DIGITAL SNA Domain Gateway

Installation (OpenVMS)

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This document describes how to install the Domain Gateway software on the OpenVMS operating system.

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Preface

The DIGITAL SNA Domain Gateway-CT and DIGITAL SNA Domain Gateway-ST are combination hardware and software systems that allow communication between non-SNA networks (DECnet and TCP/IP) and IBM SNA (Systems Network Architecture) networks.

This manual explains how to install the Domain Gateway software on VAX processors that are running the OpenVMS VAX operating system and on Alpha processors that are running the OpenVMS Alpha operating system.

Keep this document with your distribution kit. You will need it if you need to reinstall the Domain Gateway software.

Intended Audience

The audience for this guide is the system manager responsible for installing the Domain Gateway software.

Document Structure

This guide is organized as follows:

Chapter 1	Describes the operating system and hardware requirements for the Domain Gateway installation and related procedures that you must complete before installing the Domain Gateway software.
Chapter 2	Describes the step-by-step instructions for the installation.
Chapter 3	Describes the Installation Verification Procedure (IVP) and postinstallation procedures that you must complete in order to use the Domain Gateway product.
Appendix A	Contains sample listings of Domain Gateway software installations.
Appendix B	Contains a list of files added to your system as a result of installing the Domain Gateway software.

Associated Documents

The DIGITAL SNA Domain Gateway product documentation consists of the following six manuals: two installation manuals, a planning and configuration manual, a management manual, an NCL reference manual, and a manual describing the modifications necessary to IBM systems that communicate with the Gateway.

This manual, *DIGITAL SNA Domain Gateway Installation (OpenVMS)* and the *DIGITAL SNA Domain Gateway Installation (DIGITAL UNIX)* manual describe the steps you take to install the Domain Gateway software.

The *DIGITAL SNA Domain Gateway Planning and Configuration* manual describes the activities you need to do to plan for a Domain Gateway. The manual contains a series of worksheets that allow you to organize all the information you need to configure a Gateway. The manual then describes how to use the Configuration utility to create a Gateway configuration file. Finally, the manual describes how to create a loadable management file and how to load this file and the system image onto the Gateway hardware.

The *DIGITAL SNA Domain Gateway Management* manual describes the tasks necessary to monitor and modify a running Domain Gateway.

The *DIGITAL SNA Domain Gateway NCL Reference* manual describes, in a reference format, the Network Control Language (NCL) commands used to manage the SNA components of the Domain Gateway. It also describes the event logging messages generated by these components.

The *DIGITAL SNA Domain Gateway Guide to IBM Resource Definition* manual describes, in detail, the modifications that an IBM system programmer needs to make to all IBM systems that communicate with the Domain Gateway. These changes are made to the IBM communications software (called VTAM), the IBM operating system, and IBM programs. This manual should be made available to IBM system programmers responsible for IBM systems that communicate with the Gateway. The system programmers will also want to read the management manual.

Before you use the manuals in the DIGITAL SNA Domain Gateway documentation set, you should be familiar with the material in the following IBM manuals:

- *Systems Network Architecture—Concepts and Products* (GC30-3072-*x*)
- *Systems Network Architecture—Technical Overview* (GC30-3073-*x*)

In addition to the SNA material in those two IBM manuals, you should have available the following VTAM manuals:

- *Planning and Reference for Netview Network Control Program Virtual Telecommunications Access Method* (SC31-6092-*x*)
- *VTAM Network Implementation Guide* (SC31-6404-*x* for VTAM V3R3)

The DEC ChannelServer (DESNA) documentation consists of the following manuals:

- *DEC ChannelServer Hardware Installation Guide*
- *DEC ChannelServer Hardware Troubleshooting Guide*

The DEC ChannelServer II (DESNB) documentation consists of the following manuals:

- *DEC ChannelServer II Installation*
- *DEC ChannelServer II Problem Solving*

The DEC MicroServer (DEMSA) documentation consists of the following manual:

- *Installing the DEC MicroServer*

The DEC MicroServer-SP (DEMSB) documentation consists of the following manual:

- *Installing the DEC MicroServer-SP*

In addition, the following DECnet manuals contain information about general DECnet concepts and the Network Control Language (NCL):

- *DECnet Network Management*
- *DECnet Network Control Language Reference*

Conventions

This guide uses the following conventions:

`Special type`	This special type indicates system output or user input. System output is in black type; user input is in **bold** type. In examples the dollar sign ($) is used to indicate the DCL prompt. This prompt may be different on your system.
UPPERCASE	Uppercase letters in command lines indicate keywords that must be entered. You can enter keywords in either uppercase or lowercase. You can abbreviate command keywords to the first three characters or their minimum unique abbreviation.
lowercase italics	Lowercase italics in command syntax or examples indicate variables for which either the user or the system supplies a value.
[ ]	Brackets in command syntax statements indicate that the enclosed values are optional. You can enter none or one. Default values apply for unspecified options. (Do not type the brackets when you enter a command.) Brackets are not, however, optional in the syntax of a directory name in a file specification or in the syntax of a substring specification in an assignment statement.
Return	Press the Return key. The Return key, which you must press to execute commands, is assumed in command examples and therefore is not always shown in command displays.
OpenVMS	Unless otherwise stated, OpenVMS in this manual refers to both the OpenVMS Alpha operating system running on an Alpha processor and the OpenVMS VAX operating system running on a VAX processor. For supported versions, see the Software Product Description (SPD).

