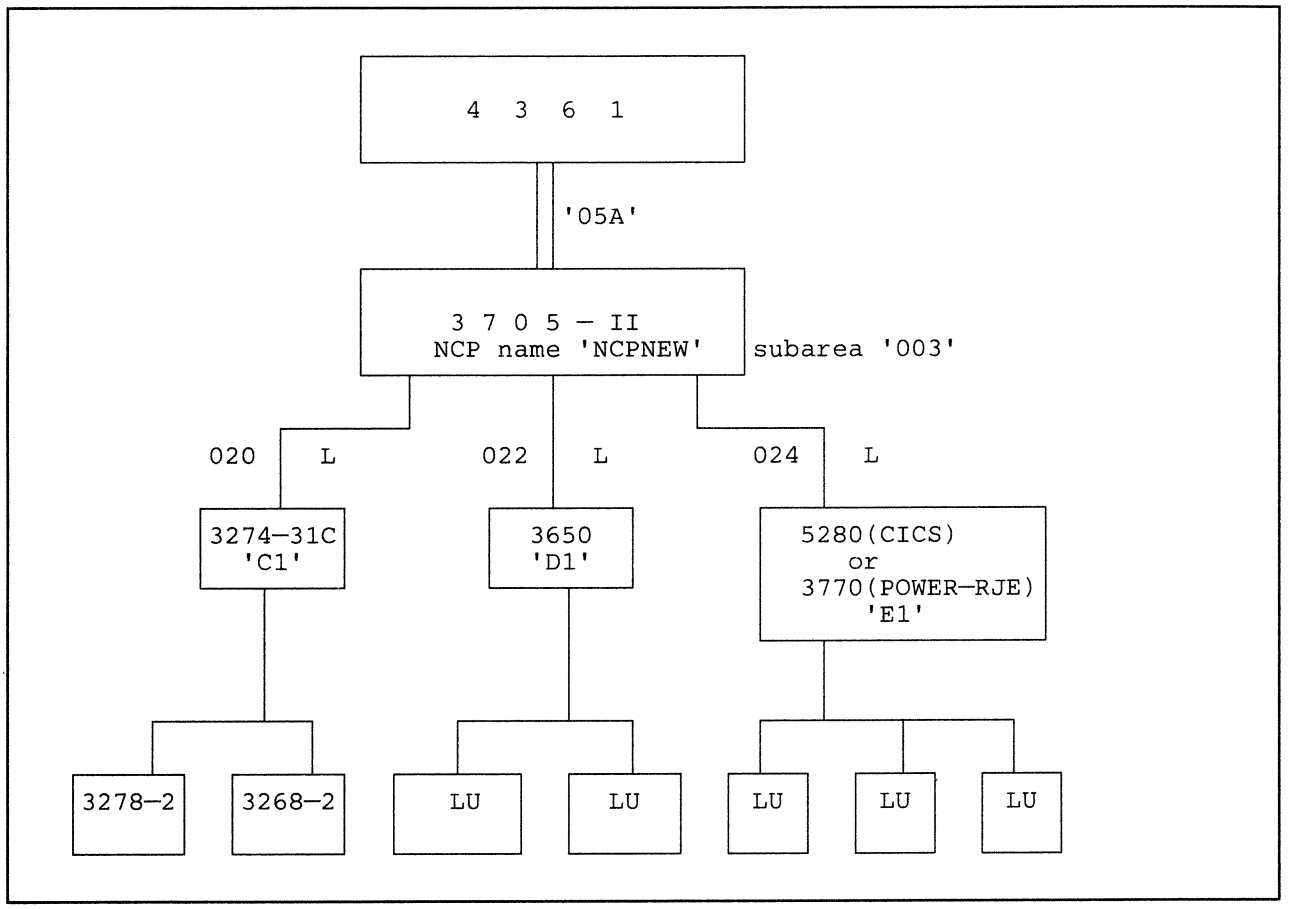

Figure 47. Installing 37X5(NCP)-Attached Products

Defining the Network

After logging on to VSE/SP, FUNCTION SELECTION displays. To select the 37X5(NCP) configuration panels, type **2**. On RESOURCE DEFINITION, type 5 for 'Remote Terminal Configuration'.

On REMOTE TERMINAL CONFIGURATION, type **2** for NCP-attached terminals. On CONFIGURE NCP CONNECTED TERMINALS, you can select the following options:

- '1' to define a new NCP.
- '2' to alter an existing NCP.
- '4' to display an existing NCP.
- '5' to delete an existing NCP.
- '9' to perform an NCP generation.

If this is your first configuration of remote terminals for your VSE/SP system, you would now use option '1' to define a new NCP (specify name); otherwise, for an existing system, you would select any of the other appropriate options.

In our case, type 1 to define a new NCP with the name NCPNEW. On SPECIFY CONTROLLER ADDRESS AND NCP IDENTIFIERS, type 05A and 003 for channel address and subarea number, respectively.

On COMMUNICATION CONTROLLER DESCRIPTION, type 1 for 3705-Model II.

On 3705-II STORAGE SIZE SELECTION, type 7 for memory size of 384K. On CHANNEL ADAPTER CONFIGURATION SELECTION, type 15 for channel adapter configuration.

On 3705-II SCANNER SELECTION, specify 2, 3, 0, 0 for scanner speed, type 2400 on SCANNER TYPE 2 SPEED SPECIFICATION (this is for the base module); on SCANNER TYPE 3 SPEED SPECIFICATION, type 3 (for the first expansion module).

On CONFIGURE NCP CONNECTED TERMINALS, type 1 to specify SDLC links.

On DEFINE NCP LINK, type 020 for link address, 2400 for data rate, 2 for internal clocking, 1 for leased line, and 1 for half duplex line. Repeat this procedure for SDLC links 022 and 024. CONFIGURE NCP CONNECTED TERMINALS shows you all the selections you have made so far.

Now add your physical units for each link by typing 2 for the respective link address.

Next, panel DESCRIBE PHYSICAL UNIT displays. Type C1 for SDLC station address.

SUBSYSTEM SELECTION MENU is displayed next. In our example, type 1 for 'display system' which displays panel DISPLAY SYSTEM PRODUCT SELECTION MENU where you specify the physical unit, in the example, an IBM 3274 Model 31C control unit. Type 6.

On panel 3270 DEVICE SELECTION MENU you select the logical unit, in the example, an IBM 3278 Model 2. Type 2.

The number of ports to which logical units such as this IBM 3278 Model 2 are attached, you can enter on panel DESCRIBE TERMINALS ON CONTROLLER by typing an 'x' for the respective port. In the example, type x for 'A00'.

On panel SPECIFIED TERMINALS ON CONTROLLER you can add more logical units. Press **ENTER**.

On panel 3270 DEVICE SELECTION MENU, type 15 to define the printer.

On panel DESCRIBE TERMINALS ON CONTROLLER, type x under 'A01'.

Since there are no more logical units to add for this physical unit, press PF6 on panel SPECIFIED TERMINALS ON CONTROLLER to exit.

SPECIFIED PHYSICAL UNITS now displays what you have specified for this link so far. Since there are no more physical units to add, press **PF6** to end adding physical units for link 020.

Start again with CONFIGURE NCP CONNECTED TERMINALS to define link 022 by typing **2**. Next, panel DESCRIBE PHYSICAL UNIT displays. Type **D1** for SDLC station address.

SUBSYSTEM SELECTION MENU is displayed next. In our example, type **2** for 'industry system'. On INDUSTRY SYSTEM PRODUCT SELECTION, specify **4** for the 3650 Retail Store System. On SPECIFY LOGICAL UNITS FOR CONTROLLER, type **2** for the number of logical units to be added to that physical unit. On SPECIFIED PHYSICAL UNITS, press **PF6** to end adding logical units. This completes the definitions for link 022.

Start again with CONFIGURE NCP CONNECTED TERMINALS to define link 024 by typing **2**. Next, panel DESCRIBE PHYSICAL UNIT displays. Type **E1** for SDLC station address.

SUBSYSTEM SELECTION MENU is displayed next. In our example, type **3** for 'intelligent workstation' which displays panel INTELLIGENT WORKSTATION SELECTION MENU where you specify the physical unit, in the example, type **6** for the IBM 5280 Distributed Data System or **3** for the IBM 3770 VSE/POWER/RJE workstation.

On SPECIFY LOGICAL UNITS FOR CONTROLLER, type in the number of logical units to be added to that physical unit.

SPECIFIED PHYSICAL UNITS now displays what you have specified for this link so far. Since there are no more physical units to add, press **PF6** to end adding physical units for link 024. On CONFIGURE NCP CONNECTED TERMINALS, press **PF6** to end adding additional links.

On CONFIGURE NCP CONNECTED TERMINALS is displayed where you can select **9** to perform an NCP generation. The JOB DISPOSITION panel shows you that a job NCPNEWJ has been created in your primary library. You can modify the job name, if you want to. CONFIGURE NCP CONNECTED TERMINALS comes up again to let you either display the NCP just defined or end the configuration dialog altogether.

Cataloging the Network

On FUNCTION SELECTION, type **2**; on RESOURCE DEFINITION, type **7** to create startup books. On panel CREATE STARTUP BOOKS, place an **x** to generate CICS/VS Terminal Control Table entries. CREATE STARTUP BOOKS asks you if you want to continue (enter **1**) or not (enter **2**). JOB DISPOSITION displays next where you create job STARTUP in your primary library (see Figure 48 on page 98).

```
* $$ JOB JNM=STARTUP,CLASS=0,DISP=D,PRI=3,
* $$ NTFY=YES,LDEST=*
// JOB STARTUP  CATALOG STARTUP MEMBERS AND PHASES
* $$ SLI ICCF=(DTRTCTJV),LIB=(51)
// EXEC LIBR,PARM='MSHP'
   ACCESS SUBLIB=IJSYSRS.SYSLIB
* $$ SLI ICCF=(IPLPROC),LIB=(51)
   CONNECT SUBLIB=IJSYSRS.SYSLIB:PRD2.SAVE
   COPY $IPL370.PROC REPLACE=YES
/*
/&
* $$ EOJ
```

Figure 48. Job STARTUP

Press **PF4**. To view the jobs and members that were created, type **5** on FUNCTION SELECTION and **1** on PROGRAM DEVELOPMENT.

Check member DTRTCTN in library 51 for the TCT entries just created (see Figure 49 on page 99).

Note: If you want to define more than one ACF/NCP, make sure that the resource names of all ACF/NCPs are unique. This means that you must make the appropriate changes before you catalog your definitions.

```
*************************************************************************
* NCP      CONTROLLED REMOTE TERMINAL ENTRIES                           *
*************************************************************************
N001     DFHTCT TYPE=TERMINAL,                                          X
               TRMIDNT=N001,                                            X
               NETNAME=L0102003,                                        X
               DEFSCRN=(24,80),                                         X
               FEATURE=(AUDALARM),                                      X
               TRMTYPE=LUTYPE2,                                         X
               TRMMODL=2,                                               X
               ACCMETH=VTAM,                                            X
               TIOAL=(1024,4096),                                       X
               RELREQ=(NO,YES),                                         X
               TRMSTAT=TRANSCEIVE,                                      X
               RUSIZE=1024,                                             X
               BUFFER=1536,                                             X
               BRACKET=YES,                                             X
               PGESTAT=PAGE,                                            X
               CHNASSY=YES,                                             X
               TCTUAL=255
N002     DFHTCT TYPE=TERMINAL,                                          X
               TRMIDNT=N002,                                            X
               NETNAME=L1102003,                                        X
               TRMTYPE=LUTYPE3,                                         X
               TRMMODL=2,                                               X
               ACCMETH=VTAM,                                            X
               TRMSTAT=TRANSCEIVE,                                      X
               RUSIZE=256,                                              X
               BUFFER=256
```

Figure 49. Member DTRTCTN TCT Entries

The startup job (including member DTRTCTJV) which has also been created in library 51 assembles IBM-supplied TCT entries and those from member DTRTCTN. Assemble a TCT phase after all necessary configuration dialogs have been completed; not after each individual dialog.

Check job NCPNEWJ and edit, if necessary. This job:

- Assembles an ACF/NCP source program containing ACF/NCP generation macro instructions and
- catalogs ACF/VTAM definitions under NCPNEWJ.B.

NCPNEWJ performs STAGE1 ACF/NCP generation. Output is another job, STAGE2 which creates yet another job, STAGE3. After running jobs NCPNEWJ and job STARTUP, all ACF/NCP and CICS/VS definitions, respectively, are cataloged and your network definition is complete. All ACF/VTAM definitions are cataloged by running job NCPNEWJ as mentioned above.

```
* $$ JOB JNM=NCPNEWJ,CLASS=0,DISP=D,PRI=3,                       C       /===/*
* $$ NTFY=YES,LDEST=*                                                    *===*
* $$ LST    DISP=D,CLASS=A                                               *===*
* $$ PUN    DISP=I,CLASS=A,PRI=9,RBM=25000                               *===*
// JOB NCPNEWJ                                                           *===*
* ************************************************************           *===*
* THIS JOB ASSEMBLES AN NCP SOURCE PROGRAM CONTAINING NCP                *===*
* GENERATION MACRO INSTRUCTIONS.  IT PERFORMS STAGE 1                    *===*
* NCP GENERATION.  OUTPUT IS ANOTHER JOB, STAGE 2, WHICH                 *===*
* CREATES YET ANOTHER JOB, STAGE 3.                                      *===*
* THIS JOB ALSO CATALOGS THE NCP SOURCE PROGRAM FOR USE AS AN            *===*
* ACF/VTAM MAJOR NODE DEFINITION                                         *===*
* ************************************************************           *===*
//   LIBDEF *,SEARCH=(PRD2.COMM),TEMP                                    *===*
//   OPTION DECK                                                         *===*
//   EXEC   IFZASM,SIZE=128K                                             *===*
     PUNCH  '* $$ LST    DISP=D,CLASS=A'                                 *===*
     PUNCH  '* $$ PUN    DISP=I,CLASS=A,PRI=9,RBM=25000'                 *===*
     PUNCH  '//     JOB    STAGE2 GENERATION FOR NCP'                    *===*
     PUNCH  '//     LIBDEF *,SEARCH=(PRD2.COMM),TEMP'                    *===*
     PUNCH  '//     OPTION DECK'                                         *===*
     PUNCH  '//     EXEC   IFZASM,SIZE=128K'                             *===*
     PUNCH  '       PUNCH  ''* $$ LST    DISP=D,CLASS=Q'''               *===*
     PUNCH  '       PUNCH  ''//   JOB    STAGE3 GENERATION FOR NCP'''    *===*
     PUNCH  '       PUNCH  ''LOG'''                                      *===*
     PUNCH  '       PUNCH  ''// LIBDEF *,SEARCH=(PRD2.COMM),TEMP'''      *===*
     PUNCH  '       PUNCH  ''// LIBDEF PHASE,CATALOG=PRD2.CONFIG,TEMP''' *===*
     PUNCH  '       PUNCH  ''NOLOG'''                                    *===*
     PUNCH  '       PUNCH  ''* YOU MAY CHANGE THE ABOVE LIBDEF'''        *===*
     PUNCH  '       PUNCH  ''* STATEMENTS TO YOUR NEED'''                *===*
     PUNCH  '       PUNCH  ''* IF YOU WANT TO CONTINUE, PRESS ENTER.'''  *===*
     PUNCH  '       PUNCH  ''* OTHERWISE, ENTER CANCEL.'''               *===*
     PUNCH  '       PUNCH  ''* IF YOU CONTINUE, THE JOB WILL PROMPT'''   *===*
     PUNCH  '       PUNCH  ''* YOU LATER AUTOMATICALLY FOR THE LIBRARY/''' *===*
     PUNCH  '       PUNCH  ''* SUBLIBRARY SPECIFICATION NECESSARY FOR''' *===*
     PUNCH  '       PUNCH  ''* CATALOGING OBJ MEMBER TYPES'''            *===*
     PUNCH  '       PUNCH  ''// PAUSE'''                                 *===*
     PUNCH  '       END'                                                 *===*
     PUNCH  '/*'                                                         *===*
     PUNCH  '       LIBDEF *,SEARCH=(PRD2.COMM),TEMP'                    *===*
     PUNCH  '//     OPTION DECK'                                         *===*
     END                                                                 *===*
/*                                                                       *===*
//   LIBDEF *,SEARCH=(PRD2.COMM),TEMP                                    *===*
//   OPTION DECK                                                         *===*
//   EXEC   IFZASM,SIZE=128K                                             *===*
* $$ SLI ICCF=(NCPNEW),LIB=(51)                                          *===*
/*                                                                       *===*
//   EXEC   LIBR                                                         *===*
ACCESS SUBLIB=PRD2.CONFIG                                                *===*
CATALOG NCPNEW.B    REPLACE=YES                                          *===*
* $$ SLI ICCF=(NCPNEW),LIB=(51)                                          *===*
/+                                                                       *===*
CATALOG NCPNEWV.B   REPLACE=YES                                          *===*
* $$ SLI ICCF=(NCPNEWV),LIB=(51)                                         *===*
/+                                                                       *===*
/*                                                                       *===*
/&                                                                       *===*
* $$ EOJ                                                                 *===*
```

Figure 50. Job NCPNEWJ for ACF/NCP Creation

37X5(NCP)-Attached VSE/POWER/RJE Workstations

This type of configuration is included in "37X5(NCP)-Attached Display Products, Industry Systems, and Workstations (CICS/VS and VSE/POWER/RJE)" on page 95 (except that you must define, for link 024, an IBM 3770 VSE/POWER/RJE workstation instead of an IBM 5280.

Also, since the IBM 3770 runs under VSE/POWER, you must use the skeleton SKPWRSNA. Do not modify it; use it to include this workstation, and regenerate VSE/POWER using skeleton SKPWRGEN in library 59.

Cross-Domain - Local and Remote Display Products

Before you complete the skeleton now, remember the following rules:

- Be careful with commas, asterisks, and continuation characters.
- Do not use columns 73 to 80 since it is the sequence field.

Copy the skeleton SKDTRNET.B via the command LIBRP from PRD2.CONFIG to your primary ICCF library as member SKDTRNET, one copy each for each node you want to describe including your own. Use VSE/ICCF editing to supply the prepared information. Copying the skeleton to VSE/ICCF causes four VSE JCL statements to be included. They are:

```
'CATALOG SKDTRNET.B    EOD=/(      REPLACE=YES'
.
.
.
'/('
'/*'
'                '     (blank line)
```

Be sure to delete these statements during editing so that only the skeleton itself remains.

The sample used here defines only one system of the network, node BOEBSYS1; all others you must prepare accordingly. Each part of the skeleton, where applicable, shows the completed definitions. This will help you to define your individual network.

Completing the Skeleton

The following 14 parts of the network skeleton refer to the sample network shown in Figure 26 on page 61. Use the foldout for that figure for easy reference.

VTAM1 - X-Domain Line Connections

Duplicate the LINE and PU pair of statements for each link. The sample definitions look like this:

```
// EXEC LIBR
 /* ---------------------------- BEGIN OF NETWORK DEFINITION SKELETON -
                                                                       -
    VTAM DEFINITIONS

    --VTAM1--------------------------------- X-DOMAIN LINE CONNECTIONS */
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VTMCA2.B REPLACE=YES
*
VTMCA2   VBUILD    TYPE=CA
GROUP137 GROUP     DIAL=NO,ISTATUS=ACTIVE,LNCTL=SDLC
LNK03437 LINE      ADDRESS=034,MAXBFRU=(10,10)
PU103437 PU        PUTYPE=5,SUBAREA=56
LNK03037 LINE      ADDRESS=030,MAXBFRU=(10,10)
PU103037 PU        PUTYPE=4,SUBAREA=08
*
/+
 /* L E G E N D                                                        -
    --V101-- :   MINOR NODE NAME OF THE LINE GROUP                    -
    --V102-- :   MINOR NODE NAME OF THE COMMUNICATION LINE            -
    --V103-- :   PHYSICAL LINE ADDRESS                                -
    --V104-- :   MINOR NODE NAME OF THE PHYSICAL UNIT                 -
    --V105-- :   ATTACHED PHYSICAL UNIT TYPE (4 FOR NCP, 5 FOR VTAM)  -
    --V106-- :   SNA SUBAREA NUMBER OF ATTACHED PHYSICAL UNIT         -
                                                                       -
    N O T E  :   PLACE AN * IN FRONT OF THE VBUILD, GROUP, LINE AND   -
                 PU STATEMENTS WHEN THE VSE/SP SYSTEM CONFIGURATION    -
                 HAS NO COMMUNICATION CONTROLLER. DO NOT DELETE THIS   -
                 PART OF THE NETWORK DEFINITION.                       -
```

Figure 51. Cross-Domain Line Connections

VTAM2 - X-Domain Path Table

Duplicate the PATH statement for as many adjacent subareas as this node has but make sure that the label VTMPATH occurs **only** on the first PATH statement. The sample definitions look like this:

```
   ---VTAM2------------------------------------ X-DOMAIN PATH TABLE */
CATALOG VTMPATH.B REPLACE=YES
*
VTMPATH   PATH DESTSA=(56),                                            *
               ER0=(56,1),                                             *
               VR0=0
          PATH DESTSA=(08,10),                                         *
               ER0=(08,1),                                             *
               VR0=0
*
/+
 /* L E G E N D                                                       -
    --V201-- :   SNA SUBAREA NUMBER OF DESTINATION-NODE 1              -
    --V202-- :   SNA SUBAREA NUMBER OF DESTINATION-NODE 2              -
    ...      :   SNA SUBAREA NUMBER OF DESTINATION-NODE ...            -
    --V203-- :   SNA SUBAREA NUMBER OF ADJACENT PASS-THRU NODE         -
    --V204-- :   SNA TRANSMISSION GROUP NUMBER FOR THE EXPLICIT       -
                 ROUTE BEING DEFINED                                   -
    --V205-- :   SNA EXPLICIT ROUTE NUMBER TO WHICH THE VIRTUAL       -
                 ROUTE IS MAPPED                                       -
```

Figure 52. Cross-Domain Path Table

VTAM3 - X-Domain Resource Managers

Specify the resource manager for this node first. Then specify the CDRM statements for the other nodes. Duplicate as many statements as you need. The specification concerning **dynamic** cross- domain resource definition must match the specification at the identified node. The sample definitions look like this:

```
   ----VTAM3------------------------------ X-DOMAIN RESOURCE MANAGER */
CATALOG VTMCDRM.B REPLACE=YES
*
VTMCDRM    VBUILD     TYPE=CDRM
SYS1CDRM   CDRM       SUBAREA=55,CDRDYN=YES,                              *
                      ISTATUS=ACTIVE,VPACING=2
SYS2CDRM   CDRM       SUBAREA=56,CDRSC=OPT,                               *
                      ISTATUS=ACTIVE,VPACING=2
N158CDRM   CDRM       SUBAREA=10,CDRSC=REQ,                               *
                      ISTATUS=ACTIVE,VPACING=2
*
/+
 /* L E G E N D                                                            -
    --V301-- :   NAME OF OWN SNA CROSS-DOMAIN MANAGER                      -
    --V302-- :   SNA SUBAREA NUMBER OF OWN DOMAIN                          -
    --V303-- :   NAME OF INTERCONNECTED SNA CROSS-DOMAIN MANAGER           -
    --V304-- :   SNA SUBAREA NUMBER OF INTERCONNECTED DOMAIN               -
```

Figure 53. Cross-Domain Resource Manager

VTAM4 - X-Domain Resources

Complete as many CDRSC statements as necessary observing these rules:

- Name the resource as well as the domain which controls it.
- Resource names must match those at this node.

The sample definitions look like this:

```
   ----VTAM4------------------------------------- X-DOMAIN RESOURCES */
CATALOG VTMCDRS.B REPLACE=YES
*
VTMCDRS   VBUILD    TYPE=CDRSC
SYS2CICS  CDRSC     CDRM=SSX5CDRM     SSX5  CICS
SYS2PNET  CDRSC     CDRM=SSX5CDRM     SSX5  PNET
BOEBVS03  CDRSC     CDRM=N158CDRM     /158  JES2
IDNZTSO   CDRSC     CDRM=N158CDRM     /158  TSO
IDNZT001  CDRSC     CDRM=N158CDRM     /158
IDNZT002  CDRSC     CDRM=N158CDRM     /158
IDNZT003  CDRSC     CDRM=N158CDRM     /158
IDNZT004  CDRSC     CDRM=N158CDRM     /158
IDNS0260  CDRSC     CDRM=N158CDRM     /158  TERMINALS
IDNS0261  CDRSC     CDRM=N158CDRM     /158
IDNS0262  CDRSC     CDRM=N158CDRM     /158  TERMINALS
*
/+                                                                    -
 /* L E G E N D                                                      -
    --V401-- :   LU NAME OF RESOURCE IN ANOTHER DOMAIN               -
    --V402-- :   NAME OF THE CDRM CONTROLLING THAT RESOURCE          -
```

Figure 54. Cross-Domain Resources

Note: Because of the CDRDYN=YES entry for SYS1 in part VTAM3 on the previous page and CDRSC=OPT for SYS2, the terminals for SYS2 are not listed here.

VTAM5 - Application Logon Commands

Specify the appropriate application name(s). If you have more than 6 applications to define, expand part VTAM6 accordingly. The application name must be the same as specified in part VTAM4 or as specified in the local system.

If the application resides at another node, the application name specified must match the application name used in part VTAM4. The sample definitions look like this:

```
   ----VTAM5----------------------------- APPLICATION LOGON COMMANDS */
CATALOG  VTMUSSCD.A   REPLACE=YES
*
A        USSCMD  CMD=A,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=SYS1CICS
         USSPARM PARM=P2,REP=DATA
*
B        USSCMD  CMD=B,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=SYS2CICS
         USSPARM PARM=P2,REP=DATA
*
C        USSCMD  CMD=C,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=IDNZTSO
         USSPARM PARM=P2,REP=DATA
*
*D        USSCMD  CMD=E,REP=LOGON,FORMAT=BAL
*        USSPARM PARM=P1,REP=APPLID,DEFAULT=--V504--
*        USSPARM PARM=P2,REP=DATA
*
*E        USSCMD  CMD=E,REP=LOGON,FORMAT=BAL
*        USSPARM PARM=P1,REP=APPLID,DEFAULT=--V505--
*        USSPARM PARM=P2,REP=DATA
*
*F        USSCMD  CMD=F,REP=LOGON,FORMAT=BAL
*        USSPARM PARM=P1,REP=APPLID,DEFAULT=--V506--
*        USSPARM PARM=P2,REP=DATA
*
/+
 /* L E G E N D                                                          -
    --V501-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION A       -
    --V502-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION B       -
    --V503-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION C       -
    --V504-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION D       -
    --V505-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION E       -
    --V506-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION F       -
```

Figure 55. Application Logon Commands

VTAM6 - Application Selection Menu

The text you select should be meaningful so that the user can easily access the desired application. The two versions shown apply to SNA and non-SNA display products, respectively. The sample definitions look like this:

```
   ----VTAM6------------------------------ APPLICATION SELECTION MENU */
CATALOG  VTMUSSTZ.A   REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON SNA TERMINALS ONLY
*
*
         DC    X'15'                  NEW LINE (ROW 5)
         DC    CL9' '
         DC    CL2'A '
         DC    CL8'SYS1CICS'
*
         DC    X'15'                  NEW LINE (ROW 6)
         DC    CL9' '
         DC    CL2'B '
         DC    CL8'SYS2CICS'
*
         DC    X'15'                  NEW LINE (ROW 7)
         DC    CL9' '
         DC    CL2'C '
         DC    CL8'TSO-158 '
*
         DC    X'15'                  NEW LINE (ROW 9)
         DC    CL9' '
         DC    CL2'E '
         DC    CL8'........'
*
         DC    X'15'                  NEW LINE (ROW 10)
         DC    CL9' '
         DC    CL2'F '
         DC    CL8'........'
*
/+
CATALOG VTMUSSTX.A REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON NON-SNA TERMINALS ONLY
*
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C5C9'                ROW 5 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'A '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'SYS1CICS'
*
```

Figure 56 (Part 1 of 2). Application Selection Menu

```
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C6D9'                ROW 6 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'B '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'SYS2CICS'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C7E9'                ROW 7 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'C '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'TSO-158 '
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C8F9'                ROW 8 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'D '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'..NONE..'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'4AC9'                ROW 9 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'E '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'..NONE..'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'4BD9'                ROW 10 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'F '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'..NONE..'
*
/+
 /* L E G E N D                                                        -
    --V601-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)      -
    --V602-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)      -
    --V603-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)      -
    --V604-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)      -
    --V605-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)      -
    --V606-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)      -
```

Figure 56 (Part 2 of 2). Application Selection Menu

```
   ----VTAM7----------------SYSTEM ACTIVATION OF COMMANDS AND MESSAGE */
/*
// LIBDEF *,SEARCH=(PRD1.BASE),TEMP
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
   PHASE VTMUSSTR,*
// EXEC ASSEMBLY
         PRINT   NOGEN
VTMUSSTR USSTAB  TABLE=STDTRANS
*
         COPY    VTMUSSCD
*
TEST     USSCMD  CMD=TEST,REP=IBMTEST,FORMAT=BAL
         USSPARM PARM=P1,DEFAULT=10
         USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES USSMSG  MSG=0,TEXT='COMMAND ACCEPTED'
         USSMSG  MSG=1,BUFFER=M1
         USSMSG  MSG=2,BUFFER=M1
         USSMSG  MSG=3,TEXT='ERROR IN VTMUSSTR. PRESS ENTER'
         USSMSG  MSG=4,TEXT='APPLICATION NOT ACTIVATED. PRESS ENTER'
         USSMSG  MSG=5,BUFFER=M1
         USSMSG  MSG=6,TEXT='LOGON ALREADY PENDING'
         USSMSG  MSG=7,TEXT='LOGON FAILED. PRESS ENTER'
         USSMSG  MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG  MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG  MSG=10,BUFFER=M1
         USSMSG  MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG  MSG=13,TEXT='IBMECHO%'
*
STDTRANS DC      128AL1(*-STDTRANS)
         DC      X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC      X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC      X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC      X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC      X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC      X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC      X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC      X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
END      USSEND
M1       DC    AL2(M1E-M1S)
M1S      DC    X'15'                  NEW LINE (ROW 1)
*
* VTMUSSTR       VTAM APPLICATION SELECTION MENU
*
         DC    CL1' '
         DC    CL8'VTMUSSTR'
         DC    CL12' '
         DC    C'VTAM APPLICATION SELECTION MENU'
*
```

Figure 57 (Part 1 of 3). System Activation of Commands and Message

```
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
         DC    X'15'                  NEW LINE (ROW 2)
         DC    X'15'                  NEW LINE (ROW 3)
         DC    CL3' '
         DC X'C595A3859940A38885408388199818 3A3859940968640'
         DC X'A896A49940A285938583A3899695408195844097998 5A2A240'
         DC X'A3888540C5D5E3C5D9409285A87A'
*
         COPY  VTMUSSTZ
*
         DC    X'15'                  NEW LINE (ROW 4)
         DC    9X'15'                SKIP 9 LINES (ROW 19)
         DC    C' ==> '
M1E      EQU   *
         END
/*
// EXEC LNKEDT
// OPTION CATAL
   PHASE VTMUSSTB,*
*
*
// EXEC ASSEMBLY
         PRINT   NOGEN
VTMUSSTB USSTAB  TABLE=STDTRANS
*
         COPY    VTMUSSCD
*
TEST     USSCMD  CMD=TEST,REP=IBMTEST,FORMAT=BAL
         USSPARM PARM=P1,DEFAULT=10
         USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES USSMSG  MSG=0,TEXT='COMMAND ACCEPTED'
         USSMSG  MSG=1,BUFFER=M1
         USSMSG  MSG=2,BUFFER=M1
         USSMSG  MSG=3,TEXT='ERROR IN VTMUSSTB. PRESS ENTER'
         USSMSG  MSG=4,TEXT='APPLICATION NOT ACTIVATED. PRESS ENTER'
         USSMSG  MSG=5,BUFFER=M1
         USSMSG  MSG=6,TEXT='LOGON ALREADY PENDING'
         USSMSG  MSG=7,TEXT='LOGON FAILED. PRESS ENTER'
         USSMSG  MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG  MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG  MSG=10,BUFFER=M1
         USSMSG  MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG  MSG=13,TEXT='IBMECHO%'
*
STDTRANS DC      128AL1(*-STDTRANS)
         DC      X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC      X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC      X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC      X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC      X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC      X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC      X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC      X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
END      USSEND
*
```

Figure 57 (Part 2 of 3). System Activation of Commands and Message

```
M1        DC    AL2(M1E-M1S)
M1S       DC    X'F5'                    ERASE WRITE COMMAND
          DC    X'C7'                    WCC ALARM
*
* VTMUSSTB       VTAM APPLICATION SELECTION MENU
*
          DC    X'11'                    SET BUFFER ADDRESS ORDER
          DC    X'40C1'                  ROW 1 COLUMN 2
          DC    X'1D'                    START FIELD
          DC    X'F0'                    PROTECT SKIP NORMAL
          DC    CL8'VTMUSSTB'
          DC    X'11'                    SET BUFFER ADDRESS ORDER
          DC    X'40D7'                  ROW 1 COLUMN 24
          DC    X'1D'                    START FIELD ORDER
          DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
          DC    C'VTAM APPLICATION SELECTION MENU'
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
          DC    X'11'                    SET BUFFER ADDRESS ORDER
          DC    X'C2E3'                  ROW 3 COLUMN 4
          DC    X'1D'                    START FIELD
          DC    X'F0'                    PROTECT SKIP NORMAL
          DC X'C595A3859940A3888540838881998183A3859940968640'
          DC X'A896A49940A285938583A3899695408195844097985A2A240'
          DC X'A3888540C5D5E3C5D9409285A87A'
*
          COPY  VTMUSSTX
*
          DC    X'11'                    SET BUFFER ADDRESS ORDER
          DC    X'D661'                  ROW 19 COLUMN 2
          DC    X'1D'                    START FIELD
          DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
          DC    C'==> '
          DC    X'1D'                    START FIELD ORDER
          DC    X'40'                    UNPROTECTED NORMAL ATTRIBUTE
          DC    X'13'                    INSERT CURSOR ORDER
          DC    X'3C'                    REPEAT TO ADDRESS ORDER
          DC    X'D7F0'                  ROW 20 COLUMN 1
          DC    C' '
          DC    X'1D'                    START FIELD ORDER
          DC    X'F0'                    PROTECT SKIP NORMAL ATTRIBUTE
M1E       EQU   *
          END
/*
// EXEC LNKEDT
// EXEC LIBR,PARM='MSHP'
```

Figure 57 (Part 3 of 3). System Activation of Commands and Message

CICS1 - Terminal Entries for X-Domain Logon

Terminals at other nodes to log on to applications on this node must be defined by TCT entries at this node. There are two types of terminal attachments:

- Local attachment to the other node.
- Remote attachment to the other node.

