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Document: MCCinstall_cover_v105
Last saved on: Tue, Sep 18, 1990 13:05:23
Document: MCCinstall_Title
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Document: Copyright_software
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Document: install_contents
Last saved on: Tue, Sep 18, 1990 13:12:55
Document: preface
Last saved on: Tue, Sep 18, 1990 13:14:54
Document: prep
Last saved on: Fri, Sep 7, 1990 07:41:19
Document: install BMS
Last saved on: Fri, Sep 7, 1990 07:41:39
Document: install DIR
Last saved on: Fri, Sep 7, 1990 07:41:51
Document: install TK
Last saved on: Fri, Sep 7, 1990 07:42:06
Document: install MM
Last saved on: Tue, Sep 18, 1990 12:51:45
Document: post
Last saved on: Tue, Sep 18, 1990 14:37:13
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DECmcc™
TCP/IP SNMP Access Module

digital™

Installation

Order Number: AA–PET1A–TE

DECmcc™
TCP/IP SNMP Access Module

Installation

November 1990

Supersession/Update Information:	This is an updated manual
Operating System and Version:	VMS V5.3 or later
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digital™

Order Number: AA–PET1A–TE

AA–PET1A–TE
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Contents

Preface

DECmcc™ *Installation* describes how to install DECmcc on the VMS operating system.

Intended Audience

This document is designed for anyone who intends to install DECmcc.

Document Structure

This document has the following chapters and appendix:

- **Chapter 1** helps you to prepare your system before you install the software.
- **Chapter 2** directs you to install your DECmcc Basic Management System software.
- **Chapter 3** directs you to install your DECmcc Director software.
- **Chapter 4** directs you to install your DECmcc Developer's Toolkit software.
- **Chapter 5** directs you to install any DECmcc independent management module.
- **Chapter 6** describes preparatory tasks you must perform before you can manage your network.
- **Appendix A** supplies an installation checklist.

The postage–prepaid **Reader's Comments** form on the last page of this document requests the user's critical evaluation to assist us in preparing future documentation.

Conventions Used in This Guide

Convention	Meaning
`Special type` `Red type`	This special type in examples indicates system output or user input. Red type in examples indicates user input.
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.
key	Indicates that you press the specified key.
CTRL/*x*	Indicates that you should hold the CONTROL key down and press the key specified by the *x*.
RET	Indicates that you press the return key.

Associated Documents

You can refer to the following documents for further information.

- *DECmcc Release Notes*, for the latest information about the product, a list of new files and logicals, and a sample DECmcc installation.
- *DECmcc Software Product Description*, for software and hardware requirements.
- *VMS DCL Dictionary*, for information on DCL commands.
- *Guide to VMS Software Installation*, for general installation information.
- *VMS License Management Utility Manual*, for information on the License Management Facility.
- *VMS Version 5.3 New Features Manual*, for descriptions of new features incorporated in Version 5.0 of the VMS operation system.
- *VAX Distributed Name Service Installation Guide*, for information on installing VAX DNS software.
- *VAX Distributed Name Service Management Guide*, for information on namespace management.
- *Guide to VMS System Security*, for security management information.
- *VMS System Manager's Manual*, for information on setting recommended user account quotas, privileges and system parameters.

1

Preparing to Install DECmcc

This chapter explains how to prepare your system before you install DECmcc. Topics discussed are:

- Ensuring a Smooth Installation
- You Must Obtain Your Network Initial Domain Part
- Setting Up the VAX DNS Namespace
- Another Method of Setting Up the VAX DNS Namespace
- Setting Access Control to the New VAX DNS Directories
- You Must Meet Software and Hardware Requirements
- Comparing Your System with DECmcc Requirements
- Registering the Licenses for DECmcc
- Read the On-Line Release Notes
- Determining Your Time Differential Factor

Ensuring a Smooth Installation

This section lists several steps that, if done ahead of time, can save you time and ensure a smooth installation.

These are tasks that must be completed before you begin software installation:

1. Obtain your network address Initial Domain Part (IDP) from one of the recognized allocation authorities. Refer to “You Must Obtain Your Network IDP” in this chapter for more discussion of IDPs.
2. Set up the VAX DNS namespace. DECmcc uses this namespace as a repository for all entity names in your network. You can set up your namespace using a command procedure, as described in “Setting Up the VAX DNS Namespace” in this chapter, or you can set it up manually, as described in “Another Method of Setting Up the VAX DNS Namespace” in this chapter.
3. Check the distribution kit. Ensure that you have a complete distribution kit by comparing the kit against the bill of materials (BOM). If any part of the kit is missing, contact your Digital representative.
4. Back up the system disk. This installation involves writing to your system disk. You should make a backup copy of your system disk before installing DECmcc.
5. Meet all requirements. Ensure that you obtain all prerequisite software, system privileges, quotas, and disk space before you begin the installation. Refer to “You Must Meet Software and Hardware Requirements” in this chapter for a complete list of requirements for DECmcc.
6. Register and load the licenses for the DECmcc products you wish to install. If you do not register and load the licenses, you can complete the installation procedure; however, DECmcc and the Installation Verification Procedure (IVP) will not run. Refer to “Registering the Licenses for DECmcc” in this chapter to register and load the license for DECmcc.
7. Load the distribution tape into the tape drive; then, mount the distribution tape. Before you can access on-line release notes or install DECmcc, you must mount the tape. To mount your tape, load it into the tape drive and enter this command:

   ```
   $ MOUNT/FOREIGN ddcn
   ```

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number. An example is MUA0.
8. Access and read the on-line release notes. They contain the latest information about DECmcc. Refer to “Read the On-Line Release Notes” in this chapter for information on how to access on-line release notes.
9. Decide if you are going to install some files on a disk other than a user disk. The installation procedure allows you to choose a location for the DECmcc common files other than in a directory on the system disk.
10. Calculate your Time Differential Factor (TDF), the constant used to determine the local time. “Determining Your Time Differential Factor” in this chapter discusses and gives examples of TDFs.

Exhibit 1–1: Preinstallation Checklist

Things To Do Before Installation	Done?
Obtain your network IDP	☐
Set up your VAX DNS namespace	☐
Check distribution kit	☐
Back up system disk	☐
Meet all requirements	☐
Software	☐
Privileges	☐
Quotas	☐
Disk space	☐
Register the licenses for the product	☐
Load and mount the distribution tape	☐
Read on-line release notes	☐
Choose a disk for common files	☐
Calculate your TDF	☐

You Must Obtain Your Network Initial Domain Part

If your network is or will be interconnected with other OSI networks, you must obtain a network address Initial Domain Part (IDP) from one of the recognized allocation authorities, such as CCITT.

The installation procedure asks you for your network address IDP. The format of a network address IDP is *AFI*:*IDI*:.

- *AFI* is the Authority and Format Identifier. This is two decimal digits indicating the IDP allocation authority.
- *IDI* is the Initial Domain Identifier. This is a string of decimal digits that the allocation authority allocates specifically for your network.

You can use an IDP of “49::” if your network is not or will never be interconnected with other OSI networks. There is no IDI associated with this AFI.

If you are not sure if your network will be interconnected with other OSI networks in the future, Digital Equipment Corporation highly recommends that you obtain an IDP from one of the recognized allocation authorities, such as the ones listed below.

- X.121, the CCITT numbering plan for X.21 and X.25 networks.
- E.163, the CCITT numbering plan for the telephone network.
- E.164, the CCITT numbering plan to be used for ISDN networks.
- ISO Geographic, an ISO defined scheme which allows a country to assign addressing domains independently of public networks.
- ISO Non–geographic, an ISO defined scheme which allows international organizations to assign domains which do not imply the location of systems within the domain.

Exhibit 1–2: Entering your IDP During the Installation Procedure

```
          You must specify the IDP (or network address initial domain
          part) for your network.  This must either be the default
          value of "49::", or a value explicitly allocated for your
          network by one of the recognized allocation authorities.

          The format is:

                   afi:idi:

          where:

          afi =    The "authority and format identifier."  This is two
                   decimal digits indicating the IDP allocation
                   authority.

          idi =    The "initial domain identifier."  This is a string of
                   decimal digits that has been allocated specifically
                   for your network.

          An IDP of "49::" can be used if your network will not be
          interconnected with other OSI networks (there is no "idi"
          associated with this "afi").

* Initial Domain Part  [49::]: 43:123456:
```

Setting Up the VAX DNS Namespace

DECmcc uses the VAX Distributed Name Service (VAX DNS) namespace as a repository for all entity names in your network. Digital assists you in setting up your namespace by providing command procedures to partially automate this process.

In the namespace, entity names are stored in VAX DNS directories that are hierarchically structured, much like VMS directories and subdirectories. (This hierarchical structure of DNS directories is separate from the entity class hierarchy.) The main directory in the namespace is called the root directory. An entity's name reflects the complete path through your namespace from the root directory to the entity entry in a particular directory. Therefore, all VAX DNS names begin with a dot character (.), which denotes the root directory.

For DECmcc to function properly, specific VAX DNS directories must exist under the root directory. DECmcc does not create these directories because you need to apply your own protection policy; these directories must already exist. You only need to create these directories once per namespace. Refer to the *VMS Version 5.3 New Features Manual* and the *VAX Distributed Name Service Management Guide* for more information about VAX DNS and namespace management.

A DNS namespace was created when the VAX DNS software was installed on a server node. Follow the procedure below to set up your VAX DNS namespace:

1. Enter the following command on the DNS server node to modify the namespace.

   ```
   $ @MCC_SYSTEM:MCC_DNS_BASIC_SETUP
   ```

   This command procedure sets up default directories for DECmcc. The command procedure also creates a directory for each global entity class for which Digital provides an AM. Use the VAX Distributed Name Service Control Program (DNS$CONTROL) to set appropriate access control for these directories in your namespace.

2. Create one class-specific directory for each AM that you purchase from other vendors. Use the VAX Distributed Name Service Control Program (DNS$CONTROL) to create and set appropriate access control for these directories in your namespace.

   ```
   $ RUN SYS$SYSTEM:DNS$CONTROL
   DNS> .MCC_<global-class>_BACKTRANSLATION
   ```

   The variable *global–class* is the ASCII string for the registered name of the global entity class, for example, MCC_BRIDGE_BACKTRANSLATION.