1

Preparing to Install the DIGITAL SNA Domain Gateway Software

This chapter discusses the preparations and requirements necessary for installing the DIGITAL SNA Domain Gateway software.

Inspecting the Distribution Kit

The software Bill of Materials (BOM) included with your media distribution kit lists the contents of the kit. Carefully compare the items you received with the items listed in the BOM. If any components are missing or damaged, contact your DIGITAL representative before continuing with the installation.

The DIGITAL SNA Domain Gateway product provides online release notes. DIGITAL strongly recommends that you read the release notes before proceeding with the installation. For information about accessing the release notes, see Chapter 2.

Verifying Required Operating System Components

The OpenVMS operating system comes with a variety of support options, or classes. Classes include such features as networking and RMS journaling. For a complete list of the required classes, see the Software Product Description (SPD).

Verifying Prerequisite Hardware

You can install the Domain Gateway software on any VAX or Alpha processor listed in the SPD. In addition to a VAX or Alpha processor, you will need a DEC ChannelServer (DESNA) or DEC ChannelServer II (DESNB) for a Domain Gateway-CT or a DEC MicroServer (DEMSA) or DEC MicroServer-SP (DEMSB) for a Domain Gateway-ST.

Verifying Prerequisite and Optional Software

The Software Product Description (SPD) contains a complete list of prerequisite and optional software with their required version numbers.

Before you install the Domain Gateway software, you must have one of the OpenVMS operating system versions specified in the DIGITAL SNA Domain Gateway SPD.

Use the SHOW SYSTEM command to determine the current version of the OpenVMS operating system on your processor. If you do not have one of the required versions, you must install it before you install the Domain Gateway software.

In addition to having one of the prerequisite operating system versions, you must have one of the DECnet network software versions specified in the DIGITAL SNA Domain Gateway SPD.

Use the MCR NCL SHOW NODE *node-name* ALL CHARACTERISTICS command. If this command succeeds, check the returned version information to see that you have a supported version of the DECnet software. If the version is unsupported, you must install the required DECnet software before installing the Domain Gateway software.

If the command fails, your node has no DECnet software. You must install the required DECnet software before installing the Domain Gateway software.

Registering the License Product Authorization Key (PAK)

Before you install and run the Domain Gateway software, you must first register a License Product Authorization Key (License PAK) using the License Management Facility (LMF). The License PAK may be shipped along with the kit if you ordered the license and media together; otherwise, it is shipped separately to a location based on your license order.

If you are installing prerequisite or optional software along with the Domain Gateway software, review the PAK status and install PAKs for any prerequisite or optional software before you install the Domain Gateway software.

You must register and load your license for the Domain Gateway software **before** you start the installation in order to use the software.

To register a license under OpenVMS, first log in to the system manager's account, SYSTEM. You then have a choice of two ways to perform the registration:

- Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your License PAK.

- At the DCL prompt, enter the LICENSE REGISTER command with the appropriate qualifiers that correspond to License PAK information.

For complete information about using LMF, see the *OpenVMS License Management Utility Manual*.

Special Considerations for Installing the Domain Gateway Software

This section describes the special installation requirements for the DIGITAL SNA Domain Gateway product.

Before you install the Domain Gateway software, you must select the DECnet nodes where you wish to load the software. A DECnet SNA network using the DIGITAL SNA Domain Gateway product has the following DECnet nodes:

- **Gateway node:** For the Domain Gateway-CT, this is a DEC ChannelServer or DEC ChannelServer II running the Domain Gateway-CT software. For the Domain Gateway-ST, this is a DEC MicroServer or DEC MicroServer-SP running the Domain Gateway-ST software.
- **Gateway load host node:** This is a OpenVMS DECnet node from which you load the Domain Gateway system image onto the Gateway node. You must install both the management software and the Domain Gateway system image on the load host node.
- **Gateway management node:** This is a OpenVMS DECnet node from which you manage the operation of the DIGITAL SNA Domain Gateway product. You install only the management software on a Gateway management node. You can have multiple Gateway management nodes for a single Gateway.
- **Gateway access node:** This is a non-SNA node with one or more access routine products installed. The access node must be running the version of the operating system (OpenVMS, DIGITAL UNIX, or MS-DOS) that the particular access routines require. Many of the access routines suggest that you install the Gateway management software on the access node to aid in access routine problem resolution. See the SPDs for the individual access routines for information about the required operating system and the network software versions.

Notes

You must perform a license PAK load on each node on which you plan to install the Domain Gateway load host software kit. You do not need to license those nodes where you will install only the Domain Gateway management software kit.

Each new version of the Domain Gateway software contains new versions of the SNAP and CTF utilities included in the management software. Therefore, you should install the new version of the management software on all nodes where you have previously installed the management software kit.