Duplicate the needed skeleton entries using:

- An 'X' in front of the 3-digit terminal number.
- Netname must be from four to eight characters.

Note: Remember to add entries for any netnames of cross-domain terminals that you may wish to use in your system.

The sample definitions look like this:

```
    CICS DEFINITIONS                                                    -
                                                                        -
        N O T E:  IF NO TCT ENTRY IS REQUIRED, DELETE THE ENTIRE        -
                  DFHTCT STATEMENT.                                     -
                                                                        -
    ----CICS1-------------------- TERMINAL ENTRIES FOR X-DOMAIN LOGON */
ACCESS SUBLIB=PRD2.CONFIG
CATALOG DTRTCTX.A REPLACE=YES
         EJECT
*********************************************************************
* TCT ENTRY FOR X-DOMAIN  L O C A L  non-SNA  ATTACHED TERMINALS     *
*                                                                   *
*                OF TYPE 'L3277'                                    *
*********************************************************************
*         TERMINALS AT SYS2
X001      DFHTCT TYPE=TERMINAL,                                      *
               TRMIDNT=X001,                                        *
               NETNAME=L12DPA56,                                    *
               DEFSCRN=(24,80),                                     *
               ALTSCRN=(24,80),                                     *
               FEATURE=(AUDALARM),                                  *
               TRMTYPE=L3277,                                       *
               TRMMODL=2,                                           *
               GMMSG=YES,                                           *
               ACCMETH=VTAM,                                        *
               TRMSTAT=TRANSCEIVE,                                  *
               TIOAL=80,                                            *
               RELREQ=(,YES),                                       *
               TCTUAL=255
```

Figure 58 (Part 1 of 3). Terminal Entries for Cross-Domain Logon

```
X002      DFHTCT TYPE=TERMINAL,                                        *
               TRMIDNT=X002,                                           *
               NETNAME=L13DPA56,                                       *
               DEFSCRN=(24,80),                                        *
               ALTSCRN=(24,80),                                        *
               FEATURE=(AUDALARM),                                     *
               TRMTYPE=L3277,                                          *
               TRMMODL=2,                                              *
               GMMSG=YES,                                              *
               ACCMETH=VTAM,                                           *
               TRMSTAT=TRANSCEIVE,                                     *
               TIOAL=80,                                               *
               RELREQ=(,YES),                                          *
               TCTUAL=255
*         MVS TERMINALS (/158)
X003      DFHTCT TYPE=TERMINAL,                                        *
               TRMIDNT=X003,                                           *
               NETNAME=IDNS0260,                                       *
               DEFSCRN=(24,80),                                        *
               ALTSCRN=(24,80),                                        *
               FEATURE=(AUDALARM),                                     *
               TRMTYPE=L3277,                                          *
               TRMMODL=2,                                              *
               GMMSG=YES,                                              *
               ACCMETH=VTAM,                                           *
               TRMSTAT=TRANSCEIVE,                                     *
               TIOAL=80,                                               *
               RELREQ=(,YES),                                          *
               TCTUAL=255
X004      DFHTCT TYPE=TERMINAL,                                        *
               TRMIDNT=X004,                                           *
               NETNAME=IDNS0261,                                       *
               DEFSCRN=(24,80),                                        *
               ALTSCRN=(24,80),                                        *
               FEATURE=(AUDALARM),                                     *
               TRMTYPE=L3277,                                          *
               TRMMODL=2,                                              *
               GMMSG=YES,                                              *
               ACCMETH=VTAM,                                           *
               TRMSTAT=TRANSCEIVE,                                     *
               TIOAL=80,                                               *
               RELREQ=(,YES),                                          *
               TCTUAL=255
X005      DFHTCT TYPE=TERMINAL,                                        *
               TRMIDNT=X005,                                           *
               NETNAME=IDNS0262,                                       *
               DEFSCRN=(24,80),                                        *
               ALTSCRN=(24,80),                                        *
               FEATURE=(AUDALARM),                                     *
               TRMTYPE=L3277,                                          *
               TRMMODL=2,                                              *
               GMMSG=YES,                                              *
               ACCMETH=VTAM,                                           *
               TRMSTAT=TRANSCEIVE,                                     *
               TIOAL=80,                                               *
               RELREQ=(,YES),                                          *
               TCTUAL=255
```

Figure 58 (Part 2 of 3). Terminal Entries for Cross-Domain Logon

```
*********************************************************************
* TCT ENTRY FOR X-DOMAIN  LOCAL AND REMOTE ATTACHED SNA TERMINALS     *
*                                                                     *
*                OF TYPE 'LUTYPE2'                                    *
*********************************************************************
/+
 /* L E G E N D                                                      -
    --C101-- :   3 DIGIT SEQUENTIAL NUMBER UNIQUE FOR EACH TERMINAL  -
                 CONTROLLED BY AN OTHER DOMAIN, FROM WHERE OWN VSE/SP -
                 CAN BE LOGGED ON.                                   -
                 EXAMPLE: X001 X002 X003 X004 X005 . XNNN            -
                                                                     -
    --C102-- :   8 CHARACTER NETNAME OF THAT TERMINAL                -
                                                                     -
    --C103-- :   ALTERNATE SCREEN SIZE. ENTER ONE OF THE FOLLOWING   -
                 NUMBERS DEPENDING ON HOW MANY LINES THE TERMINAL CAN -
                 DISPLAY: 24, 32 OR 43                               -
                                                                     -
    --C104-- :   ENTER THE FEATURES THE TERMINAL HAS IN ADDITION TO  -
                 AUDIBLE ALARM.                                      -
                 SEE EXAMPLES BELOW FOR TERMINALS WITH:              -
                                                                     -
                 NO ADDITIONAL FEATURE                               -
                      FEATURE=(AUDALARM),                            -
                                                                     -
                 EXTENDED CHARACTER SET                              -
                      FEATURE=(AUDALARM,HILIGHT),                    -
                                                                     -
                 EXTENDED CHARACTER SET AND PROGRAMMED SYMBOLS       -
                      FEATURE=(AUDALARM,HILIGHT,PS),                 -
                                                                     -
                 7 COLOR TERMINAL WITH EXTENDED CHARACTER SET        -
                      FEATURE=(AUDALARM,HILIGHT,COLOR),              -
                                                                     -
                 7 COLOR TERMINAL WITH EXTENDED CHARACTER SET AND    -
                 PROGRAMMED SYMBOLS                                  -
                      FEATURE=(AUDALARM,HILIGHT,COLOR,PS),           -
                                                                     -
   N O T E :     4 COLOR TERMINALS ARE DEFINED LIKE A NORMAL TERMINAL -
```

Figure 58 (Part 3 of 3). Terminal Entries for Cross-Domain Logon

CICS2 - ISC TCT Entries

The sample does not use ISC definitions. Therefore, the sample looks like this:

```
   ----CICS2---------------------------------------- ISC TCT ENTRIES */
CATALOG DTRTCTI.A REPLACE=YES
         EJECT
**********************************************************************
*  I S C  TERMINAL ENTRIES                                           *
**********************************************************************
/+
 /*-------------------------------------------------------------------
```

Figure 59. ISC TCT Entries

PNET1 - POWER Network Definition Table

The PNET node name need not be the same as the VSE/SP node name. APPLID of the interconnected system must match the application name specified in part VTAM4. This part of the skeleton becomes phase IESPNDT. The sample definitions look like this:

```
   POWER DEFINITIONS                                                    -
                                                                        -
   ----PNET1-------------------------- POWER NETWORK DEFINITION TABLE */
/*
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
// EXEC ASSEMBLY
*
* DEFINITION FOR THIS NODE
*
         PRINT NOGEN
IESPNDT  PNODE NODE=BOEBSYS1,                                           *
               APPLID=SYS1PNET,                                         *
               LOCAL=YES
*
* DEFINITIONS FOR INTERCONNECTED SYSTEMS
*
* POSSIBILITY 1: DIRECT LINK TO INTERCONNECTED SYSTEM
*                  WITHOUT ALTERNATE ROUTE
*
         PNODE NODE=BOEVM3,AUTH=NET
*
         PNODE NODE=BOEBSYS2,                                           *
               APPLID=SYS2PNET,AUTH=NET
*
         PNODE NODE=BOEBVS03,                                           *
               APPLID=BOEBVS03,AUTH=NET
*
* POSSIBILITY 2: DIRECT LINK TO INTERCONNECTED SYSTEM
*                  WITH ALTERNATE ROUTE
*        PNODE NODE=--P102--,
*              APPLID=--P104--,AUTH=--P109--,
*              ROUTE2=--P105--
*
* POSSIBILITY 3: INDIRECT LINK TO INTERCONNECTED SYSTEM
*                  VIA ADJACENT NODE WITHOUT ALTERNATE ROUTE
         PNODE NODE=BOE85117,AUTH=NOJOB,                                *
               ROUTE1=BOEVM3
```

Figure 60 (Part 1 of 2). POWER Network Definition Table

```
*
* POSSIBILITY 4: INDIRECT LINK TO INTERCONNECTED SYSTEM
*                VIA ADJACENT NODE WITH ALTERNATE ROUTE
*        PNODE NODE=--P106--,AUTH=--P109--,
*              ROUTE1=--P107--,
*              ROUTE2=--P108--
*        END
/*
// EXEC LNKEDT
*
* L E G E N D
*  --P101-- :   PHASE NAME OF THE NETWORK DEFINITION TABLE GENERATED
*               BY THE ASSEMBLY OF THE PNODE MACROS.
*  --P102-- :   PNET NODE NAME OF YOUR OR AN INTERCONNECTED SYSTEM
*  --P103-- :   NAME BY WHICH VTAM KNOWS THIS NODE'S NETWORK SYSTEM
*  --P104-- :   PNET APPLIC.-ID OF INTERCONN. SYSTEM VIA DIRECT LINK
*  --P105-- :   PNET ALTERNATE NODE NAME TO DESTINATION NODE --P102--
*  --P106-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM VIA INDIRECT
*               LINK
*  --P107-- :   PNET ADJACENT NODE NAME TO DESTINATION NODE --P106--
*  --P108-- :   PNET ALTERNATE NODE NAME TO DESTINATION NODE --P106--
*  --P109-- :   AUTHORIZATION LEVEL OF INTERCONNECTED SYSTEM FOR POWER
*               OPERATION ON OWN NODE. POSSIBLE ENTRIES ARE: NET
*                                                            JOB
*                                                            NOJOB
*
* ======================================================================
// LIBDEF PHASE,SEARCH=PRD1.BASE
// EXEC PROC=DTRICCF
// PAUSE DISCONNECT THE DTSFILE, THEN CONTINUE
// EXEC DTSUTIL
* ======================================================================
```

Figure 60 (Part 2 of 2). POWER Network Definition Table

SP1 - List of PNET Nodes

This part lists information for:

- ACF/VTAM start option list.
- ACF/VTAM applications and CICS/VS TCTs.
- PNET Start.

The sample definitions look like this:

```
* ----SP1----------------------------------------- LIST OF PNET NODES
PURGE LIBRARY(59) MEMBER(DTR$NET)
ADD MEMBER(59,DTR$NET,AAAA)
*
YOU NEED THE FOLLOWING INFORMATION FOR YOUR RESOURCE DEFINITION
DIALOG SELECTION 6 - CHANGE VTAM APPLICATION NAME AND/OR SUBAREA
NBR.:
YOUR HOSTSA IS 55 , X'37'
MAXSUBA IS 63
THE APPLID OF YOUR CICS SUBSYSTEM IS SYS1CICS
THE APPLID OF YOUR LOCAL PNET NODE IS SYS1PNET
*
YOU NEED THE FOLLOWING INFORMATION FOR THE PNET OPERAND
OF THE POWER MACRO:
THE NAME OF YOUR NETWORK DEFINITION TABLE IS IESPNDT
NAMES OF ADJACENT PNET NODES ARE BOEBSYS2, BOEVM3, BOEBVS03
*
END OF MEMBER
*
* L E G E N D
*  --S101-- :   SNA SUBAREA NUMBER OF THIS NODE
*  --S102-- :   MAXIMUM NUMBER OF SUBAREAS IN THE SNA NETWORK
*  --S103-- :   NAME BY WHICH VTAM KNOWS THIS NODE'S CICS SUBSYSTEM(S)
*  --S104-- :   NAME BY WHICH VTAM KNOWS THIS NODE'S PNET SYSTEM AS
*               DEFINED IN --P103--
*  --S105-- :   NAME OF NETWORK DEFINITION TABLE AS DEFINED IN --P101--
*  --S106-- :   PNET NODE NAMES OF INTERCONNECTED SYSTEMS VIA DIRECT
*               LINKS AS DEFINED IN --P102-- WITHOUT 'LOCAL=YES'
*
```

Figure 61. List of PNET Nodes (1)

SP2 - List of PNET Nodes

Enter as many statements as necessary; do not forget this node defined with LOCAL. The sample definitions look like this:

```
* ----SP2----------------------------------------- LIST OF PNET NODES
PURGE LIBRARY(2) MEMBER(PNT$NODE)
ADD MEMBER(2,PNT$NODE,AAAA)
*
NODE-NAME  OP-SYS   NODE DESCRIPTION
---------- -------- --------------------------------------------------
*
BOEBSYS1   LOCAL
BOEBSYS2   VSP      SYS2 IN ROOM 101
BOEVM3     CMS      VM-3 IN COMP CENTER
BOE85117   CMS      3203 PRINTER IN ROOM 102
BOEBVS03   MVS      /158
*
END OF MEMBER
*
* L E G E N D
*  --S201-- :   PNET NODE NAME OF THIS NODE AS DEFINED IN --P102--
*               WITH LOCAL=YES
*  --S202-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM BEGINNING IN
*               COLUMN 1
*  --S203-- :   ENTER ONE OF THE FOLLOWING OPERATING SYSTEMS:
*                 VSP  - VSE NODE WITH VSE/SP
*                 SSX  - VSE NODE WITH SSX
*                 VSE  - VSE NODE WITH VSE/POWER AND ACF/VTAM
*                 MVR  - MVS NODE WITH RACF AND ACF/VTAM
*                 MVS  - MVS NODE WITH JES2 AND ACF/VTAM
*          CMS OR VMS  - VM  NODE WITH SSX (without PNET)
*                 VMD  - VM  NODE WITH VSE
*                 VMP  - VM  NODE WITH VSE/SP (without PNET)
*                 VMO  - VM  NODE WITH MVS (without Networking Interface)
*
*  --S204-- :   ONE LINE TEXT UP TO 50 BYTES DESCRIBING THE NODE FOR
*               THE VSE/SP USER E.G. LOCATION ETC. AS HELP PANEL TO
*               JOB/FILE TRANSFER FUNCTION.
*
```

Figure 62. List of PNET Nodes (2)

SP3 - Node-Related JCL for Job Identification

The information used here:

- Establishes the execution characteristics of the transfer/retrieve jobs between this and interconnected nodes.
- Sets default values for the dialogs used by the person setting up the transfer/retrieve job.
- Reconcile job control differences between VSE/SP and an MVS/SP system.
- Supplement job control statements generated automatically by the job creation dialog.

Information in this part is operating system independent. It does, however, point to the operating system **dependent** job control specified via part SP4 below.

Each JCL-id has a related book with member type U in PRD2.CONFIG. The transfer/retrieve dialogs place their contents at the beginning of the jobstream to be sent to the other node. In part SP4, you specify the job control statements to be sent along with the dialog JCL to the other node.

For each node, you may specify one or more JCL-ids. You must indicate if it is to be used for file transfer or file retrieval. The sample definitions look like this:

```
* ----SP3--------------------- NODE RELATED JCL FOR JOB IDENTIFICATION
PURGE LIBRARY(2) MEMBER(PNT$JCLT)
ADD MEMBER(2,PNT$JCLT,AAAA)
*
NODE-ID=BOEVS03
*
TRANSFER-JCL-ID=TVSAM
FROM-FILE=TEXT.FILE
CAT=--S304--
TO-FILE=MVS.FILE
DISP=--S306--
CAT=--S307--
JOB-CLASS=--S308--
JOB-DISP=--S309--
*
RETRIEVE-JCL-ID=RVSAM
FROM-FILE=MVS.FILE
CAT=--S311--
TO-FILE=TEXT.FILE
CAT=--S312--
*
END OF MEMBER
*
* L E G E N D
*  --S301-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM
*  --S302-- :   JCL-ID WHICH CAN BE REFERENCED IN FILE TRANSFER
*               FUNCTION UNDER RELATED JCL-ID.
*  --S303-- :   SOURCE VSAM FILE ID (UP TO 44 CHARS) TO BE
*               TRANSFERRED TO NODE --S301-- OR RETRIEVED FROM
*               NODE --S301--
*               THIS INFORMATION IS OPTIONAL AND IS USED IF THE JCL
*               IN --S302-- OR --S310-- HAS FIXED RELATION TO THE
*               FILE NAME --S303--.
*  --S304-- :   VSAM USER CATALOG NAME OF THE FILE TO BE TRANSFERRED
*               TO NODE --S301--. THIS STATEMENT IS OPTIONAL.
*  --S305-- :   VSAM FILE ID (UP TO 44 CHARS) TO BE USED FOR LOADING
*               THE FILE AT DESTINATION NODE.
*               THIS INFORMATION IS OPTIONAL. IF OMITTED, SOURCE FILE
*               ID IS USED.
*  --S306-- :   FILE DISPOSITION WHICH WILL BE APPENDED TO DLBL JCL
*               STATEMENT IN VSE AND SSX, OR DD STATEMENT IN MVS.
*               THIS INFORMATION IS OPTIONAL AND MAY BE USED IN VSE AND
*               SSX FOR RESETTING REUSABLE VSAM FILES.
*  --S307-- :   VSAM USER CATALOG NAME OF THE FILE AT VSE DESTINATION
*               NODE.
*  --S308-- :   VSE JOB CLASS TO BE USED FOR RUNNING THE FILE TRANSFER
*               JOB AT DESTINATION NODE.
```

Figure 63 (Part 1 of 2). Node-Related JCL for Job Identification

```
*  --S309-- :   VSE JOB DISPOSITION TO BE USED FOR RUNNING THE FILE
*               TRANSFER JOB AT DESTINATION NODE.
*  --S310-- :   JCL-ID WHICH CAN BE REFERENCED IN FILE RETRIEVE
*               FUNCTION UNDER RELATED JCL-ID.
*  --S311-- :   VSAM USER CATALOG NAME OF THE FILE TO BE RETRIEVED TO
*               NODE --S301--. THIS STATEMENT IS OPTIONAL.
*  --S312-- :   VSAM USER CATALOG NAME OF THE FILE TO BE LOADED AT
*               DESTINATION NODE. THIS STATEMENT IS OPTIONAL.
*
* E X A M P L E :
*
* ADD MEMBER(2,PNT$JCLT,AAAA)
* JOB-DISP=L  -----------------> THIS PARAMETERS OVERWRITE VSE DEFAULTS
* JOB-CLASS=C                    DISP=D AND CLASS=A FOR ALL NODES.
*
*     NODE-ID=VSEHOST
*         JOB-DISP=D  ----------> THIS PARAMETERS ARE VALID ONLY FOR
*         JOB-CLASS=B             THIS NODE (VSEHOST).
*         TRANSFER-JCL-ID=UPDFILE
*             JOB-CLASS=F --------> THIS PARM IS VALID ONLY FOR THIS JOB
*             FROM-FILE=UPDATE.FILE
*             TO-FILE=UPDATE.FILE.SSX1
*                 CAT=UCAT005
*                 DISP=NEW
*         RETRIEVE-JCL-ID=PRICES
*             JOB-DISP=H ---------> THIS PARM IS VALID ONLY FOR THIS JOB
*             FROM-FILE='BRANCH.OFFICE.PRICE.UPDATES'
*                 CAT=UCAT005
*             TO-FILE='PRICE.UPDATE.FILE'
*
*     NODE-ID=SSX1
*         TRANSFER-JCL-ID=UPDFILE
*             FROM-FILE=TEXT.FILE
*
*     NODE-ID=MVSHOST
*         TRANSFER-JCL-ID=MVSJOB
*
* END OF MEMBER
/*
// EXEC LIBR
```

Figure 63 (Part 2 of 2). Node-Related JCL for Job Identification

SP4 - Node-Related JCL for Job Identification

Note that the book names must match the 'TRANSFER-JCL-ID' and 'RETRIEVE-JCL-ID' names specified in part SP3 above. Do not put VSE/POWER JECL statements in this part. Empty books are not allowed. The sample definitions look like this:

```
 /* ---SP4------------------ NODE RELATED JCL FOR JOB IDENTIFICATION */
ACCESS SUBLIB=PRD2.CONFIG
CATALOG TVSAM.U  REPLACE=YES
//MTVSAM   JOB (FROMSYS1),'VSAM TRANSFER',MSGLEVEL=1
/+
CATALOG RVSAM.U  REPLACE=YES
//MRVSAM   JOB (TOSYS1),'VSAM RECEIVE',MSGLEVEL=1
/+
CATALOG TICCF.U  REPLACE=YES
//MTICCF   JOB (FROMSYS1),'ICCF TRANSFER',MSGLEVEL=1
/+
 /* L E G E N D                                                        -
    --S401-- :  SET OF SYSTEM DEPENDENT JCL, E.G. JOB STATEMENT ETC., -
                WHICH WILL BE AUTOMATICALLY ADDED AT THE FRONT OF THE -
                FILE TRANSFER STEP TO BE RUN ON REMOTE NODE.          -
                '/*' CONTROL STATEMENTS MUST BE REPLACED BY '@*'.     -
                                                                      -
    --S402-- :  SET OF SYSTEM DEPENDENT JCL, E.G. JOB STATEMENT ETC..,-
                WHICH WILL BE AUTOMATICALLY ADDED AT THE FRONT OF THE -
                FILE RETRIEVE STEP TO BE RUN ON REMOTE NODE.          -
                '/*' CONTROL STATEMENTS MUST BE REPLACED BY '* $$/*'. -
                                                                      -
   --------------------------------END OF NETWORK DEFINITION SKELETON */
/*
// ASSGN SYSIN,SYS020
```

Figure 64. Node-Related JCL for Job Identification

This completes the network skeleton definition for cross-domain networks.

Creating a Network Tape

On FUNCTION SELECTION, type **2**. On RESOURCE DEFINITION, type **5**. On REMOTE TERMINAL CONFIGURATION, type **4**. On CREATE NETWORK TAPE, enter the tape unit or * for a list of tape units available in your system. On the next CREATE NETWORK TAPE panel, enter the member name containing the definitions, a password if any, and the VSE/ICCF library number containing that member.

This dialog creates job CREANET (see your primary VSE/ICCF library). The contents of that job is listed in Figure 65.

```
* $$ JOB JNM=CREANET,CLASS=0,DISP=D,PRI=3,                    C /===/*
* $$ NTFY=YES,LDEST=*                                          *===*
// JOB CREANET CREATE NETWORK DEFINITION TAPE                  *===*
* ********************************                            *===*
*  MOUNT A TAPE ON DEVICE 280                                  *===*
* ********************************                            *===*
// PAUSE                                                       *===*
// ASSGN SYS009,280                                            *===*
// OPTION NODUMP                                               *===*
// MTC REW,SYS009                                              *===*
// UPSI 1                                                      *===*
// EXEC DITTO                                                  *===*
$$DITTO SET EOD=/(                                             *===*
$$DITTO CT  OUTPUT=SYS009,BLKFACTOR=1                          *===*
* $$ SLI ICCF=(NETDEF,NET),LIB=20                              *===*
/(                                                             *===*
$$DITTO WTM OUTPUT=SYS009,NTMKS=2                              *===*
$$DITTO EOJ                                                    *===*
/*                                                             *===*
// MTC RUN,SYS009                                              *===*
/&                                                             *===*
* $$ EOJ                                                       *===*
```

Figure 65. Create Network Tape - Job CREANET

Installing a Network Tape

On FUNCTION SELECTION, type **1**. On INSTALLATION, type **5**. On INSTALL NETWORK TAPE, type a specific tape unit or * for a list of tape addresses available in your system, and the tape identification, that is, an external label name for the network tape.

In your primary VSE/ICCF library, you can find the generated job INSTNET (see Figure 66 on page 126). Remember that you have to disconnect the DTSFILE with 'DISCONNECT DTSFILE'.

```
* $$ JOB JNM=INSTNET,CLASS=0,DISP=D,PRI=3,                    C /===/*
* $$ NTFY=YES,LDEST=*                                           *===*
// JOB INSTNET INSTALL NETWORK DEFINITIONS                      *===*
* ************************************************************  *===*
* WARNING: LATER YOU WILL BE ASKED TO DISCONNECT THE DTSFILE     *===*
*                                                               *===*
* PLEASE MOUNT THE NETWORK DEFINITION TAPE NETTAPE              *===*
* ON DEVICE 280                                                 *===*
* WHEN TAPE IS MOUNTED HIT ENTER TO CONTINUE.                   *===*
* ************************************************************  *===*
// PAUSE                                                        *===*
// OPTION NODUMP                                                *===*
// MTC REW,280                                                  *===*
// ASSGN SYS020,SYSRDR                                          *===*
// ASSGN SYSIN,280                                              *===*
// MTC RUN,280                                                  *===*
/*                                                              *===*
/&                                                              *===*
* $$ EOJ                                                        *===*
```

Figure 66. Install Network Tape - Job INSTNET

Continue with "Unique Network Definitions" on page 127.

The resource names of cross-domain systems initially created by the dialogs **may** be identical; to avoid duplicate names, change them as needed.

At post installation time, use CHANGE VTAM APPLICATION NAME AND/OR SUBAREA NUMBER (see Figure 67) to specify unique resource names. To do that, type **2** on FUNCTION SELECTION and **6** on RESOURCE DEFINITION. The names you need to enter in this panel are listed in VSE/ICCF member DTR$NET in library 59.

```
CON$ACT1      CHANGE VTAM APPLICATION NAME AND/OR SUBAREA NUMBER
Enter the required data and press ENTER.

CICS APPLID..................  DBDCCICS    APPLID of this CICS subsystem
PNET APPLID..................  PNET        APPLID of this PNET node
RJE APPLID...................  POWER       The program name in SNA operand of
                                           the POWER macro
MAXSUBA......................  63          Maximum number of subareas in the SNA
                                           network
HOSTSA.......................  1           SNA subarea number of this host


PF1=HELP                    3=END                    5=RETRY

==>
```

Figure 67. CHANGE VTAM APPLICATION NAME AND/OR SUBAREA NUMBER Panel

After changing the resource names, go through the *Create Startup Books* dialog (see Figure 68 on page 128) by typing **7** on RESOURCE DEFINITION, and enter an **x** as indicated in the panel below.

