Distributed Queuing Service

Installation Guide

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Preface

The VAX Distributed Queuing Service (DQS) Version enables you to print files on devices attached to remote DECnet-VAX systems in your network. You can also display the status of your print jobs at any time during their processing and delete or modify your print jobs.

DQS is based on a server/client design, in which two components of software (server and client) cooperate to make the service function. This manual describes how to install each component of software on a particular DECnet-VAX node in your network. For more conceptual information on DQS, refer to the *VAX Distributed Queuing Service Management Guide*.

Intended Audience

This manual is intended for DECnet-VAX network or system managers who are responsible for installing and configuring the VAX Distributed Queuing Service in their network. This manual assumes a knowledge of the VAX/VMS installation procedure (VMSINSTAL).

Document Structure

This manual contains the following chapters and appendixes:

- Chapter 1 describes installation requirements and provides guidelines on how to plan the installation of DQS in your network.
- Chapter 2 describes how to use the VMSINSTAL procedure to install and verify the installation of DQS software. Guidelines for answering VMSINSTAL questions are provided.
- Chapter 3 describes postinstallation procedures such as starting DQS and running the DQS Installation Verification Procedure (IVP) independent of the VMSINSTAL procedure.
- Chapter 4 describes error recovery and reporting procedures for any errors encountered during the installation or verification of DQS.
- Appendix A describes the files created or modified by a DQS installation.

- Appendix B contains sample installation dialogs for VMS Version 4.6 and Version 4.7 systems.
- Appendix C contains sample installation dialogs for VMS Version 5.0 systems.
- Appendix D contains instructions on how to install DQS software on a node that contains Remote System Manager Version 1.0 software.

Associated Documents

You should have the following Digital documents available for reference:

- *VAX Distributed Queuing Service Management Guide*
- *VAX Distributed Queuing Service User's Guide*
- *VAX Distributed Queuing Service Command Reference*
- *Guide to VAX/VMS Software Installation*
- *VAX/VMS System Manager's Reference Manual*
- *VMS License Management Utility Manual*

Conventions

`Special type`	This special type in examples indicates system output or user input.
Red type	Red type in examples indicates user input.
RET	Press the RETURN key.
UPPERCASE	Uppercase letters in command lines indicate keywords that must be entered. You can enter them in either uppercase or lowercase. You can abbreviate command keywords to the first three characters or the 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.
[ ]	Square brackets in command lines indicate that the enclosed values are optional. (Do not type the brackets.)
CTRL/*x*	Press and hold down the CTRL key and then press the key specified by *x*.

1
Preinstallation Considerations

This chapter describes the tasks you must perform before you can successfully install VAX Distributed Queuing Service (DQS) software. These tasks include ensuring that you have met the installation requirements and planning your DQS network configuration.

Before you install DQS on a VMS Version 5.0 system, you must use the License Management Facility (LMF) to register a license Product Authorization Key (license PAK) for the DQS product. See Section Section 1.1.4 for details.

Note

In describing preinstallation considerations, this chapter refers to DQS **server nodes**, **client nodes**, **target queues**, and **client queues**. Refer to the *VAX Distributed Queuing Service Management Guide* for a definition of these terms and concepts.

1.1 Installation Requirements

This section describes the requirements you must meet in order to successfully install DQS software.

1.1.1 Kit Contents

The DQS software is available on diskette, TK50 tape cartridge, or magnetic tape. Both server and client software are contained on a single tape or two diskettes. The DQS documentation set should accompany your software. Contact your Digital representative if any components of your kit are missing.

1.1.2 Hardware

DQS software can be installed on any VAX processor.

1.1.3 Software

To install DQS, you must have installed VMS Version 4.6, 4.7, or 5.0. You must also have installed DECnet-VAX software.

On a VMS Version 5.0 system, before you can run the DQS Installation Verification Procedure (IVP) or start DQS, you must use the LMF utility to register and load a license PAK for the DQS product, as described in Section 1.1.4.

To run the Installation Verification Procedure (IVP) successfully on a node that has only DQS client software installed, there must be at least one reachable DQS server node in the network. Therefore, you should install at least one server before you install any client systems. See Section 3.5.1 for instructions for running the IVP with a DQS V1.0 server.

1.1.4 Product Authorization Key (PAK)

DQS supports the VMS License Management Facility (LMF) provided by VMS Version 5.0. Before you can run the DQS IVP and start DQS on a VMS Version 5.0 system, LMF requires that you first register a license Product Authorization Key (license PAK) for the DQS product. License PAK information is provided with the DQS product and you register and load this information into your system's license database using the VMS LMF utility. Refer to the instructions in the *VMS License Management Utility Manual* for more information.

1.1.5 Disk Space

To install DQS software, there must be at least 1400 blocks of free space on your system disk (SYS$SYSDEVICE:).

1.1.5.1 Server Software

To use the DQS server software, there must be at least 700 blocks of free space on your system disk, plus space to store files queued for printing. The exact amount of storage space required depends on the number of queues defined, the speed of the printer(s), and the backlog (that is, the number and size of queued print jobs) expected. (The disk space required for storing files to be printed does not have to be on the system disk.)

1.1.5.2 Client Software

To install DQS client software only, there must be at least 1400 blocks of unused disk space on your system disk (SYS$SYSDEVICE:).

After installation, DQS client software occupies about 300 blocks of disk space.

1.1.6 Accounts and Privileges

You must have the following privileges to install DQS software: SYSPRV, SYSNAM, OPER, NETMBX, and TMPMBX.

It is recommended that you use the system manager account (SYSTEM) to install DQS software.

After DQS is installed, no special accounts or privileges are required to use the software.

1.1.7 Processes

On a client node, every client queue that you create (that is not a generic or logical queue) results in the creation of one process. Also, while a user is being notified of print job completion, a process is temporarily created.

For server nodes, every incoming connection from a client node results in the creation of one process. Also, the notification process on a server uses one permanent process.

1.1.8 Global Pages and Global Sections

DQS installation requires approximately 5 global sections and 480 global pages.

1.1.9 Installation Time

DQS installation takes approximately 20 minutes, depending on the number of queues you specify.

1.2 Installation Planning

Installation of server and client software will be easier if you plan your DQS configuration beforehand.

Before you begin the installation, you should assemble the information you will provide to VMSINSTAL. You might want to review the installation procedure in Chapter 2 to determine the context in which this information is required.

Be sure to read the DQS release notes before you install the software. The VMSINSTAL procedure allows you to display or print the release notes without having to go through the entire installation process.

1.2.1 Planning the Installation of Server Software

Before you install DQS server software, you should plan for the following:

- **Server nodes** — What nodes in your network have printers that remote users want to use?
- **Client nodes** — From what nodes do you want to enable the users to use those printers?
- **Target queues** — What are the names of the queues on each server node that feed these printers?
- **Queue characteristics** — What characteristics, if any, will you specify for each target queue?
- **Server account information** — DQS installation creates a server account, DQS$SERVER, and its associated directory, [DQS$SERVER]. It is recommended that you accept the default user identification code (UIC) of [300,311] and the default device of SYS$COMMON. If you want to use values other than the defaults, be prepared to supply them when you are prompted during the installation.

1.2.2 Planning the Installation of Client Software

Before you install DQS client software, you should plan for the following:

- **Client nodes** — On what nodes do you want to install DQS client software so that users can access remote printers on DQS server nodes?
- **Client queues** — On each client node, what will be the names of the client queues that will correspond to target queues on their respective server nodes?
- **Server nodes** — What are the names of the server nodes with printers that your client node users want to use?
- **Target queues** — On each server node, what are the names of the target queues that feed the printers that your client node users want to use?
- **Queue qualifiers** — What qualifiers will you specify for each client queue? The default qualifier, which is recommended, is /NOENABLE_GENERIC; it prevents the queue from functioning as a generic execution queue. You can add other qualifiers, but they are not usually necessary. For more information on queue qualifiers, refer to the *VAX/VMS System Manager's Reference Manual*.