Special Considerations for Installing the Domain Gateway Software on a VMScluster System

This section describes the special installation requirements for installing the DIGITAL SNA Domain Gateway product on a VMScluster system.

Before you install the Domain Gateway on a VMScluster system, you must de-install the Domain Gateway CTF analysis routines from each of the VMScluster members. On each node of the VMScluster system, enter the following command:

```
$ mcr install sys$library:ctf$snapu5_analyze/delete Return
```

Verifying Installation Procedure Requirements

This section and those that follow discuss various requirements for installing the DIGITAL SNA Domain Gateway product.

The installation takes approximately 5 to 15 minutes, depending on your distribution media and your system configuration.

Privileges and Disk Space

To install the Domain Gateway, you must log in to an account that has the SETPRV privilege or at least the following privileges:

- CMKRNL
- WORLD
- SYSPRV

DIGITAL recommends installing from the SYSTEM account.

Note that VMSINSTAL turns off BYPASS privileges at the start of the installation.

Verify that your account has sufficient privileges before you install the Domain Gateway software. Use the DCL SHOW PROCESS/PRIVILEGE command to check your privileges.

The Domain Gateway's requirements for free disk storage space are different during installation and after installation. Table 1–1 summarizes the storage requirements.

Table 1–1 Disk Space Requirements

Kit	Blocks During Installation		Blocks After Installation	
	Alpha	VAX	Alpha	VAX
Domain Gateway load host and management software	12,000	37,000	9,000	34,000
Domain Gateway management software only	12,000	37,000	8,000	30,000

Verify that you have adequate disk space before you install the Domain Gateway software. You can check your available disk space by entering the following command at the DCL prompt:

```
$ SHOW DEVICE system-disk
```

where *system-disk* refers to the device name of the system disk.

VMSINSTAL Requirements

When you invoke VMSINSTAL, it checks the following:

- Whether you are logged in to a privileged account
- Whether you have adequate quotas for installation
- Whether DECnet is running
- Whether any users are logged in to the system

Note that VMSINSTAL requires the installation account to have at least the following quotas:

ASTLM = 24
BIOLM = 18
BYTLM = 18,000
DIOLM = 18
ENQLM = 30
FILLM = 20

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. In some instances, you can enter Yes to continue. To stop the installation process and correct the situation, enter No or press Return. Then correct the problem and restart the installation.

Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks whether or not you have backed up your system disk. DIGITAL recommends that you back up the system disk before you install any software.

Use the backup procedures that are established at your site. For details about performing a system disk backup, see the section on the Backup utility in the OpenVMS System Management Subkit.

2

Installing the DIGITAL SNA Domain Gateway Software

This chapter explains how to install the DIGITAL SNA Domain Gateway software.

The Installation Dialog

The Domain Gateway installation procedure consists of a series of questions and informational messages. See Appendix A for a sample installation.

To abort the installation procedure at any time, press Ctrl/Y. When you press Ctrl/Y, the installation procedure deletes all the files it created up to that point and exits. You can then start the installation again.

1. **Invoke VMSINSTAL.**

```
$ @SYS$UPDATE:VMSINSTAL saveset-name device-name OPTIONS N
```

To start the installation, invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account. VMSINSTAL is in the SYS$UPDATE directory. The following list defines the parameters of the VMSINSTAL command procedure.

saveset-name
The installation name for the software component. For the Domain Gateway software, use the name SNAPU5021.

device-name
The name of the device on which you plan to mount the media. For example, MTA0: is the device name for a tape drive. It is not necessary to use the console drive for this installation. However, if you do use the console drive, you should replace any media you removed once the installation is complete.

OPTIONS N

An optional parameter that indicates you want to see the question about release notes. If you do not include the OPTIONS N parameter, VMSINSTAL does not ask you about the release notes. You should review the release notes before proceeding with the installation in case they contain additional information about the installation. If you are restarting the installation and have already reviewed the release notes, you do not need to specify OPTIONS N.

Note that there are other options you can select when you invoke VMSINSTAL.

- Auto answer option (A): Initially creates a file that contains your answers to VMSINSTAL questions and prompts. You can then use the option (and the answer file) to save time during a reinstallation (typically after upgrading your system).
- Get save set option (G): Lets you store product save sets temporarily on a magnetic tape or in a disk directory.
- File log option (L): Logs all activity to the terminal during installation.
- Alternate root option (R): Lets you install the product on a system root other than that of the running system.

See the OpenVMS documentation for software installation in the OpenVMS System Management Subkit for detailed information about these options. If you specify more than one option, separate the options with commas (OPTIONS A,N).

The following example invokes VMSINSTAL to install the Domain Gateway software from MTA0: and shows the system response. This example uses the OPTIONS N release note parameter.

```
$ @SYS$UPDATE:VMSINSTAL SNAPU5021 MTA0: OPTIONS N Return
      OpenVMS Software Product Installation Procedure V6.1

It is 16-MAY-1997 at 13:15.

Enter a question mark (?) at any time for help.
```

If you do not supply either the product name or the device name, VMSINSTAL prompts you for this information later in the installation procedure. VMSINSTAL does not prompt you for any options; be sure to include OPTIONS N on the VMSINSTAL command line to access the release notes during the installation.