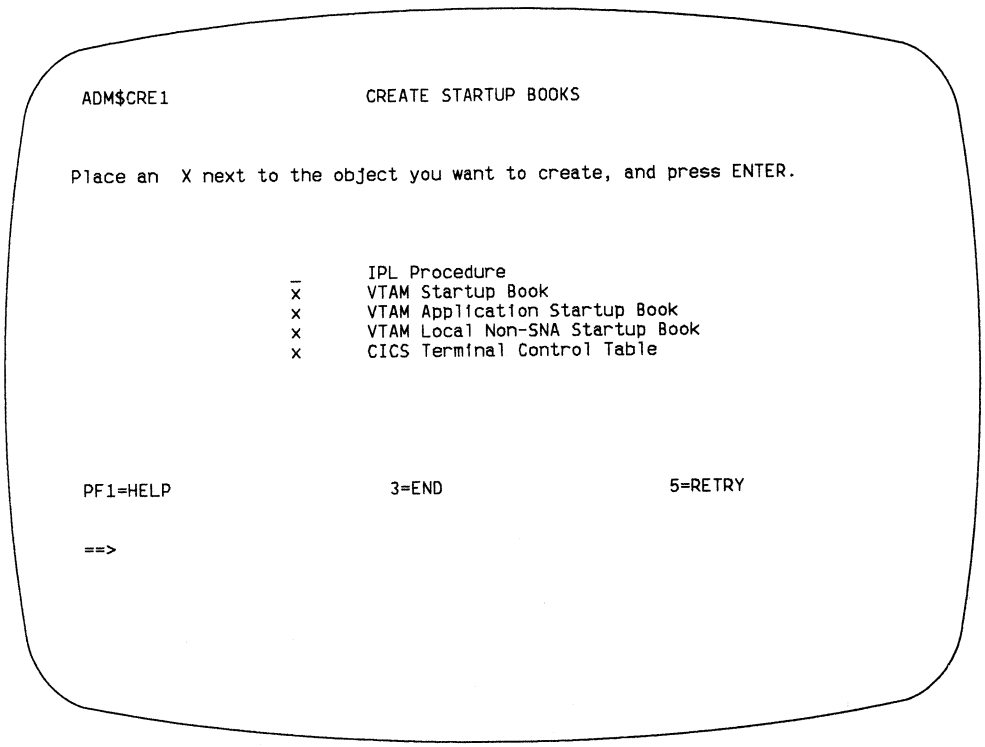

Figure 68. CREATE STARTUP BOOKS Panel

After that, you must regenerate VSE/POWER including parameter 'PNET= name of PNODE macro' defined in the PNET1 part of the skeleton. In order to define the BSC line 036, use the SKPWRBSC skeleton.

Then, re-IPL the system to include all changes made at post installation time.

Installing Additional Network Programs

NCCF

NCCF is a communications network management (CNM) product that runs as an application of ACF/VTAM. It makes network management easier because it can automate many operator tasks. You must define the various network operators and NCCF itself to ACF/VTAM. Install NCCF as an Optional Program (fast path 11) using the dialog shown below (see also *VSE/SP Installation*).

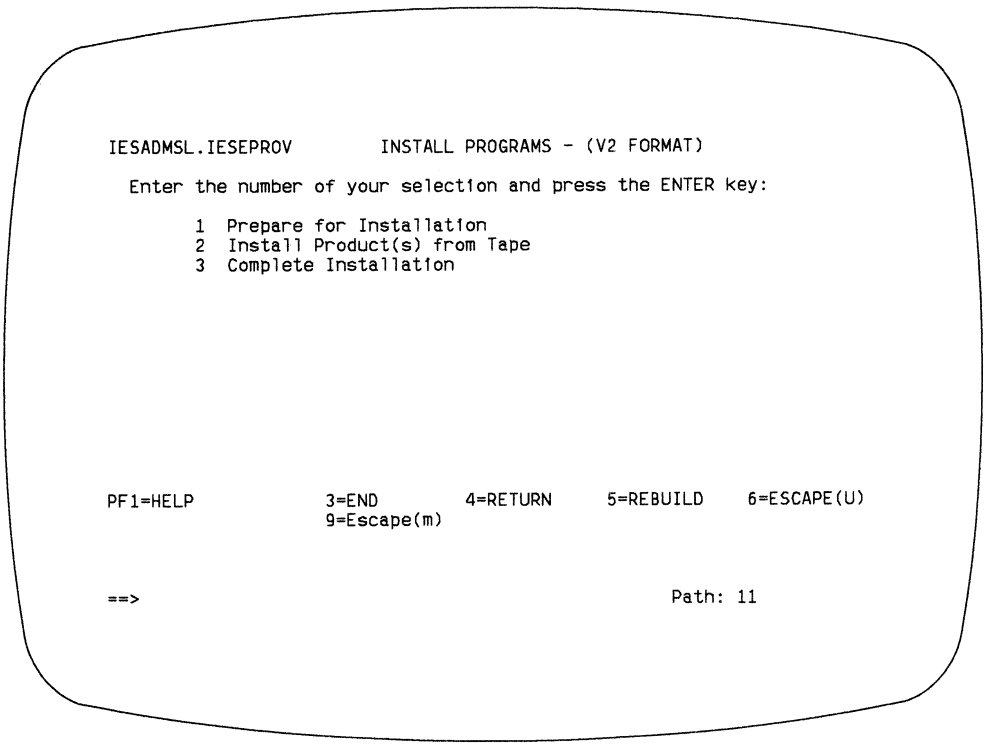

Figure 69. INSTALL PROGRAMS - (V2 FORMAT) Panel

One NCCF can establish a session to another NCCF in another domain. Therefore, you can control a cross-domain network from a single screen logged on to one NCCF program. For your daily operations, you can tailor your network writing your own command lists, command processors, exit routines, and subtasks.

You should:

- Establish a naming convention.
- Define JCL startup statement.
- Define commands and command lists (CLISTS).
- Define NCCF operators and operator profiles.

- Define NCCF as an ACF/VTAM application.
- Create NCCF terminal session parameters.
- Create NCCF-NCCF session parameters.
- Update USS table.
- Create VSAM space and log data sets.
- Test your NCCF definitions.

Refer to Figure 70 through Figure 83 on page 140 for sample NCCF definitions below to generate your own specific definitions. (For details on how to install NCCF and how to define it to ACF/VTAM, see *NCCF Installation* and *NCCF Customization*).

The following samples are listed as Z books in the NCCF library and should be cataloged as B books under VSE/SP 2.1.

```
CATALOG DSIDMN.B                                REPLACE=YES
IDENT    NCCFID   DOMAINID=NCCF1,DMNPSW=NCCF1
OPS      OPTIONS  VERIFY=MINIMAL
         POSPOOL  5
         CDMNSESS 0
         MAXSPAN  0
         MAXABEND 2
         MAXLOGON 3
NPDATSK  TASK     MOD=DSIZDST,TSKID=BNJDSERV,INIT=Y,PRI=1,MEM=BNJMBDST
NCCFLOG  TASK     MOD=DSIZDST,TSKID=DSILOG,PRI=1,INIT=Y,MEM=DSILOGBK
         ACCESS   METHOD=V,LEVEL=2
         END
/+
/*
```

Figure 70. Minimal NCCF Domain Definition Statements

```
CATALOG DSIOPF.B                                REPLACE=YES
OPER1    OPERATOR PASSWORD=OPER1
         PROFILEN DSIPROFA
OPER2    OPERATOR PASSWORD=OPER2
         PROFILEN DSIPROFA
         END
/+
/*
```

Figure 71. NCCF Operator Definitions

```
CATALOG DSIPROFA.B                                REPLACE=YES
************************************************************
*  MINIMAL NCCF OPERATOR PROFILE STATEMENTS                *
************************************************************
DSIPROFA     PROFILE
DSIPROFA     AUTH    MSGRECVR=YES,CTL=GLOBAL
               END
/+
/*
```

Figure 72. Minimal NCCF Operator Profile Statements

```
CATALOG DSILOGBK.B                                REPLACE=YES
  DSTINIT PDDNM=DSILOGP,SDDNM=DSILOGS,DSRBO=1,XITVN=DSIWLMED,FUNCT=VSAM
/+
/*
```

Figure 73. DSILOGBK.B for NCCF Logbook

```
CATALOG DSICMD.B                              REPLACE=YES
*************************************************************
*            REQUIRED CMDMDL STATEMENTS                     *
*************************************************************
AGAIN         CMDMDL   MOD=DSIAGAIN
AT            CMDMDL   MOD=DSIATP
AUTOWRAP      CMDMDL   MOD=DSIAWP,TYPE=B
CANCEL        CMDMDL   MOD=DSICAP,TYPE=B
CLOSE         CMDMDL   MOD=DSICLP,TYPE=B
SHUTDOWN      CMDMDL   MOD=DSICLP,TYPE=B    SYNONYM FOR NCCF WITH TCAM.
* DEFINITION OF CLEAR KEY
_             CMDMDL   MOD=DSICKP,TYPE=I,CTL=S
CLEAR         CMDMDL   MOD=DSICKP,TYPE=B    CLEAR KEY FOR CLISTS
EVERY         CMDMDL   MOD=DSIEVP
GO            CMDMDL   MOD=DSIGOP,TYPE=B
INPUT         CMDMDL   MOD=DSIINP
LIST          CMDMDL   MOD=DSISHP
LOGOFF        CMDMDL   MOD=DSIENP
MOVE          CMDMDL   MOD=DSISWP
MSG           CMDMDL   MOD=DSIMGP
* DEFINITION OF NO-DATA-ENTER
'             CMDMDL   MOD=DSINDP,TYPE=I,CTL=S
NODATA        CMDMDL   MOD=DSINDP,TYPE=B NO-DATA-ENTER FOR CLIST
PAUSE         CMDMDL   MOD=DSIPSP
PURGE         CMDMDL   MOD=DSIPRP
RESET         CMDMDL   MOD=DSIRSP,TYPE=B
ROUTE         CMDMDL   MOD=DSIRTP
START         CMDMDL   MOD=DSISRP
INIT          CMDMDL   MOD=DSISRP        SYNONYM FOR NCCF WITH TCAM.
STOP          CMDMDL   MOD=DSISTP
TERM          CMDMDL   MOD=DSISTP        SYNONYM FOR NCCF WITH TCAM.
SWITCH        CMDMDL   MOD=DSISWCP,TYPE=RD
* PA1 KEY IS SET TO RESET
%             CMDMDL   MOD=DSIRSP,TYPE=I,CTL=S
* PA2 KEY IS SET TO NO-DATA-ENTER
>             CMDMDL   MOD=DSINDP,TYPE=I,CTL=S
```

Figure 74 (Part 1 of 2). NCCF Command Definition for Host

```
*************************************************************
*            ACF/VTAM CMDMDL STATEMENTS                     *
*************************************************************
D            CMDMDL   MOD=DSIVTP
DISPLAY      CMDMDL   MOD=DSIVTP
F            CMDMDL   MOD=DSIVTP
MODIFY       CMDMDL   MOD=DSIVTP
V            CMDMDL   MOD=DSIVTP
VARY         CMDMDL   MOD=DSIVTP
R            CMDMDL   MOD=DSIREP
REPLY        CMDMDL   MOD=DSIREP
*************************************************************
*                                                           *
*            O C C F  CMDMDL STATEMENTS                     *
*                                                           *
*************************************************************
OCCF         CMDMDL   MOD=ICMNCMD
*************************************************************
*                                                           *
*            N P D A  CMDMDL STATEMENTS                     *
*                                                           *
*************************************************************
NPDA         CMDMDL   MOD=BNJPNPDA,TYPE=R
1            CMDMDL   MOD=BNJPNPDA,CTL=S
BNJIBMPD     CMDMDL   MOD=BNJPNPDA,TYPE=R
BNJUNSOL     CMDMDL   MOD=BNJDNPDA,TYPE=RD
REQMS        CMDMDL   MOD=BNJQNPDA,TYPE=R
BNJIBMRQ     CMDMDL   MOD=BNJQNPDA,TYPE=R
*************************************************************
```

Figure 74 (Part 2 of 2). NCCF Command Definition for Host

```
// JOB  DSILMODE
* $$ JOB JNM=DSILMODE
// LIBDEF *,SEARCH=(PRD2.COMM,PRD2.CONFIG),CATALOG=PRD2.COMM
// DLBL PRD2,'VSE.PRD2.LIBRARY',,VSAM,CAT=IJSYSCT,DISP=(OLD,KEEP)
// EXTENT ,SYSWK1
* ********************************************************************
*   INCLUDE THE PROPER NUMBER (NNN) CORRESPONDING TO THE WORK FILES   *
*      DEFINED ABOVE (OR IN THE STANDARD LABELS) ON THE ASSGN         *
*      STATEMENTS BELOW                                               *
* ********************************************************************
// ASSGN SYS001,cuu
// ASSGN SYS002,cuu
// ASSGN SYS003,cuu
// ASSGN SYSLNK,cuu
// OPTION CATAL,NODECK,LIST,SXREF
  PHASE DSIXDOM,S
// EXEC ASSEMBLY
* ********************************************************************
*   DSIXDOM:      NCCF CROSS DOMAIN LOGMODE TABLE                     *
* ********************************************************************
DSIXDOM  MODETAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'20',SECPROT=X'20',COMPROT=X'4000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000000'
         MODEEND
         END
/*
// EXEC LNKEDT
/*
// PAUSE ASSEMBLE AND LINK DSILU0
// OPTION CATAL,NODECK,LIST,SXREF
  PHASE DSILU0,S
// EXEC ASSEMBLY
* ********************************************************************
*  DSILU0:  LOGMODE TABLE FOR BSC, LOCAL, SDLC 3275, 3277, 3278, 3279 *
*           MODEL 2 OR 12, 24 X 80 SCREEN. MAY BE USED TO RUN         *
*           MODELS 3, 4, 5, 2C OR 3C AS MODEL 2,                      *
*           ALSO FOR 3284, 3286, 3287, 3288, 3289 PRINTERS            *
*           THROUGH A 3271, 3272, 3274, 3275, OR 3276 CONTROLLER.     *
* ********************************************************************
DSILU0   MODETAB
IBMS3270 MODEENT LOGMODE=S3270,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000'
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'02',TSPROF=X'02',
               PRIPROT=X'71',SECPROT=X'40',COMPROT=X'2000',
               RUSIZES=X'0000',PSERVIC=X'000000000000000000000200'
         MODEEND
         END
/*
```

Figure 75 (Part 1 of 2). ACF/VTAM Logon Mode Tables for NCCF

```
// EXEC LNKEDT
/*
// PAUSE ASSEMBLE AND LINK DSI4LU2
// OPTION CATAL,NODECK,LIST,SXREF
  PHASE DSI4LU2,S
// EXEC ASSEMBLY
* ********************************************************************
*   DSI4LU2:  LOGMODE TABLE FOR SNA 3277, 3278, 3279                  *
*             MODEL 2 OR 12, 24 X 80 SCREEN. MAY BE USED TO RUN       *
*             MODELS 3, 4, 5, 2C OR 3C AS MODEL 2                     *
*             THROUGH A 3274 CONTROLLER.                              *
* ********************************************************************
DSI4LU2  MODETAB
D4A32782 MODEENT LOGMODE=D4A32782,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'87C7',PSERVIC=X'020000000000185000007E00'
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3080',
               RUSIZES=X'8787',PSERVIC=X'020000000000000000000200'
         MODEEND
         END
/*
// EXEC LNKEDT
/*
// PAUSE ASSEMBLE AND LINK DSI6LU2
// OPTION CATAL,NODECK,LIST,SXREF
  PHASE DSI6LU2,S
// EXEC ASSEMBLY
* ********************************************************************
*   DSI6LU2:  LOGMODE TABLE FOR SNA 3277, 3278, 3279                  *
*             MODEL 2 OR 12, 24 X 80 SCREEN. MAY BE USED TO RUN       *
*             MODELS 3, 4, 5, 13,14, 2C OR 3C AS MODEL 2              *
*             THROUGH A 3276 CONTROLLER.                              *
* ********************************************************************
DSI6LU2  MODETAB
D6327802 MODEENT LOGMODE=D6327802,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'90',COMPROT=X'3080',
               RUSIZES=X'88F8',PSERVIC=X'020000000000185000007E00'
DSILGMOD MODEENT LOGMODE=DSILGMOD,FMPROF=X'03',TSPROF=X'03',
               PRIPROT=X'B1',SECPROT=X'A0',COMPROT=X'3080',
               RUSIZES=X'8785',PSERVIC=X'020000000000000000000200'
         MODEEND
         END
/*
// EXEC LNKEDT
/*
/&
* $$ EOJ
```

Figure 75 (Part 2 of 2). ACF/VTAM Logon Mode Tables for NCCF

```
* $$ JOB JNM=DSIVSAM
// JOB DSIVSAM
* ********************************************************************
* FUNCTION: DEFINE NCCF VSAM SPACE AND CLUSTER FOR IBM 3370           *
* ********************************************************************
* // LIBDEF *,CATALOG=PRD2.COMM
* // EXEC LIBR
* A S=PRD2.COMM
* CATALOG DSIVSAM.B                              REPLACE=YES
// DLBL NCCFLOG,'NCCF.LOG.SPACE',,VSAM
// EXTENT SYS030,DOSRES
// ASSGN SYS030,DISK,VOL=DOSRES,SHR
// EXEC PGM=IDCAMS,SIZE=AUTO
   DEFINE SPACE (VOL(DOSRES) -
            ORIGIN(487290) -
            BLOCKS(12648)) -
            CATALOG(VSAM.MASTER.CATALOG)
 DELETE (NCCFLOG1) CLUSTER -
                   NOERASE -
                   PURGE -
                   CATALOG(VSAM.MASTER.CATALOG)
 DELETE (NCCFLOG2) CLUSTER -
                   NOERASE -
                   PURGE -
                   CATALOG(VSAM.MASTER.CATALOG)
   DEFINE CLUSTER (NAME(NCCFLOG1) -
            INDEXED -
            KEYS (16,0) -
            RECORDSIZE(125,404) -
            FREESPACE(0,0) -
            REUSE -
            SHAREOPTIONS(2 4) -
            BLOCKS(744) -
            VOLUME(DOSRES) -
            CONTROLINTERVALSIZE(4096) -
            IMBED ) -
            CATALOG(VSAM.MASTER.CATALOG)
   DEFINE CLUSTER (NAME(NCCFLOG2) -
            INDEXED -
            KEYS (16,0) -
            RECORDSIZE(125,404) -
            FREESPACE(0,0) -
            REUSE -
            SHAREOPTIONS(2 4) -
            BLOCKS(744) -
            VOLUME(DOSRES) -
            CONTROLINTERVALSIZE(4096) -
            IMBED ) -
            CATALOG(VSAM.MASTER.CATALOG)
/*
/+
/*
```

Figure 76. Defining NCCF VSAM Space and Cluster for IBM 3370

```
* $$ JOB JNM=NPDAVS70,CLASS=0,DISP=D
// JOB NPDAVS70  DEFINE VSAM FOR NPDA ON 3370
// EXEC PGM=IDCAMS,SIZE=AUTO
 DELETE (BNJLGPRI) -
           CLUSTER -
           PURGE -
           CATALOG (VSAM.MASTER.CATALOG)
 DELETE (BNJLGSEC) -
           CLUSTER -
           PURGE -
           CATALOG (VSAM.MASTER.CATALOG)
 DEFINE CLUSTER ( NAME (BNJLGPRI) -
                 INDEXED    -
                 VOL(DOSRES)
                 BLOCKS(744)
                 UPDPW(USERPASS) -
                 KEYS (76 0) -
                 RECSZ(80 4086) -
                 FSPC(5 5) -
                 CISZ(4096) -
                 IMBED ) -
                 CATALOG(VSAM.MASTER.CATALOG)
 DEFINE CLUSTER (NAME (BNJLGSEC) -
                 INDEXED -
                 VOL(DOSRES)
                 BLOCKS(744)
                 UPDPW(USERPASS) -
                 KEYS (76 0) -
                 RECSZ(80 4086) -
                 FSPC(5 5) -
                 CISZ(4096) -
                 IMBED ) -
                 CATALOG(VSAM.MASTER.CATALOG)
/*
/&
* $$ EOJ
```

Figure 77. Defining VSAM Space for NPDA on IBM 3370

```
* $$ JOB JNM=BNJMBDST,CLASS=0
// JOB BNJMBDST      NPDA FROM VSE/SP 2.1           07/20/84
* ********************************************************************
* FUNCTION: CREATE B.BNJMBDST FOR NPDA AND CATALOG IN PRD2.CONFIG      *
* ********************************************************************
// LIBDEF *,CATALOG=PRD2.CONFIG
// EXEC LIBR,PARM='MSHP'
A S=PRD2.CONFIG
CATALOG BNJMBDST.B                          REPLACE=YES
 DSTINIT PDDNM=BNJLGPR
 DSTINIT PPASS=USERPASS
 DSTINIT SDDNM=BNJLGSE
 DSTINIT SPASS=USERPASS
 DSTINIT DSRBU=1
 DSTINIT DSRBO=10
 DSTINIT UNSOL=BNJUNSOL
 DSTINIT FUNCT=BOTH
 DSTINIT XITVN=BNJAINTA
 DSTINIT XITDI=BNJAPAMA
        END
/+
/*
/&
* $$ EOJ
```

Figure 78. BNJMBDST.B for NPDA

```
* $$ JOB JNM=ISTMGC00,CLASS=0,DISP=D
// JOB ISTMGC00
// LIBDEF *,SEARCH=PRD2.COMM
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
  PHASE ISTMGC00,*
// EXEC ASSEMBLY
ISTMGC00 CSECT
         DS    0F
         DS    X'0002'
         DS    X'000C'
         DS    XL4'00000000'
         DS    XL4'00000000'
         DS    XL1'00'
         DS    XL3'010381'
         DS    CL8'BNJDSERV'
         DS    XL1'00'
         DS    XL3'410384'
         DS    CL8'BNJDSERV'
         END   ISTMGC00
/*
// EXEC LNKEDT
/*
/&
* $$ EOJ
```

Figure 79. Table Entries for the Communications Network Management (CNM) Interface

```
CATALOG VTMNCCF.B                                    REPLACE=YES
VTMNCCF  VBUILD TYPE=APPL
NCCF1    APPL  AUTH=(NVPACE,ACQ,PASS),MODETAB=DSIXDOM,EAS=6  MAIN TASK
NCCF1PPT APPL  AUTH=(NVPACE,PPO),MODETAB=DSIXDOM,EAS=1      PRIMARY POI
NCCF1000 APPL  AUTH=(NVPACE,SPO,ACQ),MODETAB=DSIXDOM,EAS=2   SUBTASK1
NCCF1001 APPL  AUTH=(NVPACE,SPO,ACQ),MODETAB=DSIXDOM,EAS=2   SUBTASK2
BNJDSERV APPL  AUTH=CNM                                      NPDA TASK
/+
/*
```

Figure 80. ACF/VTAM Application Major Node

Note: Remember to add major node VTMNCCF to member ATCCON00.

```
* $$ JOB JNM=STRTNCCF,DISP=K,CLASS=4
// JOB STRTNCCF   >>>>>>>>>>>START NCCF WITH NPDA <<<<<<<<<<<
// LIBDEF *,SEARCH=(PRD2.COMM,PRD2.PROD,PRD1.BASE,PRD2.CONFIG),PERM
// DLBL DSILOGP,'NCCFLOG1',,VSAM
// DLBL DSILOGS,'NCCFLOG2',,VSAM
// DLBL BNJLGPR,'BNJLGPRI',,VSAM
// DLBL BNJLGSE,'BNJLGSEC',,VSAM
// EXEC IDCAMS,SIZE=AUTO
   VERIFY FILE (NCCFLOG1)
   VERIFY FILE (NCCFLOG2)
   VERIFY FILE (BNJLGPRI)
   VERIFY FILE (BNJLGSEC)
/*
// OPTION PARTDUMP
// EXEC DSIDPR,SIZE=AUTO
/*
/&
* $$ EOJ
```

Figure 81. NCCF with NPDA Startup

```
* $$ JOB JNM=DSIPRTA,CLASS=0
// JOB DSIPRTA
// LIBDEF *,SEARCH=(PRD2.COMM,PRD2.CONFIG)
* ********************************************************************
*      - FILEID2 SHOULD BE THE MASTER CATALOG FILE IDENTIFIER          *
* ********************************************************************
// DLBL      IJSYSCT,'VSAM.MASTER.CATALOG',,VSAM
// EXTENT SYSCAT,DOSRES
ASSGN SYS000,cuu
* ********************************************************************
*      - FILEID3 SHOULD BE THE FILE IDENTIFIER OF EITHER THE PRIMARY   *
*           OR SECONDARY NCCF VSAM LOG CLUSTER (NCCFLOG1 OR NCCFLOG2) *
* ********************************************************************
// DLBL DSILOG,'NCCFLOG1',,VSAM
// EXTENT SYS000,DOSRES
// ASSGN SYS006,cuu
// ASSGN SYSIPT,cuu
*  ASSGN     SYSLST,DEVICEADDRESS
// EXEC      DSIPRT,SIZE=AUTO
/*
/&
* $$ EOJ
```

Figure 82. Job for Printing the NCCF Log File

```
* $$ JOB JNM=PRTNPDA,CLASS=0,DISP=K
// JOB PRTNPDA   PRINT NPDA DATA BASE
// DLBL IJSYSCT,'VSAM.MASTER.CATALOG',,VSAM
// DLBL BNJLGPR,'BNJLGPRI',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 VERIFY FILE(BNJLGPR)
 PRINT INFILE(BNJLGPR)
/*
/&
* $$ EOJ
```

Figure 83. Printing NPDA Log File

To tailor NCCF, go to "NCCF Tailoring" on page 161.

NPDA

NPDA is a product which collects and processes hardware errors associated with devices working with SDLC protocol in an SNA environment. Errors for local devices are ignored. NPDA runs as a command processor under NCCF. Therefore, NCCF must be installed first. Then define NPDA to NCCF and ACF/VTAM. Also, you need to allocate VSAM space for primary and secondary data bases into which NPDA can log network error data. Install NPDA as an Optional Product using a dialog (see *VSE/SP Installation*). For NPDA-specific information, see *NPDA Installation* and *NPDA User's Guide*.

BTAM-ES Access Method - Non-SNA Display Products and Workstations with BSC Protocol

Local Display Products

The installation description for this type of products is included in "Local Non-SNA Display Products" on page 65.

Create TCT entries, assemble and catalog them in the appropriate source library (see *CICS/VS Resource Definition Guide* and *CICS/VS Installation and Operations Guide*).

ICA-Attached Display Products and VSE/POWER/RJE Workstations

The sample configuration in Figure 84 is not supported by the dialogs of VSE/SP. Include the IBM 3780 in the skeleton SKPWRBSC and regenerate VSE/POWER using skeleton SKPWRGEN. Define the display products to CICS/VS by creating TCT entries. Assemble and catalog them in the appropriate source library (see *CICS/VS Resource Definition Guide* and *CICS/VS Installation and Operation*).

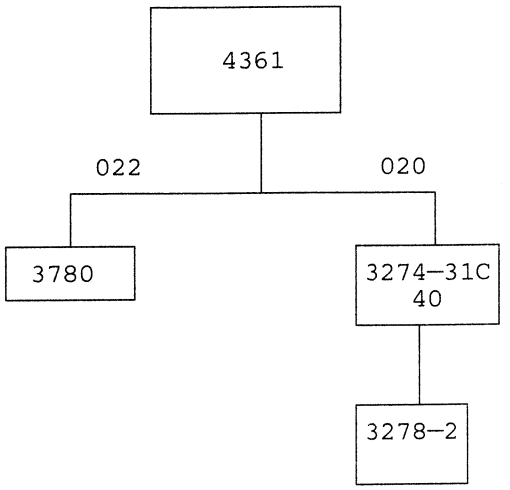

Figure 84. Sample Configuration - ICA-Attached Display Products and VSE/POWER/RJE Workstations (BSC)

For remote job submission, include members PNT$NODE, PNT$JCLT, and the standard ACF/VTAM library members in your configuration.

The sample configuration in Figure 85 is described below using the VSE/SP remote configuration dialogs. The names of the panels are shown in capital letters.

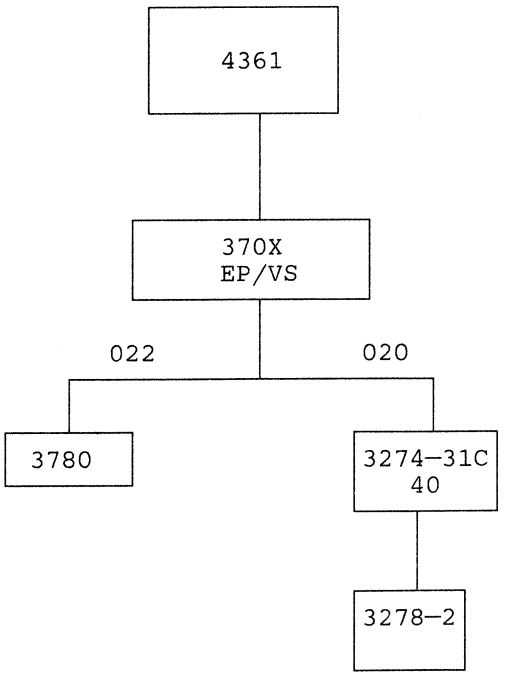

Figure 85. Sample Configuration - 370X(EP)-Attached Display Products and VSE/POWER/RJE Workstations (BSC)

Defining the Network

To access the EP/VS dialogs, type **2** on FUNCTION SELECTION, **5** on RESOURCE DEFINITION, and **3** on REMOTE TERMINAL CONFIGURATION. TAILORING EP/VS displays with the default values described in the planning section. In our example, we want to define the scanner using:

- The default values for 3705-2 (on TAILORING EP/VS).
- One channel adapter of type 4 (on TAILORING EP/VS)
- The address range from the lower limit of 20 to the upper limit of 3F (on TAILORING EP/VS).
- A scanner type 3 (on TAILORING EP/VS SCANNER DEFINITION).
- Wraparound line address 020 (on TAILORING EP/VS SCANNER DEFINITION).
- Scanner definitions for 150, 600, 1200, and 2400 bps.

Enter '/end' to exit from the scanner definitions.

Next, define the lines. On LINE DEFINITIONS, enter 020 for line address and speed 1200 bps. On the next panel under TERMINAL TYPE, define '3278' and subchannel address '20'. Repeat this process for the 3780 with line name LINEEP2, address 022, and speed 1200 and define '3780' with subchannel address '22'. Enter '/end' to exit from the line definition path. A comment panel displays which informs you about the three jobs that are created from these dialogs. They are:

- EPIPF
- EPSTG1
- EPSTG2

These jobs are listed in Figure 86 on page 144, Figure 87 on page 145, and Figure 88 on page 146.

