Digital SNA Remote Job Entry for OpenVMS

Installation

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This document describes how to install the Digital SNA Remote Job Entry for OpenVMS software.

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Preface

Objective of this Manual

This manual provides the information you need to install the Digital SNA Remote Job Entry for OpenVMS access routine software.

Intended Audience

This manual assumes that you have user-level knowledge of the OpenVMS operating system.

Structure of this Manual

This manual contains a brief explanation of how to install the Digital SNA Remote Job Entry (RJE) for OpenVMS access routine software.

Associated Documents

The following documents make up the manual set for RJE:

- *Digital SNA Remote Job Entry for OpenVMS Installation*
- *Digital SNA Remote Job Entry for OpenVMS Problem Solving*
- *Digital SNA Remote Job Entry for OpenVMS Use*

You should have the following Digital documents available for reference when you use the RJE:

- *Digital SNA Domain Gateway Guide to IBM Resource Definition*
- *Digital SNA Domain Gateway Installation*
- *Digital SNA Domain Gateway Management*
- *Digital SNA Gateway-CT Installation Guide*
- *Digital SNA Gateway Problem Determination Guide*

- *Digital SNA Gateway-CT Problem Solving (OpenVMS & ULTRIX)*
- *Digital SNA Gateway-CT Guide to IBM Parameters*
- *Digital SNA Gateway-CT Management (OpenVMS)*
- *Digital SNA Gateway-ST Installation Guide*
- *Digital SNA Gateway-ST Guide to IBM Parameters*
- *Digital SNA Gateway-ST Problem Solving (OpenVMS)*
- *Digital SNA OpenVMS Gateway Management Guide*
- *Digital SNA Peer Server Installation and Configuration*
- *Digital SNA Peer Server Management*
- *Digital SNA Peer Server Network Control Language Reference*
- *Digital SNA Peer Server Guide to IBM Resource Definition*

Associated IBM Documents

You should have the following IBM documents for reference.

- *ACF for VTAM Version 2, Messages and Codes* (IBM Order No. SC27-0614)
- *IBM 3270 Information Display System and 3274 Control Unit Description and Programmer's Guide* (IBM Order No. GA23-0061)
- *IBM 3287 Printer Models 1 and 2 Component Description* (IBM Order No. GA27-3153)
- *MVS/TSO/VTAM Data Set Print Program Description/Operations Manual* (IBM Order No. SB21-2070)
- *IBM 3270 Information Display System*, Order No. GA23-0060
- *IBM 3270 Information Display System Data Stream Programmer's Reference*, Order No. GA23-0059
- *Systems Network Architecture—Introduction to Sessions Between Logical Units*, Order No. GC20-1869
- *Systems Network Architecture—Sessions Between Logical Units*, Order No. GC20-1868
- *IBM 3270 Information Display System: Operator's Guide*, Order No. GA27-2742

Terminology

Interconnect System	Refers the Digital SNA Gateway-ST, the Digital SNA Gateway-CT, the Digital SNA Domain Gateway-CT, the Digital SNA Domain Gateway-ST, Digital SNA Peer Server, or OpenVMS/SNA (OpenVMS VAX Version 6.1 only.)
Interconnect Products	Refers to the Digital SNA Gateway-ST, the Digital SNA Gateway-CT, the Digital SNA Domain Gateway, the Digital SNA Peer Server, the Digital SNA Remote Job Entry for OpenVMS and OpenVMS/SNA (OpenVMS VAX Version 6.1 only.)
Interconnect Manager	Refers to the person responsible for the installation and management of an interconnect product.

Acronyms

The following acronyms appear throughout this manual:

DCL	Digital Command Language
RJE	Remote Job Entry
RJS	Remote Job Server
SNA	IBM's Systems Network Architecture

Graphic Conventions

The following graphic conventions apply throughout this manual:

Convention	Meaning
$	The dollar sign prompt precedes a command line for a VMS system.
SNARJE>	The SNARJE angle bracket prompt indicates that you should use the SNARJE command language.
`monospaced type`	Monospaced type indicates system output and user input.
UPPERCASE	Uppercase letters indicate that you must enter the characters exactly as shown. You can abbreviate command keywords to the first unique character.