2. **Confirm system status.**

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
   .
   .
   .
* Do you want to continue anyway [NO]? YES Return
```

VMSINSTAL displays a list of all active processes. The dialog then asks whether you want to continue the installation. You can install the Domain Gateway if other processes are active. If you are reinstalling the software, you should verify that no one is using the Domain Gateway management software. If you are satisfied that no one is using the Gateway software, press Return. Otherwise, enter No to discontinue the installation.

3. **Confirm system backup.**

```
* Are you satisfied with the backup of your system disk [YES]? Return
```

VMSINSTAL asks whether or not you are satisfied with your system backup. You should always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press Return. Otherwise, enter No to discontinue the installation. After you back up your system disk, you can restart the installation.

4. **Mount the media.**

```
Please mount the first volume of the set on MTA0:.
* Are you ready? YES Return
%MOUNT-I-MOUNTED, SNAPU5 MOUNTED ON _MTA0:
The following products will be processed:
  SNAPU5 V2.1

        Beginning installation of SNAPU5 V2.1 at 13:16

%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

You should now mount the first distribution volume on the device you specified when you invoked VMSINSTAL. The device name appears in the line preceding the question. VMSINSTAL then asks whether or not you are ready to continue with the installation.

If you respond Yes to indicate that you are ready, VMSINSTAL displays a message that the media containing the Domain Gateway software has been mounted on the specified device and that the installation has begun.

If you entered the wrong device name when you invoked VMSINSTAL and need to restart the installation, enter No in response to the ''Are you ready?'' question. To abort the installation for other reasons, press Ctrl/Y.

5. **Select a release notes option.**

```
    Release notes included with this kit are always copied to SYS$HELP.

    Additional Release Notes Options:

        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2
        4.  None of the above

* Select option [2]: Return
```

If you specified OPTIONS N when you invoked VMSINSTAL, you are now asked to choose one of the four options for reviewing the release notes.

If you select option 1, VMSINSTAL displays the release notes immediately on the console terminal. You can terminate the display at any time by pressing Ctrl/C.

If you select option 2, VMSINSTAL prompts you for the name of the print queue that you want to use:

```
* Queue name [SYS$PRINT]: Return
```

You can press Return to send the file to the default output print device or you can enter another queue name.

If you select option 3, VMSINSTAL displays the release notes immediately on the console terminal and then prompts you for a queue name for the printed version.

Select option 4 if you have already reviewed the release notes and are restarting the installation.

Next, VMSINSTAL displays the following question:

```
* Do you want to continue the installation [NO]?: YES Return
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
```

To continue the installation, enter Yes. Otherwise, press Return. In either case, the release notes are copied to a file in the SYS$HELP directory:

```
SYS$HELP:SNAPU5021.RELEASE_NOTES
```

Note

The name of the release notes file created by VMSINSTAL consists of the current product name and version number. Do not delete release notes for previous versions of the Domain Gateway software.

6. **Select the type of installation.**

```
This kit contains the Load Host software needed to configure and
downline load a DIGITAL SNA Domain Gateway from this system.  This
kit also contains the Management software needed to control and
monitor a DIGITAL SNA Domain Gateway.

You can install

[1] Load Host software and Management software
[2] Management software only

* Enter an option [1]:
```

You have two installation options. The default selection (1) installs the complete software kit, including the management software. To start this process, press Return. This option requires that the product authorization key (PAK) be registered and loaded. Failure to do this causes the installation process to fail with an error message notifying you that the license must be installed. Refer to the PAK installation procedure for details. After registering and loading the PAK, restart the installation from the first step.

If you want to install just the Gateway management software, enter 2, press Return, and proceed with the remainder of the installation procedure.

7. **Respond to license registration queries. (LOAD HOST ONLY)**

```
Product:      SNA-DOMAIN-GATEWAY
Producer:     DEC
Version:      2.1
Release Date: 01-MAY-1997

* Does this product have an authorization key registered and loaded? Y Return
```

If you are installing the load host software, the installation procedure displays license information about your product and then asks if you have registered and loaded your Product Authorization Key (PAK). The installation procedure displays either the SNA-DOMAIN-GATEWAY license information (as shown in the preceding example) or the SNA-DOMAIN-GATEWAY-CT license information.

If you have not registered and loaded your PAK, the installation dialog does not display any license information. Instead, it terminates with a message indicating that you should register and load your PAK to complete the installation successfully.

8. **Optionally, create the SNAPU5 directory. (LOAD HOST ONLY)**

```
       To maintain your Gateway, you will need a place to store answer
       files, script files, management files, dump files, etc. This
       installation can create a system directory, SYS$COMMON:[SNAPU5$],
       for that purpose.

* Create the system directory [YES]?
```

If you are installing load host software, the installation procedure asks whether or not you want to create a directory in SYS$COMMON to store various configuration-related files. If you do not want to create a separate directory for these files, enter No.