3. After you install DECmcc, enter the following command:

   ```
   $ @MCC_SYSTEM:MCC_DNS_SETUP
   ```

   This command procedure sets up backtranslation directories for all the possible areas in a DECnet Phase IV network. The command procedure also creates the ."DNA_Registrar" DNS group, sets READ,WRITE,DELETE,TEST,CONTROL access control to these directories for members of this group, and sets WORLD READ,WRITE access control to these directories.

Exhibit 1–3: Creating VAX DNS Directories With the Command Procedures

1 Set up the default directories and backtranslation trees for DECmcc.

```
$ @MCC_SYSTEM:MCC_DNS_BASIC_SETUP
DNS>
UID ------------------------- aa-00-04-00-74-12-a0-03-e6-be-84-ad-93-00
.
.
.
DNS>
exit
$
```

2 Create one class-specific directory for each AM that you purchase from other vendors.

```
$ RUN SYS$SYSTEM:DNS$CONTROL
DNS> CREATE DIRECTORY .MCC_XXXXXX_Backtranslation
DNS> EXIT

(Install DECmcc)
```

3 Set up backtranslation directories for all possible areas in your DECnet Phase IV network.

```
$ @MCC_SYSTEM:MCC_DNS_SETUP
DECmcc namespace setup procedure

Type a question mark (?) at any prompt to obtain help
Press "CTRL/Z" at any prompt to exit from a function

* Namespace to use (DEF=<DECdns default>): CORPORATE_NS

Warning - the CORPORATE_NS: namespace has not yet been properly set up

The following directories do not exist:

         CORPORATE_NS:.DNA_BackTranslation
         CORPORATE_NS:.DNA_NodeSynonym
         CORPORATE_NS:.DNA_Node

* Initialize the namespace directories now (Y/N, DEF=Yes): Y

Create the initial namespace directories
Press Control-Z at any question to cancel the initialization

* Clearinghouse for master replica (DEF=<DECdns default>): CORPORATE_CH
* Clearinghouse for secondary replica (DEF=<none>):

The DECdns directories and group will now be created.  This may take up
to 33 minutes or more, depending on the speed of the DECdns server
system, and the amount of traffic on the network.
.
.
.
```

Another Method of Setting Up the VAX DNS Namespace

If you choose to set up your VAX DNS namespace yourself, DECmcc requires that you create several new VAX DNS directories.

For DECmcc to function properly, you must create specific VAX DNS directories under the root directory (.) and set the appropriate access control for them. DECmcc does not create these directories because you need to apply your own protection policy; these directories must already exist. You only need to create these directories once per namespace. Refer to the *VMS Version 5.3 New Features Manual* and the *VAX Distributed Name Service Management Guide* for more information about VAX DNS and namespace management.

Use the VAX Distributed Name Service Control Program (DNS$CONTROL) to create and set appropriate access control for the following directories in your namespace. Access control for VAX DNS directories is discussed later in this chapter.

- .MCC, to install DECmcc
- .DNA_NODESYNONYM
- .DNA_BACKTRANSLATION
- .DNA_BACKTRANSLATION.<*IDP*> (where IDP is a string representing each Initial Domain Part as a hex number, for example, %X49)
- .DNA_BACKTRANSLATION.<*IDP*>.<*area*> (where *area* is a string representing each DECnet area as a four-digit hex number with leading zeros, for example, area 15 is .%X000F)

  You must create one area-specific directory for each area in your DECnet network.
- .DNA_NODE (This is an optional directory. Digital recommends that you put your Phase IV nodes here.)
- .MCC_UID
- .MCC_<*global–class*>_BACKTRANSLATION (where *global–class* is the ASCII string for the registered name of the global entity class, for example, MCC_BRIDGE_BACKTRANSLATION.)

  You must create one class-specific directory for each global entity class to be managed by DECmcc, except Phase IV and Phase V node.
- .MCC_IP, if you have the TCP/IP SNMP AM.

Exhibit 1–4: Creating VAX DNS Directories Manually

```
$ RUN SYS$SYSTEM:DNS$CONTROL
DNS> CREATE DIRECTORY .MCC
DNS> CREATE DIRECTORY .DNA_NODESYNONYM
DNS> CREATE DIRECTORY .DNA_BACKTRANSLATION
DNS> CREATE DIRECTORY .DNA_BACKTRANSLATION.%X49
DNS> CREATE DIRECTORY .DNA_BACKTRANSLATION.%X49.%X000F
.
.
.
DNS> CREATE DIRECTORY .DNA_NODE
DNS> CREATE DIRECTORY .MCC_UID
DNS> CREATE DIRECTORY .MCC_BRIDGE_BACKTRANSLATION
DNS> CREATE DIRECTORY .MCC_STATION_BACKTRANSLATION
.
.
.
DNS>
```

Exhibit 1–5: Decimal to Hex Conversion Chart

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
000_	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
001_	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
002_	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
003_	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63

Setting Access Control to the New VAX DNS Directories

Use DNS$CONTROL to set appropriate access control for the new VAX DNS directories in your namespace.

Access control to the VAX DNS namespace and its object is handled by the site manager and site policy. DECmcc assumes that it has access to the namespace objects. The site manager must give DECmcc users the following privileges.

- All DECmcc users who monitor the network using SHOW need READ access to the VAX DNS directories.
- DECmcc users who REGISTER and DEREGISTER objects need WRITE and DELETE access to the VAX DNS directories under which the objects reside.
- DECmcc users who RENAME objects need WRITE and DELETE access to the VAX DNS directories under which the objects reside and to the objects themselves.
- DECmcc users who SET REFERENCE attributes need WRITE and DELETE access to the objects themselves.
- DECmcc users who are managing objects using SET need WRITE, DELETE, and TEST access to the specific objects themselves, if the objects keep the attributes.

Refer to the *VMS Version 5.3 New Features Manual* and the *VAX Distributed Name Service Management Guide* for more information about VAX DNS and namespace management.

Exhibit 1–6: Setting Access Control

```
$ RUN SYS$SYSTEM:DNS$CONTROL
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .MCC/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .DNA_NODESYNONYM/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .DNA_BACKTRANSLATION/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .DNA_BACKTRANSLATION.%X49/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .DNA_BACKTRANSLATION.%X49.%X000F/RIGHTS=(READ)
.
.
.
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .DNA_NODE/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .MCC_UID/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .MCC_BRIDGE_BACKTRANSLATION/RIGHTS=(READ)
DNS> ADD ACCESS OSLO::SHACKLEMEYER DIRECTORY .MCC_STATION_BACKTRANSLATION/RIGHTS=(READ)
.
.
.
DNS> EXIT
```

You Must Meet Software and Hardware Requirements

Ensure that you obtain all prerequisite software, system privileges, quotas, and disk space before you begin to install DECmcc. Refer to the Software Product Description (SPD) for the latest official list of supported processors.

Software requirements can be broken down into two groups, VMS requirements and VMSINSTAL requirements. To install DECmcc, you must meet the following VMS requirements. The Software Product Description (SPD) or the System Support Addendum (SSA) lists the software version requirements.

- **VMS software requirements**. VMS software is required for installation. You must be running VMS V5.3 or later.
- **VAX Distributed Name Service.** VAX DNS is required for installation.
- **DECnet software requirements**. DECnet software is required for installation.

To run VMSINSTAL, you must also meet the following additional requirements. Exhibit 1–7 lists these requirements.

- **Installation requirements**. These are requirements you must satisfy before you install DECmcc.
- **Privilege requirements**. You must have the system manager level privileges necessary to run VMSINSTAL.
- **Quota value requirements**. The installation procedure checks for specific minimum quota values.
- **System parameters.** There are specific system parameters that are required. Also, parameters that affect process quotas, such as WSMAX, may also need to be verified and/or adjusted.
- **Disk space requirement**. The installation procedure requires blocks of disk space for installation.
- **VMS License Management Facility requirements**. Register and load your Product Authorization Key (PAK) with the License Management Facility (LMF). Refer to "Registering the Licenses for DECmcc" in this chapter for information on registering the license and loading the PAK.

The SPD or the SSA lists the hardware requirements, such as supported processors for DECmcc.

Exhibit 1–7: DECmcc Installation Specifications

Requirements	Specifications
Distribution media	TK50 tape distribution kit
Required software	
for DECmcc BMS or DIRECTOR	VMS V5.3 software or later up and running VAX DNS software installed and operational DECnet–VAX V5.3 software up and running
for DECmcc Developer's Toolkit	DECmcc–BMS or DECmcc–DIRECTOR software
Privileges	System manager level
Process quotas	ASTLM = 48 BIOLM = 36 DIOLM = 18 ENQLM = 512 FILLM = 40 PGFLQUO = 30000 PRCLM = 2 TQELM = 128 WSQUO = 2048
PAK	DECmcc–BMS contains the base system, Bridge AM, Ethernet AM, and Alarms FM DECmcc–DIRECTOR contains the base system. DECmcc–DEV–TK contains MSL and Sample AM source code.
System parameters	DECmcc–BMS GBLPAGES = 2000 DECmcc–DIRECTOR GBLPAGES = 1288
Disk space	DECmcc–BMS 51,000 blocks or 13,000 blocks on system and 38,000 blocks on other DECmcc–DIRECTOR 45,000 blocks or 12,000 blocks on system and 33,000 blocks on other DECmcc–DEV–TK 26,500 blocks or 13,000 blocks if you do not install MRM files.
Estimated time to install (using a TK50 on a MicroVAX II with 9 Mbytes of memory writing to a system disk)	50 minutes for DECmcc–BMS 45 minutes for DECmcc–DIRECTOR 15 minutes for DECmcc–DEV–TK
Associated documents	Software Product Description (SPD) and the System Support Addendum (SSA) The *Guide to VMS Software Installation* contains general installation information. The *VMS System Manager's Manual* contains information on setting recommended user account quotas, privileges and system parameters. The *VAX Distributed Name Service Management Guide* contains information detailing how to set up your namespace.

Comparing Your System with DECmcc Requirements

Verify that your system meets all DECmcc requirements. If your system does not meet or exceed these requirements, you can modify your system before you begin installation.

The installation procedure aborts the installation if you do not meet the requirements. You can save time by verifying that your system meets all these requirements. The procedure below demonstrates how to display your system information. Compare this information with the specifications given in Exhibit 1–7. Refer to the *VMS System Manager's Manual* if you need to modify your system.

1. To verify the VMS software version and to ensure that the correct VAX DNS and DECnet processes are running, enter the following command:

   ```
   $ SHOW SYSTEM
   ```

   The VMS version number displays in the first line. To verify that VAX DNS software is installed and operational, look for the DNS$ADVER process on the client and the DNS$TA and DNS$BACK processes on the server. If these processes are not running, refer to the *VAX Distributed Name Service Installation Guide*. To verify that DECnet software is installed and running, look for the NETACP process.