- **Forms synchronization** — How will printer forms on client nodes compare with printer forms on the server node? Printer forms are stored instructions that define print characteristics, such as margin area and paper stock. To use forms defined on the server, they must be defined on the client under the same name. It is recommended that you synchronize the forms; that is, make them the same on the client and its server(s). Refer to the *VAX Distributed Queuing Service Management Guide* for more information on synchronizing forms between clients and servers.

1.2.3 Planning the Installation of DQS Software in VAXclusters

If you plan to install DQS server software on a node in a VAXcluster in which every node has a DQS license, you only have to install the software on the server node, not on every VAXcluster node. Place all DQS software in directories common to the cluster and use the cluster alias when defining client queues. On VMS Version 4.6 or Version 4.7 systems, edit the SYSTARTUP.COM file to start DQS. On VMS Version 5.0 systems, edit the SYSTARTUP_V5.COM file to start DQS. You might want to define an incoming alias for each server VAXcluster.

When you install DQS server software on a VAXcluster member, you must execute the DQS$STARTUP.COM command file on each cluster member. If you do not, DQS connections to the cluster will fail randomly because not all of the nodes in the cluster will be configured as DQS servers.

If you plan to install DQS client software on a VAXcluster member, you must edit the SYSTARTUP.COM file (or the SYSTARTUP_V5.COM file on VMS Version 5.0 systems) to start DQS. Doing so enables all users of the cluster to use DQS. Also, you must define an outgoing cluster alias for each client VAXcluster.

1.2.3.1 Installing DQS in a VAXcluster Running Multiple Versions of VMS Software

When you are installing DQS in a VAXcluster in which some of the nodes are running VMS Version 4.7 software and some are running VMS Version 5.0 software, you must perform the installation twice: once on the VMS Version 4.7 cluster member and once on the VMS Version 5.0 member. Use the same queue names for both installations. If you are installing DQS server software, choose a common disk area for the DQS$SERVER directory and use the same password for the [DQS$SERVER] account.

1.2.4 Planning for RSM V1.0 Upgrades Before Installation

If you plan to install DQS software on a node having Remote System Manager (RSM) Version 1.0 software on it, you must make some changes to the RSM V1.0 node before you install DQS software. The changes you must make are described in Appendix C of this manual.

2
Installation and Verification

The VAX Distributed Queuing Service (DQS) software is installed using the standard VMS installation procedure, VMSINSTAL. This chapter describes how to proceed through the DQS VMSINSTAL procedure, which installs both DQS server and client software. It includes a step-by-step installation dialog along with instructions on how to respond to each VMSINSTAL prompt.

2.1 Responding to VMSINSTAL Prompts

VMSINSTAL asks a series of questions to which you must provide answers. Default responses appear in square brackets ([]) at the end of some questions and prompts. Press RET to accept a default response.

2.1.1 Getting Help on VMSINSTAL

To get help on any of the VMSINSTAL questions, type a question mark (?) in response to the question.

2.2 Aborting the VMSINSTAL Procedure

To abort the installation procedure, press CTRL/Y. The installation procedure deletes all files it has created up to that point and exits. If you want to retry the installation procedure after you press CTRL/Y, you must invoke VMSINSTAL again, as shown in step 2.

2.3 Logging Your Installation Procedure

You may want to save a copy of your VMSINSTAL session for future reference. You can use the SET HOST 0 /LOG command, which creates the log file SETHOST.LOG in your current default directory.

2.4 The DQS Installation Procedure

When you install DQS software, remember that the client software is always installed. This means that a DQS server is always a client as well. However, you do not have to configure the client software on a server node. Therefore, you can have DQS nodes that are configured only as server nodes. The DQS installation procedure also allows you to install only client software.

When you configure a node to be both a DQS server and a client, you install and configure the server software first, and then configure the client software by defining client queues that correspond to target queues on *other* server nodes.

Note

When you install DQS, you can run the Installation Verification Procedure (IVP) as part of the VMSINSTAL procedure. However, to successfully run the IVP when you are installing *only* client software, there must be at least one reachable DQS server node in your network.

To run the IVP using a DQS V1.0 server, you must first define a form on the server, as described in Section 3.5.1.

To install DQS software, follow these steps:

Step 1. Log in to the system manager account.

The system manager account has the necessary privileges to run VMSINSTAL.

Step 2. Invoke VMSINSTAL.

To invoke VMSINSTAL, type this command line:

```
$ @SYS$UPDATE:VMSINSTAL DQS011 ddcu: [OPTIONS N] RET
```

where *ddcu*: is the device on which your distribution media is mounted, and OPTIONS N is the VMSINSTAL option that allows you to view or print release notes. (Do not type the brackets if you choose to include OPTIONS N in your command line; they merely indicate that this part of the command is optional.)

Although it's a good idea to display or print the release notes the first time you install DQS, you might not want to do so on subsequent installations. You can omit OPTIONS N from the command line on subsequent installations. Doing so prevents the release notes from being printed (or displayed on your screen) every time you install DQS.

This banner appears on the screen:

```
        VAX/VMS Software Product Installation Procedure Vx.x

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

Step 3. Check the system environment.

VMSINSTAL now checks your system environment and notifies you of any running processes. For example, you might see:

```
%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        MAIL_38503
        JEANNETTE

* Do you want to continue anyway [NO]? YES RET
```

This display is informational, and does not mean that you should not continue. If you answer YES, the installation will continue. If you answer NO (or press RET), the installation will terminate and you will be returned to system command level.

Note

The DECnet network must be up and running for the Installation Verification Procedure (IVP) to function.

Step 4. Check backup.

You are reminded that you should back up your system disk before you install the software:

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

If you answer YES, the installation will continue. If you answer NO, the installation will terminate and you will be returned to system command level.

Step 5. Start the installation.

You will now see these messages:

```
The following products will be processed:

  DQS V1.1

        Beginning installation of DQS V1.1 at hh:mm
%VMSINSTAL-I-RESTORE, Restoring product saveset A...

Release Notes Options:
```

```
        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2

* Select option [3]:
```

This release notes option appears only when you invoke VMSINSTAL using OPTIONS N. It is recommended that you read the release notes before installing DQS, for the first time. If you type 1 or 3, VMSINSTAL will display the release notes at your terminal. If you type 2 or 3, VMSINSTAL will prompt you for a print queue name for printing the release notes, as follows:

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

Type a queue name or press RET. Remember that in order to print the release notes, you must have a printer attached to the system on which you are installing DQS. (You cannot use DQS to print the release notes until after DQS is installed.) VMSINSTAL queues a copy of the release notes to print, and displays a message such as the following:

```
Job DQS011 (queue queue, entry nnn) started on device
```

After you have dealt with release notes, this message appears:

```
* Do you want to continue the installation [N]?
```

Type YES or NO, as appropriate. If you type YES, the procedure will continue with this message:

```
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully
moved to SYS$HELP.
```

Step 6. Specify whether to install and configure server software.

VMSINSTAL asks whether you want to install the DQS server software on this node:

```
* Do you want to install the DQS server software on this node [NO]?
```

If this node is to be a server node, answer YES; if not, answer NO. If you answer NO, questions pertaining to installing and configuring server software will be skipped, and the questions for installing and configuring client software will appear on your screen.

Step 7. Specify whether to run the IVP during installation.

VMSINSTAL asks whether you want to run the IVP as part of the installation procedure. You should answer YES to this question.

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

Step 8. Specify whether to purge old files.

VMSINSTAL asks whether you want to purge files replaced during the installation process. If you want to retain the old copies, answer NO; otherwise, answer YES (or press RET):

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

With these previous questions answered, VMSINSTAL now displays the following informational message:

NOTE: SEE STEP 8A FOR AN ADDITIONAL QUESTION THAT IS DISPLAYED DURING AN INSTALLATION ON A VMS VERSION 5.0 SYSTEM.

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

Step 8A. For installations on VMS Version 5.0 systems, specify whether you have registered a license Product Authorization Key (PAK) for DQS.

DQS supports the VMS License Management Facility (LMF) provided by VMS Version 5.0. Before you can run the DQS IVP and start DQS on a VMS Version 5.0 system, LMF requires that you have first registered a license Product Authorization Key (license PAK) for the DQS product. The following license PAK information for DQS is displayed along with a question that requires you to verify that you have registered a license PAK for DQS:

```
      Product:      DQS
      Producer:     DEC
      Version:      1.1
      Release Date: 1-FEB-1988

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

If you answer YES and you have registered a license PAK for DQS, the DQS installation and IVP procedures will run to completion. If you answer NO, the DQS installation will complete but DQS will not be started and the IVP will not execute.