9. **Purge files.**

```
* Do you want to purge files replaced by this installation [YES]? Return
```

You have the option of purging files from previous versions of the Domain Gateway software that are superseded by this installation. Digital recommends purging; however, if you need to keep files from the previous version, enter No in response to the question.

If you are reinstalling the software you should verify that no one is using the Domain Gateway management software before you request that existing files be purged.

10. **Choose the Installation Verification Procedure (IVP) option.**

```
* Do you want to run the IVP after the installation [YES]? Return
```

The installation procedure now asks whether or not you want to run the IVP. The IVP for the Domain Gateway checks to be sure that the installation is successful. Digital recommends that you run the IVP.

After the Domain Gateway software is installed, you can run the IVP independently to verify that the software is available on your system (see Chapter 3).

11. **Read informational messages.**

```
%SNAPU5-I-NOMORE, there are no more questions
%SNAPU5-I-TIME, the installation completes in approximately 15 minutes

%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-SYSDIR, This product creates system directory [SNAPU5$].

        You should execute the following command to configure the Domain
        Gateway:

            RUN SYS$SYSTEM:SNAPU5$CONFIGURE
```

```
        This step creates the Domain Gateway configuration files, completing
        the installation. You can create a management file and boot the
        Gateway at the end of the configuration procedure; the procedure
        will prompt you.

        For current information about the DIGITAL SNA Domain Gateway V2.1
        software product, read the file SYS$HELP:SNAPU5021.RELEASE_NOTES
        which is supplied by this installation.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories
```

At this point, the installation procedure displays a number of informational messages that report on the progress of the installation. There are no further questions. If the installation procedure is successful up to this point, VMSINSTAL moves the new or modified files to their target directories and updates help files and the DCL tables.

12. **Observe the Installation Verification Procedure (IVP).**

    If you chose to run the IVP, VMSINSTAL runs it now. When the IVP runs successfully, you see the following display:

```
        Copyright (c) Electronic Data Systems Corporation 1997.
        Copyright (c) Digital Equipment Corporation 1994.

        DIGITAL SNA Domain Gateway V2.1 Installation Verification Procedure
        for the Load Host Node.

IVP for DIGITAL SNA Domain Gateway V2.1 succeeded.
```

13. **End the installation procedure.**

```
        Installation of SNAPU5 V2.1 completed at 13:23

     VMSINSTAL procedure done at 13:23
```

The previous messages indicate that the entire installation procedure is complete.

You can now log out of the privileged account:

```
$ LOGOUT
SYSTEM     logged out at 16-MAY-1997 15:24:34.23
```

Note that VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the system manager's account and you want to restore these symbols, you should log out and log in again.

Error Recovery

If errors occur during the installation itself or when the Installation Verification Procedure (IVP) is running, VMSINSTAL displays failure messages. If the installation fails, you see the following message:

```
%VMSINSTAL-E-INSFAIL, the installation of SNAPU5 V2.1 has failed.
```

If the IVP fails, you see these messages:

```
The SNAPU5 V2.1 Installation Verification Procedure failed.

%VMSINSTAL-E-IVPFAIL, The IVP for SNAPU5 V2.1 has failed.
```

Errors can occur during the installation for any of the following reasons:

- The operating system version is incorrect.
- A prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.
- The OpenVMS help library is in use.
- The product license has not been registered and loaded.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you receive a notification of any of these conditions, you should take the action described in the message. For information about installation requirements, see Chapter 1.

Note

In addition to the errors described above, a series of re-installations of the Domain Gateway software on VMScluster systems may lead to an installation failure. This series of re-installations may lead to a situation where the installed CTF analysis routines reference a file that was purged during the re-installation. If this error occurs, you will see the following sequence:

```
SYSTEM-W-NOSUCHFILE, no such file
 \$1$DUA0:[SYS0.SYSCOMMON.][SYSLIB]CTF$SNAPU%_ANALYZE.EXE\

.
    .
    .
```

To correct the error, you must de-install the CTF analysis routines.

Use the following command on all VMScluster members:

```
$ mcr install sys$library:ctf$snapu5_analyze/delete Return
```

After you de-install the analysis routines, reinstall the DIGITAL SNA Domain Gateway software.

3

After Installing the DIGITAL SNA Domain Gateway Software

This chapter describes the tasks you should do after you install the Domain Gateway software.

Running the Installation Verification Procedure Separately

You usually run the Installation Verification Procedure (IVP) during installation. If you want to run the IVP separately to ensure the integrity of installed files should system problems occur, execute the SNAPU5$IVP.COM command procedure:

```
$ @SYS$TEST:SNAPU5$IVP.COM
```

Preparing the IBM SNA Environment

You must define specific system and network resources on the IBM system before you can use the Domain Gateway software. The *DIGITAL SNA Domain Gateway Guide to IBM Resource Definition* explains how to define these resources to establish communication between the Domain Gateway product and the IBM system.