2. To verify that your process quotas are set correctly, enter the following command:

   ```
   $ RUN SYS$SYSTEM:AUTHORIZE
   UAF> SHOW DEFAULT
   ```

   This command check for these quotas: ASTLM, BIOLM, DIOLM, ENQLM, FILLM, PGFLQUO, PRCLM, TQELM, and WSQUO.

3. To check the number of available global pages, enter the following command:

   ```
   $ RUN SYS$SYSTEM:INSTALL
   INSTALL> LIST/GLOBAL/SUMMARY
   ```

   This command displays the system global pages summary. The last number of the display shows the number of unused global pages. You need the specified number of free global pages unless DECmcc is already installed and currently utilizing the required resources.

4. To verify that you have adequate disk space on your system disk before you install DECmcc, enter the following command:

   ```
   $ SHOW DEVICES SYS$SYSDEVICE:
   ```

   The number of free blocks displays under the heading Free Blocks.

Exhibit 1–8: Displaying Your System Software, Quotas, and Disk Space

1 Use this command to verify the VMS software version and to ensure that the correct VAX DNS and DECnet processes are running.

```
$ SHOW SYSTEM
VAX/VMS V5.3-1  on node OSLO 24-OCT-1990 14:56:59.41   Uptime 97 22:52:08
  Pid    Process Name    State Pri    I/O      CPU        Page flts  Ph.Mem
20400101 SWAPPER         HIB    16      0 0 00:01:45.54          0       0
20400107 ERRFMT          HIB     8   6293 0 00:00:41.46         82     141
20400108 CACHE_SERVER    HIB    16    154 0 00:00:00.28         63     117
20400109 CLUSTER_SERVER  HIB    10    525 0 00:01:20.77        133     342
2040010A OPCOM           HIB     6  13620 0 00:01:33.63        641     188
2040011E NETACP          HIB    10  26656 0 00:15:45.03      12235    8678
20400126 DNS$ADVER       HIB     5 472759 0 00:51:32.22        197     327
.
.
.
$
```

2 Use this command to verify that your process quotas are set correctly.

```
$ RUN SYS$SYSTEM:AUTHORIZE
UAF> SHOW DEFAULT
.
.
.
Maxjobs:           0   Fillm:           100   Bytlm:          32768
Maxacctjobs:       0   Shrfilllm:         0   Pbytlm:             0
Maxdetach:         0   BIOlm:            18   JTquota:         1024
Prclm:            10   DIOlm:            18   WSdef:            256
Prio:              4   ASTlm:            48   WSquo:           2048
Queprio:           0   TQElm:           128   WSextent:        2048
CPU:          (none)   Enqlm:           512   Pgflquo:        30000
.
.
.
UAF>
```

3 Use this command to check the number of available global pages.

```
$ RUN SYS$SYSTEM:INSTALL
INSTALL> LIST/GLOBAL/SUMMARY

                Summary of Local Memory Global Sections
     257 Global Sections Used, 19112/3888 Global Pages Used/Unused
INSTALL>
```

4 Use this command to verify that you have adequate disk space on your system disk before you install DECmcc.

```
$ SHOW DEVICES SYS$SYSDEVICE:
Device                Device         Error    Volume       Free   Trans Mnt
Name                  Status         Count     Label       Blocks Count Cnt
$1$DUA0:    (HSC001)  Mounted            0  SYST419        249090   295   3
$
```

Registering the Licenses for DECmcc

Register and load the DECmcc licenses for each product you wish to install using the VMS License Management Facility.

Before you install any DECmcc product, register the license and load your PAK using LMF. The PAK contains information about the license. Currently, there are three different PAKs for DECmcc, which are listed below.

- DECmcc–BMS, the DECmcc Basic Management System
- DECmcc–DIRECTOR, the DECmcc Director
- DECmcc–DEV–TK, the DECmcc Developer's Toolkit (requires DECmcc–DIRECTOR or DECmcc–BMS to be installed)

Each installation procedure asks if you registered and loaded the authorization key for the DECmcc product you are installing. Whether you answer YES or NO, the installation procedure checks to verify that the PAK is registered and loaded. If you do not register the license and load the PAK, you can complete the installation procedure; however, DECmcc and the IVP will not run. Once you register the license and load the PAK, DECmcc and the IVP will run properly.

To register the license and load the PAK:

1. Log in to the SYSTEM account.
2. Run the VMS License Management Utility by entering the following command:

   ```
   $ @SYS$UPDATE:VMSLICENSE
   ```

3. Answer all the questions. The PAK provides the product name and information you need to register the license. Enter all information provided by your PAK exactly as specified. Confirm that you want to LOAD the license to activate the database information automatically.

For more information on LMF, refer to the *VMS License Management Utility Manual*.

Exhibit 1–9: Registering Your DECmcc Licenses

```
   VMS License Management Utility Options:

         1. Register a Product Authorization Key
         2. Amend an existing Product Authorization Key
         3. Cancel an existing Product Authorization Key
         4. List Product Authorization Keys
         5. Modify an existing Product Authorization Key

         9. Exit this procedure

   Type '?' at any prompt for a description of the information requested.

Enter one of the above choices [1]: RET
Do you have your Product Authorization Key? [YES]: RET

    The register option allows you to add a new license to a license
    database. A Product Authorization Key (PAK) provides the product
    name and information you need to register the license.  You must
    enter all the information provided by your PAK exactly as specified.

PAK ID:
                              Issuer   [DEC]:RET
                Authorization Number   []: authorization_number

PRODUCT ID:
                        Product Name   []: product_name
                            Producer   [DEC]:RET

NUMBER OF UNITS:
                     Number of Units   []: number_of_units

KEY LEVEL:
                             Version   []: version

KEY TERMINATION DATE:
                Key Termination Date   []: key_termination_date

RATING:
             Availability Table Code   []: availability_table_code
                 Activity Table Code   []: activity_table_code

MISCELLANEOUS:
                         Key Options   []: key_options
                       Product Token   []: product_token
                         Hardware-ID   []: hardware-id
                            Checksum   []: checksum
.
.  (Redisplays all information as you entered it.)
.
Is this information correct? [YES]: RET
Registering product-name license in file-name...
    product-name has been registered.

*Do you want to LOAD this license on this system [YES]? RET
```

Read the On-Line Release Notes

Access on-line release notes by invoking VMSINSTAL with OPTIONS N.

DECmcc provides on-line release notes with each of the three kits. Digital Equipment Corporation recommends that you review the release notes before installing the product. They contain the latest information about the product, such as changes to the installation procedure.

To access on-line release notes:

1. Log in to the SYSTEM account.
2. Invoke VMSINSTAL by entering one of the following commands:

   ```
   $ @SYS$UPDATE:VMSINSTAL MCCBMSvvu ddcn: OPTIONS N
   ```

   ```
   $ @SYS$UPDATE:VMSINSTAL MCCDIRvvu ddcn: OPTIONS N
   ```

   ```
   $ @SYS$UPDATE:VMSINSTAL MCCTKvvu ddcn: OPTIONS N
   ```

   Replace *vv* with the major software version number and *u* with the update software version number, such as 010 for Version 1.0.

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number, such as MUA0.
3. If you have any active processes running, the installation procedure lists the active processes and asks if you want to continue. Answer YES to continue.
4. Verify that you are satisfied with the backup copy of your system disk before continuing with the installation.
5. When installing from the distribution medium, the installation procedure checks that the device is mounted. Then the installation procedure prompts you to mount the distribution volume, and asks if you are ready to continue the installation.

   The installation procedure displays a message that the media containing DECmcc is mounted on the specified device and that the installation is beginning. The installation procedure indicates what version number of DECmcc it is installing.
6. Select release notes option 2 to print the release notes. The installation procedure prompts you for a print queue name. Enter a queue name or press RET to send the file to the default output print device, SYS$PRINT.
7. The installation procedure then asks you if you want to continue the installation. Answer NO to exit the installation procedure.

Exhibit 1–10: Release Notes Options

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

    Additional Release Notes Options:

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

* Select option [2]:

* Queue name [SYS$PRINT]:

* Do you want to continue the installation [NO]? RET
```

Determining Your Time Differential Factor

The DECmcc installation procedures requires that you enter your Time Differential Factor (TDF). Your TDF is the time difference between your time zone and Coordinated Universal Time (UTC).

Your Time Differential Factor (TDF) is the constant (a fixed number of hours and minutes) used to determine the local time. DECmcc calculates the local time by adding the TDF to the Coordinated Universal Time (UTC). The UTC (formerly GMT, Greenwich Mean Time) is centered in Greenwich, England.

By defining your TDF as a logical, DECmcc makes it very easy to change your local time if you change during the spring or summer and change back in the fall or winter. For each time change, just redefine your logical, edit your SYS$STARTUP:MCC_STARTUP_DIR.COM file and re-execute the DECmcc startup procedure.

To calculate your TDF, determine what time zone you are in and calculate the difference between your time zone and the UTC. The range is from –12:00 to +13:00. A negative (–) TDF value means that you are located west of Greenwich, England. A positive (+) TDF value means that you are located east of Greenwich, England. The format is +hh:mm or –hh:mm with hh indicating the number of hours and mm indicating the number of minutes. Examples of different TDFs are shown below:

- –8:00 hours from UTC — California (Pacific Standard Time)
- –6:00 hours from UTC — Oklahoma (Central Standard Time)
- –5:00 hours from UTC — New York (Eastern Standard Time)
- –4:00 hours from UTC — New York (Eastern Daylight Time)
- –5:00 hours from UTC — Ontario, west of longitude W.63 degrees
- –4:00 hours from UTC — Ontario, east of longitude W.63 degrees
- –3:30 hours from UTC — Newfoundland
- 0:0 or at UTC — Great Britain, Iceland, Portugal, Upper Volta
- +1:00 hour from UTC — Great Britain, Summer Time
- +2:00 hours from UTC — Greece
- +5:30 hours from UTC — India
- +7:30 hours from UTC — Singapore
- +9:00 hours from UTC — Japan
- +10:00 hours from UTC — Australia Capital Territory

Exhibit 1–11: Entering Your TDF During the Installation Procedure

```
          The Time Differential Factor (TDF) is the difference between
          your time zone and the international standard Coordinated
          Universal Time (UTC).

          A negative (-) TDF value means that this node is west of UTC.
          A positive (+) TDF value means that this node is east of UTC.