After you have created all three jobs, REMOTE TERMINAL CONFIGURATION displays. To view the jobs just generated, press **PF4**. On FUNCTION SELECTION, enter **5**. On PROGRAM DEVELOPMENT, enter **1**. Then go through your primary library to edit the jobs according to your needs.

```
* $$ JOB JNM=EPIPF,CLASS=0,DISP=D,PRI=1,                          C /===/*
* $$ NTFY=YES,LDEST=*                                               *===*
// JOB EPIPF  CATALOGS MACROS TO SOURCE LIBRARY.                     *===*
// EXEC LIBR                                                         *===*
ACCESS SUBLIB=PRD2.CONFIG                                            *===*
CATALOG    EPIPF.B          REPLACE=YES                              *===*
         BUILD HICHAN=(3F),                                        X *===*
               LOCHAN=(20),                                        X *===*
               CA=TYPE4,                                           X *===*
               DYNADMP=NO,                                         X *===*
               LINETRC=YES,                                        X *===*
               MODEL=3705-2,                                       X *===*
               NEWNAME=EPIPF,                                      X *===*
               TEST=YES,                                           X *===*
               TYPGEN=EP,                                          X *===*
               TYPSYS=DOS                                            *===*
CSB0       CSB   SPEED=(150,600,1200,2400),                        X *===*
               WRAPLN=020,                                         X *===*
               MOD=0,                                              X *===*
               TYPE=TYPE3                                            *===*
GRPEP1     GROUP DIAL=NO,                                          X *===*
               LNCTL=BSC                                             *===*
LINEEP1    LINE  ADDRESS=(020,20),                                 X *===*
               SPEED=1200,                                         X *===*
               NEWSYNC=NO,                                         X *===*
               CODE=EBCDIC,                                        X *===*
               TERM=3278,                                          X *===*
               CU=2703,                                            X *===*
               INTPRI=1                                              *===*
LINEEP2    LINE  ADDRESS=(022,22),                                 X *===*
               SPEED=1200,                                         X *===*
               NEWSYNC=NO,                                         X *===*
               CODE=EBCDIC,                                        X *===*
               TERM=3780,                                          X *===*
               CU=2703,                                            X *===*
               INTPRI=1                                              *===*
         GENEND                                                      *===*
/+                                                                   *===*
/*                                                                   *===*
/&                                                                   *===*
* $$ EOJ                                                             *===*
```

Figure 86. Job EPIPF

```
* $$ JOB JNM=EPSTG1,CLASS=0,DISP=D,PRI=1,
* $$ NTFY=YES,LDEST=*
* $$ PUN DISP=I,CLASS=0
// JOB EPSTG1   SUBMITS EP TO STAGE 1 OF GEN PROCEDURE.
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
RENAME    EPIPF.B:EPIPF.A
/*
// LIBDEF *,SEARCH=(PRD2.COMM)
// LIBDEF SOURCE,SEARCH=(PRD2.CONFIG)
// OPTION DECK
// EXEC IFZASM,SIZE=128K
          PUNCH '* $$ JOB JNM=CATALR'
          PUNCH '// JOB CATALR'
          PUNCH '// EXEC LIBR'
          PUNCH 'ACCESS SUBLIB=PRD2.CONFIG'
   COPY EPIPF
   END
/*
// OPTION DECK
// EXEC ASSEMBLY,SIZE=40K
          PUNCH '/* '
          PUNCH '/&& '
          PUNCH '* $$ EOJ'
   END
/*
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
RENAME    EPIPF.A:EPIPF.B
/*
/&
* $$ EOJ
```

Figure 87. Job EPSTG1

```
* $$ JOB JNM=EPSTG2,CLASS=O,DISP=D,PRI=1,                    C /===/*
* $$ NTFY=YES,LDEST=*                                          *===*
// JOB EPSTG2   SUBMITS EP TO STAGE 2 OF GEN PROCEDURE.       *===*
ASSGN SYS000,SYSPCH                                           *===*
// LIBDEF PHASE,CATALOG=PRD2.CONFIG                           *===*
// LIBDEF OBJ,SEARCH=(PRD2.CONFIG,PRD2.COMM)                  *===*
// OPTION CATAL                                               *===*
   ACTION MAP,NOAUTO                                          *===*
   PHASE EPTEST,+0                                            *===*
   INCLUDE CYENUC                                             *===*
   INCLUDE IFQOBJ,(CYALNVT)                                   *===*
   INCLUDE IFQOBJ,(CYACHVT)                                   *===*
   INCLUDE IFQOBJ,(CYAEPCCB)                                  *===*
   INCLUDE IFQOBJ,(CYAEPLGT)                                  *===*
   INCLUDE CYESVC                                             *===*
   INCLUDE CYECDS                                             *===*
   INCLUDE CYEBLW                                             *===*
   INCLUDE CYEBIS                                             *===*
   INCLUDE CYEBL1                                             *===*
   INCLUDE CYETST4                                            *===*
   INCLUDE CYETRC                                             *===*
   ENTRY CYASTART                                             *===*
// EXEC LNKEDT
// EXEC LIBR                                                  *===*
ACCESS SUBLIB=PRD2.CONFIG                                     *===*
PUNCH     EPTEST.PHASE                                        *===*
/*                                                            *===*
CLOSE SYSPCH,IGN                                              *===*
ASSGN SYSPCH,SYS000                                           *===*
/&                                                            *===*
* $$ EOJ                                                      *===*
```

Figure 88. Job EPSTG2

Cataloging the Network

Run the above jobs. Be sure that EPSTG1 and EPSTG2 run successfully. To include the RJE workstations, modify skeleton SKPWRBSC, then regenerate VSE/POWER using skeleton SKPWRGEN. Create the necessary TCT entries for CICS/VS (for display products only), assemble and catalog them in the source library (see *CICS/VS Resource Definition Guide* and *CICS/VS Installation and Operations Guide*). For remote job submission, include members PNT$NODE, PNT$JCLT, and the standard ACF/VTAM library members in your configuration.

Chapter 4. Operating Your Network

ACF/VTAM Access Method - Single and Cross-Domain Networks (ICA or 37X5/NCP)

ACF/VTAM Tailoring

ACF/VTAM starts up and controls the resources of the network. It activates and deactivates:

- Application program major nodes (**one or more** application program LU definition).
- Application program minor nodes (**one particular** application program LU definition).
- SNA and non-SNA major nodes (**one or more** controllers, that is, PUs attached to the host processor via a channel or a link).
- SNA and non-SNA minor nodes (**one controller**, that is, PU attached to the host processor via a channel or a link and its associated devices, that is, LUs).
- The paths defined between the subareas of the network, for example, between ACF/VTAM and ACF/NCP.
- In an ACF/NCP environment, ACF/NCP supervises the protocol and data routing aspects of the network. It handles line errors, performs error recovery actions, and controls dynamic buffering. Before it assumes its network control function, you must load it into the 37X5. To do this, use the:
  - ACF/VTAM VARY command or
  - the ACF/SSP Independent Loader Utility (see "Loading ACF/NCP" on page 152).

But before you actually start up ACF/VTAM, you may want to tailor the following IBM-supplied default values, assemble, and catalog them in the ACF/VTAM library:

- Partition size.
- Startup options.
- Configuration list.
- Path definitions.
- Application program major nodes.

  Note: Your SNA and non-SNA definitions have already been described in the appropriate section of the chapter "Chapter 3. Installing Your Network" on page 81.

- USS tables.
- Logmode tables.

Startup Options

After you have completed the *Change VTAM Application Name and/or Subarea Number* and *Create Startup Books* dialogs, the default startup options (see Figure 89) are stored in VSE/ICCF library 51 under the name ATCSTR00. You can modify the SSCPID, HOSTSA, and MAXSUBA values and the buffer values to fit the particular node requirements and recatalog them in the ACF/VTAM source library. If you want to be prompted for the startup options by ACF/VTAM, specify PROMPT and enter the appropriate values at startup time.

```
CATALOG  ATCSTR00.B     REPLACE=YES                              00001000
SSCPID=1,                                                       *00010000
HOSTSA=1,                                                       *00011000
MAXSUBA=63,                                                     *00012000
MAXAPPL=30,                                                     *00013000
CONFIG=00,                                                      *00014000
LIST=00,                                                        *00015000
NOPROMPT,                                                       *00016000
IOINT=0,                                                        *00018000
LFBUF=(70,288,,6,),                                             *00019490
LPBUF=(54,,6),                                                  *00020000
SFBUF=(153,,20),                                                *00021000
SPBUF=(210,,20),                                                *00022000
VFBUF=28000,                                                    *00023000
VPBUF=500000,                                                   *00024000
WPBUF=(100,,10),                                                *00025000
VTAMEAS=64                                                       00026000
/+                                                               00027000
```

Figure 89. Default ACF/VTAM Startup Options

As mentioned before,

- you can modify ATCSTR00 **or**
- the operator can enter startup options at the console during ACF/VTAM startup **or**
- the operator can enter 'LIST=xx' during ACF/VTAM startup to read in a different list altogether, say, ATCSTR02. In this case, the operator would enter 'LIST=02' during ACF/VTAM startup. ATCSTR02 must also contain the 'CONFIG=xx' parameter pointing to the configuration list in the ACF/VTAM source book ATCCONxx.

Configuration List

When starting up, ACF/VTAM needs a configuration list of major nodes to be activated. These are application program major nodes and SNA as well as non-SNA local and remote major nodes. The configuration list must contain system provided major nodes and it may contain your own major nodes (see "Naming Convention" on page 14 and Appendix B, "Naming Convention" on page 175). The default configuration list is stored in PRD2.CONFIG under the name ATCCON00.B (see Figure 90). You should copy it to your primary library. You can modify these options and recatalog them in the ACF/VTAM source library.

```
CATALOG   ATCCON00.B      REPLACE=YES                              00001000
          VTMAPPL,                                                *00010000
          VTMSNA,                                                 *00011290
          VTMNSNA,                                                *00011580
          VTMCA1,                                                 *00012000
          VTMCA2,                                                 *00013000
          VTMCA3,                                                 *00014000
          VTMPATH,                                                *00015000
          VTMCDRM,                                                *00016000
          VTMCDRS,                                                *00017000
          VTMSW1                                                   00019990
/+                                                                 00022000
```

Figure 90. Default ACF/VTAM Configuration List

By default, ACF/VTAM searches the source book ATCCON00 for that configuration list. If you used CONFIG=02 in your startup list ATCSTRxx, you would have to define a source book with the name ATCCON02 which ACF/VTAM would search first. If you want a different configuration list, depending on your specific work profile on a given day, you could also use, say, ATCCON03. In this case, the operator should enter LIST=02 for list ATCSTR02 and CONFIG=03 for ATCCON03.

The activation of major nodes is always in the sequence in which the major node names appear in the configuration list. If you use LOGAPPL=DBDCCICS and ISTATUS=ACTIVE in your LU minor node definition for automatic logon to CICS/VS, put the APPL entry first, before the SNA and non-SNA (local and remote) major nodes. This will activate the **application prior to the terminals** accessing that application.

Path Definitions

Communication between two addressable nodes, for example, ACF/VTAM and ACF/NCP, takes place via a path called route. Routes must be defined for all subareas of the network. To do this, use the PATH macro. No default values are given.

You can define two levels of routing, a physical route called Explicit Route (ER) and a logical route, called Virtual Route (VR). One end of each VR must be located in a host subarea, that is, the ACF/VTAM subarea. The path definitions must be cataloged in the ACF/VTAM source library. The VSE/SP-provided path definition list (member VTMPATH.B in PRD2.CONFIG) is shown in Figure 91. Copy it to your primary library.

```
CATALOG  VTMPATH.B      REPLACE=YES                                    00001000
         PATH  DESTSA=3,                                              *00010000
               ER0=(3,1),ER1=(3,1),ER2=(3,1),ER3=(3,1),               *00011000
               ER4=(3,1),ER5=(3,1),ER6=(3,1),ER7=(3,1),               *00012000
               VR0=0,VR1=1,VR2=2,VR3=3,VR4=4,VR5=5,VR6=6,VR7=7 00013000
/+                                                                    00014000
```

Figure 91. VSE/ICCF Member VTMPATH - Path Definition

Application Program Major Nodes

All application programs using ACF/VTAM services (such as CICS/VS) must be defined to ACF/VTAM using the APPL statement and they must be cataloged in the source library. For example, the application name DBDCCICS in the LOGAPPL statement in Figure 42 on page 89 must be defined to ACF/VTAM in an application program major node (see VSE/SP-provided defaults in PRD2.CONFIG shown in Figure 92).

```
CATALOG  VTMAPPL.B      REPLACE=YES                                   00001000
VTMAPPL  VBUILD TYPE=APPL                                             00010000
DBDCCICS APPL  AUTH=(PASS,ACQ)                                        00011000
POWER    APPL  AUTH=(ACQ)                                             00012490
PNET     APPL  AUTH=(PASS,ACQ),VPACING=3,MODETAB=VTMLOGTB,
               DLOGMOD=PNET                                          *00012980
IESWAITT APPL  AUTH=(NOACQ)                                           00013500
/+                                                                    00025000
```

Figure 92. VSE/ICCF Member VTMAPPL - Application Program Major Nodes

The application major node name in turn is listed in the configuration list example under "Configuration List" on page 149.

Note: IESWAITT is required for VSE/ICCF start-up.

USS Table Definition

When a user starts an LU-LU session, that is, signs on to an application program at a display terminal, a USSTAB (Unformatted System Services Table) is used by USS (Unformatted System Services), a component of the SSCP. With the USS table, you can modify messages that are sent to the terminal to provide certain information to the user about a logon procedure.

The USS table is one of the ACF/VTAM tables which the user can provide if the default table is not adequate for a specific application.

VSE/SP provides a table called VTMUSSTR for SNA display products and VTMUSSTB for non-SNA display products. A jobstream with the member name SKVTMUSS in VSE/ICCF library 59 assembles, link-edits, and catalogs these tables so that they are available to ACF/VTAM (see "USS Table Skeleton SKVTMUSS" on page 196).

You specify the table you want to use by using the USSTAB parameter on the LU, LOCAL, or TERMINAL macros (for example, see Figure 42 on page 89). If you do not specify your own USSTAB, ACF/VTAM uses the IBM default USSTAB with the phase name ISTINCDT as mentioned above.

For details about the ACF/VTAM-provided USS table, see *ACF/VTAM Planning and Installation Reference.*

LOGMODE Table Definition

Logon mode tables are the second category of tables you may want to specify for certain applications. Similar to USS tables, they are used by ACF/VTAM to interpret logon requests and to set proper session parameters when an application program (PLU) and a terminal (SLU) go into session. If you have only CICS/VS ACF/VTAM applications in your system, there is no need to code these logon mode tables; CICS/VS generates its own session parameters from the TCT entries. But if you use other applications, for example, NCCF, you must code a logon mode table.

Logon mode tables consist of mode entries. The tables must be assembled and link-edited into phases. The MODETAB macro defines the table, the MODEENT defines the entry, and MODEEND ends the table.

To select the proper logon mode table, code a MODETAB parameter on the LU or TERMINAL macro which points to the logon mode table. The DLOGMOD parameter specified on the LU or TERMINAL macro points to the specific entry in the logon mode table.

You can specify logon mode entries either in the logon mode table or in the USS logon command. If you use both, the USS command overrides the DLOGMOD parameter.

For NCCF, a sample logon mode table is shown in Figure 93 on page 152.

```
// JOB nnnn
// EXEC  LIBR
ACCESS   SUBLIB=lib.sublib
CATALOG  MODLU1.A
         PHASE MODLU1,*
// EXEC  ASSEMBLY
MODLU1   MODTAB
DSILGMOD MODEENT LOGMODE=DSILGMOD,                                  x
               FMPROF=X'03',TSPROF=X'03',PRIPROT=X'B1',             x
               SECPROT=X'A0',COMPROT=X'3080',RUSIZES=X'8587',       x
               PSERVICE=X'01000000E100000000000000'
         MODEEND
         END
// EXEC  LNKEDT
/&
```

Figure 93. Sample Job to Generate NCCF Logon Mode Table

Loading ACF/NCP

Before you load the ACF/NCP into the 3705 communication controller, you must create:

- A diagnostic file and
- a loader file.

The diagnostic file contains a test routine which is loaded into the 3705 to check for possible malfunctions. VSE/ICCF skeleton SKNCPCDF in library 59 contains job NCPDIAG to create that file (see "ACF/NCP Diagnostic File Skeleton SKNCPCDF" on page 213). Modify it to match your configuration and run the job.

Likewise, you must create a sequential disk file for the ACF/NCP module to be loaded into the 3705 communication controller. VSE/ICCF skeleton SKNCPCLF in library 59 contains job NCPFILE to create that file (see "ACF/NCP Load Module File Skeleton SKNCPCLF" on page 214). Modify it to match your configuration also and run the job.

To actually load the ACF/NCP load module into the 3705, issue the ACF/VTAM command:

- V NET,ACT,ID=ncpname,LOAD=YES

  or

- use the ACF/NCP/SSP independent loader utility to load ACF/NCP from disk.

  Note: To load your ACF/NCP, you may have to increase your ACF/VTAM partition size or modify your ACF/VTAM startup values. A partition size of 1.8 MB is recommended with the SIZE value of 900K.

To load from an FBA disk, use VSE/ICCF skeleton SKNCPFBA containing job LOAD3705 (see "ACF/SSP Independent Loader Utility Skeleton for FBA Disks SKNCPFBA" on page 215). To load from a CKD disk, use VSE/ICCF skeleton SKNCPCKD with the same job LOAD3705 (see "ACF/SSP Independent Loader Utility Skeleton for CKD Disks SKNCPCKD" on page 216).

ACF/VTAM Startup

Before you initiate a session in your network, you must start ACF/VTAM using jobstream VTMSTRT (see Figure 94).

```
     DESCRIPTION :

         THIS SAMPLE CONTAINS JOB CONTROL, POWER JECL STATEMENTS AND
         INSTRUCTIONS TO CONSTRUCT THE VTAM STARTUP JOB. THIS SAMPLE
         ASSUMES, THAT VTAM WILL BE STARTED IN A POWER CONTROLLED
         PARTITION.

     THINGS TO DO :

         FILL IN THE MISSING PARAMETERS SHOWN HERE BY A STRING OF Y'S.
         THE NUMBER Y'S INDICATES THE MAXIMUM (MINIMUM) OF CHARACTERS
         EXPECTED.
         CHANGE,DELETE OR ADD ANY STATEMENT OR PARAMETER NEEDED TO
         MEET YOUR REQUIREMENTS.

       - IMPORTANT :
         CALL THE MACRO DTRSEXIT AFTER ALL MODIFICATIONS ARE DONE.
         THIS MACRO WILL DELETE ALL DESCRIPTIVE TEXT FROM THIS FILE,
         BY DELETING ALL LINES WHICH ARE MARKED WITH THE CHARACTER C
         IN COLUMN 71.


* $$ JOB JNM=VTAMSTRT,DISP=L,CLASS=3

                   CLASS=3 ASSUMES THAT VTAM IS RUNNING IN F3.
                   IF YOU CHANGE THE CLASS PARAMETER YOU MUST ALSO
                   CHANGE THE POWER STATEMENT IN THE BG STARTUP
                   PROCEDURE TO KEEP THE STARTUP WORK.

// JOB VTMSTRT START VTAM
// ASSGN SYS000,UA
// ASSGN SYS001,DISK,VOL=YYYYYY,SHR      TRACE FILE ASSIGNMENT
// ASSGN SYS004,DISK,VOL=YYYYYY,SHR      TRACE FILE ASSIGNMENT
// ASSGN SYS008,DISK,VOL=YYYYYY,SHR      NCP LOAD FILE ASSIGNMENT
// ASSGN SYS012,DISK,VOL=YYYYYY,SHR      NCP DIAGN FILE ASSIGNMENT

                   SPECIFY THE IDENTIFIERS OF THE VOLUMES WHERE THE
                   INDICATED FILES RESIDE. SYS000 MUST REMAIN UN-
                   ASSIGNED IT IS INTERNALLY USED BY VTAM.
                   THE TRACE FILE IS ADDRESSED AS SYS001 BY THE TRACE
                   PROGRAM AND AS SYS004 BY THE TPRINT PROGRAM.
                   THIS JOB ASSUMES, THAT THE APPROPRIATE
                   LABELS HAVE BEEN LOADED PREVIOUSLY AS SYSTEM OR
                   PARTITION STANDARD LABELS.
// LIBDEF  PHASE,SEARCH=(YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              PRD1.CONFIG,PRD1.BASE,PRD1.SAVE),
              CATALOG=YYYYYYY.YYYYYYYY,PERM
```

Figure 94 (Part 1 of 2). ACF/VTAM Startup Jobstream VTMSTRT

```
                    DEFINE THE PERMANENT LIBRARY SEARCH CHAIN FOR THE
                    TYPE PHASE MEMBERS.
                    DON'T EXCLUDE THE SYSTEM USED SUBLIBRARIES OR
                    CHANCES ARE, THAT SOME FUNCTIONS WHICH ARE CREATED
                    BY DIALOGS DON'T WORK ANYMORE.

                    DEFINE THE SUBLIBRARY WHICH WILL BE USED BY THE
                    LINKAGE EDITOR TO CATALOG PHASES WHITHIN THE
                    CATALOG ENTRY ABOVE.

// LIBDEF     OBJ,SEARCH=(YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              PRD1.CONFIG,PRD1.BASE,PRD1.SAVE),PERM

                    DEFINE THE PERMANENT LIBRARY SEARCH CHAIN FOR THE
                    TYPE OBJ MEMBERS.
                    DON'T EXCLUDE THE SYSTEM USED SUBLIBRARIES OR
                    CHANCES ARE, THAT SOME FUNCTIONS WHICH ARE CREATED
                    BY DIALOGS DON'T WORK ANYMORE.
// LIBDEF SOURCE,SEARCH=(YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              YYYYYYY.YYYYYYYY,YYYYYYY.YYYYYYYY,
              PRD1.CONFIG,PRD1.BASE,PRD1.SAVE),PERM

                    DEFINE THE PERMANENT LIBRARY SEARCH CHAIN FOR THE
                    TYPE SOURCE MEMBERS.
                    DON'T EXCLUDE THE SYSTEM USED SUBLIBRARIES OR
                    CHANCES ARE, THAT SOME FUNCTIONS WHICH ARE CREATED
                    BY DIALOGS DON'T WORK ANYMORE.

          OTHER PREDEFINED TYPES ARE A-Z,0-9,#,$,@ AND PROC. ENTER
          SIMILAR CHAINS AS ABOVE FOR EITHER TYPE. YOU MAY ALSO SPE-
          CIFY ANY CHAIN FOR USER DEFINED (ALPHANUMERIC) TYPES.

// LIBDEF    DUMP,CATALOG=SYSDUMP.YYYYYYYY,PERM

                    DEFINE THE PERMANENT SUBLIBRARY FOR THE
                    TYPE DUMP MEMBERS.

          IT IS RECOMMENDED TO USE LIBDEF TYPE PROC CHAINS WITHIN THE
          EFFECTED JOB STREAMS. SINCE SYSTEM RESTRICTIONS APPLY FOR
          SPECIFYING THIS TYPE WITHIN PROCEDURES.

// EXEC ISTINCVT
/&
* $$ EOJ
```

Figure 94 (Part 2 of 2). ACF/VTAM Startup Jobstream VTMSTRT

Starting ACF/NCP

After you initiated ACF/VTAM, activate the ACF/VTAM path definitions for your ACF/NCP subarea before you attempt to load the ACF/NCP program. ACF/NCP is actually started as described in "Loading ACF/NCP" on page 152.

Starting VSE/POWER/PNET

In order to activate job and file transfer capabilities, you have to start PNET on each node. On each node, you start the PNET application of the other node by issuing, for example:

```
PSTART PNET BOEBSYS2
```

Session Initialization

A **session** is established when a terminal (LU) makes a request to interact with an application program (LU). If the application program makes that request, this is called a **logon**.

There are four types of logon. Choose the ones you want to use in your environment. A logon can be initiated:

- By ACF/VTAM automatically to the application program named in the LOGAPPL=xxxxxxxx LU definition statement (see under major node name VTMCA1 in Figure 42 on page 89) or via the VTAM Application Selection Menu created from VTAM6 shown in "VTAM6 - Application Selection Menu" on page 108.

- By an application program. In this case, CICS/VS, for example, simulates a logon on behalf of the SLU, if you coded CONNECT=AUTO in the TCT TYPE=TERMINAL macro **and the terminal is powered on**.

- By a terminal (called secondary logical unit - SLU).

  The terminal issues a request which causes it to be logged on to the application program. You do this by entering:

  - LOGON APPLID(DBDCCICS)

  at the terminal which has been activated by ACF/VTAM (said to be in SSCP-LU session)

  or

  enter the appropriate application logon command represented by perhaps an abbreviated command shown in an application panel (see parts VTAM5 and VTAM6 in "Completing the Skeleton" on page 102).

- The operator specifying certain LUs to be logged on to certain application programs by entering:

  - V NET,ACT,ID=luname,LOGON=DBDCCICS

  at the console.

LU-LU Sessions

There are four session types which ACF/VTAM can establish. They are:

- SSCP-PU
- SSCP-LU
- LU-LU
- SSCP-SSCP (for multiple-domains only)

For the LU-LU session type it is recommended that, if you have **only one CICS/VS** installed, use the **automatic logon** technique. If you have **more than one CICS/VS** installed, use the **SLU-initiated** technique. If you have **several application programs** installed which can be accessed from one terminal and you **code your own USS table**, users can more easily select those application programs from a selection panel. To establish user-defined ACF/VTAM tables, see "USS Table Definition" on page 151.

To establish a session, ACF/VTAM needs session parameters (such as RUSIZE and others) which are obtained from the CICS/VS TCT macro. Therefore, a separate ACF/VTAM LOGMODE table entry is not needed. In certain cases, however, take NCCF for example, you should have a separate LOGMODE table. For how to code such a table, see "LOGMODE Table Definition" on page 151.

Controlling Your Network (including PNET)

After you have brought up ACF/VTAM, you can control all major and minor nodes of the network by issuing activating or deactivating commands for these nodes.

For example, in order to activate your connections, you must activate all major and minor nodes using the VARY NET,ACT command. The format is:

```
VARY NET,ACT,ID=xxxxxxxx
```

Use the following commands to start:

```
VARY NET,ACT,ID='linename'
VARY NET,ACT,ID='puname'
and, for PNET,
PSTART PNET, 'node-id'
```

where ID is the node name cataloged in the ACF/VTAM source library. If you activate a **major node** and if you generated the minor nodes under it with ISTATUS=ACTIVE, the minor nodes will become active also.

Similarly, if you want to deactivate a node, use the VARY NET,INACT command. The format is:

```
VARY NET,INACT,ID=xxxxxxxx
```

For example, to deactivate application program PAYROLL, say:

```
VARY NET,INACT,ID=PAYROLL
```

Note: If you have updated the ACF/VTAM configuration entries, be sure to deactivate them and then reactivate them to get the changes online.

Activating Path Definitions

All paths which you defined for the SNA subareas and cataloged in the ACF/VTAM source library must be activated using the VARY NET,ACT command. To activate PATH1, say:

```
VARY NET,ACT,ID=PATH1
```

Similarly, if you want to deactivate a path, use the VARY NET,INACT command. The format is:

```
VARY NET,INACT,ID=xxxxxxxx
```

Diagnosing the Network

ACF/VTAM allows you to test communication links, display ACF/NCP storage, perform various traces, and collect tuning statistics. You can check into buffer contents, buffer usage, I/O activity in the network, and various internal operations. To activate a trace, use the F NET,TRACE command. For example, to trace the I/O activity of an ACF/NCP node, say NCPNEW, you would enter:

```
F NET,TRACE,ID=NCPNEW,TYPE=IO
```

This places the output of the I/O trace in the ACF/VTAM trace file. (See "ACF/VTAM Startup" on page 154 for how to define this trace file.)

Session Termination

Three types of session termination are possible depending on who initiates the request.

1. SLU-requested session termination

   In this case, the operator at a display terminal (SLU) enters a logoff command which disconnects him/her from the application program. The format is:

   ```
   LOGOFF [APPLID(appl name)] [TYPE(COND|UNCOND|FORCE)]
          [HOLD(YES|NO)]
   ```

   where you must enter the application name from which to log off, whether the type of LOGOFF is conditional, unconditional (default), or forced, and whether or not the SSCP-PU, that is, the higher ranking, session is to be maintained (default) or not.

2. Application program-requested session termination

   In this case, the application program wants to terminate the session with a terminal (SLU). This could be activated by a terminal operator entering CSSF LOGOFF or by the master terminal operator disconnecting all connected terminals or only specific ones. Since these commands do not interrupt the SSCP-LU session, ACF/VTAM commands can be entered again from any terminal.

3. Operator-requested session termination

   In this case, the ACF/VTAM operator disconnects a specific logical unit from a specific application program. He/she enters, at the system console:

   ```
   V NET,TERM,ID=luname

         or

   V NET,INACT,ID=luname
   ```

   The latter command actually terminates the SSCP-LU session first, and with it of course, the lower ranking LU-LU session.

Terminating the Network

To shut down the network, use the HALT command. The format is:

```
HALT NET
```

Two types of shutdown are possible. In a **normal** shutdown, ACF/VTAM requests application programs to disconnect themselves when convenient, they are not cancelled immediately. Therefore, when you issue the HALT command, currently connected programs are not immediately forced to disconnect themselves; only those application programs that do not use ACF/VTAM at that time cannot initiate a session after the HALT is given.

If you want to shutdown your network **as quickly as possible**, enter:

```
HALT NET,QUICK
```

application programs not using ACF/VTAM can no longer access it. Existing I/O requests are processed but new I/O requests are not accepted and no new LU-LU sessions are possible. HALT NET,QUICK issues VARY NET,INACT commands with the IMMEDIATE option for every active major node.

PC Data Transfer and Retrieval

From the *Move Utilities Master Menu* dialog

(fast path 38 - see Figure 95 on page 160), you can:

- Send data from a PC to the host via the Host Transfer File.
- Receive data on a PC from the Host Transfer File.

- Move VSAM ESDS, VSAM KSDS, and VSE/ICCF member data to the Host Transfer File.
- Move Host Transfer File data to VSAM ESDS and KSDS files as well as to VSE/ICCF members.
- Access host applications from the PC (in 3278/9 emulation mode only).