Note

Because IBM system programmers configure and perform maintenance on their systems according to set schedules, you should give them as much advance notice as possible to prepare for the Domain Gateway installation. Because the configuration process for the Domain Gateway has the option of accepting a VTAM or NCP PATH file, the IBM configuration should be completed before you configure the Gateway.

Configuring and Loading the Domain Gateway Product

After you have successfully installed the Domain Gateway software and before you can begin to use the Gateway, you must generate a configuration file and load the Gateway. To configure the Gateway, do the following tasks:

- Configure the necessary DECnet information on the Gateway's load host. Use the NET$CONFIGURE.COM command procedure located in the SYS$MANAGER directory.
- Using the command RUN SYS$SYSTEM:SNAPU5$CONFIGURE, invoke the Configuration utility and generate the NCL script file that contains a human-readable form of all the commands used to configure the Gateway software image.
- Create the loadable management file. This file contains the NCL commands from the script file in a machine-readable form.
- Load the Gateway using the NCL BOOT or LOAD command on the Gateway's load host.

Note

If you cannot reboot the Gateway's load host before you configure the Domain Gateway, you must define the logical NCL$ENVIRONMENT. using the following command:

```
$ DEFINE NCL$ENVIRONMENT "PRIVATE"
```

You do not need to define the logical if you can reboot the system before you configure the Domain Gateway.

When Upgrading

If you are upgrading your software from a previous version of the Domain Gateway product and your configuration is not changing, you do not need to reconfigure the Gateway. Your existing loadable management files are fully compatible with this version.

To use the new Gateway system image file on an upgraded load host, you must update the MOP client database. To do this, use the NET$CONFIGURE.COM procedure to change the system image file name from SNAPU5$CT0*xx*.SYS to SNAPU5$CT.SYS or SNAPU5$ST0*xx*.SYS to SNAPU5$ST (where *xx* is 11 or 20).

Reboot the Gateway to load the new image.

See Chapter 13 in the *DIGITAL SNA Domain Gateway Planning and Configuration* manual.

Refer to the *DIGITAL SNA Domain Gateway Planning and Configuration* manual for information about configuring and loading the Gateway.

Running the Primary Logical Unit Installation Verification Procedure

The Domain Gateway software includes an Installation Verification Procedure (IVP) to test the functionality of a primary logical unit (PLU) on the Gateway.

Note

You must configure the Gateway and configure the adjacent IBM system **before** running this IVP.

To run the IVP, do the following:

1. Create an SNA ACCESS SERVER OBJECT entity that references a numbered object on the Gateway's load host. For example, to create the OBJECT entity IVP90 on the Gateway ASHFLD referencing object 90 on the load host LDHOST, use the following command.

```
NCL> CREATE NODE ASHFLD SNA ACCESS SERVER OBJECT IVP90 -
_NCL> TRANSPORT = DECNET, NODE = DEC:.LDHOST, NUMBER = 90
```

Note

If you specified a privileged user name and password for the network management object on the Gateway, you must specify them after the node name in the NCL command. For example, if the user name is SYSTEM and the password is LETMEIN, then you would specify ASHFLD"SYSTEM LETMEIN" in all the NCL commands in this sequence.

2. Create an SNA LU SERVICES LU entity that is a primary LU (PLU) and that references the OBJECT entity you just defined. For example, to create the LU entity IVPLU (assuming the Gateway's PU is DEC30), use the following command.

```
NCL> CREATE NODE ASHFLD SNA LU SERVICES LU IVPLU -
_NCL> PU = DEC30, -
_NCL> CAPABILITY = PRIMARY, -
_NCL> OBJECT = IVP90
```

3. Enable the LU entity you just created. For example, to enable the LU entity IVPLU, use the following command.

```
NCL> ENABLE NODE ASHFLD SNA LU SERVICES LU IVPLU
```

4. Create the object you just referenced on the load host. To create the object, use the SYS$TEST:SNAPU5$IVP3270 program as shown here:

```
$ RUN SYS$TEST:SNAPU5$IVP3270

DECnet/SNA 3270 Installation Verification Program V2.0.0

Transport: DECnet = 0 or TCP/IP = 4 [0] : Return

Transport selected is DECnet

Object Number [10] : 90

Creating Task Object "90="

Setting required privileges
Invoking GAI_OPEN...
Declaring the Object ...
Awaiting a connection ...
```

5. Connect to the Gateway's PLU using the USS screen of a 3270 SNA networked terminal on the adjacent IBM system. Enter the command LOG APPLID in response to the SELECT SYSTEM ===> prompt. For example, to connect to the PLU IVPLU, use the following command.

```
SELECT SYSTEM ====> LOG APPLID (IVPLU)
```

6. Verify the correct response at the 3270 terminal. You should see the following:

```
DECnet/SNA 3270 Installation Verification Program

Terminal ..... T1228005
Network ...... USDEC101
Primary LU ... IVPLU
Logon Mode ... MCAUTO
Gateway ...... ASHFLD
VMS Node ..... LDHOST

Press PA1 to logoff.
```