Convention	Meaning
lowercase italics	Lowercase italic type indicates variables in command lines. You must specify these variables.
RETURN	This symbol indicates the RETURN key on the keyboard. Unless otherwise specified, terminate every command line by pressing the RETURN key.
CONTROL/*x*	This symbol indicates a control character; *x* is an alphabetic character. Press the CONTROL key and the alphabetic key simultaneously.
dd-mmm-yyyy	This is the required OpenVMS format for specifying a date, as in *21-Apr-1989*. See the *DCL Dictionary* for further information.
hh:mm:ss[.cc]	This is the required OpenVMS format for specifying a time, as in *09:44:23.49*. *[.cc]* represents hundredths of a second. These often appear in system messages, but you need not supply them when you are specifying a time. See the *DCL Dictionary* for further information.

All numbers are decimal unless otherwise noted.

1
Installation

This manual refers to the base communications software as the "Gateway." Unless otherwise stated, the term "Gateway" applies to any or all of the following:

- OpenVMS/SNA (for OpenVMS VAX Version 6.1 only)
- Digital SNA Domain Gateway-CT
- Digital SNA Domain Gateway-ST
- Digital SNA Gateway for Channel Transport
- Digital SNA Gateway for Synchronous Transport
- Digital SNA Peer Server

Before you begin to install the Digital SNA Remote Job Entry for OpenVMS (RJE) software, you need to know what software, system privileges, and disk space are required for your installation. The following table lists the preliminary requirements for installing the RJE software.

Table 1–1 Installation Specifications for RJE Software

Software	OpenVMS VAX or OpenVMS Alpha
Privileges	System manager level
Disk space	2900 blocks minimum during installation for OpenVMS VAX and 3300 blocks for OpenVMS Alpha 2000 blocks minimum after installation for OpenVMS VAX and 2300 blocks for OpenVMS Alpha
Approximate time required for installation	5 to 30 minutes, depending on the distribution media

(continued on next page)

Table 1–1 (Cont.) Installation Specifications for RJE Software

Associated documents	The OpenVMS software installation guide for your particular processor (contains general installation information)

In addition, the following OpenVMS classes are required for full functionality of Digital SNA Remote Job Entry for OpenVMS:

- OpenVMS Required Saveset
- Network Support
- Secure User's Environment

The installation process consists of five major tasks. You must complete each installation task before you begin the next task.

1. Ensure that you have adequate disk space before you begin to install RJE.
2. Check to make sure that you have a complete distribution kit. Each RJE distribution kit consists of one or more volume(s) of software and a set of documentation.
3. Log in to the system manager's account, and execute the VMSINSTAL installation procedure.
4. After you exit from the VMSINSTAL procedure, locate the RJE files on your system.
5. Verify the successful installation of the RJE software.

1.1 Running the VMSINSTAL Procedure

The VMSINSTAL procedure allows you to install files onto your OpenVMS system from the distribution kit. VMSINSTAL is automated and requires little input from you beyond responding to prompts displayed on your screen. Most of the prompts require only a YES (Y) or NO (N) response. Default answers to prompts are displayed within brackets, as shown in the following example:

```
[YES]:
```

To select the default answer, press RETURN.

Note

You can install the RJE software from two locations: the Consolidated Software Distribution CD-ROM or a remote node in your local area network using the Remote Installation Service (RIS). The VMSINSTAL

procedure presented in this chapter assumes the RJE software is being installed from your local area network.

To install the RJE software from the Consolidated Software Distribution CD-ROM, see the master index table in the document *Consolidated Software Distribution Disk User's Guide* for the directory containing the RJE files.

1.1.1 Logging In to the System Manager's Account

To begin the VMSINSTAL procedure you must log in to the system manager's account and enter a command, as in the following example, to install the distribution kit on your OpenVMS host:

```
$ @SYS$UPDATE:VMSINSTAL SNARJE dduu:
```

where

- *dduu*: identifies the device on which the distribution kit is mounted.
- SNARJE is the name of the distribution kit for the Digital SNA RJE software.

The VMSINSTAL sample shown in this manual describes a simple installation. Your installation might include additional prompts, depending on your configuration and whether you have other products already installed. For a full description of the VMSINSTAL procedure, refer to the *OpenVMS System Manager's Manual*.

After you log in to the system manager's account and load the volume(s) from your distribution kit, VMSINSTAL displays the following text:

```
OpenVMS VAX Software Product Installation Procedure Vn

It is dd-mmm-yyyy at hh:mm.
Enter a question mark (?) at any time for help.
```

Note that the previous example shows that the software has been loaded on an OpenVMS VAX system. Next, VMSINSTAL shows you the status of your current active processes and asks you if you want to continue with the installation.