After you have completed Steps 8, the following information is displayed:

```
        ************************************************************
                       D Q S  Installation Questions
        ************************************************************

        The DQS software is set up by a command procedure named
        SYS$MANAGER:DQS$STARTUP.COM which is designed to be
        invoked from SYS$MANAGER:SYSTARTUP.COM at system startup time.
        DQS$STARTUP.COM automatically defines all of the required
        DQS logicals and client queues each time the system is rebooted.
```

Step 9. Specify whether to create a new DQS$STARTUP.COM file.

If a DQS$STARTUP.COM file already exists, you will be asked the following question:

```
* Do you want to create a new DQS$STARTUP.COM file [YES]?
```

If you answer YES to this question, the old DQS$STARTUP.COM file will be renamed to DQS$STARTUP.OLD and you will be asked additional questions. The answers you supply to these questions will be used to create your new version of the DQS$STARTUP.COM file. If you answer NO to this question, your existing DQS$STARTUP.COM file will be used.

Step 10. Specify target queues.

If you are installing server software, you should now specify target queues. (If you are not installing server software, this step is skipped.) Target queues are queues on a server node that receive print jobs from client nodes.

```
* Do you want to specify any target queues [YES]?
```

If you answer YES to this question, you will be asked for the names of queues on the server node that will be target queues. Answer YES (or press RET) to define the target queues on this node. You can specify either existing queues or new queues as DQS target queues.

If you answer NO, target queues will not be specified, and this node will not function as a server node. VMSINSTAL will skip to the step regarding setting up the server account. Refer to the *VAX Distributed Queuing Service Management Guide* for procedures on specifying target queues manually.

```
* Target queue name [<done, no more queues>]:
```

Your response should be the name of the DQS target queue you want to allow client users to print to. Enter a valid VMS queue name (up to 31 characters long, using alphanumeric characters, dollar signs, or underscores).

If the queue you are specifying does not exist, you will receive this message:

```
Queue queue does not exist.  Install anyway [NO]?
```

Type YES or NO, as appropriate. If you answer YES and create a queue, you will have to initialize it before it can be used (see Section 3.3.1).

Step 11. Finish specifying target queues.

The target queue name prompt is repeated, so that you can specify as many target queues as you want. To finish specifying target queues, press RET without entering a queue name. The next set of prompts will ask you for information required for setting up the DQS server account.

Step 12. Set up the DQS server account.

If you are installing server software, VMSINSTAL now asks a series of questions and uses your responses to define the server account. (If you are not installing server software, this step is skipped.) DQS requires that this account be created on server nodes; print jobs are stored in the server account's directory for printing.

DQS installation creates a server account, DQS$SERVER, and its associated directory, [DQS$SERVER]. It is recommended that you accept the default user identification code (UIC) of [300,311] and the default device of SYS$COMMON for the account.

```
* What is the UIC of the server account in the form [###,###] [[300,311]]:
```

Type the UIC of the server account. Unless you have already used the default UIC or have a site-specific numbering scheme, you should be able to accept the default UIC. Do not use the DQS UIC for any other account.

```
* What device will be used for the server account [SYS$COMMON:]:
```

Type the name of the device to be used for the server account. For example, if your server account will be on device USERDISK, enter USERDISK:.

You must also specify a password for the DQS$SERVER account. The password you enter is used by DECnet when a connection request for the server object has been received from a client. The password is required to start up a server process. The following information is displayed:

```
You must specify a password for the DQS$SERVER account.  The password
you specify must contain at least six characters.  Valid characters
for a password are A through Z, 0 through 9, $ (dollar sign), and _
(underscore).

As with the DCL SET PASSWORD command, your input will not appear on the
terminal.  To protect against typing errors you must enter the
password twice.

* Enter the password for the DQS$SERVER account:
* Please verify the password for the DQS server account:
```

Once you answer these questions, VMSINSTAL installs the DQS server software. You will see a series of status messages such as the following:

```
        Installing DQS SERVER software . . .

%VMSINSTAL-I-ACCOUNT, This installation creates an account named DQS$SERVER.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier DQS$SERVER value: [000300,000311] added to RIGHTSLIST.DAT
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-MDFYMSG, user record(s) updated

     The server installation is complete.  The following questions
     refer to client installations.  If you do not want to use this
     system as a client, you should answer NO when asked if you
     want to define client queues.
```

Step 13. Define client queues.

You can now choose to define the client configuration for this node, so that users on this node can queue print jobs to other DQS server nodes in your network. If you have already installed server software, you are configuring this node to be both a DQS server and a DQS client.

```
* Do you want to define client queues now [YES]?
```

If you answer YES (or press RET), you will be prompted to specify client queues on this node. If you answer NO, this series of steps is skipped and you will be prompted with questions regarding forms synchronization between clients and servers.

If you answer NO and later want to define client queues on this node, you can use the DQS command procedure DQS$IMPORT.COM, which makes it simple to define a new client queue. That command procedure is described in the *VAX Distributed Queuing Service Management Guide*.

If you answer YES, you must do the following:

a. Type the name by which you want the client queue to be known. Type a valid VMS queue name (up to 31 characters long, using alphanumeric characters, dollar signs, or underscores). If you press RET, you will terminate the process of defining queues, and VMSINSTAL will skip to the step regarding synchronizing forms definitions.

   ```
   * Client queue name [<done, no more queues>]:
   ```

   For simplicity, it is recommended that you assign all client queues the name of their corresponding target queue. For example, if a target queue is named EAST_LPW, you could name all of its client queues EAST_LPW, also.

b. Type the name of the server node that has the printer your users would like to use. If you press RET, you will terminate the process of defining this queue (and return to step a):

```
* Server node name [<quit, stop doing this queue>]:
```

c. Type the name of the target queue into which you want client print requests transferred. If you press RET, DQS will use the same name you defined for the client queue:

```
* Target queue name [client_queue_name]:
```

d. Specify queue qualifiers for the client queue. The qualifier /RETAIN=ERROR is automatically set. The qualifiers /DEFAULT, /RECORD_BLOCKING, and /SEPARATE have no effect. The qualifier /PROCESSOR is reserved for DQS.

```
* Client queue qualifiers [/NOENABLE_GENERIC]:
```

If you press RET, the qualifier /NOENABLE_GENERIC will be used when the queue is enabled. If you want to use other qualifiers, type them here in the format */qualifier1/qualifier2/qualifier3...* If you enter any qualifiers and want /NOENABLE_GENERIC also, you will have to enter it along with the other qualifiers.

For more information on queue qualifiers, refer to the *VAX/VMS System Manager's Reference Manual*.

Step 14. Finish defining client queues.

The previous sequence of four questions is repeated, allowing you to define multiple client queues, until you answer the first question by pressing RET. Pressing RET accepts the default answer to the question, which is that you are finished defining queues.

Step 15. Specify whether to synchronize forms definitions.

Once you have finished defining client queues, you receive this question:

```
* Do you want to synchronize this client's form definitions with
  its server(s) [YES]?
```

To use the forms defined on a client's server nodes, they must also be defined on the client. If you answer YES, DQS will automatically copy all forms definitions from the server to this client node. It is recommended that you reply YES to this question.

If you answer NO, then you must manually define all the server forms that you intend to use from this node.

Refer to the *VAX Distributed Queuing Service Management Guide* for more information on synchronizing forms between client and server nodes.

```
* Do you want to have the server's form definitions override this
  client's [YES]?
```

This question will appear only if you answered YES to the previous question. When a locally defined client form and a server form have the same form name but different form values, your response specifies which definition is used. If you answer YES (or press RET), then the form definition on the server will override the client definition. Otherwise, the client definition will be used. It is recommended that you take the default (YES).