7. Verify the correct response on the load host. You should see the following on the load host:

```
        GAP Version 3.0
            Object    = IVP90

Undeclaring Object ...
Getting the Connect...

        Connect Information:
            Primary   = 1
            Init      = 1
            SBind     = 1
            USS       = 0
            Queue     = 0
            Orig Mod  = IVPLU
            Orig Unit = USDEC101.T1228005
            Dest Mod  =
            Dest Unit =
            Acc Name  =
            Log Mode  = MCAUTO
            User Data =
            Auth Term = USDEC101.T1228005
            Auth User =
            Auth Pass =
            Prog Name = DIGITAL SNA Domain Gateway
            Proc Id   = 00000000


Sending the Connect Response...
Getting the Suggested Bind ...
TS Profile is 03
Read Size Set to 263 (85)
Sending the BIND request ...
Receiving the BIND response ...
TS Profile is now 03
Sending the SDT request ...
Receiving the SDT response ...
```

```
Sending the screen write request ...
Receiving a response ...
RH was 830100
Receiving a response ...
```

8. Log off the 3270 terminal by entering PA1.
9. Verify the correct response on the load host. You should see the following on the load host:

```
RH was 0390A0
Sending the UNBIND request ...
Receiving the UNBIND response ...
Closing the port ...
Invoking GAI_OPEN...
Declaring the Object ...
Awaiting a connection ...
```

10. Either run another test using the LOG APPLID command on the 3270 terminal or terminate the SNAPU5$IVP3270 program on the load host by entering a Ctrl/C.

Determining and Reporting Problems

If you encounter a problem while using the Domain Gateway product, report it to DIGITAL. Depending on the nature of the problem and the type of support you have, you can take one of the following actions:

- Call DIGITAL if your software contract or warranty agreement entitles you to telephone support.
- Submit a Software Performance Report (SPR).

Review the Software Product Description (SPD) and Warranty Addendum for an explanation of your warranty. If you encounter a problem during the warranty period, report the problem as just indicated or follow alternate instructions provided by DIGITAL for reporting SPD nonconformance problems.

A

Sample Installation Output

This appendix contains two sample installations of the Domain Gateway software. The samples were run on a system that had no previous installation of Domain Gateway software. Depending on which layered products you have on your system, you might see additional messages and questions when you perform your installation.

The sample installations assume that DECnet has been shut down, that no users are logged on to your system, and that OPTIONS N is specified to print the release notes. The Installation Verification Procedure (IVP) runs at the end of the installation.

Sample Management Node Installation

This sample shows the dialog used to install the Gateway management software on a Gateway management node.

```
$ @sys$update:vmsinstal snapu5021 MTA0: options n Return

        OpenVMS Software Product Installation Procedure V6.1

It is 16-MAY-1997 at 13:27.

Enter a question mark (?) at any time for help.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        DNS$TA
        DNS$BACK
        SYSTEM
* Do you want to continue anyway [NO]? YES Return
* Are you satisfied with the backup of your system disk [YES]? Return

Please mount the first volume of the set on _MTA0:
* Are you ready? YES Return
MOUNT-I-MOUNTED, SNAPU5 MOUNTED ON _MTA0:
The following products will be processed:
  SNAPU5 V2.1

        Beginning installation of SNAPU5 V2.1 at 13:27

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

    Release notes included with this kit are always copied to SYS$HELP.

    Additional Release Notes Options:

        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2
        4.  None of the above

* Select option [2]: 2 Return
* Queue name [SYS$PRINT]: Return
Job SNAPU5021 (queue SYS$PRINT, entry 749) started on LP
* Do you want to continue the installation [NO]? YES Return
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

        This kit contains the Load Host software needed to configure and
        downline load a DIGITAL SNA Domain Gateway from this system.  This
        kit also contains the Management software needed to control and
        monitor a DIGITAL SNA Domain Gateway.

        You can install

        [1] Load Host software and Management software
        [2] Management software only

* Enter an option [1]: 2 Return
```

```
* Do you want to purge files replaced by this installation [YES]? Return
* Do you want to run the IVP after the installation [YES]? Return

%SNAPU5-I-NOMORE, there are no more questions
%SNAPU5-I-TIME, the installation completes in approximately 15 minutes

        For current information about the DIGITAL SNA Domain Gateway V2.1
        software product, read the file SYS$HELP:SNAPU5021.RELEASE_NOTES
        which is supplied by this installation.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

        DIGITAL SNA Domain Gateway V2.1 Installation Verification Procedure
        for the Management Node.

IVP for DIGITAL SNA Domain Gateway V2.1 succeeded.
        Installation of SNAPU5 V2.1 completed at 13:31

        VMSINSTAL procedure done at 13:31
```