          The range is from -12:00 to +13:00. The format is +hh:mm or
          -hh:mm with hh indicating the number of hours and mm indicating
          the number of minutes. For example:

          California (Pacific Standard Time) is -8:00 hours from UTC.
          Oklahoma (Central Standard Time) is -6:00 hours from UTC.
          Eastern Standard Time is -5:00 hours from UTC.
          Eastern Daylight Time is -4:00 hours from UTC.
          Ontario, west of longitude W.63 degrees is -5:00 hours from UTC.
          Ontario, east of longitude W.63 degrees is -4:00 hours from UTC.
          Newfoundland is -3:30 hours from UTC.
          Great Britain, Iceland, Portugal, Upper Volta are at UTC or 0:0.
          Great Britain, Summer Time is +1:00 hour from UTC.
          Greece is +2:00 hours from UTC.
          India is +5:30 hours from UTC.
          Singapore is +7:30 hours from UTC.
          Japan is +9:00 hours from UTC.
          Australia Capital Territory is +10:00 hours from UTC.

* Time Differential Factor [-4:00]: -6:00
```

2

Installing and Verifying DECmcc BMS Software

After fulfilling all prerequisites, you are now ready to install DECmcc. If you are installing the DECmcc Basic Management System (BMS) software (which is the DECmcc Director plus three management modules), this chapter details each step of the installation process, as listed below. If you are installing the DECmcc Director or the DECmcc Developer's Toolkit, refer to succeeding chapters for these installation processes.

When you install the DECmcc Basic Management System software, the installation procedure automatically installs the DECmcc Director first, and then installs the additional management modules. Refer to *DECmcc Release Notes* for a sample DECmcc installation and a list of DECmcc BMS files and logicals.

- Invoking VMSINSTAL
- Selecting a Release Notes Option
- Naming a Directory for Common Files
- Verifying Registration with License Management Facility
- Entering Your Time Differential Factor
- Specifying Your Network Address Initial Domain Part
- Running the Postinstallation Procedure
- Running the Installation Verification Procedure
- Recovering From Errors During Installation

Invoking VMSINSTAL

Invoke VMSINSTAL, and check your system disk backup. Mount your distribution media and the system begins the installation.

1. Log in to the SYSTEM account.
2. Invoke VMSINSTAL by entering the following command.

   ```
   $ @SYS$UPDATE:VMSINSTAL MCCBMSvvu ddcn: OPTIONS N,AWD=disk:[directory]
   ```

   Replace *vv* with the major software version number and *u* with the update software version number, such as 010 for Version 1.0.

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number, such as MUA0.

   OPTIONS N,AWD are optional parameters. N indicates you want to be prompted to display or print the release notes, or copy them to SYS$HELP. If you do not include the OPTIONS N parameter, the installation procedure does not prompt you to display, print, or copy the release notes. AWD lets you specify an alternate working device for the temporary working directory, thus enabling you to perform an installation with fewer free blocks on the system disk than is otherwise required.

   The system displays a message stating the software installation procedure version it is using and the date and time.

3. Check for active processes.

   If you have any active processes running, the installation procedure lists the active processes and asks if you want to continue.

4. Check your system disk backup.

   Verify that you are satisfied with the backup copy of your system disk before continuing with the installation.

5. Load the distribution tape into the tape drive. Mount your media.

   When installing from the distribution medium (not from copied savesets), the installation procedure checks that the device is mounted. Then the installation procedure prompts you to mount the distribution volume, and asks if you are ready to continue the installation.

6. DECmcc installation begins.

   The installation procedure displays a message that the media containing DECmcc is mounted on the specified device and that the installation is beginning. The installation procedure indicates what version number of DECmcc it is installing.

Exhibit 2–1: Log of Steps 1 Through 6

1
```
Username:  SYSTEM              RET
Password:                      RET
```

2
```
$ @SYS$UPDATE:VMSINSTAL MCCBMS010 MUA0: OPTIONS N,AWD=DUA2:[INSTALL]

        VAX/VMS Software Product Installation Procedure V5.3

It is 24-OCT-1990 at 14:25
Enter a question mark (?) at any time for help.
```

3
```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        62983_8236
        PARIS_8241
        SERVER_000C
* Do you want to continue anyway [NO]? YES RET
```

4
```
* Are you satisfied with the backup of your system disk [YES]? RET
```

5
```
Please mount the first volume of the set on MUA0:
* Are you ready? Y
%MOUNT-I-MOUNTED, MCC mounted on _MUAO:
```

6
```
The following products will be processed:

  MCCBMS V1.0

        Beginning installation of MCCBMS V1.0 at 14:26

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

Selecting a Release Notes Option

Select a release notes option and choose whether or not to continue with the installation.

7. Select a release notes option.

   If you specified OPTION N when you invoked VMSINSTAL, the installation procedure prompts you for a release notes option. These options are described below.

   - If you select option 1 or 3, the installation procedure displays the release notes immediately on your terminal. You can terminate the display at any time by pressing CTRL/C.
   - If you select option 2 or 3, the installation procedure prompts you for a print queue name. Enter a queue name or press RET to send the file to the default output print device, SYS$PRINT.
   - If you select option 4, the installation procedure does not display or print the release notes; however, it does automatically copy them to SYS$HELP.

   No matter which option you select, the installation procedure then asks you if you want to continue the installation. Answer YES to continue or NO to exit the installation procedure.

   The installation procedure copies the release notes to SYS$HELP. Then it verifies that all required quotas are met, sufficient free global pages exist, DECdns nameserver is accessible, and the correct version of VMS is installed. Refer to "Recovering From Errors During Installation" later in this chapter for the exact text of messages that display if any of these requirements are deficient.

Exhibit 2–2: Log of Step 7

7

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

    Additional Release Notes Options:
        1. Display release notes
        2. Print release notes
        3. Both 1 and 2
        4. None of the above
* Select option [2]: RET
* Queue name [SYS$PRINT]: RET
* Do you want to continue the installation [NO]? YES RET
%VMSINSTAL-I-RELMOVED, The product's release notes have been successfully moved
to SYS$HELP.
***********************************************************************
*                          DECmcc BMS V1.0                            *
*                        Integrated Package                           *
*                                                                     *
*                      Installation Procedure                         *
*                                                                     *
***********************************************************************
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
***********************************************************************
*                        DECmcc DIRECTOR V1.0                         *
*                        Integrated Package                           *
*                                                                     *
*                      Installation Procedure                         *
*                                                                     *
***********************************************************************
```

Naming a Directory for Common Files

Select a directory for DECmcc common files. Choose to run the Installation Verification Procedures (IVP) automatically.

8. Select a directory for system common files.

   The installation procedure allows you to select an alternate location for all files that would normally be installed in SYS$COMMON:[MCC]. If you do not enter an alternate directory specification, the files are installed on the system disk.

9. Choose to run the DECmcc BMS IVP.

   The installation procedure asks if you want to automatically run the DECmcc BMS IVP at the end of the installation. The IVP for DECmcc BMS ensures that the installation is successful. You should run the IVP immediately after installation.

   If you did not register and load the PAK for DECmcc BMS, the installation procedure will not run the IVP. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of the message that displays if any of the PAKs are missing.

10. Prepare individual nodes in a cluster.

    The installation procedure then creates a system-specific directory on the node from which you are installing DECmcc. If you are performing a cluster installation, you must prepare the system–specific roots on individual nodes. Refer to “Running DECmcc in a Cluster Environment” in Chapter 6 for more information on cluster environments. If the system-specific directory already exists, these messages do not display.

11. Choose to run the DECmcc Director IVP. The DECmcc Director is a component of the DECmcc Basic Management System.

    The installation procedure asks if you want to automatically run the DECmcc Director IVP at the end of the installation. The IVP for DECmcc Director ensures that the installation is successful. You should run the IVP immediately after installation.

    If you did not register and load the PAK for DECmcc Director, the installation procedure will not run the IVP. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of the message that displays if any of the PAKs are missing.

Exhibit 2–3: Log of Steps 8 through 11

8

```
    DECmcc requires a directory where the DECmcc common files
    will be installed.  If the logical MCC_COMMON is defined, the
    default is for the files to be installed in that directory.
    If the logical is not defined, the default is for the files
    to be installed in a directory on the system disk called
    SYS$COMMON:[MCC].  The installer may override the default.
    The target directory for the files as it is now defined is
    shown below.

    Press RETURN to use the value shown or enter a new disk and
    directory specification.

* Target directory for DECmcc Common files [SYS$COMMON:[MCC]]: RET
```

9

```
* Do you want to run the DECmcc BMS IVP after the installation [YES]? RET
%VMSINSTAL-I-SYSDIR, This product creates system directory [MCC].
%VMSINSTAL-I-SYSDIR, This product creates system specific directory [MCC].
```

10

```
    If you intend to execute this layered product on other
    nodes in your VAXcluster, and you have the appropriate
    software license, you must prepare the system-specific
    roots on the other nodes by issuing the following command
    on each node (using a suitably privileged account):

    $ CREATE /DIRECTORY SYS$SPECIFIC:[MCC]/OWNER_UIC=PARENT -
      /PROT=(S:RWE,O:RWE,G:RE,W:R)

%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSTEST.MCC].
%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSHLP.EXAMPLES.MCC].
```

11

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

Verifying Registration with License Management Facility

Choose to purge old files, then verify that you registered DECmcc with the License Management Facility. Remember to add a command invoking DECmcc Director to your system startup command procedure.

12. Choose to purge files from previous versions of DECmcc.

    You have the option to purge files from previous versions of DECmcc that are superseded by this installation. Purging is recommended because it will save disk space.

    The installation procedure verifies that sufficient disk space exist. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of the message that displays if disk space is deficient.

13. Verify that you registered and loaded the product licenses with the License Management Facility.

    The installation procedure prints out information about your particular DECmcc licenses and asks if you have registered and loaded your PAKs. If you registered and loaded your PAKs, answer YES to these questions. If you did not register and load your PAKs, answer NO. The installation procedure reminds you to register and load the PAKs before you run the product.

    The installation procedure notifies you that the DECmcc Director startup procedure will be invoked after the files are copied. This startup procedure prepares your system to run the DECmcc Director. It creates operational tables and files that DECmcc needs to run properly.

14. Add a command invoking DECmcc Director to your system startup command procedure.

    The installation procedure then directs you to modify your local system startup command procedure to automatically set up the DECmcc Director. After the installation procedure completes, refer to “Modifying Your Local System Startup Procedure” in Chapter 6 for more information on how to modify your system startup command procedure.

Exhibit 2–4: Log of Steps 12 through 14

12

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

%VMSINSTAL-I-RESTORE, Restoring product saveset C ...

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

13

```
        Product:            DECMCC-BMS
        Producer:           DEC
        Version:            1.0
        Release Date:       30-AUG-1990

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

    Following the copying of the files, the DECmcc DIRECTOR
    startup command procedure(s) will be invoked. Operational
    tables will be created by this procedure.
```

14

```
    To automatically set up DECmcc DIRECTOR on your system,
    edit your local system start-up command procedure

           SYS$MANAGER:SYSTARTUP_V5.COM

    so that it invokes the DECmcc DIRECTOR start-up command
    procedure.  Add:

           @SYS$STARTUP:MCC_STARTUP_DIR.COM

    after the statement that invokes the DECnet start-up
    command file (STARTNET.COM).