Once you answer this question, VMSINSTAL installs the DQS client software. You will see a series of instructions and status messages, such as:

```
        Installing DQS CLIENT software . . .


      ****************************************************************
      *          Instructions for completing DQS installation         *
      ****************************************************************

        o Edit SYS$MANAGER:SYSTARTUP.COM to start DQS.  This must be
          done after the DECNET nodes are defined.  If your startup
          procedure submits STARTNET.COM then you should add the
          following line after the command to submit STARTNET:

                $ SUBMIT SYS$MANAGER:DQS$STARTUP.COM

          If your startup procedure executes STARTNET.COM as an
          indirect file, add the following line after the @STARTNET
          command:

                $ @SYS$MANAGER:DQS$STARTUP.COM

        o Users must log out and then back in, in order to use the
          QSHOW, QDELETE, and QSET commands for displaying, deleting,
          and modifying jobs on the remote server queues.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%RUN-S-PROC_ID, identification of created process is pid
Job DQS$CLEANSRV (queue SYS$BATCH, entry nnn) started on SYS$BATCH
```

Step 16. Verify the installation.

If you indicated that you want to run the IVP as part of the installation, the following message will appear (otherwise this step is skipped):

```
DQS V1.1 Installation Verification Procedure
```

If this is a client-only node, the following prompt will appear:

```
It is necessary to test the DQS client with a remote DQS server node.

Enter remote server NODE::QUEUE
```

Type the name of a server node and a target queue on that node. (For example, to test the installation against server queue A_LPW on node APPLES, type APPLES::A_LPW.) The IVP displays a series of messages (this may take several minutes), such as:

```
%DQS-I-CRESRVQUE Creating target queue
%DQS-I-CRECLIQUE Creating client queue
%DQS-I-CHKCLIQUE Checking client queue
%DQS-I-ENTJOB Entering test job in client queue
%DQS-I-CHECKJOB Checking test job in client queue
%DQS-I-SNDJOB Sending job to target queue
%DQS-I-CHKSRVQUE Checking test job in target queue
%DQS-I-DELJOB Deleting job from target queue
%DQS-I-CHKDEL Checking that job is gone from target queue
%DQS-I-CLEANUP Cleaning up, deleting IVP queues
%DQS-I-QUESUCCESS IVP test successful
```

Step 17. End the installation procedure.

Once installation is completed, this message appears:

```
Installation of DQS V1.1 completed at hh:mm

VMSINSTAL procedure done at hh:mm
```

The message from VMSINSTAL means that installation (and, if selected, verification) of the DQS software has completed successfully. If VMSINSTAL reports a failure, review the installation prerequisites.

If you removed any media from the console drive before beginning, replace them now.

You can run the IVP at any time to check the DQS software. See Section 3.3.1 for instructions on how to run the IVP independent of the installation.

3
Postinstallation Procedures

This chapter describes tasks that you perform after you install the DQS software.

3.1 Editing System Start-up Command Files

You must edit your local system start-up command file to invoke the DQS start-up command file (DQS$STARTUP.COM). (Your local system start-up command file is named SYSTARTUP.COM on VMS Version 4.6 and Version 4.7 systems, and SYSTARTUP_V5.COM on VMS Version 5.0 systems.) The DECnet software must be started before the DQS software. Thus, the statement that invokes the DECnet start-up command file (STARTNET.COM) must execute before the statement that invokes the DQS software.

Following is a sample portion of a system start-up file that has been edited to start up DQS:

```
                    .
                    .
                    .
$ @SYS$MANAGER:STARTNET.COM    ! Start DECnet
$ @SYS$MANAGER:DQS$STARTUP.COM ! Start DQS after network is up
                    .
                    .
                    .
```

Some installations use a batch job to start the network. The job that starts the network must complete before DQS can be started. The following portion of a system start-up file shows one way to ensure that the network starts before DQS:

```
                    .
                    .
                    .
$ SUBMIT -
        SYS$MANAGER:STARTNET.COM, -  ! Start DECnet, first
        SYS$MANAGER:DQS$STARTUP.COM  ! Then, start DQS
                    .
                    .
                    .
```

3.2 Initializing Target Queues

If you specified any new target queues on a server node (as opposed to merely specifying existing queues as target queues), you must initialize them before a client can use them as DQS target queues. Use the VMS INITIALIZE/QUEUE command to initialize each queue. (Refer to the *VAX/VMS System Manager's Reference Manual* for information on this.)

3.3 Using DQS Immediately

After you have installed DQS, users should log out and log in again before using DQS so that the DQS commands QSHOW, QDELETE/ENTRY, QSET/ENTRY will be available.

Users who are logged on during the installation process can use the DQS PRINT command immediately, but they must log out and log in again before they can use the other DQS commands.

VMSINSTAL deletes or changes entries in the process symbol tables during installation. Therefore, if you need to continue using the SYSTEM account, either log out and log in again or reexecute your LOGIN.COM file to restore these symbols.

3.3.1 Using DQS in a VAXcluster

If you have a DQS server that is a VAXcluster member, you must use the Network Control Program (NCP) to define the DQS object on each node in the VAXcluster. You must also specify the DQS server account and associated password that you specified during DQS installation. To do so, enter the following NCP commands on each node in the VAXcluster:

```
$   RUN SYS$SYSTEM:NCP RET
NCP>   DEFINE OBJECT DQS NUMBER 66 FILE DQS$SERVER.EXE USER DQS$SERVER -
_ PASSWORD password RET
NCP>   SET OBJECT DQS NUMBER 66 FILE DQS$SERVER.EXE USER DQS$SERVER -
_ PASSWORD password RET
NCP> EXIT
$
```

If you install DQS client software on a VAXcluster member, the DCL tables are updated on that member, only to include the DQS QSHOW, QDELETE/ENTRY, and QSET/ENTRY commands. In order to include these commands in the other members' DCL tables, you must execute the following command from the system manager's account on each VAXcluster member:

```
$  RUN SYS$SYSTEM:INSTALL SYS$SHARE:DCLTABLES/REPLACE RET
```

3.4 Upgrading RSM V1.0 Nodes After DQS Installation

If you have installed DQS software on a node that has Remote System Manager (RSM) Version 1.0 software on it, you must make changes, both before and after installation, to make the DQS software function properly. The changes you must make are described in Appendix C.

3.5 Running the IVP After DQS Installation

The DQS Installation Verification Procedure (IVP) is a command procedure that verifies the correct installation and operation of DQS. It can be run as part of the VMSINSTAL procedure or independent of the installation process. This section describes the DQS IVP and tells you how to run it independent of the installation process. You receive the same information from the IVP as if you ran it as part of the VMSINSTAL procedure. The DQS$IVP.COM command file is placed in the SYS$TEST directory by the DQS installation procedure.

See also Chapter 4, which describes various error conditions that might occur when you run the IVP.

- For a server node, the IVP verifies that the DQS accounts have been set up correctly, and that the server node can queue a job to itself or to a specified server.
- For a client node, the IVP verifies that a job can be queued to at least one server node.

For a node that has only DQS client software installed, the IVP will fail if the server node you specify is not reachable. See Section 3.5.1 for instructions for running the IVP using a DQS V1.0 server.

To run the IVP, you need the account privileges SYSPRV, SYSNAM, OPER, NETMBX, and TMPMBX, or the privilege SETPRV (to set the other privileges).

Note

Nothing is actually printed when you run the IVP. Only the capacity to print is tested and verified. If you want, you can try printing a test file after the IVP completes successfully.

To run the IVP independent of the installation procedure, enter the following command at the DCL prompt:

```
@SYS$TEST:DQS$IVP [node::queue]
```

You can optionally enter a server node and target queue name. The IVP will then run a test of the DQS software and display the following messages:

```
DQS V1.1 Installation Verification Procedure
```

If this is a node that has only DQS client software installed and you did not specify a server node and target queue name, the following prompt will appear:

```
It is necessary to test the DQS client with a remote DQS server node.

Enter remote server NODE::QUEUE
```

Type the name of a server node and a target queue on that node. (For example, to test the installation against server queue A_LPW on node APPLES, type APPLES::A_LPW.)