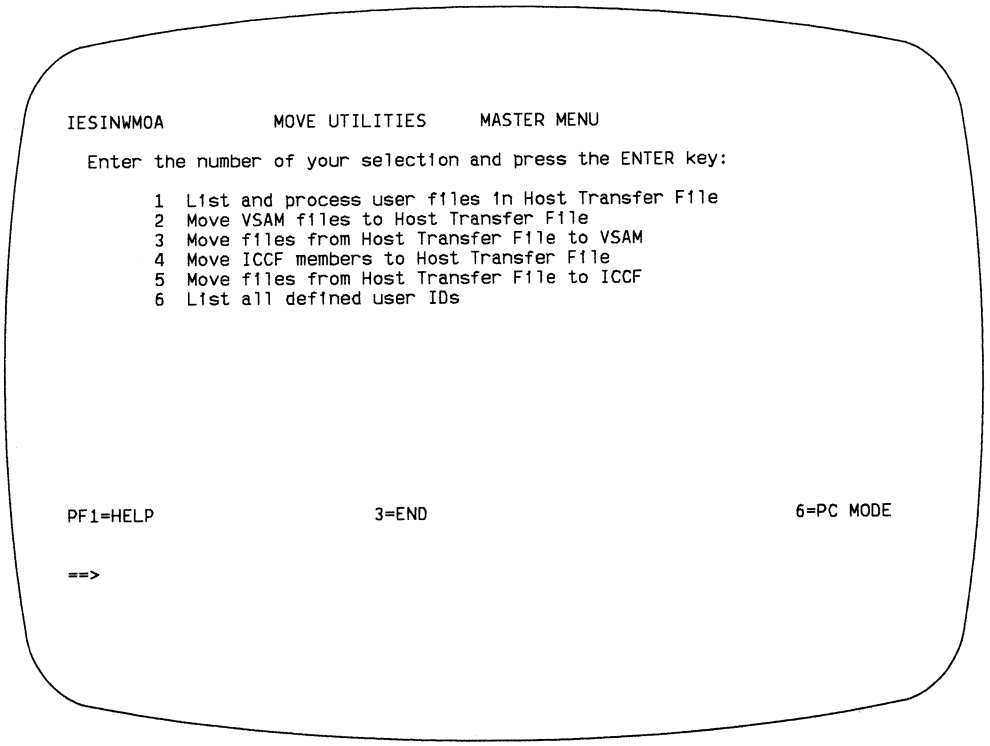

Figure 95. PC Move Utilities - Master Menu

Cross-Domain Networking

Remote Operating of System Console on VSE/ICCF Station

You can view the console of an interconnected VSE/SP system and enter certain commands for that system.

After you do a cross-domain logon, the procedure to select the dialog and to work with the dialog is exactly the same as if you were a local user of the interconnected system (for details, see *VSE/SP System Use*).

If the name of your terminal-id at the interconnected system starts with an 'X', you will see the name of the system in the network on the first line of the console display.

NCCF Tailoring

Figure 96 shows how to define 5 NCCF operator terminals.

```
                NCCFID      DOMAINID=NCCF1,DMNPSW=NCCFPW
OPS             OPTIONS     VERIFY=NORMAL
                POSPOOL     5
                CDMNSESS    0
                MAXSPAN     0
                MAXABEND    2
                MAXLOGON    3
NPDATSK         TASK        MOD=DSIZDST,TSKID=BNJDSERV,INIT=Y,PRI=1,MEM=BNJMBDST
NCCFLOG         TASK        MOD=DSIZDST,TSKID=DSILOG,PRI=1,MEM=LOGREF,INIT=Y
                ACCESS      METHOD=V,LEVEL=2
                END
```

Figure 96. Defining NCCF Operator Terminals

These terminals must be defined to ACF/VTAM. Figure 97 on page 162 shows how to make all NCCF definitions known to ACF/VTAM. NCCF1 is the main task application. This name must correspond to the name specified in the NCCFID statement. The second application is NCCF1PPT where ACF/VTAM adds 'PPT' to the application name. The applications defined for the 5 network operator are named NCCF1000 through NCCF1004; you must include them in the application program major node under APPCONxx.B

```
                .
                .
                .
                .
NCCF1           APPL      AUTH=(ACQ,PASS,NOPO),PRTCT=NCCFPW,EAS=6
NCCF1PPT        APPL      AUTH=(PPO),PRTCT=NCCFPW,EAS=1
NCCF1000        APPL      AUTH=(SPO,ACQ),PRTCT=NCCFPW,EAS=6
NCCF1001        APPL      AUTH=(SPO,ACQ),PRTCT=NCCFPW,EAS=6
NCCF1002        APPL      AUTH=(SPO,ACQ),PRTCT=NCCFPW,EAS=6
NCCF1003        APPL      AUTH=(SPO,ACQ),PRTCT=NCCFPW,EAS=6
NCCF1004        APPL      AUTH=(SPO,ACQ),PRTCT=NCCFPW,EAS=6
                .
                .
Dnncnnn         LOCAL     CUADDR=082,                              X
                          TERM=3277,                               X
                          FEATUR2=(MODEL2,SELPEN),                 X
                          ISTATUS=ACTIVE,                          X
                          LOGAPPL=NCCF1,                           X
                          DLOGMOD=DSILGMOD
                .
                .
                .
```

Figure 97. Defining NCCF to ACF/VTAM

If you run NCCF as a subtask of ACF/VTAM, you must increase the size of the partition. You should always consider running NPDA in that partition, therefore, the SIZE value must take this additional product into account (also refer to *NCCF Customization*).

Submitting Jobs to Other Systems

If your system is part of a network, you can submit locally created jobs for remote processing. To use the dialogs provided with VSE/SP to help you do that, type 3 on FUNCTION SELECTION, 9 on OPERATIONS, and 3 on NETWORK OPERATIONS.

The job you submit must be stored in a VSE/ICCF library member. Have the following information ready when you invoke the dialog:

- Library number and name of VSE/ICCF member and password, if applicable.
- Node-id of the system to process the job.
- Node-id of the system to receive the output.

VSE/POWER uses these unique node-ids to route data between systems. There are actually two panels which you have to fill out; the first with the member name and password, if necessary, and the second with job-specific processing and routing information. Make sure that the job you want to submit does not have a destination parameter with parentheses on the JECL statements. VSE/SP dialogs do not create jobstreams with these parameters. If destination parameters exist for non-dialog created jobs, they should not contain parentheses.

For the second panel, you need the following information:

- Node-id of the receiving system

  Initially, the node-id specified in the VSE/POWER JCL of the job is displayed on the panel. If the job specifies no node-id, your node-id displays on the panel; just replace it with the node-id of the receiving system. If you type a '?' in the node-id field, you get a listing of possible nodes to send your job to.

- List output parameters

  The displayed values for job class, print class, and disposition were created when the job was created. Change these values, if you have to.

  If you send a job to an MVS/SP system, the values in fields 4 through 10 are ignored. This includes the defaults and the values you would provide.

JOB CLASS = A means that the job is to be processed as soon as a partition becomes available.

List output from VSE/SP dialog-generated jobs is sent to your list queue rather than to the system printer.

To process jobs received from other systems, type **3** on FUNCTION SELECTION, then **2** on OPERATIONS.

Transferring/Retrieving Files to/from Other Systems

If you do not provide your own JCL for exchanging a VSE/VSAM file between your VSE/SP system and another node, VSE/SP generates a job statement as well as job control for storing and retrieving the VSE/VSAM file.

The JCL statements to be stored in the source library relating to a JCL-id are specified in part SP3.

You can transfer VSE/VSAM files or VSE/ICCF library members to other systems or receive copies of VSE/VSAM files or VSE/ICCF library members from other systems. Both KSDS and ESDS files can be sent or received. A maximum record length of 32K blocks is supported.

Transferring VSE/VSAM Files

To use the VSE/SP-provided dialogs, select FUNCTION SELECTION and type **3** On OPERATIONS, type **9**; on TRANSFER FILES/JOBS, type **1.** To send a VSE/VSAM file to another system, you need the:

- Node-id of the receiving system. When you type '?', a list of possible node-ids is displayed.

- Id for the file at your system and (for files not in the master catalog) name of the user catalog.

- Id for the file at the receiving system and (for files not in the master catalog) name of the user catalog.

Both of these files must already be defined. Transferring a file loads the defined file at the receiving location. In addition, you may need to enter a:

- JCL-id

  JCL-ids are used to send a file to another node. To send a file to an MVS system, you must enter a JCL-id.

  JCL-ids are defined at system network installation. To see which JCL-id can be used for the specified node, enter a '?' in the field.

- VM user-id

  To send a file to a VM/SP system,you must enter a valid user-id for that system.

  The output stream created by the dialog is transferred to your VM reader queue **not to any of your guest machines**. You can modify the output stream and transfer it to the guest machine.

  Note: The above applies only to guest machines which do not have the PNET feature (for VSE) or the JES Networking Interface (for MVS) installed.

The system does not store the file transfer job in a VSE/ICCF member. Once you press ENTER, it begins processing the job. After using the dialog to transfer a file, check the LST queue for an entry named IESXFILE. It shows if the file was copied successfully. Then check the operator console log to see if the file was sent. Later you receive a listing from the other system. This listing shows if the file was loaded successfully. The listing is also names IESXFILE unless you submitted the job to an MVS system. In that case, the listing has a name based on the JCL-id.

Transferring VSE/ICCF Members

To use the VSE/SP-provided dialogs, select FUNCTION SELECTION and type **3**. On OPERATIONS, type **9**; on TRANSFER FILES/JOBS, type **1**. To send a VSE/ICCF member to another system, you need:

- Node-id of the receiving system.
- Member name.
- Library name.

As described above under **JCL-id** and **VM user-id**, you need a JCL-ID to send a member to an MVS system or a VM user-id to send a member to a VM/SP system. Do not use 'RELATED-JCL-ID' for that. For receiving systems, the member is transmitted in 80-byte records to the system's PUNCH queue. The name of the job in the queue is the member name. The

member can be recovered at the receiving system via the *Manage Batch Queues* (fast path 32) dialog.

For MVS systems, VSE/SP creates a sequential file using IEBGENER and the following DD statement for the output file:

```
//SYSUT2  DD  DSNAME=filename,
//   UNIT=SYSDA,SPACE=(2000,(40,40),RLSE),DISP=(NEW,CATLG),
//   DCB=(RECFM=FB,LRECL=80,BLKSIZE=2000)
```

The default for 'filename' is a system-generated name with the form:

```
SSXICCF.IDxxxx.Dyymmdd.Thhmss
```

where

```
IDxxxx = network node-id of the sending VSE/SP system
Dyymmdd = date (year/month/day)
Thhmss = time (hour/minute/second)
```

Use the default or your own name. If you choose the latter, enter the name in the TO VSAM FILE line of the panel.

Retrieving VSE/VSAM Files

To use the VSE/SP-provided dialogs, select FUNCTION SELECTION and type **3**. On OPERATIONS, type **9**; on TRANSFER FILES/JOBS, type **2**. To get a copy of a VSE/VSAM file from another system, you need:

- Node-id of the system that has the file.
- Id of the file at the other system and name of the user catalog, if it is not in the master catalog.
- Id of your file to receive the copy.

Both of these files must already be defined.

Retrieving a file only loads it into the file identified in the TO VSAM FILE field. If you do not fill in that field, VSE/SP tries to load the copy into a file with the id of the FROM VSAM FILE field.

In addition, you may need to enter a 'RELATED JCL-ID' if the file does not reside in the VSAM master catalog. This id is required to send an MVS system a request for a file. It also may be used when retrieving a file from an VSE/SP system.

After you submit the job for processing, three listings give you status information:

- The first is produced when VSE/SP builds the jobstream and sends it to the system specified in 'FROM NODE-ID'.
- The second is sent from the other system. It shows whether the copy of the file was produced.

- The third listing tells you whether the copy was loaded successfully at your system.

Unless you send the job to an MVS system, all of these listings will have the name IESXFILE in the LST queue followed by a number. Print these listings, and read through them.

Retrieving VSE/ICCF Members

To process VSE/ICCF members received from other systems, type **3** on FUNCTION SELECTION, then **2** on OPERATIONS. To get a copy of a VSE/ICCF member from another location, you need:

- Node-id of the system that has the member.
- Member name at that location.
- Library number.

  If you omit library number, all VSE/ICCF libraries are searched.

When you retrieve a member from a VSE/SP system, it will be sent to your PUNCH queue.

To get data from an MVS system and put it into a VSE/SP library member, personnel at the MVS system must send punch output to your system via JES networking.

Appendix A. Configuration Worksheets

Note: Tear out the worksheets and copy them if necessary.

Local SNA Display Products Worksheet

Local SNA Display Products
Worksheet

Channel Unit Address	PU	LUs
___	_____	___ ___
___	_____	___ ___

Figure 98. Local SNA Display Products Worksheet

ICA and RJE Worksheets

I C A Worksheets

Channel Unit Address/ Link Nr.	Protocol	Type (*)
________	________	___
________	________	___
________	________	___
________	________	___
________	________	___
________	________	___
________	________	___
________	________	___

* 1 = leased
2 = switched
3 = cross—domain

Figure 99 (Part 1 of 3). ICA-Connected Devices - Configuration Worksheets

Describing the Links

Link Nr. ____

	PU	PU	PU	PU	PU	PU	PU	PU
Station Address	__	__	__	__	__	__	__	__

Link Nr. ____

	PU	PU	PU	PU	PU	PU	PU	PU
Station Address	__	__	__	__	__	__	__	__

Link Nr. ____

	PU	PU	PU	PU	PU	PU	PU	PU
Station Address	__	__	__	__	__	__	__	__

Link Nr. ____

	PU	PU	PU	PU	PU	PU	PU	PU
Station Address	__	__	__	__	__	__	__	__

Figure 99 (Part 2 of 3). ICA-Connected Devices - Configuration Worksheets

Physical Units and Associated Logical Units

Link Nr. ____ PU ____ Device ____ Subsystem Group ____

Station Identification Number _____

ID—Block Number _____

Opt. Nr.	Device/ Port	Opt. Nr.	Device/ Port	Opt. Nr.	Device/ Port	Opt. Nr.	Device/ Port

Figure 99 (Part 3 of 3). ICA-Connected Devices - Configuration Worksheets

37X5(NCP) Worksheets

37X5 (NCP) Worksheet

This information is needed for all communication controllers unless otherwise indicated.

NCP Name _____

Host Channel Unit Address _____

NCP Subarea Number _____

Communication Controller

__ 1... 3705—II
__ 2... 3705—80
__ 3... 3725—1
__ 4... 3725—2

Storage Size:

3705—II only	3725—1 only
__ 1....128K	__ 1....512K
__ 2....160K	__ 2....768K
__ 3....192K	__ 3....1024K
__ 4....224K	
__ 5....256K	
__ 6....320K	
__ 7....384K	
__ 8....448K	
__ 9....512K	

Figure 100 (Part 1 of 3). 37X5(NCP)-Connected Devices - Configuration Worksheets

Channel Adapters Types for 3705 — II

	Base Module	Expansion Module		Base Module	Expansion Module	
1	Type 1	—	10	Type 3 —	Type 3	—
2	Type 2	—	11	Type 4 Type 2	—	—
3	Type 3	—	12	Type 4 —	Type2	—
4	Type 4	—	13	Type 4 —	Type3	—
5	Type 1	Type 2	14	Type 4 Type 4	—	—
6	Type 1	Type 3	15	Type 4 —	Type 4	—
7	Type 2	Type 2	16	Type 4 Type 4	—	Type 4
8	Type 2	Type 3	17	Type 4 —	Type 4	Type 4
9	Type 3	Type 2	18	Type 4 Type 4	Type 4	Type 4

Channel Adapters for 3705—80 and 3725—1 only:

3705—80

__ Type 1
__ Type 4
__ Type 4 Type 4

3725—1

	Adapter Yes	Adapter No	2—Proc. Sw. Yes	2—Proc. Sw. No
0	_	_	_	_
1	_	_	_	_
2	_	_	_	_
3	_	_	_	_
4	_	_	_	_
5	_	_	_	_

Scanner Types for 3705—II only:

1. __ No Scanner

2. Type 2 Scanner only:
   (up to 4 speeds)

   Base: _____ _____ _____ _____
   1st. Exp.: _____ _____ _____ _____
   2nd. Exp.: _____ _____ _____ _____
   3rd. Exp.: _____ _____ _____ _____

3. Type 3 Scanner only:
   (1 of 3 combinations)
   __ 1... 150, 600, 1200
   __ 2... 150, 600, 1200, 2000
   __ 3... 150, 600, 1200, 2400

Figure 100 (Part 2 of 3). 37X5(NCP)-Connected Devices - Configuration Worksheets

SDLC Links:

Addr.	HDX/FDX	Speed	Mod. Clock.	Type	Carr.Fac.

Physical Units and Associated Logical Units

Link Nr. _____ PU _____ Device _____ Subsystem Group _____

Station Identification Number _____

ID-Block Number _____

Opt. Nr.	Device/ Port	Opt. Nr.	Device/ Port	Opt. Nr.	Device/ Port	Opt. Nr.	Device/ Port

Figure 100 (Part 3 of 3). 37X5(NCP)-Connected Devices - Configuration Worksheets

370X(EP) Worksheet

370X (EP) Worksheet

This information is needed for all communication controllers unless otherwise indicated.

Controller Model __ 3704 __ 3705–1 __ 3705–2

Channel Adapter
__ Type 1: for S/360 or S/370 byte–multiplexer channels
__ Type 4: for S/360 byte–multiplexer or for S/370 byte–multiplexer, block multiplexer, or selector channels

Number of Channel Adapters

for 3704	for 3705–1/3705–2
__ one Type 1	__ one Type 1
__ one Type 4	__ one Type 4
	__ two Type 4

Lines __ switched __ non–switched

Subchannel Address Range

___ Upper Limit ___ Lower Limit

Scanner Types

3704 (max. 2)	3705–1 (max. 4)	3705–2 (max. 4)
__ Type 1 or 2	__ Type 1 or 2 or 3	__ Type 2 or 3

Wraparound Test Line Address ___

Scanner Speeds _____ _____ _____ _____ _____ _____

Line Definition	Line Name	Line Address	Line Speed
	_____	_____	_____

Terminal Types

__ 2703	__ 3275
__ 2770	__ 3277
__ 3741	__ 3278
__ 3747	__ 3284
__ 3780	__ 3286

Subchannel Address _____

Figure 101. 370X(EP)-Connected Devices - Configuration Worksheet

Appendix B. Naming Convention

The ACF/VTAM resource names created by the dialogs are based on the following naming convention:

1. Defining links - LNKcuusa

   where

   - cuu = hexadecimal link address
   - sa = subarea number (default is 01 in a single-domain network)

   (for example, see line 5 on Figure 42 on page 89).

2. Defining physical units - DPncuusa for display products, ISncuusa for industry system products, and WSncuusa for workstation products

   where

   - n = control unit number (1 through 8)
   - cuu = hexadecimal link address
   - sa = subarea number (default is 01 in a single-domain network)

   (for example, see line 8 on Figure 42 on page 89 and line 7 on major node name VTMCA3 on Figure 42 on page 89).

3. Defining logical units - Lpncuusa

   where

   - p = port identifier 0 through F for ports 1 through 15 and J through Z (except O) for ports 16 through 31
   - n = control unit number (1 through 8)
   - cuu = hexadecimal link address
   - sa = subarea number (default is 01 in a single-domain network)

   (for example, see line 10 on Figure 42 on page 89).

Appendix C. Supported Communication Devices

Processors

You can install VSE/SP as an independent system on IBM processors with a minimum of 1 megabyte of processor storage. This includes:

IBM System/370 Processors	IBM 4300 Processors
138	4321
145 (See Note 1.)	4331
148	4341
155-II (See Note 1.)	4361
158	4381
3031	
3033 (See Note 2.)	

Notes:

1. *Models 145 and 155-II require the optional floating point feature. Model 145 also requires the optional CPU timer and clock comparator.*

2. *The IBM 3033 is only supported for operation in single processor mode.*

The maximum processor storage size supported by VSE/SP is 16 megabytes. When installed under VM/SP, VSE/SP also can run on other processors than those listed above. Two megabytes of processor storage are required, however.

Local Display Stations

VSE/SP requires at least one local display station that: (a) has a 24-line screen (80 characters per line) and at least 10 PF keys and (b) is supported by ACF/VTAM or BTAM-ES, whichever you chose at initial installation.

Local installation of the following display stations is supported by a dialog of the Interactive Interface:

IBM 3178, Models C10 and C20
IBM 3179, Model 1
IBM 3180, Model 1
IBM 3277, All models with 24-line screens

IBM 3278, Models 2 - 5
IBM 3279, Models S2A, S2B, S3A, S3B, S3G, 2X, and 3X
IBM 8775, Models 1 and 2

Note: The Interactive Interface does not fully support the IBM 3278-5 (which has a screen size of 27 lines, 132 characters per line).

IBM Personal Computers

IBM 3270 Personal Computers or IBM Personal Computers with a 3278/79 Emulation Adapter can be used as intelligent workstations. These devices can be attached locally via a processor's display/printer adapter or via a 3274 control unit. They can be remotely attached via a 3274 control unit.

An IBM Personal Computer that has an SDLC Communication Adapter and the SNA 3270 Emulation and RJE Support program product installed can be attached as: (a) an IBM 3274-51C control unit or (b) an IBM 377X RJE workstation. When attached as a 3274-51C, it is supported as a remote 3278-2 display station.

Communication Control Units

Support is available for the full range of devices that can be attached to an integrated communication adapter of an IBM 4300 processor or to these communication control units:

IBM 2701
IBM 2702
IBM 2703
IBM 3272
IBM 3274, Models 1A, 1B, and 1D
IBM 3704
IBM 3705
IBM 3725
IBM 3791L (A local communication controller.)

Remote Devices/Subsystems

VSE/SP provides dialogs to help you install the following devices over SDLC link connections. For information about attaching other devices via SDLC links or devices that use BCS line protocol, contact your IBM representative.

Device / Subsystem	Control Unit
3270 Information Display System (See Note)	3274-21C 3274-31C, 51C 3274-41C, 61C 3274-52C 3276-12, 13, 14
3770 Data Communication System	3771-1, 2, 3 3773-1, 2, 3 3774-1, 2 3775-1 3776-1, 2 3777-1
3600/4700 Finance Communication System	3601 3602 4701
3630/3640 Plant Communication System	3631 3632 8100
3650 Retail Store System	3651-A50, B50
3660 Supermarket System	3651-A60, B60 3661
3680 Programmable Store System	3684
IBM Personal Computer	3274 or 3274-51C
Scanmaster	8815
3790 Communication System	3791
5520 Administrative System	5520
5280 Distributed Data System	5280
6670 Information Distributor	6670
8100 Information System	8130 8140
8775 Display Terminal	8775-11, 12
Series/1	Series/1
System/34	System/34
System/38	System/38

Note: The following devices can be attached to control units supported for the 3270 Information Display System:

IBM 3262, Models 3 and 13
IBM 3268, Model 2
IBM 3178, Models C10 and C20
IBM 3278, Models 2 - 5
IBM 3279, Models S2A, S2B, S3A, S3B, S3G, 2X, and 3X
IBM 3287, Models 1, 2, 1C, and 2C
IBM 3289, Models 1 and 2
IBM 3290
IBM 5210, Models G01 and G02

Appendix D. Job Skeletons

Cross-Domain Network Skeleton SKDTRNET

```
CATALOG SKDTRNET.B EOD=/( REPLACE=YES
// EXEC LIBR
 /* ---------------------------- BEGIN OF NETWORK DEFINITION SKELETON

    VTAM DEFINITIONS

    --VTAM1-------------------------------- X-DOMAIN LINE CONNECTIONS
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VTMCA2.B REPLACE=YES
*
VTMCA2   VBUILD    TYPE=CA
--V101-- GROUP     DIAL=NO,ISTATUS=ACTIVE,LNCTL=SDLC
--V102-- LINE      ADDRESS=--V103--,MAXBFRU=(10,10)
--V104-- PU        PUTYPE=--V105--,SUBAREA=--V106--
*
/+
 /* L E G E N D
    --V101-- :   MINOR NODE NAME OF THE LINE GROUP
    --V102-- :   MINOR NODE NAME OF THE COMMUNICATION LINE
    --V103-- :   PHYSICAL LINE ADDRESS
    --V104-- :   MINOR NODE NAME OF THE PHYSICAL UNIT
    --V105-- :   ATTACHED PHYSICAL UNIT TYPE (4 FOR NCP, 5 FOR VTAM)
    --V106-- :   SNA SUBAREA NUMBER OF ATTACHED PHYSICAL UNIT

    N O T E  :   PLACE AN * IN FRONT OF THE VBUILD, GROUP, LINE AND
                 PU STATEMENTS WHEN THE VSE/SP SYSTEM CONFIGURATION
                 HAS NO COMMUNICATION CONTROLLER. DO NOT DELETE THIS
                 PART OF THE NETWORK DEFINITION.
```

Figure 102 (Part 1 of 15). Network Definition Skeleton SKDTRNET

```
   ---VTAM2------------------------------------- X-DOMAIN PATH TABLE
CATALOG VTMPATH.B REPLACE=YES
*
VTMPATH   PATH DESTSA=(--V201--,--V202--,...),                          *
               ER0=(--V203--,--V204--),                                 *
               ER1=(--V203--,--V204--),                                 *
               ER2=(--V203--,--V204--),                                 *
               ER3=(--V203--,--V204--),                                 *
               ER4=(--V203--,--V204--),                                 *
               ER5=(--V203--,--V204--),                                 *
               ER6=(--V203--,--V204--),                                 *
               ER7=(--V203--,--V204--),                                 *
               VR0=--V205--,                                            *
               VR1=--V205--,                                            *
               VR2=--V205--,                                            *
               VR3=--V205--,                                            *
               VR4=--V205--,                                            *
               VR5=--V205--,                                            *
               VR6=--V205--,                                            *
               VR7=--V205--
*
/+
 /* L E G E N D
    --V201-- :   SNA SUBAREA NUMBER OF DESTINATION-NODE 1
    --V202-- :   SNA SUBAREA NUMBER OF DESTINATION-NODE 2
    ...      :   SNA SUBAREA NUMBER OF DESTINATION-NODE ...
    --V203-- :   SNA SUBAREA NUMBER OF ADJACENT PASS-THRU NODE
    --V204-- :   SNA TRANSMISSION GROUP NUMBER FOR THE EXPLICIT
                 ROUTE BEING DEFINED
    --V205-- :   SNA EXPLICIT ROUTE NUMBER TO WHICH THE VIRTUAL
                 ROUTE IS MAPPED


   ----VTAM3------------------------------ X-DOMAIN RESOURCE MANAGER */
CATALOG VTMCDRM.B REPLACE=YES
*
VTMCDRM   VBUILD    TYPE=CDRM
--V301--  CDRM      SUBAREA=--V302--,CDRDYN=YES,                        *
                   ISTATUS=ACTIVE,VPACING=2
--V303--  CDRM      SUBAREA=--V304--,CDRSC=OPT,                         *
                   ISTATUS=ACTIVE,VPACING=2
*
/+
 /* L E G E N D
    --V301-- :   NAME OF OWN SNA CROSS-DOMAIN MANAGER
    --V302-- :   SNA SUBAREA NUMBER OF OWN DOMAIN
    --V303-- :   NAME OF INTERCONNECTED SNA CROSS-DOMAIN MANAGER
    --V304-- :   SNA SUBAREA NUMBER OF INTERCONNECTED DOMAIN
```

Figure 102 (Part 2 of 15). Network Definition Skeleton SKDTRNET

```
   ----VTAM4------------------------------------ X-DOMAIN RESOURCES */
CATALOG VTMCDRS.B REPLACE=YES
*
VTMCDRS   VBUILD    TYPE=CDRSC
--V401--  CDRSC     CDRM=--V402--
*
/+
 /* L E G E N D
    --V401-- :   LU NAME OF RESOURCE IN ANOTHER DOMAIN
    --V402-- :   NAME OF THE CDRM CONTROLLING THAT RESOURCE


   ----VTAM5------------------------------ APPLICATION LOGON COMMANDS */
CATALOG  VTMUSSCD.A   REPLACE=YES
*
A        USSCMD  CMD=A,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V501--
         USSPARM PARM=P2,REP=DATA
*
B        USSCMD  CMD=B,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V502--
         USSPARM PARM=P2,REP=DATA
*
C        USSCMD  CMD=C,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V503--
         USSPARM PARM=P2,REP=DATA
*
D        USSCMD  CMD=D,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V504--
         USSPARM PARM=P2,REP=DATA
*
E        USSCMD  CMD=E,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V505--
         USSPARM PARM=P2,REP=DATA
*
F        USSCMD  CMD=F,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V506--
         USSPARM PARM=P2,REP=DATA
*
/+
 /* L E G E N D
    --V501-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION A
    --V502-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION B
    --V503-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION C
    --V504-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION D
    --V505-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION E
    --V506-- :   NAME OF APPLICATION CORRESPONDING TO SELECTION F
```

Figure 102 (Part 3 of 15). Network Definition Skeleton SKDTRNET

```
   ----VTAM6------------------------------ APPLICATION SELECTION MENU */
CATALOG  VTMUSSTZ.A   REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON SNA TERMINALS ONLY
*
         DC    X'15'                 NEW LINE (ROW 5)
         DC    CL9' '
         DC    CL2'A '
         DC    CL8'--V601--'
*
         DC    X'15'                 NEW LINE (ROW 6)
         DC    CL9' '
         DC    CL2'B '
         DC    CL8'--V602--'
*
         DC    X'15'                 NEW LINE (ROW 7)
         DC    CL9' '
         DC    CL2'C '
         DC    CL8'--V603--'
*
         DC    X'15'                 NEW LINE (ROW 8)
         DC    CL9' '
         DC    CL2'D '
         DC    CL8'--V604--'
*
         DC    X'15'                 NEW LINE (ROW 9)
         DC    CL9' '
         DC    CL2'E '
         DC    CL8'--V605--'
*
         DC    X'15'                 NEW LINE (ROW 10)
         DC    CL9' '
         DC    CL2'F '
         DC    CL8'--V606--'
*
/+
CATALOG VTMUSSTX.A REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON NON-SNA TERMINALS ONLY
*
*
         DC    X'11'                 SET BUFFER ADDRESS ORDER
         DC    X'C5C9'               ROW 5 COLUMN 10
         DC    X'1D'                 START FIELD ORDER
         DC    X'F8'                 PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'A '
         DC    X'1D'                 START FIELD
         DC    X'F0'                 PROTECT SKIP NORMAL
         DC    CL8'--V601--'
```