Sample Load Host Installation

This sample shows the dialog used to install the Gateway management software and load host software on a Gateway load host.

```
$ @sys$update:vmsinstal snapu5021 MTA0: options n Return

        OpenVMS Software Product Installation Procedure V6.1

It is 16-MAY-1997 at 13:27.

Enter a question mark (?) at any time for help.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        DNS$TA
        DNS$BACK
        SYSTEM
* Do you want to continue anyway [NO]? YES Return
* Are you satisfied with the backup of your system disk [YES]? Return

Please mount the first volume of the set on _MTA0:
* Are you ready? YES Return
MOUNT-I-MOUNTED, SNAPU5 MOUNTED ON _MTA0:
The following products will be processed:
  SNAPU5 V2.1
        Beginning installation of SNAPU5 V2.1 at 13:37

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

    Release notes included with this kit are always copied to SYS$HELP.
```

```
    Additional Release Notes Options:

        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2
        4.  None of the above

* Select option [2]: 2 Return
* Queue name [SYS$PRINT]: Return
Job SNAPU5021 (queue SYS$PRINT, entry 751) started on LP
* Do you want to continue the installation [NO]? YES Return
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

        This kit contains the Load Host software needed to configure and
        downline load a DIGITAL SNA Domain Gateway from this system.  This
        kit also contains the Management software needed to control and
        monitor a DIGITAL SNA Domain Gateway.

        You can install

        [1] Load Host software and Management software
        [2] Management software only

* Enter an option [1]: 1 Return

        Product:      SNA-DOMAIN-GATEWAY
        Producer:     DEC
        Version:      2.1
        Release Date: 1-MAY-1997
* Does this product have an authorization key registered and loaded? YES Return

        To maintain your Gateway, you will need a place to store answer
        files, script files, management files, dump files, etc. This
        installation can create a system directory, SYS$COMMON:[SNAPU5$],
        for that purpose.

* Create the system directory [YES]? Return

* Do you want to purge files replaced by this installation [YES]? Return
* Do you want to run the IVP after the installation [YES]? Return

%SNAPU5-I-NOMORE, there are no more questions
%SNAPU5-I-TIME, the installation completes in approximately 15 minutes

%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-SYSDIR, This product creates the system directory [SNAPU5].

        You should execute the following command to configure the Domain
        Gateway:

            RUN SYS$SYSTEM:SNAPU5$CONFIGURE
```

```
        This step creates the Domain Gateway configuration files, completing
        the installation.  You can create a management file and boot the
        Gateway at the end of the configuration procedure; the procedure
        will prompt you.

        For current information about the DIGITAL SNA Domain Gateway V2.1
        software product, read the file SYS$HELP:SNAPU5021.RELEASE_NOTES
        which is supplied by this installation.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

        DIGITAL SNA Domain Gateway V2.1 Installation Verification Procedure
        for the Load Host Node.

IVP for DIGITAL SNA Domain Gateway V2.1 completed.
        Installation of SNAPU5 V2.1 completed at 13:42

        VMSINSTAL procedure done at 13:42
```

B

Files Installed on Your System

The Domain Gateway installation procedure installs a number of files on your system.

The following list contains the names of all files created on your system when the Domain Gateway load host software or Gateway management node software is installed.

- SYS$HELP:SNAPU5021.RELEASE_NOTES
- SYS$MANAGER:SNAPU5$UNINSTALL.COM
- SYS$SYSTEM:SNAP.EXE
- SYS$LIBRARY:CTF$SNAPU5_TRACEPOINTS.DAT
- SYS$LIBRARY:CTF$SNAPU5_ANALYZE.EXE
- SYS$LIBRARY:CTF$NAME_TABLE.DAT (modified by the installation procedure)
- SYS$LIBRARY:SNATRAPRE.MAR
- SYS$LIBRARY:SNATRATBL.MAR
- SYS$LIBRARY:SNAPU5$GLOBALSECTION.DAT
- SYS$TEST:SNAPU5$IVP.COM
- SYS$TEST:SNAPU5$IVP3270.EXE

The following list contains the names of additional files created on your system when the Gateway load host software is installed.

- MOM$SYSTEM:SNAPU5$CT.SYS
- MOM$SYSTEM:SNAPU5$ST.SYS
- MOM$SYSTEM:SNAPU5$DESNX.SYS
- MOM$SYSTEM:SNACSA$MDM.SYS (if not already installed)
- SYS$SYSTEM:SNAPU5$SCRIPT_COMPILER.EXE

- SYS$SYSTEM:SNAPU5$CONFIGURE.EXE
- SYS$MANAGER:SNAPU5$COMPILE.COM
- SYS$LIBRARY:SNAPU5$DEFAULT_LOGON_MODES.NCL
- SYS$COMMON:[SNAPU5$] (optionally created)

Notes

The DCL tables found in SYS$LIBRARY:DCLTABLES.EXE are updated during installation.

The SYS$LIBRARY:NCL$GLOBALSECTION.DAT file is updated during installation.

The NCL help file (SYS$HELP:NCLHELP.HLB) is modified to contain help for the following entities:

- The CHANNEL module entity and its subentities
- The SDLC module entity and its subentities
- The SNA ACCESS SERVER module entity and its subentities
- The SNA PU SERVICES module entity and its subentities
- The SNA SSCP SERVICES module entity and its subentities
- The SNA LU SERVICES module entity and its subentities
- The TCP module entity and its subentities
- The IP SERVICES module entity and its subentities