The IVP displays a series of messages, such as the following:

```
%DQS-I-CRESRVQUE Creating target queue
%DQS-I-CRECLIQUE Creating client queue
%DQS-I-CHKCLIQUE Checking client queue
%DQS-I-ENTJOB Entering test job in client queue
%DQS-I-CHECKJOB Checking test job in client queue
%DQS-I-SNDJOB Sending job to target queue
%DQS-I-CHKSRVQUE Checking test job in target queue
%DQS-I-DELJOB Deleting job from target queue
%DQS-I-CHKDEL Checking that job is gone from target queue
%DQS-I-CLEANUP Cleaning up, deleting IVP queues
%DQS-I-QUESUCCESS IVP test successful
```

The following message will not appear if only client software is installed or if you specified a *node::queue* when you invoked the IVP:

```
%DQS-I-CRESRVQUE Creating target queue
```

Note

The DQS$IVP.COM command file is independent of the DQS software and can be deleted without any adverse effect on DQS. However, it is strongly recommended that you keep the file.

3.5.1 Running the IVP with a DQS V1.0 Server

If a DQS V1.1 server is not available, a DQS V1.0 server can be used for running the IVP of DQS V1.1 software. However, before you can do so, you must define a form on the V1.0 server. To do so, enter the following command from a privileged account on the V1.0 server:

```
$  DEFINE/FORM DQS$IVP_TEST_FORM 1110 /STOCK=DQS_IVP_TEST_STOCK -
_$  /DESCRIPTION="DQS test form, do not delete" RET
```

3.5.2 Running the IVP with a DQS V1.1 Server

The IVP will fail it you run it on a DQS V1.0 client and use a DQS V1.1 server that is running VMS Version 5.*x* software.

4
Error Handling

This chapter describes error messages that you might encounter when you install or verify the installation of DQS software. Suggestions for error recovery are included, as well as instructions for submitting a Software Performance Report (SPR) to Digital for irrecoverable errors.

All DQS error messages begin with this prefix:

`%DQS-`*`l`*`-`*`ident`*`,`

The messages in this chapter are listed alphabetically by their message *ident* (or identification). Refer to the *VAX/VMS System Messages and Recovery Procedures Reference Manual* for an explanation of the format of VMS system messages and their severity levels.

Note

For a description of any errors returned by the License Management Facility (LMF), refer to the *VMS License Management Utility Manual*.

4.1 Installation Error Messages

This section describes error messages that you might encounter while you are installing DQS software.

If you should receive any error messages beginning with %VMSINSTAL, refer to the *Guide to VAX/VMS Software Installation* for an explanation and possible solution to the problem.

NOQUEUE, VMS queue system is not installed

Explanation: The VMS queuing software was not found. The installation has failed.

User Action: Install or reinstall the VMS queuing software.

NOSPACE, there is not enough free space on the system disk to install DQS V1.0

Explanation: There is not enough free space on the system disk.

User Action: Delete some files and try again.

VERSION, DQS V1.0 requires VMS Version 4.4 or later to install

Explanation: You have not installed VMS Version 4.4 or later on your system.

User Action: You must install the appropriate version of VMS before you can install DQS.

4.2 IVP Error Messages

This section describes error messages that you might encounter while you run the DQS Installation Verification Procedure (IVP).

BADTMPFILE, bad temporary file

Explanation: A temporary file created during the IVP could not be deleted.

User Action: The IVP may not have failed. Delete the file manually.

CANTPRINT, cannot print job

Explanation: The IVP could not execute the PRINT command and has failed.

User Action: Reinstall DQS.

INVALIDSERVER, invalid server node or queue name

Explanation: During a client IVP, you entered either a node name or a queue name that is not valid.

User Action: The prompt "Enter remote NODE::QUEUE" is repeated. Enter valid node and queue names.

NOCHAR, cannot find unused characteristic

Explanation: DQS requires an unused characteristic to prevent printing a file on the server, but DQS could not find an unused characteristic for the IVP. Refer to the *VAX/VMS System Manager's Reference Manual* for information about queue characteristics.

User Action: For a client IVP, specify another target queue and try again. For a server IVP, the IVP has failed; reinstall DQS.

NODELETE, job cannot be deleted from queue

Explanation: The IVP could not delete the test job from the remote queue and failed.

User Action: Delete the job manually, check the network link, and rerun the IVP.

NOPRIV, need SYSPRV, SYSNAM, OPER, NETMBX, TMBMBX privileges

Explanation: Your account does not have the correct privileges, or they have not been enabled.

User Action: Change your account registration (or enable your privileges) and rerun the IVP.

NOQUEUE, unable to read local queue

Explanation: The local queue has not been defined properly and the IVP has failed.

User Action: Reinstall DQS.

NOREMOTEQUE, remote queue does not exist or is inaccessible

Explanation: The remote queue you specified during installation does not exist, or the network link is down.

User Action: For a server IVP, reinstall DQS. For a client IVP, check the target queue name, check the network link, or reinstall the server software; then rerun the IVP.

OLDIVP, old IVP job exists in queue, deleting

Explanation: An IVP test print job already exists in the queue. It will be deleted.

User Action: None; information only.

RERUN, rerun IVP with different target queue

Explanation: An error (for instance, the remote system not being available) prevented the IVP from running.

User Action: For a server IVP, reinstall DQS. For a client IVP, rerun the IVP with a different target queue.

WAIT, waiting for file to transfer to remote queue

Explanation: The test file is being transferred or will be transferred.

User Action: None; information only.

XFERTIME, timed out trying to transfer file to remote queue

Explanation: The file transfer could not complete in 15 minutes.

User Action: Check the network link and rerun the IVP.

4.3 Error Reporting

If an error occurs while the DQS program is being used, and you have reason to believe that the error is a problem with the DQS software, you should submit a Software Performance Report (SPR).

When you prepare to submit an SPR, please do the following:

1. Provide as complete a description of the problem as possible, trying not to overlook any details. Include in the description the version numbers of DQS and VMS (both server and client).
2. Reduce the problem to as simple a case as possible, preferably to a single command.
3. Include listings of all output from DQS (if any) and any relevant OPCOM.LOG entries and NETSERVER.LOG files.
4. Save a SHOW LOGICAL listing of all the DQS logical definitions on both the server and client nodes. Save a SHOW QUEUE/FULL listing of the queue on both the server and client nodes. Save a SHOW PROCESS/ALL listing of the server DQS process.

A

Files Affected or Produced by DQS Installation

This appendix describes the files produced or changed during DQS installation. Unless otherwise specified, all files are copied from the DQS saveset. For more information on using and modifying DQS files, refer to the *VAX Distributed Queuing Service Management Guide.*

A.1 Files Installed on Server Nodes

SYS$MANAGER:DQS$CLEANSRV.COM — A command file that cleans up the DQS server account. There are a few conditions where files may be ''lost'' in the directory. This procedure deletes the lost files.

SYS$MANAGER:DQS$STARTUP.COM — The start-up command file. Created by the installation. Defines DQS defaults and all DQS logical names.

SYS$MANAGER:DQS$DEFINE.COM — A command file that defines DQS client queues. Invoked by DQS$IMPORT, DQS$IVP, and the DQS$STARTUP command files.

SYS$MANAGER:DQS$IMPORT.COM — A command file that makes it easy to add another client queue to the current DQS configuration on a client node.

SYS$SYSTEM:DQS$CLIENT.EXE — A DQS user command execution program. Does the work for the QSHOW, QSET, and QDELETE commands.

SYS$SYSTEM:DQS$NOTIFIER.EXE — A detached process that runs on the server node to send print job notification to client users.

SYS$SYSTEM:DQS$PRTSMB.EXE — A DQS modified print symbiont that replaces the standard print symbiont **on the server node.** Places additional DQS-specific information on the FLAG, BURST, and TRAILER pages of print output.

SYS$SYSTEM:DQS$SERVER.EXE — The DQS server program. Receives incoming requests from client nodes and processes them. Processes all DQS commands (PRINT, QSHOW, QDELETE, and QSET). If notification is requested, also performs notification on the client node.

SYS$SYSTEM:DQS$SMB.EXE — The DQS symbiont. Transfers print jobs and files from the client system to the server.