Figure 102 (Part 4 of 15). Network Definition Skeleton SKDTRNET

```
*
         DC    X'11'                    SET BUFFER ADDRESS ORDER
         DC    X'C6D9'                  ROW 6 COLUMN 10
         DC    X'1D'                    START FIELD ORDER
         DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'B '
         DC    X'1D'                    START FIELD
         DC    X'F0'                    PROTECT SKIP NORMAL
         DC    CL8'--V602--'
*
         DC    X'11'                    SET BUFFER ADDRESS ORDER
         DC    X'C7E9'                  ROW 7 COLUMN 10
         DC    X'1D'                    START FIELD ORDER
         DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'C '
         DC    X'1D'                    START FIELD
         DC    X'F0'                    PROTECT SKIP NORMAL
         DC    CL8'--V603--'
*
         DC    X'11'                    SET BUFFER ADDRESS ORDER
         DC    X'C8F9'                  ROW 8 COLUMN 10
         DC    X'1D'                    START FIELD ORDER
         DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'D '
         DC    X'1D'                    START FIELD
         DC    X'F0'                    PROTECT SKIP NORMAL
         DC    CL8'--V604--'
*
         DC    X'11'                    SET BUFFER ADDRESS ORDER
         DC    X'4AC9'                  ROW 9 COLUMN 10
         DC    X'1D'                    START FIELD ORDER
         DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'E '
         DC    X'1D'                    START FIELD
         DC    X'F0'                    PROTECT SKIP NORMAL
         DC    CL8'--V605--'
*
         DC    X'11'                    SET BUFFER ADDRESS ORDER
         DC    X'4BD9'                  ROW 10 COLUMN 10
         DC    X'1D'                    START FIELD ORDER
         DC    X'F8'                    PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'F '
         DC    X'1D'                    START FIELD
         DC    X'F0'                    PROTECT SKIP NORMAL
         DC    CL8'--V606--'
*
/+
 /* L E G E N D
    --V601-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)
    --V602-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)
    --V603-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)
    --V604-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)
    --V605-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)
    --V606-- :   APPLICATION NAME (MUST BE 8 CHARACTERS OR LESS)
```

Figure 102 (Part 5 of 15). Network Definition Skeleton SKDTRNET

```
   ----VTAM7----------------SYSTEM ACTIVATION OF COMMANDS AND MESSAGE */
/*
// LIBDEF *,SEARCH=(PRD1.BASE),TEMP
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
   PHASE VTMUSSTR,*
// EXEC ASSEMBLY
         PRINT   NOGEN
VTMUSSTR USSTAB  TABLE=STDTRANS
*
         COPY    VTMUSSCD
*
TEST     USSCMD  CMD=TEST,REP=IBMTEST,FORMAT=BAL
         USSPARM PARM=P1,DEFAULT=10
         USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES USSMSG  MSG=0,TEXT='COMMAND ACCEPTED'
         USSMSG  MSG=1,BUFFER=M1
         USSMSG  MSG=2,BUFFER=M1
         USSMSG  MSG=3,TEXT='ERROR IN VTMUSSTB. PRESS ENTER'
         USSMSG  MSG=4,TEXT='APPLICATION NOT ACTIVATED. PRESS ENTER'
         USSMSG  MSG=5,BUFFER=M1
         USSMSG  MSG=6,TEXT='LOGON ALREADY PENDING'
         USSMSG  MSG=7,TEXT='LOGON FAILED. PRESS ENTER'
         USSMSG  MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG  MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG  MSG=10,BUFFER=M1
         USSMSG  MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG  MSG=13,TEXT='IBMECHO%'
*
STDTRANS DC      128AL1(*-STDTRANS)
         DC      X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC      X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC      X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC      X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC      X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC      X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC      X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC      X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
END      USSEND
*
M1       DC    AL2(M1E-M1S)
M1S      DC    X'15'                 NEW LINE (ROW 1)
*
* VTMUSSTB       VTAM APPLICATION SELECTION MENU
*
         DC    CL1' '
 DC CL8'VTMUSSTB'
         DC    CL12' '
 DC C'VTAM APPLICATION SELECTION MENU'
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
         DC    X'15'                 NEW LINE (ROW 2)
         DC    X'15'                 NEW LINE (ROW 3)
         DC    CL3' '
```

Figure 102 (Part 6 of 15). Network Definition Skeleton SKDTRNET

```
 DC X'C595A3859940A38885408388819981 83A3859940968640'
 DC X'A896A49940A285938583A3899695408195 8440979985A2A240'
 DC X'A3888540C5D5E3C5D9409285A87A'
*
         DC    X'15'                    NEW LINE (ROW 4)
*
         DC    9X'15'                  SKIP 9 LINES (ROW 19)
 DC C' ==> '
M1E      EQU   *
         END
/*
// EXEC LNKEDT
// OPTION CATAL
   PHASE VTMUSSTB,*
// EXEC ASSEMBLY
         PRINT   NOGEN
VTMUSSTB USSTAB  TABLE=STDTRANS
*
         COPY    VTMUSSCD
*
TEST     USSCMD  CMD=TEST,REP=IBMTEST,FORMAT=BAL
         USSPARM PARM=P1,DEFAULT=10
         USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES USSMSG  MSG=0,TEXT='COMMAND ACCEPTED'
         USSMSG  MSG=1,BUFFER=M1
         USSMSG  MSG=2,BUFFER=M1
         USSMSG  MSG=3,TEXT='ERROR IN VTMUSSTB. PRESS ENTER'
         USSMSG  MSG=4,TEXT='APPLICATION NOT ACTIVATED. PRESS ENTER'
         USSMSG  MSG=5,BUFFER=M1
         USSMSG  MSG=6,TEXT='LOGON ALREADY PENDING'
         USSMSG  MSG=7,TEXT='LOGON FAILED. PRESS ENTER'
         USSMSG  MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG  MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG  MSG=10,BUFFER=M1
         USSMSG  MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG  MSG=13,TEXT='IBMECHO%'
*
STDTRANS DC      128AL1(*-STDTRANS)
         DC      X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC      X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC      X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC      X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC      X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC      X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC      X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC      X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
END      USSEND
```

Figure 102 (Part 7 of 15). Network Definition Skeleton SKDTRNET

```
*
M1       DC    AL2(M1E-M1S)
M1S      DC    X'F5'                 ERASE WRITE COMMAND
         DC    X'C7'                 WCC ALARM
*
* VTMUSSTB       VTAM APPLICATION SELECTION MENU
*
         DC    X'11'                 SET BUFFER ADDRESS ORDER
         DC    X'40C1'               ROW 1 COLUMN 2
         DC    X'1D'                 START FIELD
         DC    X'F0'                 PROTECT SKIP NORMAL
 DC CL8'VTMUSSTB'
         DC    X'11'                 SET BUFFER ADDRESS ORDER
         DC    X'40D7'               ROW 1 COLUMN 24
         DC    X'1D'                 START FIELD ORDER
         DC    X'F8'                 PROTECT SKIP INTENSIFIED ATTRIBUTE
 DC C'VTAM APPLICATION SELECTION MENU'
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
         DC    X'11'                 SET BUFFER ADDRESS ORDER
         DC    X'C2E3'               ROW 3 COLUMN 4
         DC    X'1D'                 START FIELD
         DC    X'F0'                 PROTECT SKIP NORMAL
 DC X'C595A3859940A3888540838881998183A3859940968640'
 DC X'A896A49940A285938583A3899695408195844097998 5A2A240'
 DC X'A3888540C5D5E3C5D9409285A87A'
*
         COPY  VTMUSSTX
*
         DC    X'11'                 SET BUFFER ADDRESS ORDER
         DC    X'D661'               ROW 19 COLUMN 2
         DC    X'1D'                 START FIELD
         DC    X'F8'                 PROTECT SKIP INTENSIFIED ATTRIBUTE
 DC C'==> '
         DC    X'1D'                 START FIELD ORDER
         DC    X'40'                 UNPROTECTED NORMAL ATTRIBUTE
         DC    X'13'                 INSERT CURSOR ORDER
         DC    X'3C'                 REPEAT TO ADDRESS ORDER
         DC    X'D7F0'               ROW 20 COLUMN 1
         DC    C' '
         DC    X'1D'                 START FIELD ORDER
         DC    X'F0'                 PROTECT SKIP NORMAL ATTRIBUTE
M1E      EQU   *
         END
/*
// EXEC LNKEDT
// EXEC LIBR
 /* ================================================================ -
```

Figure 102 (Part 8 of 15). Network Definition Skeleton SKDTRNET

```
                                                                      -
    CICS DEFINITIONS                                                  -
                                                                      -
        N O T E:  IF NO TCT ENTRY IS REQUIRED, DELETE THE ENTIRE      -
                  DFHTCT STATEMENT.                                   -
                                                                      -
    ----CICS1-------------------- TERMINAL ENTRIES FOR X-DOMAIN LOGON */
ACCESS SUBLIB=PRD2.CONFIG
CATALOG DTRTCTX.A REPLACE=YES
         EJECT
*********************************************************************
* TCT ENTRY FOR X-DOMAIN  L O C A L  ATTACHED TERMINALS             *
*                                                                   *
*                OF TYPE 'L3277'                                    *
*********************************************************************
X--C101-- DFHTCT TYPE=TERMINAL,                                      *
               TRMIDNT=X--C101--,                                    *
               NETNAME=--C102--,                                     *
               DEFSCRN=(24,80),                                      *
               ALTSCRN=(--C103--,80),                                *
               FEATURE=(AUDALARM,--C104--),                          *
               TRMTYPE=L3277,                                        *
               TRMMODL=2,                                            *
               GMMSG=YES,                                            *
               ACCMETH=VTAM,                                         *
               TRMSTAT=TRANSCEIVE,                                   *
               TIOAL=80,                                             *
               RELREQ=(,YES),                                        *
               TCTUAL=255
*********************************************************************
* TCT ENTRY FOR X-DOMAIN  R E M O T E  ATTACHED TERMINALS           *
*                                                                   *
*                OF TYPE 'LUTYPE2'                                  *
*********************************************************************
X--C101-- DFHTCT TYPE=TERMINAL,                                      *
               TRMIDNT=X--C101--,                                    *
               NETNAME=--C102--,                                     *
               DEFSCRN=(24,80),                                      *
               ALTSCRN=(--C103--,80),                                *
               FEATURE=(AUDALARM,--C104--),                          *
               TRMTYPE=LUTYPE2,                                      *
               TRMMODL=2,                                            *
               ACCMETH=VTAM,                                         *
               TIOAL=(1024,4096),                                    *
```

Figure 102 (Part 9 of 15). Network Definition Skeleton SKDTRNET

```
                RELREQ=(NO,YES),                                        *
                TRMSTAT=TRANSCEIVE,                                     *
                BUFFER=1536,                                            *
                RUSIZE=1536,                                            *
                BRACKET=YES,                                            *
                PGESTAT=PAGE,                                           *
                CHNASSY=YES,                                            *
                GMMSG=YES,                                              *
                TCTUAL=255
*
/+
 /* L E G E N D                                                          -
    --C101-- :   3 DIGIT SEQUENTIAL NUMBER UNIQUE FOR EACH TERMINAL     -
                 CONTROLLED BY AN OTHER DOMAIN, FROM WHERE OWN VSE/SP   -
                 CAN BE LOGGED ON.                                      -
                 EXAMPLE: X001 X002 X003 X004 X005 . XNNN               -
                                                                        -
    --C102-- :   8 CHARACTER NETNAME OF THAT TERMINAL                   -
                                                                        -
    --C103-- :   ALTERNATE SCREEN SIZE. ENTER ONE OF THE FOLLOWING      -
                 NUMBERS DEPENDING ON HOW MANY LINES THE TERMINAL CAN   -
                 DISPLAY: 24, 32 OR 43                                  -
                                                                        -
    --C104-- :   ENTER THE FEATURES THE TERMINAL HAS IN ADDITION TO     -
                 AUDIBLE ALARM.                                         -
                 SEE EXAMPLES BELOW FOR TERMINALS WITH:                 -
                                                                        -
                 NO ADDITIONAL FEATURE                                  -
                      FEATURE=(AUDALARM),                               -
                                                                        -
                 EXTENDED CHARACTER SET                                 -
                      FEATURE=(AUDALARM,HILIGHT),                       -
                                                                        -
                 EXTENDED CHARACTER SET AND PROGRAMMED SYMBOLS          -
                      FEATURE=(AUDALARM,HILIGHT,PS),                    -
                                                                        -
                 7 COLOR TERMINAL WITH EXTENDED CHARACTER SET           -
                      FEATURE=(AUDALARM,HILIGHT,COLOR),                 -
                                                                        -
                 7 COLOR TERMINAL WITH EXTENDED CHARACTER SET AND       -
                 PROGRAMMED SYMBOLS                                     -
                      FEATURE=(AUDALARM,HILIGHT,COLOR,PS),              -
                                                                        -
   N O T E :     4 COLOR TERMINALS ARE DEFINED LIKE A NORMAL TERMINAL   -
                                                                        -
```

Figure 102 (Part 10 of 15). Network Definition Skeleton SKDTRNET

```
   ----CICS2---------------------------------------- ISC TCT ENTRIES */
CATALOG DTRTCTI.A REPLACE=YES
         EJECT
*********************************************************************
*  I S C  TERMINAL ENTRIES                                          *
*********************************************************************
/+
 /*-------------------------------------------------------------------  -
                                                                        -
   POWER DEFINITIONS                                                    -
                                                                        -
   ----PNET1-------------------------- POWER NETWORK DEFINITION TABLE */
/*
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
// EXEC ASSEMBLY
*
* DEFINITION FOR THIS NODE
*
         PRINT NOGEN
--P101-- PNODE NODE=--P102--,                                         *
               APPLID=--P103--,                                       *
               LOCAL=YES
*
* DEFINITIONS FOR INTERCONNECTED SYSTEMS
*
* POSSIBILITY 1: DIRECT LINK TO INTERCONNECTED SYSTEM
*                  WITHOUT ALTERNATE ROUTE
         PNODE NODE=--P102--,                                         *
               APPLID=--P104--,AUTH=--P109--
*
* POSSIBILITY 2: DIRECT LINK TO INTERCONNECTED SYSTEM
*                  WITH ALTERNATE ROUTE
         PNODE NODE=--P102--,                                         *
               APPLID=--P104--,AUTH=--P109--,                         *
               ROUTE2=--P105--
*
* POSSIBILITY 3: INDIRECT LINK TO INTERCONNECTED SYSTEM
*                  VIA ADJACENT NODE WITHOUT ALTENATE ROUTE
         PNODE NODE=--P106--,AUTH=--P109--,                           *
               ROUTE1=--P107--
*
*
* POSSIBILITY 4: INDIRECT LINK TO INTERCONNECTED SYSTEM
*                  VIA ADJACENT NODE WITH ALTERNATE ROUTE
         PNODE NODE=--P106--,AUTH=--P109--,                           *
               ROUTE1=--P107--,                                       *
               ROUTE2=--P108--
*
         END
/*
```

Figure 102 (Part 11 of 15). Network Definition Skeleton SKDTRNET

```
// EXEC LNKEDT
*
* L E G E N D
*  --P101-- :   PHASE NAME OF THE NETWORK DEFINITION TABLE GENERATED
*               BY THE ASSEMBLY OF THE PNODE MACROS.
*  --P102-- :   PNET NODE NAME OF YOUR OR AN INTERCONNECTED SYSTEM
*  --P103-- :   NAME BY WHICH VTAM KNOWS THIS NODE'S NETWORK SYSTEM
*  --P104-- :   PNET APPLIC.-ID OF INTERCONN. SYSTEM VIA DIRECT LINK
*  --P105-- :   PNET ALTERNATE NODE NAME TO DESTINATION NODE --P102--
*  --P106-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM VIA INDIRECT
*               LINK
*  --P107-- :   PNET ADJACENT NODE NAME TO DESTINATION NODE --P106--
*  --P108-- ;   PNET ALTERNATE NODE NAME TO DESTINATION NODE --P106--
*  --P109-- :   AUTHORIZATION LEVEL OF INTERCONNECTED SYSTEM FOR POWER
*               OPERATION ON OWN NODE. POSSIBLE ENTRIES ARE: NET
*                                                            JOB
*                                                            NOJOB
*
* ====================================================================
// LIBDEF PHASE,SEARCH=PRD1.BASE
// SETPARM VOLDTSF=' '
// EXEC PROC=DTRICCF
// PAUSE DISCONNECT THE DTSFILE, THEN CONTINUE
// EXEC DTSUTIL
* ====================================================================
* ----SP1------------------------------------------ LIST OF PNET NODES
PURGE LIBRARY(59) MEMBER(DTR$NET)
ADD MEMBER(59,DTR$NET,AAAA)
*
YOU NEED THE FOLLOWING INFORMATION FOR YOUR RESOURCE DEFINITION
DIALOG SELECTION 6 - CHANGE VTAM APPLICATION NAME AND/OR SUBAREA NBR.:
YOUR HOSTSA IS --S101--
MAXSUBA IS --S102--
THE APPLID OF YOUR CICS SUBSYSTEM IS --S103--
THE APPLID OF YOUR LOCAL PNET NODE IS --S104--
*
YOU NEED THE FOLLOWING INFORMATION FOR THE PNET OPERAND
OF THE POWER MACRO:
THE NAME OF YOUR NETWORK DEFINITION TABLE IS --S105--
*
YOU NEED THE FOLLOWING INFORMATION TO START PNET:
NAMES OF ADJACENT PNET NODES ARE --S106--,...
*
END OF MEMBER
*
* L E G E N D
*  --S101-- :   SNA SUBAREA NUMBER OF THIS NODE
*  --S102-- :   MAXIMUM NUMBER OF SUBAREAS IN THE SNA NETWORK
```

Figure 102 (Part 12 of 15). Network Definition Skeleton SKDTRNET

```
*  --S103-- :   NAME BY WHICH VTAM KNOWS THIS NODE'S CICS SUBSYSTEM(S)
*  --S104-- :   NAME BY WHICH VTAM KNOWS THIS NODE'S PNET SYSTEM AS
*               DEFINED IN --P103--
*  --S105-- :   NAME OF NETWORK DEFINITION TABLE AS DEFINED IN --P101--
*  --S106-- :   PNET NODE NAMES OF INTERCONNECTED SYSTEMS VIA DIRECT
*               LINKS AS DEFINED IN --P102-- WITHOUT 'LOCAL=YES'
*
* ----SP2---------------------------------------- LIST OF PNET NODES
PURGE LIBRARY(2) MEMBER(PNT$NODE)
ADD MEMBER(2,PNT$NODE,AAAA)
*
NODE-NAME  OP-SYS   NODE DESCRIPTION
---------- -------- --------------------------------------------------
*
--S201--  LOCAL
--S202--  --S203-- --S204--
*
END OF MEMBER
*
* L E G E N D
*  --S201-- :   PNET NODE NAME OF THIS NODE AS DEFINED IN --P101--
*               WITH LOCAL=YES
*  --S202-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM BEGINNING IN
*               COLUMN 1
*  --S203-- :   ENTER ONE OF THE FOLLOWING OPERATING SYSTEMS:
*                 VSP   - VSE NODE WITH VSE/SP
*                 SSX   - VSE NODE WITH SSX
*                 VSE   - VSE NODE WITH VSE/POWER AND ACF/VTAM
*                 MVR   - MVS NODE WITH RACF AND ACF/VTAM
*                 MVS   - MVS NODE WITH JES2 AND ACF/VTAM
*                 VMP   - VM  NODE WITH VSE/SP
*          CMS OR VMS   - VM  NODE WITH SSX
*                 VMD   - VM  NODE WITH VSE
*                 VMO   - VM  NODE WITH MVS
*
*  --S204-- :   ONE LINE TEXT UP TO 50 BYTES DISCRIBING THE NODE FOR
*               THE VSE/SP USER E.G. LOCATION ETC. AS HELP PANEL TO
*               JOB/FILE TRANSFER FUNCTION.
*
* ----SP3---------------------- NODE RELATED JCL FOR JOB IDENTIFICATION
PURGE LIBRARY(2) MEMBER(PNT$JCLT)
ADD MEMBER(2,PNT$JCLT,AAAA)
*
NODE-ID=--S301--
*
TRANSFER-JCL-ID=--S302--
FROM-FILE=--S303--
CAT=--S304--
TO-FILE=--S305--
```

Figure 102 (Part 13 of 15). Network Definition Skeleton SKDTRNET

```
DISP=--S306--
CAT=--S307--
JOB-CLASS=--S308--
JOB-DISP=--S309--
*
*
RECEIVE-JCL-ID=--S310--
FROM-FILE=--S303--
CAT=--S311--
TO-FILE=--S305--
CAT=--S312--
*
END OF MEMBER
*
* L E G E N D
*  --S301-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM
*  --S302-- :   JCL-ID WHICH CAN BE REFERENCED IN FILE TRANSFER
*               FUNCTION UNDER RELATED JCL-ID.
*  --S303-- :   SOURCE VSAM FILE ID (UP TO 44 CHARS) TO BE
*               TRANSFERRED TO NODE --S301-- OR RETRIEVED FROM
*               NODE --S301--
*               THIS INFORMATION IS OPTIONAL AND IS USED IF THE JCL
*               IN --S302-- OR --S310-- HAS FIXED RELATION TO THE
*               FILE NAME --S303--.
*  --S304-- :   VSAM USER CATALOG NAME OF THE FILE TO BE TRANSFERRED
*               TO NODE --S301--. THIS STATEMENT IS OPTIONAL.
*  --S305-- :   VSAM FILE ID (UP TO 44 CHARS) TO BE USED FOR LOADING
*               THE FILE AT DESTINATION NODE.
*               THIS INFORMATION IS OPTIONAL. IF OMITTED, SOURCE FILE
*               ID IS USED.
*  --S306-- :   FILE DISPOSITION WHICH WILL BE APPENDED TO DLBL JCL
*               STATEMENT IN VSE AND SSX, OR DD STATEMENT IN MVS.
*               THIS INFORMATION IS OPTIONAL AND MAY BE USED IN VSE AND
*               SSX FOR RESETTING REUSABLE VSAM FILES.
*  --S307-- :   VSAM USER CATALOG NAME OF THE FILE AT VSE DESTINATION
*               NODE.
*  --S308-- :   VSE JOB CLASS TO BE USED FOR RUNNING THE FILE TRANSFER
*               JOB AT DESTINATION NODE.
*  --S309-- :   VSE JOB DISPOSITION TO BE USED FOR RUNNING THE FILE
*               TRANSFER JOB AT DESTINATION NODE.
*  --S310-- :   JCL-ID WHICH CAN BE REFERENCED IN FILE RETRIEVE
*               FUNCTION UNDER RELATED JCL-ID.
*  --S311-- :   VSAM USER CATALOG NAME OF THE FILE TO BE RETRIEVED TO
*               NODE --S301--. THIS STATEMENT IS OPTIONAL.
*  --S312-- :   VSAM USER CATALOG NAME OF THE FILE TO BE LOADED AT
*               DESTINATION NODE. THIS STATEMENT IS OPTIONAL.
*
```

Figure 102 (Part 14 of 15). Network Definition Skeleton SKDTRNET

```
* E X A M P L E :
*
* ADD MEMBER(2,PNT$JCLT,AAAA)
* JOB-DISP=L  ----------------> THIS PARAMETERS OVERWRITE VSE DEFAULTS
* JOB-CLASS=C                   DISP=D AND CLASS=A FOR ALL NODES.
*
*     NODE-ID=VSEHOST
*         JOB-DISP=D  ------------> THIS PARAMETERS ARE VALID ONLY FOR
*         JOB-CLASS=B                THIS NODE (VSEHOST).
*         TRANSFER-JCL-ID=UPDFILE
*             JOB-CLASS=F --------> THIS PARM IS VALID ONLY FOR THIS JOB
*             FROM-FILE=UPDATE.FILE
*             TO-FILE=UPDATE.FILE.SSX1
*                 CAT=UCAT005
*                 DISP=NEW
*         RETRIEVE-JCL-ID=PRICES
*             JOB-DISP=H ---------> THIS PARM IS VALID ONLY FOR THIS JOB
*             FROM-FILE='BRANCH.OFFICE.PRICE.UPDATES'
*                 CAT=UCAT005
*             TO-FILE='PRICE.UPDATE.FILE'
*
*     NODE-ID=SSX1
*         TRANSFER-JCL-ID=UPDFILE
*             FROM-FILE=TEXT.FILE
*
*     NODE-ID=MVSHOST
*         TRANSFER-JCL-ID=MVSJOB
*
* END OF MEMBER
/*
// EXEC LIBR
 /* ---SP4------------------ NODE RELATED JCL FOR JOB IDENTIFICATION */
ACCESS SUBLIB=PRD2.CONFIG
CATALOG --S302--.U  REPLACE=YES
--S401--
/+
CATALOG --S303--.U  REPLACE=YES
--S402--
/+
 /* L E G E N D                                                        -
    --S401-- :  SET OF SYSTEM DEPENDENT JCL, E.G. JOB STATEMENT ETC., -
                WHICH WILL BE AUTOMATICALLY ADDED AT THE FRONT OF THE -
                FILE TRANSFER STEP TO BE RUN ON REMOTE NODE.          -
                '/*' CONTROL STATEMENTS MUST BE REPLACED BY '@*'.     -
                                                                      -
    --S402-- :  SET OF SYSTEM DEPENDENT JCL, E.G. JOB STATEMENT ETC..,-
                WHICH WILL BE AUTOMATICALLY ADDED AT THE FRONT OF THE -
                FILE RETRIEVE STEP TO BE RUN ON REMOTE NODE.          -
                '/*' CONTROL STATEMENTS MUST BE REPLACED BY '* $$/*'. -
                                                                      -
   --------------------------------END OF NETWORK DEFINITION SKELETON */
/*
// ASSGN SYSIN,SYS020
/(
```

Figure 102 (Part 15 of 15). Network Definition Skeleton SKDTRNET

USS Table Skeleton SKVTMUSS

```
* $$ JOB JNM=VTMUSS,CLASS=0,DISP=D
// JOB VTMUSS         CREATE ACF/VTAM USS TABLE
* ********************************************************************
* *                                                                  *
* *  - - - - - - - - CREATE ACF/VTAM USS TABLE - - - - - - - - -     *
* *                                                                  *
* *  THIS JOB IS FOR CREATING ACF/VTAM USS DEFINITION TABLES.        *
* *  ACF/VTAM USES THESE TABLES FOR SENDING MESSAGES TO, AND         *
* *  RECEIVING COMMANDS FROM, SNA AND NON-SNA DISPLAY TERMINALS.     *
* *                                                                  *
* *  THIS JOB HAS 7 STEPS                                            *
* *                                                                  *
* *    1. CATALOG LIBRARY MEMBER CONTAINING USS COMMAND              *
* *       DEFINITIONS                                                *
* *    2. CATALOG LIBRARY MEMBER CONTAINING MESSAGES SENT TO SNA     *
* *       DISPLAY TERMINALS                                          *
* *    3. CATALOG LIBRARY MEMBER CONTAINING MESSAGES SENT TO         *
* *       NON-SNA DISPLAY TERMINALS                                  *
* *    4. ASSEMBLE USS TABLE FOR SNA (VTMUSSTR)                      *
* *    5. LINKEDIT VTMUSSTR                                          *
* *    6. ASSEMBLE USS TABLE FOR NON-SNA (VTMUSSTB)                  *
* *    7. LINKEDIT VTMUSSTB                                          *
* *                                                                  *
* *                                                                  *
* *                                                                  *
* *  THE FOLLOWING VARIABLES ARE USED IN THE FIRST THREE             *
* *  JOBSTEPS AND HAVE TO BE CHANGED.  (EACH VARIABLE IS             *
* *  THE NAME OF AN APPLICATION PROGRAM AND MUST BE NO MORE          *
* *  THAN 8 CHARACTERS.  EACH VARIABLE IS ASSOCIATED WITH A          *
* *  CORRESPONDING, ABBREVIATED ACF/VTAM LOGON COMMAND.              *
* *                                                                  *
* *    VARIABLE      CORRESPONDS TO NAME                             *
* *                  ASSOCIATED WITH COMMAND                         *
* *                                                                  *
* *    --V001--            A                                         *
* *    --V002--            B                                         *
* *    --V003--            C                                         *
* *    --V004--            D                                         *
* *    --V005--            E                                         *
* *    --V006--            F                                         *
* *                                                                  *
* ********************************************************************
*
```

Figure 103 (Part 1 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
* ****************************************************************
* *                                                              *
* *  JOBSTEP 1                                                   *
* *                                                              *
* *    IF THERE IS NO APPLICATION NAME CORRESPONDING TO A        *
* *    PARTICULAR VARIABLE, DELETE THE USSPARM STATEMENT         *
* *    CONTAINING THE VARIABLE; ALSO, DELETE THE USSCMD STATEMENT *
* *    PRECEEDING IT AND THE USSPARM STATEMENT FOLLOWING IT.     *
* *                                                              *
* ****************************************************************
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
CATALOG  VTMUSSCD.A   REPLACE=YES
*
A        USSCMD  CMD=A,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V001--
         USSPARM PARM=P2,REP=DATA
*
B        USSCMD  CMD=B,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V002--
         USSPARM PARM=P2,REP=DATA
*
C        USSCMD  CMD=C,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V003--
         USSPARM PARM=P2,REP=DATA
*
D        USSCMD  CMD=D,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V004--
         USSPARM PARM=P2,REP=DATA
*
E        USSCMD  CMD=E,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V005--
         USSPARM PARM=P2,REP=DATA
*
F        USSCMD  CMD=F,REP=LOGON,FORMAT=BAL
         USSPARM PARM=P1,REP=APPLID,DEFAULT=--V006--
         USSPARM PARM=P2,REP=DATA
*
/+
/*
* ****************************************************************
* *                                                              *
* *  JOBSTEP 2                                                   *
* *                                                              *
* *    IF THERE IS NO APPLICATION NAME CORRESPONDING TO A        *
* *    PARTICULAR VARIABLE, REPLACE IT WITH ________ TO INDICATE *
* *    THAT THERE IS NO NAME.                                    *
* *                                                              *
* ****************************************************************
```

Figure 103 (Part 2 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
CATALOG  VTMUSSTZ.A   REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON SNA TERMINALS ONLY
*
*
         DC    X'15'                  NEW LINE (ROW 5)
         DC    CL9' '
         DC    CL2'A '
         DC    CL8'--V001--'
*
         DC    X'15'                  NEW LINE (ROW 6)
         DC    CL9' '
         DC    CL2'B '
         DC    CL8'--V002--'
*
         DC    X'15'                  NEW LINE (ROW 7)
         DC    CL9' '
         DC    CL2'C '
         DC    CL8'--V003--'
*
         DC    X'15'                  NEW LINE (ROW 8)
         DC    CL9' '
         DC    CL2'D '
         DC    CL8'--V004--'
*
         DC    X'15'                  NEW LINE (ROW 9)
         DC    CL9' '
         DC    CL2'E '
         DC    CL8'--V005--'
*
         DC    X'15'                  NEW LINE (ROW 10)
         DC    CL9' '
         DC    CL2'F '
         DC    CL8'--V006--'
*
/+
/*
* ********************************************************************
* *                                                                  *
* *  JOBSTEP 3                                                       *
* *                                                                  *
* *    IF THERE IS NO APPLICATION NAME CORRESPONDING TO A            *
* *    PARTICULAR VARIABLE, REPLACE IT WITH _________ TO INDICATE    *
* *    THAT THERE IS NO NAME.                                        *
* *                                                                  *
* ********************************************************************
```