    NOTE:  The DECdns clerk must also be started up before
           the MCC_STARTUP_DIR command procedure is invoked.

    Following the DECmcc DIRECTOR start-up the DECmcc DIRECTOR
    postinstallation command procedure will be invoked.
```

Entering Your Time Differential Factor

Now you enter your Time Differential Factor (TDF) so that DECmcc can determine your local time. The installation procedure uses this TDF for the DECmcc Director startup procedure.

15. Enter your Time Differential Factor (TDF).

    The Time Differential Factor (TDF) is the constant (a fixed number of hours and minutes) used to determine the local time. DECmcc calculates the local time by adding the TDF to the Coordinated Universal Time (UTC). To calculate your TDF, determine what time zone you are in and calculate the difference between your time zone and the UTC. The installation procedure provides you with examples of TDFs.

    You must also modify your SYS$STARTUP:MCC_STARTUP_DIR.COM file by defining the MCC_TDF logical to equal the TDF that you selected. The installation procedure explains how to do this using the DCL DEFINE command.

    If you change time during the spring or summer and change back in the fall or winter, you must redefine your logical, edit your SYS$STARTUP:MCC_STARTUP_DIR.COM file, and re-execute the DECmcc startup procedure for each time change.

Exhibit 2–5: Log of Step 15

15

```
        The Time Differential Factor (TDF) is the difference between
        your time zone and the international standard Coordinated
        Universal Time (UTC).

        A negative (-) TDF value means that this node is west of UTC.
        A positive (+) TDF value means that this node is east of UTC.

        The range is from -12:00 to +13:00. The format is +hh:mm or
        -hh:mm with hh indicating the number of hours and mm
        indicating the number of minutes. For example:

        California (Pacific Standard Time) is -8:00 hours from UTC.
        Oklahoma (Central Standard Time) is -6:00 hours from UTC.
        Eastern Standard Time is -5:00 hours from UTC.
        Eastern Daylight Time is -4:00 hours from UTC.
        Ontario, west of longitude W.63 degrees is -5:00 hours from UTC.
        Ontario, east of longitude W.63 degrees is -4:00 hours from UTC.
        Newfoundland is -3:30 hours from UTC.
        Great Britain, Iceland, Portugal, Upper Volta are at UTC or 0:0.
        Great Britain, Summer Time is +1:00 hour from UTC.
        Greece is +2:00 hours from UTC.
        India is +5:30 hours from UTC.
        Singapore is +7:30 hours from UTC.
        Japan is +9:00 hours from UTC.
        Australia Capital Territory is +10:00 hours from UTC.

    * Time Differential Factor [-4:00]: -6:00
```

Specifying Your Network Address Initial Domain Part

The installation procedure prompts for your network address Initial Domain Part. The installation procedure uses this IDP for the DECmcc Director startup procedure. Remember to add a command invoking the DECmcc Basic Management System (BMS) to your system startup command procedure.

16. Enter your network address Initial Domain Part.

    If your network is or will be interconnected to other OSI networks, you must obtain an IDP for your network from one of the recognized allocation authorities, such as CCITT. If your network will not ever be interconnected with other OSI networks, you can use the default value of “49::”.

    The installation procedure notifies you that the DECmcc BMS startup procedure will be invoked following the startup of the DECmcc Director. This startup procedure prepares your system to run DECmcc BMS. It creates operational tables and files that DECmcc needs to run properly.

17. Add a command invoking DECmcc Basic Management System to your system startup command procedure.

    The installation procedure then directs you to modify your local system startup command procedure to automatically set up DECmcc BMS. Refer to “Modifying Your Local System Startup Procedure” in Chapter 6 for more information on how to modify your system startup command procedure.

Exhibit 2–6: Log of Steps 16 and 17

```
16
        You must specify the IDP (or network address initial domain
        part) for your network.  This must either be the default
        value of "49::", or a value explicitly allocated for your
        network by one of the recognized allocation authorities.

        The format is:
               afi:idi:
        where:

        afi =  The "authority and format identifier."  This is two
               decimal digits indicating the IDP allocation
               authority.

        idi =  The "initial domain identifier."  This is a string of
               decimal digits that has been allocated specifically
               for your network.

        An IDP of "49::" can be used if your network will not be
        interconnected with other OSI networks (there is no "idi"
        associated with this "afi").


    * Initial Domain Part  [49::]: 43:123456:

        Following the start-up of the DECmcc DIRECTOR, the DECmcc
        BMS start-up command procedure(s) will be invoked.
        Operational tables will be created by this procedure.

17
        To automatically set up DECmcc BMS on your system,
        edit your local system start-up command procedure

               SYS$MANAGER:SYSTARTUP_V5.COM

        so that it invokes the DECmcc BMS start-up command
        procedure.  Add:

               @SYS$STARTUP:MCC_STARTUP_BMS.COM

        after the statement that invokes the DECmcc DIRECTOR
        start-up command file (MCC_STARTUP_DIR.COM).

        VMSINSTAL asks no additional questions.

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

Running the Postinstallation Procedure

The installation procedure runs postinstallation procedures for both DECmcc Director and DECmcc BMS, since the DECmcc Director is a component of DECmcc BMS.

18. The installation procedure runs the DECmcc Director postinstallation procedure because the DECmcc Director is a component of DECmcc BMS.

    The postinstallation procedure for DECmcc Director performs a test on DECmcc, deregisters the old version of DECmcc and registers the new version of DECmcc.

19. The installation procedure runs the DECmcc Basic Management System postinstallation procedure.

    The postinstallation procedure for DECmcc BMS creates and deletes an alarm rule.

Exhibit 2–7: Log of Steps 18 and 19

```
(18)
        Beginning DECmcc DIRECTOR Postinstallation Procedure ...

        Deleting obsolete DECmcc verbs ...

        Creating DECmcc Global Entity Instance(s) ...

    The MCC_STARTUP_DIR procedure for DECmcc V1.0 is now running.

    DECmcc (V1.0)
    MCC 0
    AT 24-OCT-1990 15:09:29
    Test Successful

    The MCC_STARTUP_DIR procedure for DECmcc V1.0 is now ending.

    This procedure will now attempt to deregister and
    then register an MCC global entity with the name it
    has generated.  If this is the first installation of
    DECmcc with this generated name, the deregister will
    fail with the error message:

        No such entity: MCC <generated name>

    This error message can be ignored.

    If the DNS directory .MCC has not been created, both
    the deregister and the register commands will fail.

    DECmcc (V1.0)
    MCC CORPORATE_NS:.MCC.PARIS_DIRECTOR
    AT 24-OCT-1990 15:09:52
    Deregistration Successful

    DECmcc (V1.0)
    MCC CORPORATE_NS:.MCC.PARIS_DIRECTOR
    AT 24-OCT-1990 15:10:15
    Registration Successful

        Completing DECmcc DIRECTOR Postinstallation Procedure ...


(19)
        Beginning DECmcc BMS Postinstallation Procedure ...

    The MCC_STARTUP_BMS procedure for DECmcc V1.0 is now running.

    DECmcc (V1.0)
    MCC 0 ALARMS RULE __DUMMY_TEST
    AT 24-OCT-1990 15:11:36
    Entity created successfully.

    MCC 0 ALARMS RULE __DUMMY_TEST
    AT 24-OCT-1990 15:11:40
    Entity deleted successfully.

    The MCC_STARTUP_BMS procedure for DECmcc V1.0 is now ending.

        Completing DECmcc BMS Postinstallation Procedure ...
```

Running the Installation Verification Procedure

The installation procedure automatically runs the IVP for both the DECmcc Director and the DECmcc Basic Management System, since the DECmcc Director is a component of DECmcc BMS. Then the installation procedure completes the installation.

20. The installation procedure runs the IVP.

    If you answered YES to the IVP question, the installation procedure automatically runs an IVP for each product you chose to install that has a PAK registered and loaded.

    The components of the DECmcc Basic Management System are listed below.

DECmcc DIRECTOR	MCC Forms and Command Line PM (FCL) Registration FM (CONFIG_FM) Control FM (CONTROL_FM) DECnet Phase IV AM (DNA4_AM) DECnet/OSI Phase V AM (DNA5_AM) Dictionary Administrator Program (DAP) Test Bed Driver (TBD)
DECmcc BMS	Bridge AM (BRIDGE_AM) Ethernet AM (ETHERNET_AM) Alarms FM (ALARMS)

Exhibit 2–8: Log of Step 20

20

```
     Beginning DECmcc DIR Installation Verification Procedure ...

     The IVP for DECmcc DIRECTOR will now be run.

DECmcc (V1.0)
MCC 0
AT 24-OCT-1990 15:19:10
Test Successful

DECmcc (V1.0)
MCC 0 FCL
AT 24-OCT-1990 15:19:31
Test Successful

DECmcc (V1.0)
MCC 0 CONFIG_FM
AT 24-OCT-1990 15:19:52
Test Successful

DECmcc (V1.0)
MCC 0 CONTROL_FM
AT 24-OCT-1990 15:20:13
Test Successful

DECmcc (V1.0)
MCC 0 DNA4_AM
AT 24-OCT-1990 15:20:36
Test Successful

DECmcc (V1.0)
MCC 0 DNA5_AM
AT 24-OCT-1990 15:21:00
Test Successful

         DECmcc Dictionary Administrator Program   Version V1.0

MCC_TBD Version V1.0

     DECmcc DIRECTOR V1.0 Installation Successful

     Completing DECmcc DIR Installation Verification Procedure ...

     Beginning DECmcc BMS Installation Verification Procedure ...

     The IVP for DECmcc BMS will now be run.

DECmcc (V1.0)
MCC 0 ALARMS
AT 24-OCT-1990 15:21:21
Test Successful.

DECmcc (V1.0)
MCC 0 BRIDGE_AM
AT 24-OCT-1990 15:21:43
Test Successful.

DECmcc (V1.0)
MCC 0 ETHERNET_AM
AT 24-OCT-1990 15:22:04
Test Successful.

     DECmcc BMS V1.0 Installation Successful

     Completing DECmcc BMS Installation Verification Procedure ...

             Installation of MCCBMS V1.0 completed at 15:22

             VMSINSTALL procedure done at 15:22
```

Recovering From Errors During Installation

A few errors can occur that cause the system to abort the installation. Recover from these errors by carrying out VMS recovery procedures or ensuring that all prerequisites are met.