On VMS Version 5.0 systems:
SYS$LOADABLE_IMAGES:NADRIVER.EXE — A null printer device driver. Enables the DQS spooling function.

On VMS Version 4.6 and Version 4.7 systems:
SYS$SYSTEM:NADRIVER.EXE — A null printer device driver. Enables the DQS spooling function.

SYS$TEST:DQS$IVP.COM — The Installation (actually system operation) Verification Procedure (IVP).

SYS$HELP:DQS011.RELEASE_NOTES — The release notes for the DQS product.

A.2 Files Installed on Client-Only Nodes

SYS$MANAGER:DQS$DEFINE.COM — A command file that defines DQS client queues. Invoked by DQS$IMPORT, DQS$IVP, and DQS$STARTUP command files.

SYS$MANAGER:DQS$IMPORT.COM — A command file that makes it easy to add another client queue to the current DQS configuration on a client node.

SYS$MANAGER:DQS$STARTUP.COM — A start-up command file for the client node. Created by the installation. Starts the DQS client queues.

SYS$SYSTEM:DQS$CLIENT.EXE — A DQS user command execution program. Does the work for the QSHOW, QSET, and QDELETE commands.

SYS$SYSTEM:DQS$SERVER.EXE — If print job notification is requested, performs notification on the client node.

SYS$SYSTEM:DQS$SMB.EXE — The DQS symbiont. Transfers print jobs and files from the client system to the server.

On VMS Version 5.0 systems:
SYS$LOADABLE_IMAGES:NADRIVER.EXE — A null printer device driver. Enables the DQS spooling function.

On VMS Version 4.6 and Version 4.7 systems:
SYS$SYSTEM:NADRIVER.EXE — A null printer device driver. Enables the DQS spooling function.

SYS$TEST:DQS$IVP.COM — The Installation (actually system operation) Verification Procedure (IVP).

SYS$HELP:DQS011.RELEASE_NOTES — The release notes for the DQS product.

A.3 Existing Files Modified

SYS$HELP:HELPLIB.HLB—Help library.

SYS$LIBRARY:DCLTABLES.EXE—DCL command definition tables.

A.4 Accounts and Processes Added

Accounts added: DQS server account DQS$SERVER (on server nodes only).

Proxies added: None.

DECnet objects added: DQS (number=66, file ID=DQS$SERVER.EXE, user ID=DQS$SERVER, proxy access=none). Created on server nodes and created on client nodes.

Note

The default user ID is DQS$SERVER; the password can be random or user specified.

Processes added: On clients, each newly created client queue (that is not a generic or logical queue) results in a process being created. Also, while print job notification is returned to a client user, a temporary process is created.

On servers, each logical link to a client node creates a process. Also, the notification process on a server uses one permanent process.

B

Sample Installation Dialogs for VMS Version 4.6 and Version 4.7 Systems

This appendix contains a sample installation of both DQS server and client software on a VMS Version 4.*x* system. The actual dates, times, entry numbers, and version numbers may vary for you.

B.1 Sample Server Installation

```
  Welcome to VMS V4.7

Username: SYSTEM RET
Password: password RET
        Welcome to VMS V4.7

    Last interactive login on Tuesday,  3-FEB-1988 16:25
    Last non-interactive login on Wednesday, 18-FEB-1988 15:03

$ @SYS$UPDATE:VMSINSTAL DQS011 MTA0: OPTIONS N RET

        VAX/VMS Software Product Installation Procedure V4.7

It is 26-FEB-1988 at 14:48.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        _WTA3:
        WILBUR
        _WTA2:
* Do you want to continue anyway [NO]? Y RET
* Are you satisfied with the backup of your system disk [YES]?  Y RET

The following products will be processed:

  DQS V1.1

        Beginning installation of DQS V1.1 at 14:48

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

```
Release Notes Options:

        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2

* Select option [3]: 2 RET
* Queue name [SYS$PRINT]: RET
Job DQS011 (queue SYS$PRINT, entry 1024) started on LPA0
* Do you want to continue the installation [N]? Y RET
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully moved to SYS$HELP.
* Do you want to install the DQS server software on this node [NO]? Y RET
* Do you want to run the IVP after the installation [YES]?  Y RET
* Do you want to purge files replaced by this installation [YES]? Y RET
%VMSINSTAL-I-RESTORE, Restoring product saveset B...

        ****************************************************************
                     D Q S  Installation Questions
        ****************************************************************

        The DQS software is set up by a command procedure named
        SYS$MANAGER:DQS$STARTUP.COM which is designed to be
        invoked from SYS$MANAGER:SYSTARTUP.COM at system startup time.
        DQS$STARTUP.COM automatically defines all of the required
        DQS logicals each time the system is rebooted.

* Do you want to create a new DQS$STARTUP.COM file [YES]? Y RET

        This asks for a list of queues on the server into which DQS
        can enqueue jobs received from clients.  If you answer YES to
        this question you will be asked for the names of queues that
        may be used.

* Do you want to specify any target queues [YES]? Y RET
* Target queue name [<done, no more queues>]: A_LPW RET
* Target queue name [<done, no more queues>]: A_Q2 RET
* Target queue name [<done, no more queues>]: RET

* What is the UIC of the server account in the form [###,###] [[300,311]]: RET
* What device will be used for the server account [SYS$COMMON:]: $DISK2: RET

You must specify a password for the DQS$SERVER account.  The password
you specify must contain at least six characters.  Valid
characters for a password are A through Z, 0 through 9,
$ (dollar sign), and _ (underscore).

As with the DCL SET PASSWORD command, your input will not
appear on the terminal.  To protect against typing errors
you must enter the password twice.


* Enter the password for the DQS$SERVER account: password RET
* Please verify the password for the DQS server account: password RET

        Installing DQS SERVER software . . .
```

```
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier DQS$SERVER value: [000300,000311] added to RIGHTSLIST.DAT
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-MDFYMSG, user record(s) updated

     The server installation is complete.  The following questions
     refer to client installations.  If you do not want to use this
     system as a client, you should answer NO when asked if you
     want to define client queues.

* Do you want to define client queues now [YES]? Y RET

* Client queue name [<done, no more queues>]: B_LN03 RET
* Server node name [<quit, stop doing this queue>]: APPLES RET
* Target queue name [B_LN03]: RET
* Client queue qualifiers [/NOENABLE_GENERIC]: RET
* Client queue name [<done, no more queues>]: RET
* Do you want to synchronize this client's form definitions with
  its server(s) [YES]? Y RET
* Do you want to have the server's form definitions override this
  client's [YES]? Y RET

       Installing DQS CLIENT software . . .


      ****************************************************************
      *          Instructions for completing DQS installation        *
      ****************************************************************

        o Edit SYS$MANAGER:SYSTARTUP.COM to start DQS.  This must be
          done after the DECNET nodes are defined.  If your startup
          procedure submits STARTNET.COM then you should add the
          following line after the command to submit STARTNET:

                $ SUBMIT SYS$MANAGER:DQS$STARTUP.COM

          If your startup procedure executes STARTNET.COM as an
          indirect file, add the following line after the @STARTNET
          command:

                $ @SYS$MANAGER:DQS$STARTUP.COM

        o Users must log out and then back in, in order to use the
          QSHOW, QDELETE, and QSET commands for displaying, deleting,
          and modifying jobs on the remote server queues.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%RUN-S-PROC_ID, identification of created process is 0000041A
Job DQS$CLEANSRV (queue SYS$BATCH, entry 810) started on SYS$BATCH

DQS V1.1 Installation Verification Procedure
```

```
%DQS-I-CRESRVQUE Creating target queue
%DQS-I-CRECLIQUE Creating client queue
%DQS-I-CHKCLIQUE Checking client queue
%DQS-I-ENTJOB Entering test job in client queue
%DQS-I-CHECKJOB Checking test job in client queue
%DQS-I-SNDJOB Sending job to target queue
%DQS-I-CHKSRVQUE Checking test job in target queue
%DQS-I-DELJOB Deleting job from target queue
%DQS-I-CHKDEL Checking that job is gone from target queue
%DQS-I-CLEANUP Cleaning up, deleting IVP queues
%DQS-I-QUESUCCESS IVP test successful