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
   SMISERVER
 BATCH_601
 SERVER_002C
 _RTA3:
* Do you want to continue anyway [NO]?
```

If you continue with the installation procedure, the active processes might be affected, depending upon the utilities these processes are using. If you answer with the default NO, VMSINSTAL terminates. A YES answer causes VMSINSTAL to continue.

1.1.2 Making a Backup Copy of the System Disk

The VMSINSTAL procedure then prompts you as follows:

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

Make sure that you have a backup copy of your system disk before you proceed with an installation that writes to your system disk. Having a backup copy is important because your disk could be corrupted during installation.

If you do not have a backup copy of your system disk, enter N, and VMSINSTAL stops to allow you to create one. For instructions on how to back up a system disk, see the *OpenVMS Backup Utility Manual*. After you have created a backup copy, start the VMSINSTAL procedure again. If you already have a backup copy of your system disk, press RETURN to continue the installation without interruption.

1.1.3 Mounting the Distribution Kit Volume

Next, VMSINSTAL tells you to mount the distribution kit volume on the device you specified when you began the procedure. It then asks if you are ready to continue with the installation, as follows:

```
Please mount the first volume of the set on dduu
* Are you ready?
```

Note

VMSINSTAL is a universal installation procedure, and you can use it to install products with more than one volume in the distribution kit. When you are installing a product that contains only one volume in the kit, like RJE, the procedure still asks you to mount "the first volume" but does not prompt you to mount any additional volumes.

After you have mounted the distribution kit volume, answer YES to the question `* Are you ready?`. VMSINSTAL responds with a message verifying that you mounted the volume correctly and the installation is continuing, as follows:

```
%MOUNT-I-MOUNTED, SNARJE mounted on dduu:
  The following products will be processed:

    SNARJE V1.5

     Beginning installation of SNARJE V1.5 at hh:mm

  %VMSINSTAL-I-RESTORE, Restoring product saveset A ...
  %VMSINSTAL-I-RELMOVED , The product's release notes have been
  successfully moved to SYS$HELP.
```

1.1.4 Confirming Your License

During the installation of the RJE software, the VMSINSTAL procedure asks you to confirm that you registered your Product Authorization Key (PAK) and are licensed to run RJE.

```
          Product:      SNA-RJE
          Producer:     DEC
          Version:      Vx.x
          Release Date: dd-mmm-yyyy

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

If you answer YES, VMSINSTAL continues with the installation.

If you answer NO, VMSINSTAL displays the following message:

```
      Digital SNA Remote Job Entry requires you to register your
           Product Authorization Key (PAK). You should have received
           the PAK with your kit.

           Register your PAK with...

        $ @sys$update:vmslicense

           after the installation completes. The product will not
           function until this is done.
```

As the example indicates, if you have not registered your PAK, the installation will complete successfully, but you will not be able to run RJE. You can use the product only after registering your PAK.

1.1.5 Purging the Distribution Files

This installation creates new distribution files on your system. The VMSINSTAL procedure next asks if you want to delete the existing versions (if any) of these files that are superseded by the new files.

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

If this is your first RJE software installation, you will have no files to purge. Type NO and press RETURN. To delete the old files, answer with the default YES; VMSINSTAL automatically deletes the old files.

At this point, VMSINSTAL describes the Installation Verification Procedure (IVP). The system message appears as follows:

```
        You can verify the SNA-RJE installation using the IVP. This
        is recommended, and will help ensure that the installation has
        completed correctly by:

        o  Removing or renaming the V1.4 files, only if they exist.
        o  Stopping the V1.4 processes, only if they exist.
        o  Verifying the existence of the V1.5 files.
        o  Initializing the V1.5 processes.
        o  Verifying inter-process communication.

        Once the installation is complete, you can execute the IVP
        by using the command:

            $ @sys$test:snarje$ivp.com

        NOTE:  Do NOT execute the IVP unless you have a PAK registered
               for SNA-RJE V1.5. The IVP will not complete successfully
               due to the RJE components failing their license check.
```

Then the installation completes, and the following messages appear:

```
        All installation questions have been asked. No more
        input from the terminal will be required.

        Your Digital SNA RJE V1.5 installation is nearing completion.
        Remember to use..

            $ @sys$startup:snarje$startup

        to start the detached processes.

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

  Installation of SNARJE V1.5 completed at hh:mm
```