Errors that can occur are listed below. Some of these errors occur because you did not obtain all the prerequisites for DECmcc. Refer to “Software and Hardware Requirements” in Chapter 1 for product requirements.

- If you do not meet the following requirements, the installation procedure aborts the installation.
  - All required quotas must be met.
  - Sufficient free global pages must exist.
  - DECdns must be installed and operational.
  - The correct version of VMS software must be installed.
  - Sufficient blocks of disk space must be available.
- If you did not register and load your license for DECmcc, the installation completes successfully. However, DECmcc and the IVP will not run until you register and load your license.

For descriptions of the error messages generated, refer to the VMS documentation on system messages, recovery procedures, and VMS software installation. Take the appropriate action described in the message.

In case of a system failure, follow standard VMS procedure. After restoring the system, begin the installation procedure again.

Exhibit 2–9: Sample Error Messages

1

```
Quota-name quota is: value; must be value or higher to run MCC.
Your account quotas are too low to run the DECmcc DIRECTOR startup
and IVP procedures.
```

2

```
This node has value free global pages/value free, contiguous global
pages. DECmcc requires value free global pages for installing shared
images.

This node requires value additional global pages unless this product is
already installed and currently utilizing the required resources.

Please consult the VMS System Generation Utility Reference Manual for
information regarding the global pages system parameter, as well as for
instructions regarding how to modify the global pages system parameter.

* Do you want to continue [NO]?
```

3

```
This kit requires DECdns to install.
```

4

```
This kit requires VAX/VMS V5.3 or later to install.
```

5

```
This kit requires at least value blocks to restore the initial saveset.
This kit requires at least value blocks to install.
This kit requires at least value blocks on the system disk. With
   the AWD option, value blocks are required and value blocks
   are required on the AWD disk.
This kit requires at least value blocks on location to install.
```

6

```
%LICENSE-F-NOLICENSE, no license is active for this software product.

It is recommended that the product startup command procedure be run
after the license has been installed.

NOTE:  The DECdns clerk must be started up before the MCC_STARTUP_DIR
       command procedure is invoked.

It is recommended that the product IVP be run after the license has
been installed.
```

3

Installing and Verifying DECmcc Director Software

After fulfilling all prerequisites, you are now ready to install DECmcc. If you are installing the DECmcc Director software, this chapter details each step of the installation process, as listed below. If you are installing the DECmcc Basic Management System software, refer to the previous chapter; if you are installing the DECmcc Developer's Toolkit software, refer to the succeeding chapter.

If you already installed the DECmcc Basic Management System software, you do not need to install the DECmcc Director software. Refer to *DECmcc Release Notes* for a sample DECmcc installation and a list of DECmcc Director files and logicals.

- Invoking VMSINSTAL
- Selecting a Release Notes Option
- Naming a Directory for Common Files
- Verifying Registration with License Management Facility
- Entering Your Time Differential Factor
- Specifying Your Network Address Initial Domain Part
- Running the Postinstallation Procedure
- Running the Installation Verification Procedure
- Recovering From Errors During Installation

Invoking VMSINSTAL

Invoke VMSINSTAL, and check your system disk backup. Mount your distribution media and the system begins the installation.

1. Log in to the SYSTEM account.
2. Invoke VMSINSTAL by entering the following command.

   ```
   $ @SYS$UPDATE:VMSINSTAL MCCDIRvvu ddcn: OPTIONS N,AWD=disk:[directory]
   ```

   Replace *vv* with the major software version number and *u* with the update software version number, such as 010 for Version 1.0.

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number, such as MUA0.

   OPTIONS N,AWD are optional parameters. N indicates you want to be prompted to display or print the release notes, or copy them to SYS$HELP. If you do not include the OPTIONS N parameter, the installation procedure does not prompt you to display, print, or copy the release notes. AWD lets you specify an alternate working device for the temporary working directory, thus enabling you to perform an installation with fewer free blocks on the system disk than is otherwise required.

   The system displays a message stating the software installation procedure version it is using and the date and time.

3. Check for active processes.

   If you have any active processes running, the installation procedure lists the active processes and asks if you want to continue.

4. Check your system disk backup.

   Verify that you are satisfied with the backup copy of your system disk before continuing with the installation.

5. Load the distribution tape into the tape drive. Mount your media.

   When installing from the distribution medium (not from copied savesets), the installation procedure checks that the device is mounted. Then the installation procedure prompts you to mount the distribution volume, and asks if you are ready to continue the installation.

6. DECmcc installation begins.

   The installation procedure displays a message that the media containing DECmcc is mounted on the specified device and that the installation is beginning. The installation procedure indicates what version number of DECmcc it is installing.

Exhibit 3–1: Log of Steps 1 Through 6

1

```
Username:  SYSTEM              RET
Password:                      RET
```

2

```
$ @SYS$UPDATE:VMSINSTAL MCCDIR010 MUA0: OPTIONS N,AWD=DUA2:[INSTALL]

        VAX/VMS Software Product Installation Procedure V5.3

It is 24-OCT-1990 at 10:50
Enter a question mark (?) at any time for help.
```

3

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
           62893_8236
           PARIS_8241
           SERVER_000C
* Do you want to continue anyway [NO]? YES RET
```

4

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

5

```
Please mount the first volume of the set on MUA0:
* Are you ready? Y
%MOUNT-I-MOUNTED, MCC mounted on _MUAO:
```

6

```
The following products will be processed:

  MCCDIR V1.0

        Beginning installation of MCCDIR V1.0 at 10:52

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

Selecting a Release Notes Option

Select a release notes option and choose whether or not to continue with the installation.

7. Select a release notes option.

   If you specified OPTION N when you invoked VMSINSTAL, the installation procedure prompts you for a release notes option. These options are described below.

   - If you select option 1 or 3, the installation procedure displays the release notes immediately on your terminal. You can terminate the display at any time by pressing CTRL/C.
   - If you select option 2 or 3, the installation procedure prompts you for a print queue name. Enter a queue name or press RET to send the file to the default output print device, SYS$PRINT.
   - If you select option 4, the installation procedure does not display or print the release notes; however, it does automatically copy them to SYS$HELP.

   No matter which option you select, the installation procedure then asks you if you want to continue the installation. Answer YES to continue or NO to exit the installation procedure.

   The installation procedure copies the release notes to SYS$HELP. Then it verifies that all required quotas are met, sufficient free global pages exist, DECdns nameserver is accessible, and the correct version of VMS is installed. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of messages that display if any of these requirements are deficient.

Exhibit 3–2: Log of Step 7

7

```
        Release notes included with this kit are always copied to SYS$HELP.
        Additional Release Notes Options:
            1. Display release notes
            2. Print release notes
            3. Both 1 and 2
            4. None of the above

* Select option [2]: RET
* Queue name [SYS$PRINT]: RET
* Do you want to continue the installation [NO]? YES RET
%VMSINSTAL-I-RELMOVED, The product's release notes have been successfully moved
to SYS$HELP.
***********************************************************************
*                        DECmcc DIRECTOR V1.0                        *
*                        Integrated Package                          *
*                                                                    *
*                      Installation Procedure                        *
*                                                                    *
***********************************************************************
```

Naming a Directory for Common Files

Select a directory for DECmcc common files. Choose to run the Installation Verification Procedure (IVP) automatically and then purge old files.

8. Select a directory for system common files.

   The installation procedure allows you to select an alternate location for all files that would normally be installed in SYS$COMMON:[MCC]. If you do not enter an alternate directory specification, the files are installed on the system disk.

9. Prepare individual nodes in a cluster.

   The installation procedure then creates a system directory on the node from which you are installing DECmcc. If you are performing a cluster installation, you must prepare the system–specific roots on individual nodes. Refer to “Running DECmcc in a Cluster Environment” in Chapter 6 for more information on cluster environments.

10. Choose to run the IVP.

    The installation procedure asks if you want to automatically run the IVP at the end of the installation. The IVP for DECmcc ensures that the installation is successful. You should run the IVP immediately after installation.

    If you did not register and load the PAK for the DECmcc Director, the installation procedure will not run the IVP. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of the message that displays if any of the PAKs are missing.

11. Choose to purge files from previous versions of DECmcc.

    You have the option to purge files from previous versions of DECmcc that are superseded by this installation. Purging is recommended because it will save disk space.

    The installation procedure verifies that sufficient disk space exist. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of the message that displays if disk space is deficient.

Exhibit 3–3: Log of Steps 8 through 11

8

```
     DECmcc requires a directory where the DECmcc common files
     will be installed.  If the logical MCC_COMMON is defined, the
     default is for the files to be installed in that directory.
     If the logical is not defined, the default is for the files
     to be installed in a directory on the system disk called
     SYS$COMMON:[MCC].  The installer can override the default.
     The target directory for the files as it is now defined is
     shown below.

     Press RETURN to use the value shown or enter a new disk and
     directory specification.

 * Target directory for DECmcc Common files [SYS$COMMON:[MCC]]: RET

 %VMSINSTAL-I-SYSDIR, This product creates system directory [MCC].
 %VMSINSTAL-I-SYSDIR, This product creates system specific directory [MCC].
```

9

```
     If you intend to execute this layered product on other
     nodes in your VAXcluster, and you have the appropriate
     software license, you must prepare the system-specific
     roots on the other nodes by issuing the following command
     on each node (using a suitably privileged account):

     $ CREATE /DIRECTORY SYS$SPECIFIC:[MCC]/OWNER_UIC=PARENT -
       /PROT=(S:RWE,O:RWE,G:RE,W:R)

 %VMSINSTAL-I-SYSDIR, This product creates system directory [SYSTEST.MCC].
 %VMSINSTAL-I-SYSDIR, This product creates system directory [SYSHLP.EXAMPLES.MCC].
```

10

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

11

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

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

Verifying Registration with License Management Facility

Verify that you registered DECmcc with the License Management Facility. Remember to add a command invoking DECmcc Director to your system startup command procedure.