        Installation of DQS V1.1 completed at 15:15

        VMSINSTAL procedure done at 15:15

$
```

B.2 Sample Client Installation

```
  Welcome to VMS V4.7

Username: SYSTEM RET
Password: password RET
        Welcome to VMS V4.7

    Last interactive login on Tuesday,  28-MAR-1988 10:24
    Last non-interactive login on Tuesday, 28-MAR-1988 9:14

$ @SYS$UPDATE:VMSINSTAL DQS011 MUA0: RET

        VAX/VMS Software Product Installation Procedure V4.7

It is 28-MAR-1988 at 11:12.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        _WTA3:
        ORVILLE
        _WTA2:
* Do you want to continue anyway [NO]? Y RET
* Are you satisfied with the backup of your system disk [YES]?  Y RET

The following products will be processed:

  DQS V1.1

        Beginning installation of DQS V1.1 at 11:14

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

```
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully moved to SYS$HELP.
* Do you want to install the DQS server software on this node [NO]? N RET
* Do you want to run the IVP after the installation [YES]?  Y RET
* Do you want to purge files replaced by this installation [YES]? Y RET
%VMSINSTAL-I-RESTORE, Restoring product saveset B...

        ****************************************************************
                     D Q S  Installation Questions
        ****************************************************************

        The DQS software is set up by a command procedure named
        SYS$MANAGER:DQS$STARTUP.COM which is designed to be
        invoked from SYS$MANAGER:SYSTARTUP.COM at system startup time.
        DQS$STARTUP.COM automatically defines all of the required
        DQS logicals each time the system is rebooted.

* Do you want to create a new DQS$STARTUP.COM file [YES]? Y RET
* Do you want to define client queues now [YES]? Y RET

* Client queue name [<done, no more queues>]: B_LN03 RET
* Server node name [<quit, stop doing this queue>]: APPLES RET
* Target queue name [B_LN03]: RET
* Client queue qualifiers [/NOENABLE_GENERIC]: RET
* Client queue name [<done, no more queues>]: RET
* Do you want to synchronize this client's form definitions with
  its server(s) [YES]? Y RET
* Do you want to have the server's form definitions override this
  client's [YES]? Y RET

        Installing DQS CLIENT software . . .


      ****************************************************************
      *          Instructions for completing DQS installation        *
      ****************************************************************

        o Edit SYS$MANAGER:SYSTARTUP.COM to start DQS.  This must be
          done after the DECNET nodes are defined.  If your startup
          procedure submits STARTNET.COM then you should add the
          following line after the command to submit STARTNET:

                $ SUBMIT SYS$MANAGER:DQS$STARTUP.COM

          If your startup procedure executes STARTNET.COM as an
          indirect file, add the following line after the @STARTNET
          command:

                $ @SYS$MANAGER:DQS$STARTUP.COM

        o Users must log out and then back in, in order to use the
          QSHOW, QDELETE, and QSET commands for displaying, deleting,
          and modifying jobs on the remote server queues.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%RUN-S-PROC_ID, identification of created process is 00000692
Job DQS$CLEANSRV (queue SYS$BATCH, entry 1054) started on SYS$BATCH
```

B.2 Sample Client Installation

```
DQS V1.1 Installation Verification Procedure

It is necessary to test the DQS client with a remote DQS server node.

Enter remote server NODE::QUEUE  APPLES::A_LPW RET
%DQS-I-CRECLIQUE Creating client queue
%DQS-I-CHKCLIQUE Checking client queue
%DQS-I-ENTJOB Entering test job in client queue
%DQS-I-CHECKJOB Checking test job in client queue
%DQS-I-SNDJOB Sending job to target queue
%DQS-I-CHKSRVQUE Checking test job in target queue
%DQS-I-DELJOB Deleting job from target queue
%DQS-I-CHKDEL Checking that job is gone from target queue
%DQS-I-CLEANUP Cleaning up, deleting IVP queues
%DQS-I-QUESUCCESS IVP test successful

        Installation of DQS V1.1 completed at 11:39

        VMSINSTAL procedure done at 11:39

$
```

C

Sample Installation Dialogs for VMS Version 5.0 Systems

This appendix contains a sample installation of both DQS server and client software on a VMS Version 5.0 system. The actual dates, times, entry numbers, and version numbers may vary for you.

C.1 Sample Server Installation

```
  Welcome to VMS V5.0

Username: SYSTEM RET
Password: password RET
        Welcome to VMS V5.0

    Last interactive login on Tuesday,  3-FEB-1988 16:25
    Last non-interactive login on Wednesday, 18-FEB-1988 15:03

$ @SYS$UPDATE:VMSINSTAL DQS011 MTA0: RET

        VAX/VMS Software Product Installation Procedure V5.0

It is 26-FEB-1988 at 14:48.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        _WTA3:
        WILBUR
        _WTA2:
* Do you want to continue anyway [NO]? Y RET
* Are you satisfied with the backup of your system disk [YES]?  Y RET

The following products will be processed:

  DQS V1.1

        Beginning installation of DQS V1.1 at 14:48

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

Sample Installation Dialogs for VMS Version 5.0 Systems
C.1 Sample Server Installation

```
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully moved to SYS$HELP.
* Do you want to install the DQS server software on this node [NO]? Y RET
* Do you want to run the IVP after the installation [YES]?  Y RET
* Do you want to purge files replaced by this installation [YES]? Y RET

        Product:      DQS
        Producer:     DEC
        Version:      1.1
        Release Date: 1-FEB-1988

*Does this product have an authorization key registered and loaded? Y RET
%VMSINSTAL-I-RESTORE, Restoring product saveset B...

        ****************************************************************
                     D Q S  Installation Questions
        ****************************************************************

        The DQS software is set up by a command procedure named
        SYS$MANAGER:DQS$STARTUP.COM which is designed to be
        invoked from SYS$MANAGER:SYSTARTUP.COM at system startup time.
        DQS$STARTUP.COM automatically defines all of the required
        DQS logicals each time the system is rebooted.

* Do you want to create a new DQS$STARTUP.COM file [YES]? Y RET

        This asks for a list of queues on the server into which DQS
        can enqueue jobs received from clients.  If you answer YES to
        this question you will be asked for the names of queues that
        may be used.

* Do you want to specify any target queues [YES]? Y RET
* Target queue name [<done, no more queues>]: A_LPW RET
* Target queue name [<done, no more queues>]: A_Q2 RET
* Target queue name [<done, no more queues>]: RET

* What is the UIC of the server account in the form [###,###] [[300,311]]: RET
* What device will be used for the server account [SYS$COMMON:]: $DISK2: RET

You must specify a password for the DQS$SERVER account.  The password
you specify must contain at least six characters.  Valid
characters for a password are A through Z, 0 through 9,
$ (dollar sign), and _ (underscore).

As with the DCL SET PASSWORD command, your input will not
appear on the terminal.  To protect against typing errors
you must enter the password twice.


* Enter the password for the DQS$SERVER account: password RET
* Please verify the password for the DQS server account: password RET

        Installing DQS SERVER software . . .
```

```
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier DQS$SERVER value: [000300,000311] added to RIGHTSLIST.DAT
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an account named DQS$SERVER.
%UAF-I-MDFYMSG, user record(s) updated

     The server installation is complete.  The following questions
     refer to client installations.  If you do not want to use this
     system as a client, you should answer NO when asked if you
     want to define client queues.

* Do you want to define client queues now [YES]? Y RET

* Client queue name [<done, no more queues>]: B_LN03 RET
* Server node name [<quit, stop doing this queue>]: APPLES RET
* Target queue name [B_LN03]: RET
* Client queue qualifiers [/NOENABLE_GENERIC]: RET
* Client queue name [<done, no more queues>]: RET
* Do you want to synchronize this client's form definitions with
  its server(s) [YES]? Y RET
* Do you want to have the server's form definitions override this
  client's [YES]? Y RET

       Installing DQS CLIENT software . . .