Figure 103 (Part 3 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VTMUSSTX.A REPLACE=YES
*
* THE FOLLOWING MENU WILL BE DISPLAYED ON NON-SNA TERMINALS ONLY
*
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C5C9'                ROW 5 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'A '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'--V001--'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C6D9'                ROW 6 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'B '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'--V002--'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C7E9'                ROW 7 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'C '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'--V003--'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C8F9'                ROW 8 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'D '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'--V004--'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'4AC9'                ROW 9 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'E '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
```

Figure 103 (Part 4 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
         DC    CL8'--V005--'
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'4BD9'                ROW 10 COLUMN 10
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    CL2'F '
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'--V006--'
*
/+
/*
// LIBDEF *,SEARCH=(PRD1.BASE,PRD2.CONFIG),TEMP
// LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
   PHASE VTMUSSTR,*
// EXEC ASSEMBLY
         PRINT   NOGEN
VTMUSSTR USSTAB  TABLE=STDTRANS
*
         COPY    VTMUSSCD
*
TEST     USSCMD  CMD=TEST,REP=IBMTEST,FORMAT=BAL
         USSPARM PARM=P1,DEFAULT=10
         USSPARM PARM=P2,DEFAULT=OK
*
MESSAGES USSMSG  MSG=0,TEXT='COMMAND ACCEPTED'
         USSMSG  MSG=1,BUFFER=M1
         USSMSG  MSG=2,BUFFER=M1
         USSMSG  MSG=3,TEXT='ERROR IN VTMUSSTR. PRESS ENTER'
         USSMSG  MSG=4,TEXT='APPLICATION NOT ACTIVATED. PRESS ENTER'
         USSMSG  MSG=5,BUFFER=M1
         USSMSG  MSG=6,TEXT='LOGON ALREADY PENDING'
         USSMSG  MSG=7,TEXT='LOGON FAILED. PRESS ENTER'
         USSMSG  MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG  MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG  MSG=10,BUFFER=M1
         USSMSG  MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG  MSG=13,TEXT='IBMECHO%'
*
STDTRANS DC      128AL1(*-STDTRANS)
         DC      X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC      X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC      X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC      X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC      X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC      X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC      X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC      X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
```

Figure 103 (Part 5 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
END      USSEND
*
M1       DC    AL2(M1E-M1S)
M1S      DC    X'15'                  NEW LINE (ROW 1)
*
* VTMUSSTR       VTAM APPLICATION SELECTION MENU
*
         DC    CL1' '
         DC    CL8'VTMUSSTR'
         DC    CL12' '
         DC    C'VTAM APPLICATION SELECTION MENU'
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
         DC    X'15'                  NEW LINE (ROW 2)
         DC    X'15'                  NEW LINE (ROW 3)
         DC    CL3' '
         DC    X'C595A3859940A38885408388199818 3A3859940968640'
         DC    X'A896A49940A285938583A3899695408195 8440979985A2A240'
         DC    X'A3888540C5D5E3C5D9409285A87A'
*
         DC    X'15'                  NEW LINE (ROW 4)
*
         COPY  VTMUSSTZ
*
         DC    9X'15'                SKIP 9 LINES (ROW 19)
         DC    C' ==> '
M1E      EQU   *
         END
/*
// EXEC LNKEDT
// OPTION CATAL
   PHASE VTMUSSTB,*
// EXEC ASSEMBLY
         PRINT   NOGEN
VTMUSSTB USSTAB  TABLE=STDTRANS
*
         COPY    VTMUSSCD
*
TEST     USSCMD  CMD=TEST,REP=IBMTEST,FORMAT=BAL
         USSPARM PARM=P1,DEFAULT=10
         USSPARM PARM=P2,DEFAULT=OK
*
```

Figure 103 (Part 6 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
MESSAGES USSMSG  MSG=0,TEXT='COMMAND ACCEPTED'
         USSMSG  MSG=1,BUFFER=M1
         USSMSG  MSG=2,BUFFER=M1
         USSMSG  MSG=3,TEXT='ERROR IN VTMUSSTB. PRESS ENTER'
         USSMSG  MSG=4,TEXT='APPLICATION NOT ACTIVATED. PRESS ENTER'
         USSMSG  MSG=5,BUFFER=M1
         USSMSG  MSG=6,TEXT='LOGON ALREADY PENDING'
         USSMSG  MSG=7,TEXT='LOGON FAILED. PRESS ENTER'
         USSMSG  MSG=8,TEXT='INSUFFICIENT STORAGE'
         USSMSG  MSG=9,TEXT='MAGNETIC CARD DATA ERROR'
         USSMSG  MSG=10,BUFFER=M1
         USSMSG  MSG=12,TEXT='REQUIRED PARAMETER OMITTED'
         USSMSG  MSG=13,TEXT='IBMECHO%'
*
STDTRANS DC      128AL1(*-STDTRANS)
         DC      X'80C1C2C3C4C5C6C7C8C98A8B8C8D8E8F'
         DC      X'90D1D2D3D4D5D6D7D8D99A9B9C9D9E9F'
         DC      X'A0A1E2E3E4E5E6E7E8E9AAABACADAEAF'
         DC      X'B0B1B2B3B4B5B6B7B8B9BABBBCBDBEBF'
         DC      X'C0C1C2C3C4C5C6C7C8C9CACBCCCDCECF'
         DC      X'D0D1D2D3D4D5D6D7D8D9DADBDCDDDEDF'
         DC      X'E0E1E2E3E4E5E6E7E8E9EAEBECEDEEEF'
         DC      X'F0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFF'
END      USSEND
*
M1       DC    AL2(M1E-M1S)
M1S      DC    X'F5'                  ERASE WRITE COMMAND
         DC    X'C7'                  WCC ALARM
*
* VTMUSSTB       VTAM APPLICATION SELECTION MENU
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'40C1'                ROW 1 COLUMN 2
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    CL8'VTMUSSTB'
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'40D7'                ROW 1 COLUMN 24
         DC    X'1D'                  START FIELD ORDER
         DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
         DC    C'VTAM APPLICATION SELECTION MENU'
*
* ENTER THE CHARACTER OF YOUR SELECTION AND PRESS THE ENTER KEY:
* (MIXED-CASE)
*
         DC    X'11'                  SET BUFFER ADDRESS ORDER
         DC    X'C2E3'                ROW 3 COLUMN 4
         DC    X'1D'                  START FIELD
         DC    X'F0'                  PROTECT SKIP NORMAL
         DC    X'C595A3859940A38885408388819981 83A3859940968640'
         DC    X'A896A49940A285938583A3899695408195844097 9985A2A240'
```

Figure 103 (Part 7 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

```
          DC    X'A3888540C5D5E3C5D9409285A87A'
 *
          COPY  VTMUSSTX
 *
          DC    X'11'                  SET BUFFER ADDRESS ORDER
          DC    X'D661'                ROW 19 COLUMN 2
          DC    X'1D'                  START FIELD
          DC    X'F8'                  PROTECT SKIP INTENSIFIED ATTRIBUTE
          DC    C'==> '
          DC    X'1D'                  START FIELD ORDER
          DC    X'40'                  UNPROTECTED NORMAL ATTRIBUTE
          DC    X'13'                  INSERT CURSOR ORDER
          DC    X'3C'                  REPEAT TO ADDRESS ORDER
          DC    X'D7F0'                ROW 20 COLUMN 1
          DC    C' '
          DC    X'1D'                  START FIELD ORDER
          DC    X'F0'                  PROTECT SKIP NORMAL ATTRIBUTE
 M1E      EQU   *
          END
 /*
 // EXEC LNKEDT
 /&
 * $$ EOJ
END OF MEMBER
```

Figure 103 (Part 8 of 8). Create ACF/VTAM USS Table Skeleton SKVTMUSS

VSE/POWER Generation Skeleton SKPWRGEN

```
* $$ JOB JNM=POWERGEN,CLASS=0,DISP=D
* $$ LST CLASS=Q
// JOB POWER GENERATION
LIBDEF PHASE,CATALOG=PRD2.CONFIG
// OPTION CATAL
// EXEC ASSEMBLY
PWR      TITLE 'VSE/POWER - IPWPOWER  GENERATION '
*********************************************************************
*       5666-316 CONTAINS RESTRICTED MATERIALS OF IBM                *
*             (C) COPYRIGHT IBM CORP. 1984                           *
*          LICENSED MATERIALS - PROPERTY OF IBM                      *
*            REFER TO COPYRIGHT INSTRUCTIONS                         *
*                  FORM G120-2083                                    *
*********************************************************************
         EJECT
*********************************************************************
*                                                                   *
*  V S E / P O W E R   G E N E R A T I O N   S K E L E T O N        *
*                                                                   *
*  THE FOLLOWING GENERATION SKELETON SHOWS THE COMPLETE VSE/POWER    *
*  GENERATION DECK WHICH HAS BEEN USED TO GENERATE THE PHASE        *
*  IPWPOWER.                                                        *
*                                                                   *
*  IF ANY CHANGES ARE MADE TO THIS GENERATION DECK IT IS RECOMMENDED *
*  THAT ANOTHER PHASE NAME IS USED INSTEAD OF IPWPOWER BECAUSE THIS  *
*  PHASE WILL BE SERVICED TOGETHER WITH THE VSE/POWER PRODUCT.      *
*                                                                   *
*  --V100--    NAME OF VSE/POWER LOAD PHASE                         *
*                                                                   *
*  NOTE: IF THE PHASE NAME CHANGES THE PARTITION STARTUP HAS TO     *
*        CHANGE.                                                    *
*                                                                   *
*********************************************************************
*  INSERT THE FOLLOWING PARAMETER IN THIS VSE/POWER GENERATION DECK  *
*  IF YOU WANT TO ACTIVATE PNET ON YOUR SYSTEM.                     *
*                                                                   *
*  --V101--  IS THE NAME OF THE PNET PHASE. (LABEL ON 'PNODE' MACRO  *
*            WITH 'LOCAL=YES')                                      *
*                                                                   *
*              PNET=--V101--,              CONTINUATION CHARACTER ==> *
*                                                                   *
*********************************************************************
*  INSERT THE FOLLOWING PARAMETER IN THIS VSE/POWER GENERATION DECK  *
*  IF SNA WORKSTATIONS ARE ATTACHED TO THE SYSTEM.                  *
*                                                                   *
*              SNA=YES,                    CONTINUATION CHARACTER ==> *
*                                                                   *
*********************************************************************
```

Figure 104 (Part 1 of 3). VSE/POWER Generation Skeleton SKPWRGEN

```
         PRINT NOGEN
         SPACE 3
--V100-- POWER
               ACCOUNT=YES,
               BLOCKGP=0,
               CLRPRT=YES,
               COPYSEP=YES,
               DBLK=0,
               FEED=NO,
               JLOG=YES,
               JSEP=(0,0),
               LTAB=(10,00,05,10,15,20,25,30,35,40,45,50,56),
               MRKFRM=YES,
               MULT12=NO,
               NTFYMSG=100,
               PAUSE=NO,
               PRI=3,
               RBS=(0,0),
               RDREXIT=NO,
               SHARED=NO,
               STDCARD=(0,0),
               STDLINE=(0,0),
               SPOOL=YES,
               SUBLIB=P,
               TRACKGP=0
         EJECT
*************************************************************************
*                                                                       *
*  INCLUDE THE MEMBER 'SKPWRBSC' AT THIS PLACE TO GET THE VSE/POWER     *
*  RJE DEFINITIONS FOR BSC WORKSTATIONS. THE MEMBER HAS TO BE FILLED    *
*  IN BEFORE THIS JOB CAN BE EXECUTED.                                  *
*                                                                       *
*  REMOVE THE * IN FRONT OF THE /INCLUDE STATEMENT IF THE MEMBER        *
*  HAS TO BE INCLUDED.                                                  *
*                                                                       *
*************************************************************************
*
*/INCLUDE SKPWRBSC
*
*************************************************************************
```

Figure 104 (Part 2 of 3). VSE/POWER Generation Skeleton SKPWRGEN

```
*                                                                     *
*  INCLUDE THE MEMBER 'SKPWRSNA' AT THIS PLACE TO GET THE VSE/POWER   *
*  RJE DEFINITIONS FOR SNA WORKSTATIONS. THE MEMBER CONTAINS A PRE-   *
*  DEFINED SET OF SNA WORKSTATIONS WHICH CAN BE CONFIGURED WITH THE   *
*  REMOTE CONFIGURATION DIALOG.                                       *
*  THE DIALOG GENERATES THE REQUIRED VTAM LINE, PU AND LU DEFINITIONS.*
*                                                                     *
*  TO GET THE CONNECTION BETWEEN VSE/POWER AND VTAM THE VTAM APPLID   *
*  'POWER' IS PROVIDED IN THE VTAM APPLICATION STARTUP BOOK.          *
*  THE SAME APPLID IS USED WHEN THE 'SNA=YES' PARAMETER IS SPECIFIED  *
*  IN THE POWER MACRO DESCRIBED ABOVE.                                *
*                                                                     *
*  REMOVE THE * IN FRONT OF THE /INCLUDE STATEMENT IF THE MEMBER      *
*  HAS TO BE INCLUDED.                                                *
*                                                                     *
***********************************************************************
*
*/INCLUDE SKPWRSNA
*
         END
/*
// EXEC LNKEDT,PARM='MSHP'
/&
* $$ EOJ
```

Figure 104 (Part 3 of 3). VSE/POWER Generation Skeleton SKPWRGEN

VSE/POWER SNA Skeleton SKPWRSNA

```
*********************************************************************
*                                                                   *
*  V S E / P O W E R   DEFINITION FOR  S D L C  WORKSTATIONS WHICH  *
*                      CAN BE CONFIGURED WITH THE                   *
*                      REMOTE CONFIGURATION DIALOG                  *
*                                                                   *
*                      PLEASE DO NOT CHANGE THIS MEMBER.            *
*                                                                   *
*********************************************************************
         PRMT  REMOTE=21,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=22,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=23,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=24,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=25,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=26,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=27,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
         PRMT  REMOTE=28,
               TYPE=LUT1,
               CONSOLE=NO,
               SESSLIM=1
```

Figure 105 (Part 1 of 2). VSE/POWER SDLC Workstation Definition Skeleton SKPWRSNA

```
PRMT  REMOTE=31,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=32,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=33,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=34,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=35,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=36,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=37,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
PRMT  REMOTE=38,
      TYPE=LUT1,
      CONSOLE=NO,
      SESSLIM=1
```

Figure 105 (Part 2 of 2). VSE/POWER SDLC Workstation Definition Skeleton SKPWRSNA

VSE/POWER BSC Skeleton SKPWRBSC

```
*************************************************************************
*                                                                       *
*  V S E / P O W E R   SKELETON FOR  B S C  LINES AND WORKSTATIONS      *
*                                                                       *
*************************************************************************
         SPACE
*************************************************************************
*  P L I N E
*
*            IN THE FOLLOWING DEFINITION YOU SEE ALL PARAMETERS WITH
*            THEIR DEFAULT VALUES. A VARIABLE (--V###--) INDICATES THAT
*            THERE IS NO DEFAULT VALUE FOR THIS PARAMETER.
*
* --V101--   THREE DIGIT HEXADECIMAL ADDRESS OF BSC LINE. E.G. X'030'
* --V102--   EIGHT CHARACTER PASSWORD WHICH HAS TO BE SPECIFIED WHEN
*            THE REMOTE TERMINAL IS TO BE CONNECTED TO THE SYSTEM.
*            REPLACE THE --V102-- BY A PASSWORD OR DELETE THE LINE.
*
         PLINE ADDR=X'--V101--',
               CODE=EBCDIC,
               MODSET=AA,
               PSWRD=--V102--,
               SWITCH=NO,
               TIMEOUT=NO,
               TRNSP=YES
*
*************************************************************************
         SPACE
*************************************************************************
*  P R M T
*
*            IN THE FOLLOWING DEFINITION YOU SEE ALL PARAMETERS WITH
*            THEIR DEFAULT VALUES. A VARIABLE (--V###--) INDICATES THAT
*            THERE IS NO DEFAULT VALUE FOR THIS PARAMETER.
*
* --V201--   SPECIFIES WHERE THE LIST OUTPUT FROM JOBS SUBMITTED BY
*            THIS REMOTE-ID IS TO BE ROUTED BY DEFAULT.
* --V202--   SPECIFIES WHERE THE PUNCH OUTPUT FROM JOBS SUBMITTED BY
*            THIS REMOTE-ID IS TO BE ROUTED BY DEFAULT.
* --V203--   REMOTE IDENTIFIER, VARIES FROM 1 TO 20.
* --V204--   SPECIFIES THE TYPE OF TERMINAL, WHICH MAY BE A 2770, 2780,
*            3741 OR 3780. FOR 3770 SPECIFY 2770 OR 3780 DEPENDING ON
*            THE BUFFER SIZE.
*
```

Figure 106 (Part 1 of 2). VSE/POWER BSC Lines and Workstation Definition Skeleton SKPWRBSC

```
          PRMT  CS=NO,
                CSALST=0,
                CSAMSG=0,
                CSAPUN=0,
                HFC=NO,
                LIST=120,
                LSTROUT=--V201--,
                MRF=NO,
                MSG=120,
                MSGEJCT=YES,
                MSGSPCE=YES,
                PUN=80,
                PUNROUT=--V202--,
                REMOTE=--V203--,
                SCE=NO,
                TRNSP=NO,
                TURNEOJ=YES,
                TYPE=--V204--
*
*********************************************************************
```

Figure 106 (Part 2 of 2). VSE/POWER BSC Lines and Workstation Definition Skeleton SKPWRBSC

VSE/POWER/PNET Node Definition Skeleton SKPWRNDT

```
*************************************************************************
*                                                                       *
*                Use with BSC lines only                                *
*                                                                       *
*************************************************************************
 * $$ JOB JNM=IESPNDT,CLASS=0,DISP=D
 * $$ LST CLASS=Q
 // JOB POWER NETWORK DEFINITION TABLE
 LIBDEF PHASE,CATALOG=PRD2.CONFIG
 // OPTION CATAL
 // EXEC ASSEMBLY
 *************************************************************************
 *                                                                       *
 *  SKELETON FOR THE POWER NETWORK DEFINITION TABLE                      *
 *                                                                       *
 *************************************************************************
 *
 *  --V100-- :   PHASE NAME OF POWER NETWORK DEFINITION TABLE. THIS
 *                NAME MUST BE SPECIFIED IN THE POWER MACRO.
 *  --V101-- :   PNET NODE NAME OF YOUR OR AN INTERCONNECTED SYSTEM
 *  --V102-- :   AUTHORIZATION LEVEL OF INTERCONNECTED SYSTEM FOR POWER
 *                OPERATION ON OWN NODE. POSSIBLE ENTRIES ARE: NET
 *                                                             JOB
 *                                                             NOJOB
 *  --V103-- :   PNET ALTERNATE NODE NAME TO DESTINATION NODE --P101--
 *  --V104-- :   PNET NODE NAME OF INTERCONNECTED SYSTEM VIA INDIRECT
 *                LINK
 *  --V105-- :   PNET ADJACENT NODE NAME TO DESTINATION NODE --P104--
 *  --V106-- :   PNET ALTERNATE NODE NAME TO DESTINATION NODE --P104--
 *
 *************************************************************************
 * NODE DEFINITION OF OWN NODE
 *
          PRINT NOGEN
 --V100-- PNODE NODE=--V101--,LOCAL=YES
 *
 *************************************************************************
 * NODE DEFINITIONS OF INTERCONNECTED SYSTEMS
 *
 * POSSIBILITY 1: DIRECT LINK TO INTERCONNECTED SYSTEM
 *                WITHOUT ALTERNATE ROUTE
 *
          PNODE NODE=--V101--,AUTH=--V102--
 *
 *************************************************************************
 * POSSIBILITY 2: DIRECT LINK TO INTERCONNECTED SYSTEM
 *                WITH ALTERNATE ROUTE
 *
          PNODE NODE=--V101--,ROUTE2=--V103--,AUTH=--V102--
 *
 *************************************************************************
```

Figure 107 (Part 1 of 2). VSE/POWER Network Definition Table Skeleton SKPWRNDT

```
* POSSIBILITY 3: INDIRECT LINK TO INTERCONNECTED SYSTEM
*                VIA ADJACENT NODE WITHOUT ALTENATE ROUTE
*
         PNODE NODE=--V104--,ROUTE1=--V105--,AUTH=--V102--
*
*************************************************************************
* POSSIBILITY 4: INDIRECT LINK TO INTERCONNECTED SYSTEM
*                VIA ADJACENT NODE WITH ALTERNATE ROUTE
*
         PNODE NODE=--V104--,ROUTE1=--V105--,ROUTE2=--V106--,
               AUTH=--V102--
*
*************************************************************************
         END
/*
// EXEC LNKEDT
/&
* $$ EOJ
```

Figure 107 (Part 2 of 2). VSE/POWER Network Definition Table Skeleton SKPWRNDT

ACF/NCP Diagnostic File Skeleton SKNCPCDF

```
PURGE LIB(59) MEMBER(SKNCPCDF)
ADD MEMBER(59,SKNCPCDF,AAAA)
::* $$ JOB JNM=NCPDIAG,CLASS=0,DISP=D
::* $$ LST CLASS=Q,DISP=D
// JOB NCPDIAG     CREATE ACF/NCP DIAGNOSTIC FILE
* ****************************************************************
* *                                                              *
* *  - - - - - - - CREATE ACF/NCP DIAGNOSTIC FILE - - - - - - -  *
* *                                                              *
* *  THIS JOB IS FOR CREATING A DIAGNOSTIC FILE THAT IS TO BE    *
* *  LOADED INTO A 3705 COMMUNICATION CONTROLLER.
* *                                                              *
* *                                                              *
* *  THE FOLLOWING VARIABLE ARE USED AND HAVE TO BE CHANGED      *
* *                                                              *
* *    --V101-- STARTING ADDRESS OF EXTENT                       *
* *    --V102-- EXTENT ALLOCATION (NUMBER OF BLOCKS/TRACKS)      *
* *                                                              *
* ****************************************************************
*
// DLBL   IJSYSPH,'CU370X.DIAG.FILE',99/365,SD
// EXTENT SYSPCH,,,,--V101--,--V102--
ASSGN SYSPCH,DISK,VOL=DOSRES,SHR
// EXEC LIBR
ACCESS SUBLIB=PRD2.PROD
PUNCH IFU3705D.PHASE
PUNCH IFU3705E.PHASE
::/*
::/&
// JOB CLOSE SYSPCH AND REASSIGN TO SYSTEM
CLOSE SYSPCH,PUNCH
::/&
::* $$ EOJ
END OF MEMBER
```

Figure 108. Creating ACF/NCP Diagnostic File Skeleton SKNCPCDF

ACF/NCP Load Module File Skeleton SKNCPCLF

```
* $$ JOB JNM=NCPFILE,CLASS=0,DISP=D
* $$ LST CLASS=Q,DISP=D
// JOB NCPFILE     CREATE NCP LOAD MODULE FILE
* ********************************************************************
* *                                                                  *
* *  - - - - - - - - CREATE NCP LOAD MODULE FILE - - - - - - - - -   *
* *                                                                  *
* *  THIS JOB IS FOR CREATING A SEQUENTIAL FILE CONTAINING AN        *
* *  NCP LOAD MODULE THAT IS TO BE LOADED INTO A 3705 COMMUNI-       *
* *  CONTROLLER.                                                     *
* *                                                                  *
* *                                                                  *
* *  THE FOLLOWING VARIABLE ARE USED AND HAVE TO BE CHANGED          *
* *                                                                  *
* *    --V001-- STARTING ADDRESS OF EXTENT                           *
* *    --V002-- EXTENT ALLOCATION (NUMBER OF BLOCKS/TRACKS)          *
* *    --V003-- VOLUME CONTAINING LOAD FILE                          *
* *             FOR 3310, 3330, OR 3340 DASD, SPECIFY DOSRES;        *
* *             OTHERWISE, SYSWK1                                    *
* *    --V004-- NAME OF NCP LOAD MODULE (PHASE)                      *
* *                                                                  *
* ********************************************************************
*
ASSGN SYS000,SYSPCH
// ON $CANCEL OR $ABEND GOTO RESET
// DLBL   IJSYSPH,'CU370X.LOAD.FILE',99/365,SD
// EXTENT SYSPCH,,,,--V001--,--V002--
ASSGN SYSPCH,DISK,VOL=--V003--,SHR
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
PUNCH --V004--.PHASE
/*
/. RESET
CLOSE SYSPCH,IGN
ASSGN SYSPCH,SYS000
/&
* $$ EOJ
```

Figure 109. Creating ACF/NCP Load Module Skeleton SKNCPCLF

ACF/SSP Independent Loader Utility Skeleton for FBA Disks SKNCPFBA

```
* $$ JOB JNM=LOAD3705,CLASS=0,DISP=D
* $$ LST CLASS=Q,DISP=D
// JOB LOAD3705  LOAD 3705 USING ACF/SSP INDEPENDENT LOADER UTILITY
* ********************************************************************
* *                                                                  *
* *  - - - - - LOAD 3705 COMMUNICATION CONTROLLER - - - - - - -      *
* *                                                                  *
* *  THIS JOB IS FOR LOADING A 3705 COMMUNICATION CONTROLLER.        *
* *  IT USES THE ACF/SSP INDEPENDENT LOADER UTILITY.  THE NCP        *
* *  LOAD FILE IS TAKEN FROM A SEQUENTIAL FILE RESIDING ON A         *
* *  FBA DEVICE.                                                     *
* *                                                                  *
* *                                                                  *
* *  THE FOLLOWING VARIABLES ARE USED AND HAVE TO BE CHANGED         *
* *                                                                  *
* *    --V001-- DEVICE ADDRESS OF 3705                               *
* *    --V002-- VOLUME CONTAINING DIAGNOSTIC AND LOAD FILES          *
* *             FOR 3310  DASD, SPECIFY DOSRES; OTHERWISE, SYSWK1    *
* *                                                                  *
* ********************************************************************
*
// LIBDEF PHASE,SEARCH=(PRD2.COMM),TEMP
// ASSGN  SYS000,--V001--
// DLBL   FBAFLE2,'CU370X.DIAG.FILE',99/365,SD
// EXTENT SYS008,--V002--
// ASSGN  SYS008,DISK,VOL=--V002--,SHR
// DLBL   FBAFLE1,'CU370X.LOAD.FILE',99/365,SD
// EXTENT SYS005,--V002--
// ASSGN  SYS005,DISK,VOL=--V002--,SHR
// OPTION NODUMP
// EXEC   IFULOAD,SIZE=128K
   LOAD   LOADMOD=FBAFLE1,3705=SYS000,DEVICE=FBA1,DIAG=Y8
/*
/&
* $$ EOJ
```

Figure 110. Loading 3705 Communication Controller From FBA Device - Skeleton SKNCPFBA

ACF/SSP Independent Loader Utility Skeleton for CKD Disks SKNCPCKD

```
* $$ JOB JNM=LOAD3705,CLASS=0,DISP=D
* $$ LST CLASS=Q,DISP=D
// JOB LOAD3705  LOAD 3705 USING ACF/SSP INDEPENDENT LOADER UTILITY
* ********************************************************************
* *                                                                  *
* *  - - - - - LOAD 3705 COMMUNICATION CONTROLLER - - - - - - -      *
* *                                                                  *
* *  THIS JOB IS FOR LOADING A 3705 COMMUNICATION CONTROLLER.        *
* *  IT USES THE ACF/SSP INDEPENDENT LOADER UTILITY.  THE NCP        *
* *  LOAD FILE IS TAKEN FROM A SEQUENTIAL FILE RESIDING ON A         *
* *  CKD DEVICE.                                                     *
* *                                                                  *
* *                                                                  *
* *  THE FOLLOWING VARIABLE ARE USED AND HAVE TO BE CHANGED          *
* *                                                                  *
* *    --V001-- DEVICE ADDRESS OF 3705                               *
* *    --V002-- VOLUME CONTAINING DIAGNOSTIC AND LOAD FILES          *
* *             FOR 3330 OR 3340 DASD, SPECIFY DOSRES;               *
* *             OTHERWISE, SYSWK1                                    *
* *    --V003-- TYPE OF DASD (E.G., 3330) ON WHICH LOAD FILE         *
* *             RESIDES                                              *
* *                                                                  *
* ********************************************************************
*
// LIBDEF PHASE,SEARCH=(PRD2.COMM),TEMP
// ASSGN  SYS000,--V001--
// DLBL   DIAGFLE,'CU370X.DIAG.FILE',99/365,SD
// EXTENT SYS008,--V002--
// ASSGN  SYS008,DISK,VOL=--V002--,SHR
// DLBL   PEPIPF,'CU370X.LOAD.FILE',99/365,SD
// EXTENT SYS005,--V002--
// ASSGN  SYS005,DISK,VOL=--V002--,SHR
// OPTION NODUMP
// EXEC   IFULOAD,SIZE=128K
   LOAD   LOADMOD=PEPIPF,3705=SYS000,DEVICE=--V003--,DIAG=Y8
/*
/&
* $$ EOJ
```

Figure 111. Loading 3705 Communication Controller From CKD Device - Skeleton SKNCPCKD