12. Verify that you registered and loaded the product licenses with the License Management Facility.

    The installation procedure prints out information about your particular DECmcc licenses and asks if you have registered and loaded your PAKs. If you registered and loaded your PAKs, answer YES to this question. If you did not register and load your PAKs, answer NO. The installation procedure reminds you to register and load the PAKs before you run the product.

    The installation procedure notifies you that the DECmcc Director startup procedure will be invoked after the files are copied. This startup procedure prepares your system to run the DECmcc Director. It creates operational tables and files that DECmcc needs to run properly.

13. Add a command invoking DECmcc Director to your system startup command procedure.

    The installation procedure then directs you to modify your local system startup command procedure to automatically set up the DECmcc Director. After the installation procedure completes, refer to “Modifying Your Local System Startup Procedure” in Chapter 6 for more information on how to modify your system startup command procedure.

Exhibit 3–4: Log of Steps 12 and 13

12

```
        Product:        DECMCC-DIRECTOR
        Producer:       DEC
        Version:        1.0
        Release Date:   30-AUG-1990

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

    Following the copying of the files, the DECmcc DIRECTOR
    startup command procedure(s) will be invoked. Operational
    tables will be created by this procedure.
```

13

```
    To automatically set up DECmcc DIRECTOR on your system,
    edit your local system start-up command procedure

           SYS$MANAGER:SYSTARTUP_V5.COM

    so that it invokes the DECmcc DIRECTOR start-up command
    procedure.  Add:

           @SYS$STARTUP:MCC_STARTUP_DIR.COM

    after the statement that invokes the DECnet start-up
    command file (STARTNET.COM).

    NOTE:  The DECdns clerk must also be started up before
           the MCC_STARTUP_DIR command procedure is invoked.

    Following the DECmcc DIRECTOR start-up the DECmcc DIRECTOR
    postinstallation command procedure will be invoked.
```

Entering Your Time Differential Factor

Now you enter your Time Differential Factor (TDF) so that DECmcc can determine your local time. The installation procedure uses this TDF for the DECmcc Director startup procedure. Enter this same TDF in the DECmcc Director startup procedure so that DECmcc can determine your local time at system reboot.

14. Enter your Time Differential Factor (TDF).

    The Time Differential Factor (TDF) is the constant (a fixed number of hours and minutes) used to determine the local time. DECmcc calculates the local time by adding the TDF to the Coordinated Universal Time (UTC). To calculate your TDF, determine what time zone you are in and calculate the difference between your time zone and the UTC. The installation procedure provides you with examples of TDFs.

    You must also modify your SYS$STARTUP:MCC_STARTUP_DIR.COM file by defining the MCC_TDF logical to equal the TDF that you selected. The installation procedure explains how to do this using the DCL DEFINE command.

    If you change time during the spring or summer and change back in the fall or winter, you must redefine your logical and edit your SYS$STARTUP:MCC_STARTUP_DIR.COM file for each time change.

Exhibit 3–5: Log of Step 14

14

```
       The Time Differential Factor (TDF) is the difference between
       your time zone and the international standard Coordinated
       Universal Time (UTC).

       A negative (-) TDF value means that this node is west of UTC.
       A positive (+) TDF value means that this node is east of UTC.

       The range is from -12:00 to +13:00. The format is +hh:mm or
       -hh:mm with hh indicating the number of hours and mm indicating
       the number of minutes. For example:

       California (Pacific Standard Time) is -8:00 hours from UTC.
       Oklahoma (Central Standard Time) is -6:00 hours from UTC.
       Eastern Standard Time is -5:00 hours from UTC.
       Eastern Daylight Time is -4:00 hours from UTC.
       Ontario, west of longitude W.63 degrees is -5:00 hours from UTC.
       Ontario, east of longitude W.63 degrees is -4:00 hours from UTC.
       Newfoundland is -3:30 hours from UTC.
       Great Britain, Iceland, Portugal, Upper Volta are at UTC or 0:0.
       Great Britain, Summer Time is +1:00 hour from UTC.
       Greece is +2:00 hours from UTC.
       India is +5:30 hours from UTC.
       Singapore is +7:30 hours from UTC.
       Japan is +9:00 hours from UTC.
       Australia Capital Territory is +10:00 hours from UTC.

   * Time Differential Factor [-4:00]: -6:00
```

Specifying Your Network Address Initial Domain Part

The installation procedure prompts for your network address Initial Domain Part. The installation procedure uses this IDP for the DECmcc Director startup procedure.

15. Enter your network address Initial Domain Part.

    If your network is or will be interconnected to other OSI networks, you must obtain an IDP for your network from one of the recognized allocation authorities, such as CCITT. If your network will not ever be interconnected with other OSI networks, you can use the default value of “49::”.

Exhibit 3–6: Log of Step 15

15

```
    You must specify the IDP (or network address initial domain
    part) for your network.  This must either be the default
    value of "49::", or a value explicitly allocated for your
    network by one of the recognized allocation authorities.

    The format is:
        afi:idi:
    where:

    afi =  The "authority and format identifier."  This is two
        decimal digits indicating the IDP allocation
        authority.

    idi =  The "initial domain identifier."  This is a string of
        decimal digits that has been allocated specifically
        for your network.

    An IDP of "49::" can be used if your network will not be
    interconnected with other OSI networks (there is no "idi"
    associated with this "afi").


* Initial Domain Part  [49::]: 43:123456:

    VMSINSTAL asks no additional questions.

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

Running the Postinstallation Procedure

The installation procedure runs a postinstallation procedure for the DECmcc Director.

16. The installation procedure runs the DECmcc Director postinstallation procedure.

    The postinstallation procedure for DECmcc Director performs a test on DECmcc, deregisters the old version of DECmcc, and registers the new version DECmcc.

Exhibit 3–7: Log of Step 16

16

```
    Beginning DECmcc DIRECTOR Postinstallation Procedure ...

    Deleting obsolete DECmcc verbs ...

    Creating DECmcc Global Entity Instance(s) ...

The MCC_STARTUP_DIR procedure for DECmcc V1.0 is now running.

DECmcc (V1.0)
MCC 0
AT 24-OCT-1990 11:22:29
Test Successful

The MCC_STARTUP_DIR procedure for DECmcc V1.0 is now ending.

This procedure will now attempt to deregister and
then register an MCC global entity with the name it
has generated.  If this is the first installation of
DECmcc with this generated name, the deregister will
fail with the error message:

    No such entity: MCC <generated name>

This error message can be ignored.

If the DNS directory .MCC has not been created, both
the deregister and the register commands will fail.

DECmcc (V1.0)
MCC CORPORATE_NS:.MCC.PARIS_DIRECTOR
AT 24-OCT-1990 11:22:52
Deregistration Successful

DECmcc (V1.0)
MCC CORPORATE_NS:.MCC.PARIS_DIRECTOR
AT 24-OCT-1990 11:23:15
Registration Successful

    Completing DECmcc DIRECTOR Postinstallation Procedure ...
```

Running the Installation Verification Procedure

The installation procedure automatically runs the IVP for the DECmcc Director and completes the installation.

17. The installation procedure runs the IVP.

    If you answered YES to the IVP question, the installation procedure automatically runs an IVP for the DECmcc Director if it has a PAK registered and loaded.

    The components of the DECmcc Director are listed below.

    MCC
    Forms and Command Line PM (FCL)
    Registration FM (CONFIG_FM)
    Control FM (CONTROL_FM)
    DECnet Phase IV AM (DNA4_AM)
    DECnet/OSI Phase V AM (DNA5_AM)
    Dictionary Administrator Program (DAP
    Test Bed Driver (TBD)

Exhibit 3–8: Log of Step 17

17

```
    Beginning DECmcc DIR Installation Verification Procedure ...

    The IVP for DECmcc DIRECTOR will now be run.

DECmcc (V1.0)
MCC 0
AT 24-OCT-1990 11:32:10
Test Successful

DECmcc (V1.0)
MCC 0 FCL
AT 24-OCT-1990 11:32:31
Test Successful

DECmcc (V1.0)
MCC 0 CONFIG_FM
AT 24-OCT-1990 11:32:52
Test Successful

DECmcc (V1.0)
MCC 0 CONTROL_FM
AT 24-OCT-1990 11:33:13
Test Successful

DECmcc (V1.0)
MCC 0 DNA4_AM
AT 24-OCT-1990 11:33:36
Test Successful

DECmcc (V1.0)
MCC 0 DNA5_AM
AT 24-OCT-1990 11:34:00
Test Successful

        DECmcc Dictionary Administrator Program Version V1.0

MCC_TBD Version V1.0

    DECmcc DIRECTOR V1.0 Installation Successful

    Completing DECmcc DIRECTOR Installation Verification Procedure ...

           Installation of MCCDIR V1.0 completed at 11:35

           VMSINSTALL procedure done at 11:35
```

Recovering From Errors During Installation

A few errors can occur that cause the system to abort the installation. Recover from these errors by carrying out VMS recovery procedures or ensuring that all prerequisites are met.

Errors that can occur are listed below. Some of these errors occur because you did not obtain all the prerequisites for DECmcc. Refer to “Software and Hardware Requirements” in Chapter 1 for product requirements.

- If you do not meet the following requirements, the installation procedure aborts the installation.
  - All required quotas must be met.
  - Sufficient free global pages must exist.
  - DECdns must be installed and operational.
  - The correct version of VMS software must be installed.
  - Sufficient blocks of disk space must be available.
- If you did not register and load your license for DECmcc, the installation completes successfully. However, DECmcc and the IVP will not run until you register and load your license.

For descriptions of the error messages generated, refer to the VMS documentation on system messages, recovery procedures, and VMS software installation. Take the appropriate action described in the message.

In case of a system failure, follow standard VMS procedure. After restoring the system, begin the installation procedure again.

Exhibit 3–9: Sample Error Messages

1

```
Quota-name quota is: value; must be value or higher to run MCC.
Your account quotas are too low to run the DECmcc DIRECTOR startup
and IVP procedures.
```

2

```
This node has value free global pages/value free, contiguous global
pages. DECmcc requires value free global pages for installing shared
images.

This node requires value additional global pages unless this product is
already installed and currently utilizing the required resources.

Please consult the VMS System Generation Utility Reference Manual for
information regarding the global pages system parameter, as well as for
instructions regarding how to modify the global pages system parameter.