      ****************************************************************
      *          Instructions for completing DQS installation        *
      ****************************************************************

        o Edit SYS$MANAGER:SYSTARTUP.COM to start DQS.  This must be
          done after the DECNET nodes are defined.  If your startup
          procedure submits STARTNET.COM then you should add the
          following line after the command to submit STARTNET:

                $ SUBMIT SYS$MANAGER:DQS$STARTUP.COM

          If your startup procedure executes STARTNET.COM as an
          indirect file, add the following line after the @STARTNET
          command:

                $ @SYS$MANAGER:DQS$STARTUP.COM

        o Users must log out and then back in, in order to use the
          QSHOW, QDELETE, and QSET commands for displaying, deleting,
          and modifying jobs on the remote server queues.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%RUN-S-PROC_ID, identification of created process is 0000041A
Job DQS$CLEANSRV (queue SYS$BATCH, entry 810) started on SYS$BATCH

DQS V1.1 Installation Verification Procedure
```

```
%DQS-I-CRESRVQUE Creating target queue
%DQS-I-CRECLIQUE Creating client queue
%DQS-I-CHKCLIQUE Checking client queue
%DQS-I-ENTJOB Entering test job in client queue
%DQS-I-CHECKJOB Checking test job in client queue
%DQS-I-SNDJOB Sending job to target queue
%DQS-I-CHKSRVQUE Checking test job in target queue
%DQS-I-DELJOB Deleting job from target queue
%DQS-I-CHKDEL Checking that job is gone from target queue
%DQS-I-CLEANUP Cleaning up, deleting IVP queues
%DQS-I-QUESUCCESS IVP test successful

        Installation of DQS V1.1 completed at 15:15

        VMSINSTAL procedure done at 15:15

$
```

C.2 Sample Client Installation

```
  Welcome to VMS V5.0

Username: SYSTEM RET
Password: password RET
        Welcome to VMS V5.0

    Last interactive login on Tuesday,  28-APR-1988 10:24
    Last non-interactive login on Tuesday, 28-APR-1988 9:14

$ @SYS$UPDATE:VMSINSTAL DQS011 MUA0: RET

        VAX/VMS Software Product Installation Procedure V5.0

It is 28-APR-1988 at 11:12.
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-DECNET, Your DECnet network is up and running.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        _WTA3:
        ORVILLE
        _WTA2:
* Do you want to continue anyway [NO]? Y RET
* Are you satisfied with the backup of your system disk [YES]?  Y RET

The following products will be processed:

  DQS V1.1

        Beginning installation of DQS V1.1 at 11:14

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

```
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully moved to SYS$HELP.
* Do you want to install the DQS server software on this node [NO]? N RET
* Do you want to run the IVP after the installation [YES]?  Y RET
* Do you want to purge files replaced by this installation [YES]? Y RET

        Product:      DQS
        Producer:     DEC
        Version:      1.1
        Release Date: 1-FEB-1988

*Does this product have an authorization key registered and loaded? Y RET
%VMSINSTAL-I-RESTORE, Restoring product saveset B...

        ****************************************************************
                     D Q S  Installation Questions
        ****************************************************************

        The DQS software is set up by a command procedure named
        SYS$MANAGER:DQS$STARTUP.COM which is designed to be
        invoked from SYS$MANAGER:SYSTARTUP.COM at system startup time.
        DQS$STARTUP.COM automatically defines all of the required
        DQS logicals each time the system is rebooted.

* Do you want to create a new DQS$STARTUP.COM file [YES]? Y RET
* Do you want to define client queues now [YES]? Y RET

* Client queue name [<done, no more queues>]: B_LN03 RET
* Server node name [<quit, stop doing this queue>]: APPLES RET
* Target queue name [B_LN03]: RET
* Client queue qualifiers [/NOENABLE_GENERIC]: RET
* Client queue name [<done, no more queues>]: RET
* Do you want to synchronize this client's form definitions with
  its server(s) [YES]? Y RET
* Do you want to have the server's form definitions override this
  client's [YES]? Y RET

        Installing DQS CLIENT software . . .


      ****************************************************************
      *          Instructions for completing DQS installation        *
      ****************************************************************

        o Edit SYS$MANAGER:SYSTARTUP.COM to start DQS.  This must be
          done after the DECNET nodes are defined.  If your startup
          procedure submits STARTNET.COM then you should add the
          following line after the command to submit STARTNET:

                $ SUBMIT SYS$MANAGER:DQS$STARTUP.COM

          If your startup procedure executes STARTNET.COM as an
          indirect file, add the following line after the @STARTNET
          command:

                $ @SYS$MANAGER:DQS$STARTUP.COM
```

```
        o Users must log out and then back in, in order to use the
          QSHOW, QDELETE, and QSET commands for displaying, deleting,
          and modifying jobs on the remote server queues.

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%RUN-S-PROC_ID, identification of created process is 00000692
Job DQS$CLEANSRV (queue SYS$BATCH, entry 1054) started on SYS$BATCH

DQS V1.1 Installation Verification Procedure

It is necessary to test the DQS client with a remote DQS server node.

Enter remote server NODE::QUEUE  APPLES::A_LPW [RET]
%DQS-I-CRECLIQUE Creating client queue
%DQS-I-CHKCLIQUE Checking client queue
%DQS-I-ENTJOB Entering test job in client queue
%DQS-I-CHECKJOB Checking test job in client queue
%DQS-I-SNDJOB Sending job to target queue
%DQS-I-CHKSRVQUE Checking test job in target queue
%DQS-I-DELJOB Deleting job from target queue
%DQS-I-CHKDEL Checking that job is gone from target queue
%DQS-I-CLEANUP Cleaning up, deleting IVP queues
%DQS-I-QUESUCCESS IVP test successful

        Installation of DQS V1.1 completed at 11:39

        VMSINSTAL procedure done at 11:39

$
```

D

RSM V1.0 Upgrade Procedure

If you have Remote System Manager (RSM) Version 1.0 software on a node and you install DQS, then the RSM V1.0 DQS software is automatically replaced with DQS software. However, you must make changes manually, both before and after you install the new DQS software, as described in this appendix.

D.1 Upgrading a Server Node

Follow these steps on the server node:

1. Remove the RSMQUE DECnet object by entering the following commands:

```
$ RUN SYS$SYSTEM:NCP RET
NCP> CLEAR OBJECT RSMQUE ALL RET
NCP> PURGE OBJECT RSMQUE ALL RET
NCP> EXIT RET
$
```

2. Delete these files:
   - SYS$SYSTEM:RSM$DJM.EXE;*
   - SYS$SYSTEM:RSM$DJM.COM;*
   - SYS$MANAGER:RSM$DQSTARTUP.COM;*
   - SYS$MANAGER:RSM$CLEANSRV.COM;*
3. Install the DQS server software.
4. Edit the system start-up command file to remove the following RSM DQS start-up command file invocations:

   @SYS$MANAGER:RSM$DQSTARTUP.COM

   or

   $ SUBMIT SYS$MANAGER:RSM$DQSTARTUP.COM

   Then insert the following DQS start-up invocation:

   @SYS$MANAGER:DQS$STARTUP.COM

D.2 Upgrading a Client Node

Follow these steps on the client node:

1. Remove the RSMQUE DECnet object by entering the following commands:

```
$ RUN SYS$SYSTEM:NCP RET
NCP> CLEAR OBJECT RSMQUE ALL RET
NCP> PURGE OBJECT RSMQUE ALL RET
NCP> EXIT RET
$
```

2. Delete these files:
   - SYS$SYSTEM:RSM$QDJR.EXE;*
   - SYS$SYSTEM:RSMSMB.COM;*
   - SYS$MANAGER:RSM$DQSTARTUP.COM;*
   - SYS$MANAGER:RSM$DQSDEFINE.COM;*
3. Install the DQS client software.
4. Edit the client system start-up command file to remove the following RSM DQS start-up command file invocations:

   @SYS$MANAGER:RSM$DQSTARTUP.COM

   or

   $ SUBMIT SYS$MANAGER:RSM$DQSTARTUP.COM

   Then insert the following DQS client start-up invocation:

   @SYS$MANAGER:DQS$STARTUP.COM

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