Cross-Domain Manager and Resource Definition Skeleton SKVTMCDR

```
* $$ JOB JNM=VTMCDRM,CLASS=0,DISP=D
// JOB VTMCDRM CATALOG ACF/VTAM MAJOR NODE DEFINITIONS
* ****************************************************************
* *                                                              *
* *  - - - - - - DEFINE CDRM AND CDRS MAJOR NODES - - - - - - -  *
* *                                                              *
* *  THIS JOB IS FOR CATALOGING ACF/VTAM MAJOR NODE DEFINITIONS  *
* *  FOR A SINGLE CROSS-DOMAIN RESOURCE (CDRS) AND ITS RESOURCE  *
* *  MANAGER (CDRM).  THESE DEFINITIONS ARE FOR ALLOWING LOGON   *
* *  FROM A DISPLAY TERMINAL ATTACHED TO ANOTHER SNA SYSTEM.     *
* *                                                              *
* *                                                              *
* *  THE FOLLOWING VARIABLES ARE USED AND HAVE TO BE CHANGED     *
* *                                                              *
* *                                                              *
* *    --V101-- NAME OF OWN SNA CROSS-DOMAIN RESOURCE MANAGER    *
* *    --V102-- SNA SUBAREA NUMBER OF OWN DOMAIN                 *
* *    --V103-- NAME OF OTHER SNA CROSS-DOMAIN RESOURCE MANAGER  *
* *    --V104-- SNA SUBAREA NUMBER OF OTHER DOMAIN               *
* *    --V105-- LU NAME OF RESOURCE IN OTHER DOMAIN              *
* *                                                              *
* ****************************************************************
*
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VTMCDRM.B REPLACE=YES
VTMCDRM   VBUILD    TYPE=CDRM
--V101--  CDRM      SUBAREA=--V102--,CDRDYN=YES,
                    ISTATUS=ACTIVE,VPACING=2
--V103--  CDRM      SUBAREA=--V104--,CDRSC=OPT,
                    ISTATUS=ACTIVE,VPACING=2
/+
CATALOG VTMCDRS.B REPLACE=YES
VTMCDRS   VBUILD    TYPE=CDRSC
--V105--  CDRSC     CDRM=--V103--
/+
/*
/&
* $$ EOJ
```

Figure 112. Defining CDR and CDRS Major Nodes - Skeleton SKVTMCDR

ACF/VTAM Path Definition Table Skeleton SKVTMPAT

```
* $$ JOB JNM=VTMPATH,CLASS=0,DISP=D
// JOB VTMPATH CATALOG ACF/VTAM PATH DEFINITION TABLE
* ********************************************************************
* *                                                                  *
* *  - - - - - - - - - - DEFINE PATH TABLE - - - - - - - - - - -     *
* *                                                                  *
* *  THIS JOB IS FOR CATALOGING AN ACF/VTAM PATH DEFINITION          *
* *  TABLE.  THE TABLE REPRESENTS THE ROUTE ACF/VTAM USES TO         *
* *  COMMUNICATE WITH ANOTHER SNA SUBAREA NODE, THE DESTINATION-     *
* *  NODE.  THE DESTINATION-NODE MUST HAVE ACF/VTAM, ACF/VTAME,      *
* *  OR ACF/TCAM.  ACF/VTAM ROUTES TO THE DESTINATION-NODE VIA       *
* *  AN ADJACENT, PASS-THROUGH, NODE.  THE ADJACENT NODE CAN BE      *
* *  A COMMUNICATION CONTROLLER HAVING NCP OR ANOTHER PROCESSOR      *
* *  HAVING AN ICA AND ACF/VTAM.  THE ADJACENT NODE MAY ALSO BE      *
* *  THE DESTINATION NODE.                                           *
* *                                                                  *
* *                                                                  *
* *  THE FOLLOWING VARIABLES ARE USED AND HAVE TO BE CHANGED         *
* *                                                                  *
* *                                                                  *
* *    --V101-- SNA SUBAREA NUMBER OF DESTINATION-NODE               *
* *    --V102-- SNA SUBAREA NUMBER OF ADJACENT PASS-THRU NODE        *
* *                                                                  *
* ********************************************************************
*
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VTMPATH.B REPLACE=YES
VTMPATH   PATH DESTSA=--V101--,ER0=(--V102--,1),VR0=0
/+
/*
/&
* $$ EOJ
```

Figure 113. Defining ACF/VTAM Path Table - Skeleton SKVTMPAT

ACF/VTAM Major Node Definition Skeleton SKVTMCA2

```
* $$ JOB JNM=VTMCA2,CLASS=0,DISP=D
// JOB VTMCA2  CATALOG ACF/VTAM MAJOR NODE DEFINITION
* ************************************************************
* *                                                          *
* *  - - - - - DEFINE CHANNEL-ATTACHMENT MAJOR NODE - - - - - -  *
* *                                                          *
* *  THIS JOB IS FOR CATALOGING AN ACF/VTAM MAJOR NODE DEFINITION *
* *  OF AN ICA LINK CONNECTION TO ANOTHER SNA SUBAREA NODE.  THE  *
* *  NODE CAN BE A COMMUNICATION CONTROLLER HAVING ACF/NCP, OR IT *
* *  CAN BE ANOTHER PROCESSOR HAVING AN ICA AND ACF/VTAM.        *
* *                                                          *
* *                                                          *
* *  THE FOLLOWING VARIABLES ARE USED AND HAVE TO BE CHANGED     *
* *                                                          *
* *    --V101-- MINOR NODE NAME OF THE LINE GROUP            *
* *    --V102-- MINOR NODE NAME OF THE COMMUNICATION LINE    *
* *    --V103-- PHYSICAL LINE ADDRESS                        *
* *    --V104-- MINOR NODE NAME OF THE PHYSCIAL UNIT         *
* *    --V105-- ATTACHED PHYSICAL UNIT TYPE (SPECIFY 4 OR 5):  *
* *             4 FOR A COMMUNICATION CONTROLLER HAVING ACF/NCP,  *
* *             5 FOR ANOTHER PROCESSOR HAVING AN ICA AND    *
* *             ACF/VTAM                                     *
* *    --V106-- SNA SUBAREA NUMBER OF ATTACHED NODE          *
* *                                                          *
* ************************************************************
*
// EXEC LIBR
ACCESS SUBLIB=PRD2.CONFIG
CATALOG VTMCA2.B REPLACE=YES
VTMCA2   VBUILD    TYPE=CA
--V101-- GROUP     DIAL=NO,ISTATUS=ACTIVE,LNCTL=SDLC
--V102-- LINE      ADDRESS=--V103--,MAXBFRU=(10,10)
--V104-- PU        PUTYPE=--V105--,SUBAREA=--V106--
/+
/*
/&
* $$ EOJ
```

Figure 114. Defining ACF/VTAM Channel Attached Major Nodes - Skeleton SKVTMCA2

Appendix E. BSC IBM 3270 Polling and Device Selection Characters

If CU or device number is	CU or device address is	Code GPOLL= or ADDR=
0	SP(see Note)	40
1	A	C1
2	B	C2
3	C	C3
4	D	C4
5	E	C5
6	F	C6
7	G	C7
8	H	C8
9	I	C9
10	¢	4A
11	.	4B
12	<	4C
13	(	4D
14	+	4E
15	|	4F
16	&	50
17	J	D1
18	K	D2
19	L	D3
20	M	D4
21	N	D5
22	O	D6
23	P	D7
24	Q	D8
25	R	D9
26	!	5A
27	$	5B
28	*	5C
29	)	5D
30	;	5E
31	¬	5F

Figure 115. BSC 3270 General Polling and Device Selection Characters

Note: Address (SP) is always used as the device address when selecting a 3275.

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Glossary

This glossary defines terms as they are used in this manual. If you do not find the term you are looking for, refer to the index or to the manual *Vocabulary for Data Processing, Telecommunications, and Office Systems*, GC20-1699.

The glossary includes definitions published in the:

- American National Dictionary for Information Processing, copyright 1977 by the Computer and Business Equipment Manufacturers Association. Copies may be purchased from the American National Standards Institute, 1430 Broadway, New York, New York, 10018.
- ISO Vocabulary of Data Processing, developed by the International Standards Organization, Technical Committee 97, Subcommittee 1.

  Definitions from draft proposals and working papers under development by the ISO subcommittee also have been used.

A definition included from one of the above sources is marked by an asterisk (*).

abend. Short for abnormal end of task. Termination of a CICS/DOS/VS task before its completion because of an error condition that cannot be handled by automatic recovery facilities.

access method. A program for moving data between virtual storage and input/output devices.

ACF/VTAM. (Advanced Communication Function for Virtual Telecommunications Access Method) A Systems Network Architecture (SNA) access method that controls communication between resources of a single or multiple-processor network.

address. See device address.

application program. A program written for or by a user; a program that applies to the user's own work. Often shortened in this manual to just application.

See also batch application and online application.

backup copy. A copy of a file or set of files that is kept for reference in case the original file or set of files is destroyed. In a VSE-based system, backup copies normally are done from disk to tape devices.

batch application. A set of programs that normally processes data without user interaction (an application to print a company payroll, for example). Such an application uses a device, a data file, or the processor intensively for a longer time than online applications.

*** batch processing.** (1) Loosely, the processing of computer programs serially. (2) Pertaining to the technique of processing a set of computer programs such that each is completed before the next program of the set is started. (3) In real-time systems, the processing of related transactions that have been grouped together.

bps. (bits per second) In serial transmission, the instantaneous bit speed with which a device or channel transmits a character.

BSC. (Binary Synchronous Communication) A communication line discipline that uses a standard set of control characters and control character sequences to transmit binary-coded data between stations.

BTAM-ES. (Basic Telecommunication Access Method Extended Storage) An IBM-supplied telecommunication access method. It permits read and write communication with remote devices.

channel. A functional unit, controlled by the processor, that handles the transfer of data between processor storage and local peripheral equipment.

CICS/DOS/VS. (Customer Information Control System/Disk Operating System/Virtual Storage) A general-purpose program product that controls online communication between terminal users and a data base.

CKD disk device. (Count-Key-Data disk device) A disk storage device on which storage is allocated by tracks and cylinders. Contrast with FBA disk device.

communication controller. A control unit whose operations are controlled by one or more programs stored and executed in the unit (an IBM 3705 Communications Controller, for example). A communication controller manages details of line control and the routing of data through a network.

communication control unit. A communication device that controls the transmission of data over lines in a network. Communication control units include transmission control units such as the IBM 2702 Transmission Control Unit and communication controllers such as the IBM 3705 Communications Controller.

configuration. (1) The arrangement of a computer system or network as defined by the nature, number, and the chief characteristics of its functional units. More specifically, the term may refer to a hardware configuration or a software configuration. (2) The devices and programs that make up a system, subsystem, or network.

*** control program.** A computer program designed to schedule and to supervise the processing of programs of a computer system.

control unit. A device that controls input/output operations at one or more devices.

CUT. control unit terminal

data entry panel. A panel in which the user communicates with the system by filling in one or more fields. See also panel and selection panel.

data management. A major function of the operating system. It involves organizing, storing, locating, and retrieving data.

data processing system. A set of hardware and software that performs five functions--input, processing, storage, output, and control.

For a local data processing system, all five functions are done at the same location.

For a remote data processing system, certain portions of the input and output functions are at different places and are connected by transmission facilities.

device address. The identification of an input/output device by its channel and unit number.

Device Support Facilities. A utility program for performing operations on disk volumes so that they can be accessed by programs running under VSE. Examples of these operations are initializing a disk volume and assigning an alternate track.

DFT. distributed function terminal

dialog. For VSE/SP, a set of panels that can be used to complete a specific data processing task (defining a file, for example).

*** direct access.** The facility to obtain data from a storage device, or to enter data into a storage device in such a way that the process depends only on the location of that data and not on a reference to data previously accessed.

See also sequential access.

disk device. A storage device in which the access time is effectively independent of the location of the data. Direct Access Storage Device (DASD) is often used synonymously for disk device.

display station. See terminal.

distribution tape. A magnetic tape that contains an IBM program product like VSE/SP. This tape is shipped to the customer for program installation.

DITTO. See VSE/DITTO.

domain. (1) In a network, the resources that are under control of one or more associated host processors. (2) The network resources that are under the control of a particular system services control point (SSCP).

DOS/VS. (Disk Operating System/Virtual Storage) See VSE.

*** dump.** (1) Data that has been dumped. (2) To write the contents of a storage, or of part of a storage, usually from an internal storage to an external medium, for a specific purpose, such as to allow other use of the storage, as a safeguard against faults or errors, or in connection with debugging.

EREP. (Environmental Recording, Editing and Printing Program) A service aid of VSE/Advanced Functions.

Whenever a hardware error occurs, VSE/SP writes information about the error into a system recorder file. Through EREP, both summarized and detailed reports about this file's contents can be printed.

external storage. Storage that is not part of the processing unit (storage on disk, for example).

FBA disk device. (Fixed Block Architecture disk device) A disk storage device on which storage is allocated by blocks of fixed size. Contrast with CKD disk device.

FCOPY. See VSE/FCOPY.

*** file.** (1) A set of related records that are treated as a unit. Also known as a data set.

*** hardware.** (1) Physical equipment used in data processing, as opposed to computer programs, procedures, rules, and associated documentation. Contrast with software.

host processor. (1) In a network, the processor in which the access method for the network resides. (2) In an SNA network, the processor that contains a system services control point (SSCP).

ICA. (Integrated Communication Adapter) A hardware feature of IBM 4300 processors that permits telecommunication lines to be attached to these processors.

ICCF. See VSE/ICCF.

interactive. Pertaining to an application in which each entry causes a response from a system or program, as in an inquiry system or an airline reservation system. An interactive system may be conversational, implying a continuous dialog between the user and the system.

*** I/O.** (Input/Output) (1) Pertaining to a device or to a channel that may be involved in an input process, and, at a different time, in an output process. (2) Pertaining to a device whose parts can be performing an input process and an output process at the same time. (3) Pertaining to either input or output, or both.

*** I/O device.** A device in a data processing system by which data may be entered into the system, received from the system, or both.

IPL. (Initial Program Load) The initialization procedure that causes an operating system to begin operation. (2) The process by which a configuration image is loaded into storage at the beginning of a work day or after a system malfunction.

JCL. (Job Control Language) A control language that can be used to: (a) identify a job to an operating system and (b) describe that job's requirements.

JES. (Job Entry Subsystem) A subsystem for use under OS/VS1 or MVS/SP.

job. (1) A set of data that completely defines a unit of work for a computer. A job usually includes all necessary computer programs, linkages, files, and instructions to the operating system. (2) The actual processing of a unit of work by a computer.

*** job stream.** The sequence of representations of jobs to be submitted to an operating system. Synonymous with input stream and run stream.

library. A collection of data elements on disk to which the system has quick access. These elements (programs or dumps, for example) are maintained by system services.

VSE/SP has two main types of libraries, VSE libraries and ICCF libraries.

licensed program. Any separately priced program that bears an IBM copyright and is offered to customers under the terms and conditions of the Agreement for IBM Licensed Programs. Includes Program Products (PPs), Industry Application Programs (IAPs), Field-Developed Programs (FDPs), Installed User Programs (IUPs), and Programming RPQs (PRPQs).

line. See link connection.

link connection. A communication line is the physical medium of transmission (a telephone line, for example). A link connection includes the physical medium of transmission, the protocol, and associated devices and programming. It is both physical and logical.

megabyte. Roughly equal to 1 million bytes. A byte is the space required to represent one character.

member. A named set of one or more records in a library.

MSHP. (Maintain System History Program) A program used for automating and controlling various installation, tailoring, and service activities for a VSE system.

MVS/SP. (Multiple Virtual Storage/System Product) A program product that is an extension of OS/VS2.

network. (1) * An interconnected group of nodes. (2) The assembly of equipment through which connections are made between data stations.

node. In SNA, a junction point in a network that is represented by a physical unit. A node contains network addressable units.

object module. A program unit that is the output of an assembler or a compiler and is suitable for input to the linkage editor. Contrast with source program.

OLTEP. See VSE/OLTEP.

online. (1) Pertaining to a user's ability to interact with a computer. (2) Pertaining to a user's access to a computer via a display station. (3) * Pertaining to the operation of a functional unit that is under the continual control of a computer. The term is also used to describe a user's access to a computer via a display station.

online application. A set of programs that normally is used by people at display stations (an application that processes airline reservations, for example).

When an online application is active, it waits for data to be sent to it. Once input arrives, it processes it and sends a response to the display station or to another device.

online processing. Processing by which the input data enters the computer directly from a display station and the output data is transmitted directly to the display station.

*** operating system.** (1) Software that controls the processing of computer programs and that may provide scheduling, debugging, input/output control, accounting, compilation, storage assignment, data management, and related services.

operator console. See system console.

*** output.** (1) Pertaining to a device, process, or channel involved in an output process, or to the data or states involved in an output process. See I/O.

packet. A sequence of binary digits including data and call control signals that is sent as a composite whole. The data, call control signals, and possibly error control information, are arranged in a specific format.

packet switching. The processing of routing and transferring data by means of addressed packets so that a channel is occupied only during the transmission of a packet. Upon completion of the transmission, the channel is made available for the transfer of other packets.

panel. In VSE/SP, the complete set of information that currently is shown on a display station screen. Each panel of the VSE/SP Interactive Interface is like a different page in a book; that is, you go backward and forward through panels, just like you do when turning a book's pages. See also selection panel and data entry panel.

partition. A division of the address space that is available for program execution. The supervisor control program, however, does not run in this space.

password. (1) A unique string of characters that a program, computer operator, or user must supply to meet security requirements before gaining access to data. (2) In systems with time sharing, a one-character to eight-character symbol that the user may be required to supply at the time he logs on to the system. The password is confidential, as opposed to the user identification.

phase. The smallest unit of executable code that can be referred to in a program library.

POWER. See VSE/POWER.

pregenerated operating system. An operating system like VSE/SP which is shipped by IBM mainly in object code. In such a system, definitions for key functions such as:

- Size of the main control program,
- Organization and size of libraries, and
- Required system areas on disk

are done by IBM, not the customer. Because of this, the customer does not need the source code necessary to generate an operating system.

printer. A device that writes output data from a system on paper or similar media.

processing. The performance of logical operations and calculations on data, including the temporary retention of data in processor storage while the data is being operated upon.

processor storage. The storage contained in a processing unit. Synonymous with real storage.

program. (1) * To design, write, and test programs. (2) A set of instructions that a machine can interpret and execute.

program product. A licensed IBM program that performs a function or set of functions for the user. It interacts with and relies upon either the hardware or other program products of IBM.

PTF. (Program Temporary Fix) A temporary solution or by-pass of a problem caused by a defect in a current, unaltered release of an IBM program.

queue. (1) A line or list formed by items in a system that are waiting for service (for example, tasks to be performed or messages to be transmitted in a message-switching system). (2) To arrange in, or form, a queue.

*** read.** To acquire or interpret data from a storage device, from a data medium, or from another source.

real storage. See processor storage.

*** record.** A collection of related data or words, treated as a unit (for example, in stock control, each invoice could constitute one record).

restore. To load a copy of: (a) an operating system or (b) user data into storage. The copy can be a backup copy that replaces destroyed data, or it can be a newly acquired copy that replaces outdated data.

RJE. (Remote Job Entry) Submission of jobs through an input unit that has access to a computer through a data link.

RSCS. (Remote Spooling Communications Subsystem) The component of VM/SP that transfers spool files between users, remote stations, and local and remote batch systems.

*** run.** (1) A single performance of one or more jobs. (2) A single, continuous performance of a computer program or routine.

SDLC. (Synchronous Data Link Control) A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or non-switched links. The configuration of the link connection may be point-to-point, multipoint, or loop.

selection panel. A displayed list of functions (options) that are available for doing work. A display station user can select an option from a selection panel do a specific task. See also panel and data entry panel.

sequential access. An access mode in which records are read from or written into a file in such a way that each successive access to the file refers to the next record in the file.

shared spooling. A function of VSE/POWER that permits sharing of the VSE/POWER account file, data file, and queue file among several systems with VSE/POWER.

SNA. (Systems Network Architecture) A method for formally defining the responsibilities of components of an IBM communications network.

SNA network. The part of a user-application network that conforms to the formats and protocols of Systems Network Architecture. It enables reliable transfer of data among end users and provides protocols for controlling the resources of various network configurations. The SNA network consists of network addressable units (NAUs), boundary function components, and the path control network.

*** software.** (1) Programs, procedures, rules, and associated documentation for the operation of a computer system. Contrast with hardware.

*** source program.** A computer program expressed in a source language. Contrast with object module.

spooling. (1) * The use of external storage as buffer storage to reduce processing delays when transferring data between peripheral equipment and a processor. (2) The reading of input data streams and the writing of output data streams on external storage devices (concurrently with job processing) in a format convenient for later processing or output operations.

*** storage.** (1) The action of entering data into a storage device. (2) The retention of data in a storage device. (3) A device, or part of a device, that can retain data. (4) A storage device.

*** storage device.** A functional unit into which data can be entered, in which it can be retained, and from which it can be retrieved.

subsystem. A secondary or subordinate system or programming support, usually capable of operating either independently of or together with the operating system.

supervisor control program. In a VSE-based system, the program that coordinates the use of resources and maintains the flow of processor operations.

SVA. (Shared Virtual Area) An area located in the high address range of virtual storage. It contains, primarily, phases that can be shared between partitions.

*** system console.** A functional unit containing devices that are used for communication between a computer operator and a data processing system.

System IPO/E. (System Installation Productivity Option/Extended) For VSE, a set of products and a series of optional features designed to aid in system installation and maintenance.

system libraries. In VSE/SP, a set of libraries in which the various parts of the operating system are stored.

telecommunication. The transmission of data between computer systems and between such a system and remote devices.

terminal. (1) * A point in a system or communication network at which data can either enter or leave. (2) A device, usually equipped with a keyboard and a screen, capable of sending and receiving information over a communication channel.

Display stations and display terminals are terminals with a keyboard and screen.

transaction. In CICS/DOS/VS, an application program (or programs) that can be used by a display station operator. A given transaction can be used concurrently by one or more operators.

A task is the execution of a transaction for a particular operator. A given task can relate only to one operator.

TWX. teletypewriter exchange service

utility program. (1) A program that assists in the use of a computing system without contributing directly to the control of the system or the production of results. (2) A program that performs an everyday task such as copying data from one storage device to another. (3) * Synonym for service program.

virtual address. An address that refers to a location in virtual storage. It is translated by the system to a processor storage address when the information stored at the virtual address is to be used.

*** virtual storage.** The notation of storage space that may be regarded as addressable main storage by the user of a computer system in which virtual addresses are mapped into real addresses. The size of virtual storage is limited by the addressing scheme of the computer system and by the amount of available external storage, not by the actual size of processor storage.

VM/SP. (Virtual Machine/System Product) A program product that manages the resources of a single computer so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of a "real" machine.

volume. A disk pack, tape reel, or diskette (pack).

VSAM. See VSE/VSAM.

VSE. (Virtual Storage Extended) An operating system that is an extension of Disk Operating System/Virtual Storage.

A VSE system consists of: (a) licensed VSE/Advanced Functions support and (b) any IBM-supplied and user-written programs that are required to meet an installation's data processing needs. VSE and the hardware controlled by it form a complete computing facility.

VSE/Advanced Functions. The basic operating system support needed at a VSE-controlled installation.

VSE/DITTO. (VSE/Data Interfile Transfer, Testing and Operations Utility) An IBM program product that provides file-to-file services for card I/O, magnetic tape, and disk devices.

VSE/FCOPY. (VSE/Fast Copy Data Set Program) This program is designed for: (a) fast copy data operations from disk to disk and (b) dump/restore operations via an intermediate dump file on magnetic tape or disk.

VSE/ICCF. (VSE/Interactive Computing and Control Facility) An IBM program product that makes the services of a VSE-controlled computing system available to authorized display station users. Availability of services is on a time-shared basis, and display stations must be linked to the system's central processor.

VSE/OLTEP. (VSE/Online Test Executive Program) An IBM program for managing the online tests that are available for device preventive maintenance and service. Normally, only IBM service personnel use this program.

VSE/POWER. (VSE/Priority Output Writers, Execution Processors, and Input Readers) An IBM program product primarily used for the spooling of input and output. VSE/POWER's networking functions enable a VSE/SP system to exchange files with or run jobs on another remote processor.

VSE/VSAM. (VSE/Virtual Storage Access Method) An access method for indexed or sequential processing of fixed and variable length records on direct access devices.

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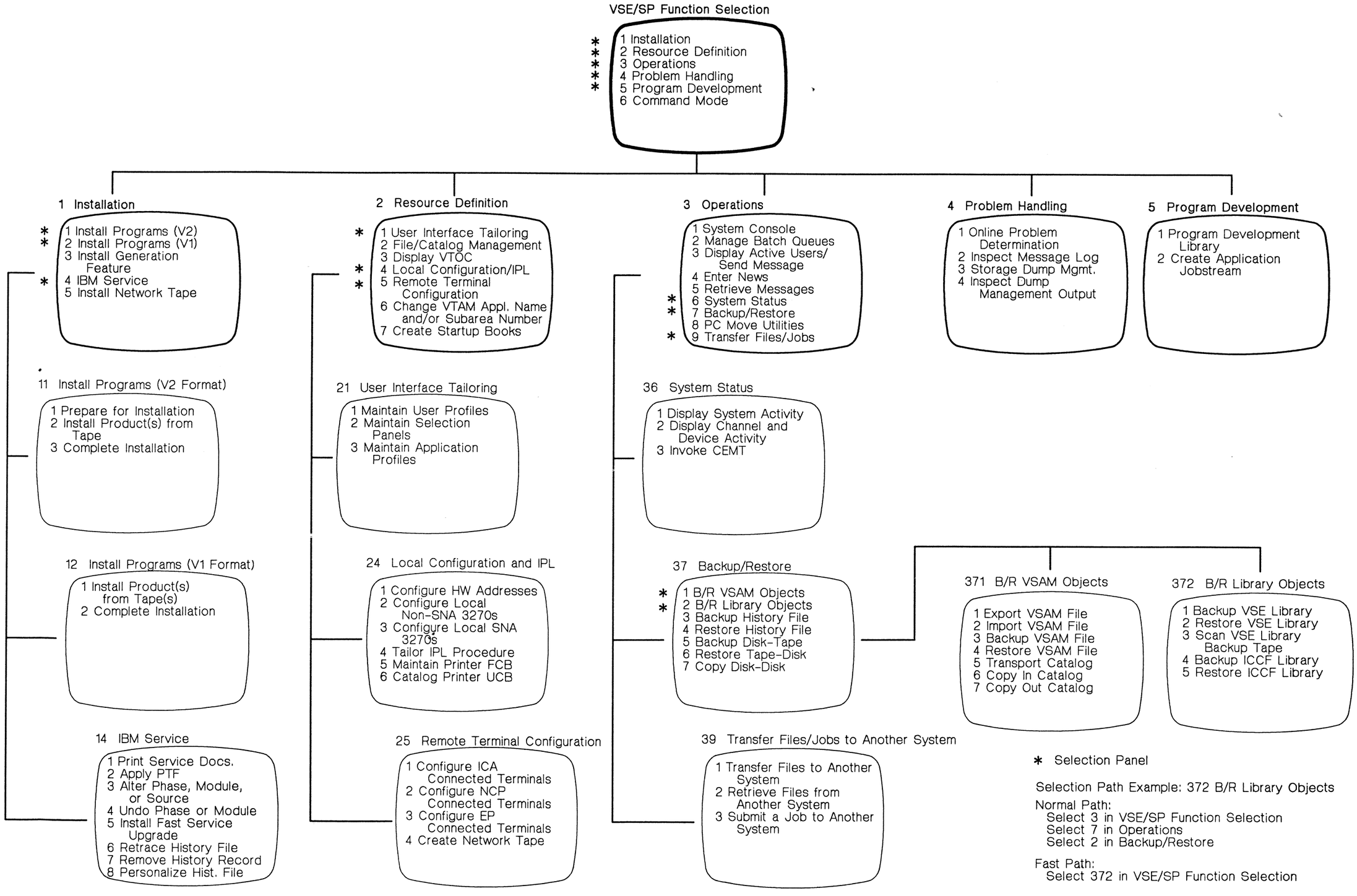
Numerics

Default Selection Panel Hierarchy for System Administrator



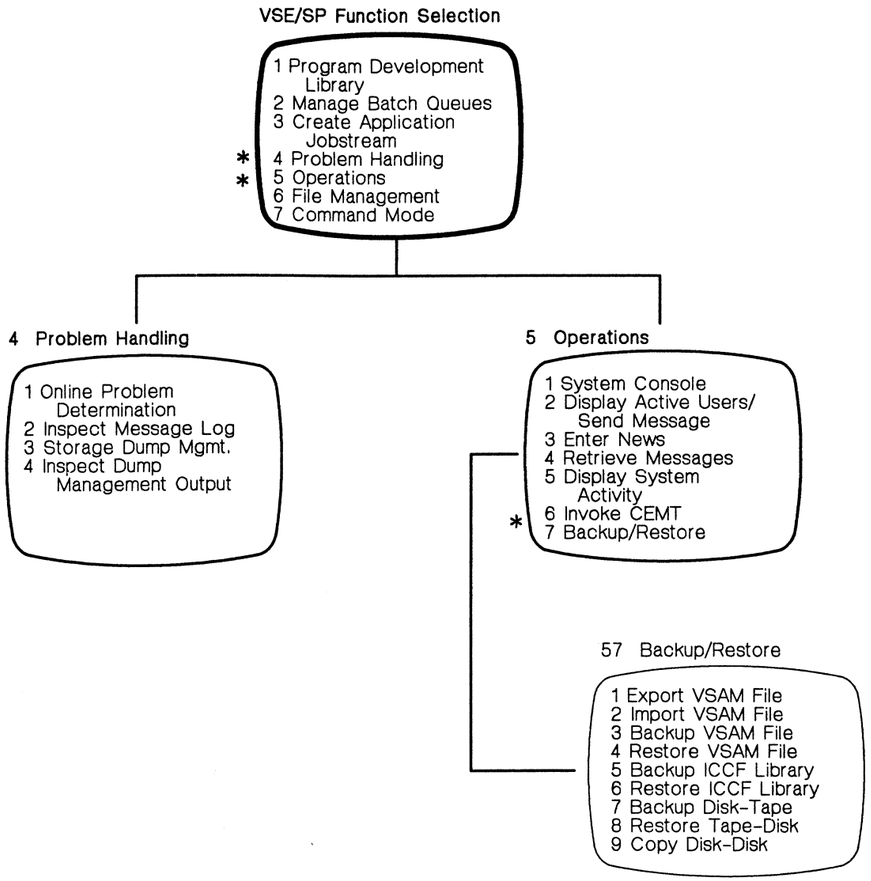
* Selection Panel

Selection Path Example: 372 B/R Library Objects

Normal Path:
Select 3 in VSE/SP Function Selection
Select 7 in Operations
Select 2 in Backup/Restore

Fast Path:
Select 372 in VSE/SP Function Selection

Default Selection Panel Hierarchy for Programmer



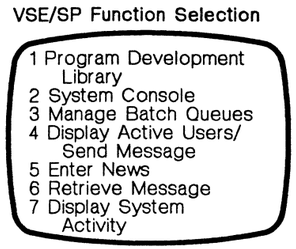
* Selection Panel

Selection Path Example: 57 Backup/Restore

Normal Path:
Select 5 in VSE/SP Function Selection
Select 7 in Operations

Fast Path:
Select 57 in VSE/SP Function Selection

Default Selection Panel for Operator



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