The procedure then prompts you for the next product you wish to install. If you have another product to install, enter the product name and respond to the prompts as they appear. Consult the installation manual for that product for further information. If you have no further products to install, press RETURN, and VMSINSTAL terminates with a confirmation message as follows:

```
  Enter the products to be processed from the next distribution volume set.
  * Products: RETURN
VMSINSTAL procedure done at hh:mm
```

1.2 Running the Installation Verification Procedure

To run the Installation Verification Procedure (IVP), enter the following command at the DCL prompt:

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

The following message appears:

```
          Starting RJE Installation Verification Procedure (IVP)

     This procedure will first check for the existence of V1.4 processes
     and files. This will take a moment.
```

If the IVP finds files from Version 1.4 of RJE in your system directories, the procedure informs you that it has found these files. It then asks if you want to delete them.

```
You currently have Digital SNA Remote Job Entry for OpenVMS V1.4 files
in your system directories. The naming convention for V1.5 has been
updated, and the older files should either be DELETED, or RENAMED.

* Delete the outdated files [Y/N]:
```

To delete the outdated files, answer YES. VMSINSTAL deletes the files and sends you confirming messages, as in the following example:

```
The following outdated files are being DELETED.
%DELETE-I-FILDEL, SYS$COMMON:[SYSEXE]SNAREADER.EXE;7 deleted (60 blocks)
```

To keep the outdated files, answer NO. The outdated files will appear in the system directories with the designation "_V14" appended to the file name.

Next, VMSINSTAL begins to initialize the RJE Version 1.4 processes, as in the following example:

```
         Now the V1.5 processes will be initialized, using

             @sys$startup:snarje$startup.com

Creating detached process - SNARJE$MPX
%RUN-S-PROC_ID, identification of created process is 24600957

Creating detached process - SNARJE$SERVER
%RUN-S-PROC_ID, identification of created process is 24600958

         The process initialization may take a few moments. The IVP
         will wait until both processes are fully declared, and will
         then proceed.
```

When initialization of the Version 1.5 process is complete, the IVP creates a workstation and automatically executes a series of RJE commands to verify that RJE is correctly installed. The following is an example of normal IVP output:

```
       A workstation will now be created and some very basic
        tests will be performed. This workstation will make use
        of the OpenVMS based RJE Server.

SNARJE> show workstation
   Workstations on  dd-mmm-yyyy hh:mm:ss.ss
        Current IVP_TEST

SNARJE> assign [] pr1

SNARJE> assign snarje$reader rd1

SNARJE> show status

  Status of workstation IVP_TEST on dd-mmm-yyyy hh:mm:ss.ss
    Server node:   MOUSSY    State:        OFF
    Access name:   IVP_A     Application:
    Circuit:                 Logon mode:

    Stream PR1  (Translate)
                Assigned:  _MOUSSY::VMI$ROOT:[SYSUPD.SNARJE015]
                Current:   none

    Stream RD1
                Queue:     SNARJE$READER
                Current:   none

SNARJE> show counters

  Counters for workstation IVP_TEST on dd-mmm-yyyy hh:mm:ss.ss
           24  Seconds since last zeroed
            0  Maximum active files
            0  Resource errors
            0  Records read
            0  Records written
            0  Files accessed
            0  File open errors
            0  File read errors
            0  File write errors
            0  File close errors
            0  Stream aborts
            0  SNA protocol errors
```

```
    Stream PR1
            0  Records written
            0  Records written (active file)
            0  Files accessed
            0  File open errors
            0  File write errors
            0  File close errors
            0  Stream aborts
            0  SNA protocol errors

    Stream RD1
            0  Records read
            0  Records read (active file)
            0  Files accessed
            0  File open errors
            0  File read errors
            0  File close errors
            0  Stream aborts
            0  SNA protocol errors

SNA RJE workstation IVP_TEST terminated on dd-mmm-yyyy hh:mm:ss.ss

      The SNARJE$IVP has completed successfully. This IVP has
      tested out connections to the MPX and SERVER, but to ensure
      the correctness of the RJE system, please see Digital SNA
      Remote Job Entry for OpenVMS Installation and SUBMIT/SNA a test JCL.
```

1.3 Locating Files After Installation

After you run the VMSINSTAL procedure, you can find the RJE files in the following locations on your system:

Table 1–2 Location of RJE Files After Installation

File Name	Location	Description
SNARJE.EXE	SYS$SYSTEM	RJE operator utility
SNARJE$MPX.EXE	SYS$SYSTEM	RJE control program
SNARJE$SERVER.EXE	SYS$SYSTEM	RJE server
SNARJE$RDR.EXE	SYS$SYSTEM	RJE reader stream processor
SNASUBMIT.EXE	SYS$SYSTEM	RJE submit command processor
SNARJE$RJEMSG.EXE	SYS$MESSAGE	RJE message file
SNARJE$RJSMSG.EXE	SYS$MESSAGE	RJS message file
SNARJE.HLB	SYS$HELP	RJE HELP library

(continued on next page)

Table 1–2 (Cont.) Location of RJE Files After Installation

File Name	Location	Description
SNARJE$STARTUP.COM	SYS$STARTUP	RJE initialization command procedure
SNARJE015.RELEASE_NOTES	SYS$HELP	RJE release notes
SNARJE$MPX.COM	SYS$STARTUP	called in by SNARJE$STARTUP.COM
SNARJE$SERVER.COM	SYS$STARTUP	called in by SNARJE$STARTUP.COM
SNARJE$RJESYMBOL.COM	SYS$LIBRARY	RJE error symbols
SNARJE$RJSSYMBOL.COM	SYS$LIBRARY	RJS error symbols
SNARJE$IVP.COM	SYS$TEST	RJE installation verification procedure

When you install RJE, VMSINSTAL automatically creates an RJE server, SNARJE$SERVER.EXE., on your OpenVMS system. If your Gateway resources are limited because your Gateway is supporting multiple tasks or does not have an RJE server, you can try to increase throughput by running RJE through the RJE server on your OpenVMS system.

Note

HELP information for the Digital SNA RJE has been added to the SYS$HELP:HELPLIB.HLB library.

1.4 Verifying Installation of the RJE Software

After you have installed the Digital SNA RJE for OpenVMS software, you should verify that it can communicate with the appropriate IBM application subsystem. You should be able to verify communication provided the following conditions exist:

- All other components in your configuration are properly installed.
- You have a link from your system to the IBM host.

This section provides sample procedures for accessing an IBM Job Entry Subsystem by using two commonly available IBM utilities: JES2 and JES3. If you need more information about any command variables used in the following samples, see *Digital SNA Remote Job Entry for OpenVMS Use*. To verify that you have successfully installed the Digital SNA RJE for OpenVMS software, complete the following steps:

1. Run the SNARJE$STARTUP.COM file.
2. Verify that the RJE software is installed on your system and that all other necessary components are installed and running.
3. Set up your terminal by entering the following OpenVMS command:

   ```
   $ SET TERMINAL/BROADCAST
   ```

4. Enter the following commands to invoke RJE and to identify the workstation:

   ```
   $ RUN SYS$SYSTEM:SNARJE
   SNARJE> USE workstation-name
   ```

   where *workstation-name* is a one- to eight-character name you assign to the workstation you are creating.

5. Configure or set up the workstation using the following sequence of commands:

   ```
   SNARJE> SET WORKSTATION/GATEWAY=gateway-node-name
   SNARJE> SET WORKSTATION/ACCESS=access-name/DATA=logon-data
   SNARJE> SET MONITOR
   ```

6. Assign the default queue SNARJE$READER to the reader stream:

   ```
   SNARJE> ASSIGN SNARJE$READER RD1
   ```

7. Configure a print stream:

   ```
   SNARJE> ASSIGN disk:[directory] PR1
   ```

8. Set the workstation ON:

   ```
   SNARJE> SET WORKSTATION/STATE=ON
   ```

   Setting the workstation ON enables messages from the IBM host to be displayed on your screen.

9. Enter interactive console mode:

   ```
   SNARJE> SET CONSOLE
   ```

10. Type IBM RJE console commands to send data to your terminal. For example, for JES2 type the following command:

    ```
    $ DU,JES workstation
    ```

    where *JES workstation* is a valid JES workstation designation.

    For JES3, type the following command:

    ```
    I,Q,N=ALL
    ```

These commands cause JES2 or JES3 to display data on your screen.

11. Press CTRL/Z to return to SNARJE. Then type EXIT to return to DCL.

At this point your RJE software is installed correctly.