* Do you want to continue [NO]?
```

3

```
This kit requires DECdns to install.
```

4

```
This kit requires VAX/VMS V5.3 or later to install.
```

5

```
This kit requires at least value blocks to restore the initial saveset.
This kit requires at least value blocks to install.
This kit requires at least value blocks on the system disk. With
   the AWD option, value blocks are required and value blocks
   are required on the AWD disk.
This kit requires at least value blocks on location to install.
```

6

```
%LICENSE-F-NOLICENSE, no license is active for this software product.

It is recommended that the product startup command procedure be run
after the license has been installed.

NOTE:  The DECdns clerk must be started up before the MCC_STARTUP_DIR
       command procedure is invoked.

It is recommended that the product IVP be run after the license has
been installed.
```

4

Installing and Verifying DECmcc Developer's Toolkit Software

After installing the DECmcc Director software or the DECmcc Basic Management System software, you are now ready to install your DECmcc Developer's Toolkit software. This chapter details each step of the installation process, as listed below. If you need to install the DECmcc Director software or the DECmcc Basic Management System software, refer to the previous chapters.

Refer to *DECmcc Release Notes* for a sample DECmcc installation and a list of DECmcc Developer's Toolkit files and logicals.

- Invoking VMSINSTAL
- Selecting a Release Notes Option
- Verifying Registration with License Management Facility
- Running the Installation Verification Procedure
- Recovering From Errors During Installation

Invoking VMSINSTAL

Invoke VMSINSTAL, and check your system disk backup. Mount your distribution media and the system begins the installation.

1. Log in to the SYSTEM account.
2. Invoke VMSINSTAL by entering the following command.

   ```
   $ @SYS$UPDATE:VMSINSTAL MCCTKvvu ddcn: OPTIONS N,AWD=disk:[directory]
   ```

   Replace *vv* with the major software version number and *u* with the update software version number, such as 010 for Version 1.0.

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number, such as MUA0.

   OPTIONS N,AWD are optional parameters. N indicates you want to be prompted to display or print the release notes, or copy them to SYS$HELP. If you do not include the OPTIONS N parameter, the installation procedure does not prompt you to display, print, or copy the release notes. AWD lets you specify an alternate working device for the temporary working directory, thus enabling you to perform an installation with fewer free blocks on the system disk than is otherwise required.

   The system displays a message stating the software installation procedure version it is using and the date and time.

3. Check for active processes.

   If you have any active processes running, the installation procedure lists the active processes and asks if you want to continue.

4. Check your system disk backup.

   Verify that you are satisfied with the backup copy of your system disk before continuing with the installation.

5. Load the distribution tape into the tape drive. Mount your media.

   When installing from the distribution medium (not from copied savesets), the installation procedure checks that the device is mounted. Then the installation procedure prompts you to mount the distribution volume, and asks if you are ready to continue the installation.

6. DECmcc installation begins.

   The installation procedure displays a message that the media containing DECmcc is mounted on the specified device and that the installation is beginning. The installation procedure indicates what version number of DECmcc it is installing.

Exhibit 4–1: Log of Steps 1 Through 6

1

```
Username:  SYSTEM           RET
Password:                   RET
```

2

```
$ @SYS$UPDATE:VMSINSTAL MCCTK010 MUA0: OPTIONS N,AWD=DUA2:[INSTALL]

        VAX/VMS Software Product Installation Procedure V5.3

It is 24-OCT-1990 at 10:06
Enter a question mark (?) at any time for help.
```

3

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
           62893_8236
           PARIS_8241
           SERVER_000C
* Do you want to continue anyway [NO]? YES RET
```

4

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

5

```
Please mount the first volume of the set on MUA0:
* Are you ready? Y
%MOUNT-I-MOUNTED, MCC mounted on _MUAO:
```

6

```
The following products will be processed:

  MCCTK V1.0

        Beginning installation of MCCTK V1.0 at 10:06

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

Selecting a Release Notes Option

Select a release notes option and choose whether or not to continue with the installation. Decide if you want DECmcc management specifications copied, and choose to run the Installation Verification Procedure (IVP) automatically.

7. Select a release notes option.

   If you specified OPTION N when you invoked VMSINSTAL, the installation procedure prompts you for a release notes option. These options are described below.

   - If you select option 1 or 3, the installation procedure displays the release notes immediately on your terminal. You can terminate the display at any time by pressing CTRL/C.
   - If you select option 2 or 3, the installation procedure prompts you for a print queue name. Enter a queue name or press RET to send the file to the default output print device, SYS$PRINT.
   - If you select option 4, the installation procedure does not display or print the release notes; however, it does automatically copy them to SYS$HELP.

   No matter which option you select, the installation procedure then asks you if you want to continue the installation. Answer YES to continue or NO to exit the installation procedure.

   The installation procedure copies the release notes to SYS$HELP. Then it verifies that all required quotas are met, sufficient free global pages exist, DECdns nameserver is accessible, and the correct version of VMS is installed. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of messages that display if any of these requirements are deficient.

8. Decide if you want the Module Reference Manuals.

   The DECmcc Developer’s Toolkit includes specifications for the Kernel and eight of the management modules. The specifications, called *Module Reference Manuals* (MRMs), describe the management and service interfaces provided by each module and the services a module requires from other modules, where applicable. The MRMs are not available in hard copy, but are supplied in LN03 and PostScript formats. If you choose to install them, the procedure places the files in the directory SYSCOMMON:[SYSHELP.EXAMPLES.MCC].

9. Choose to run the IVP.

   The installation procedure asks if you want to automatically run the IVP at the end of the installation. The IVP for DECmcc ensures that the installation is successful. You should run the IVP immediately after installation.

   The installation procedure verifies that you registered and loaded the PAK for each product you are installing. If you did not register and load the PAK for a DECmcc product, the installation procedure will not run that product’s IVP. Refer to “Recovering From Errors During Installation” later in this chapter for the exact text of the message that displays if any of the PAKs are missing.

Exhibit 4–2: Log of Steps 7 through 9

7

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

    Additional Release Notes Options:
        1. Display release notes
        2. Print release notes
        3. Both 1 and 2
        4. None of the above

* Select option [2]: RET
* Queue name [SYS$PRINT]: RET
* Do you want to continue the installation [NO]? YES RET
%VMSINSTAL-I-RELMOVED, The product's release notes have been successfully moved
to SYS$HELP.
***********************************************************************
*                 DECmcc Developer's Toolkit V1.0                     *
*                        Integrated Package                           *
*                                                                     *
*                      Installation Procedure                         *
*                                                                     *
***********************************************************************
```

8

```
    The Module Reference Manuals are the management
    specifications for each module's management and service
    interfaces. The total disk space required is
    value blocks.

* Do you want the Module Reference Manuals [NO]? RET
```

9

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

Verifying Registration with License Management Facility

Choose to purge files. Verify that you registered DECmcc with the License Management Facility. Remember to add a command invoking DECmcc Developer’s Toolkit to your system startup command procedure.

10. Choose to purge files from previous versions of DECmcc.

    You have the option to purge files from previous versions of DECmcc that are superseded by this installation. Purging is recommended because it will save disk space.

11. Verify that you registered and loaded the product licenses with the License Management Facility.

    The installation procedure prints out information about your particular DECmcc license and asks if you have registered and loaded your PAKs. If you registered and loaded your PAKs, answer YES to these question. If you did not register and load your PAKs, answer NO. The installation procedure reminds you to register and load the PAKs before you run the product.

12. Add a command invoking DECmcc Developer’s Toolkit to your system startup command procedure.

    The installation procedure notifies you that the DECmcc startup procedure will be invoked after the files are copied. The installation procedure then directs you to modify your local system startup command procedure to automatically set up the DECmcc Developer’s Toolkit. After the installation procedure completes, refer to “Modifying Your Local System Startup Procedure” in Chapter 6 for more information on how to modify your system startup command procedure.

Exhibit 4–3: Log of Steps 10 through 12

10

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

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

11

```
        Product:          DECMCC-DEV-TK
        Producer:         DEC
        Version:          1.0
        Release Date:     30-AUG-1990

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

Following the copying of the files, the DECmcc Developer's
Toolkit startup command procedure(s) will be invoked.
Operational tables will be created by this procedure.
```

12

```
    To automatically set up DECmcc DEVELOPER'S TOOLKIT on your
    system, edit your local system start-up command procedure

           SYS$MANAGER:SYSTARTUP_V5.COM

    so that it invokes the TOOLKIT start-up command procedure.
    Add:

           @SYS$STARTUP:MCC_STARTUP_TK.COM

    Following the TOOLKIT start-up, the TOOLKIT postinstallation
    command procedure will be invoked.

    VMSINSTAL asks no additional questions.

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

Running the Installation Verification Procedure

The installation procedure automatically runs the IVP for the DECmcc Developer's Toolkit and completes the installation.

13. The installation procedure runs the DECmcc Developer's Toolkit postinstallation procedure.

    The postinstallation procedure for the DECmcc Developer's Toolkit performs tests on the software.

14. The installation procedure runs the IVP.

    If you answered YES to the IVP question, the installation procedure automatically runs an IVP for the DECmcc Developer's Toolkit if it has a PAK registered and loaded.

    The components of the DECmcc Developer's Toolkit are listed below.

    MSL Translator
    Sample AM Source

Exhibit 4–4: Log of Steps 13 and 14

13

```
Beginning DECmcc DEV-TK Postinstallation Procedure ...

Completing DECmcc DEV-TK Postinstallation Procedure ...
```

14

```
Beginning DEV-TK Installation Verification Procedure ...

Completing DEV-TK Installation Verification Procedure ...
        Installation of MCCTK V1.0 completed at 10:19
        VMSINSTALL procedure done at 10:19
```

Recovering From Errors During Installation

A few errors can occur that cause the system to abort the installation. Recover from these errors by carrying out VMS recovery procedures or ensuring that all prerequisites are met.

Errors that can occur are listed below. Some of these errors occur because you did not obtain all the prerequisites for DECmcc. Refer to “Software and Hardware Requirements” in Chapter 1 for product requirements.

- If you do not meet the following requirements, the installation procedure aborts the installation.
  - All required quotas must be met.
  - The DECmcc Director or DECmcc BMS software must be installed.
  - The correct version of VMS software must be installed.
  - Sufficient blocks of disk space must be available.
- If you did not register and load your license for DECmcc, the installation completes successfully. However, DECmcc and the IVP will not run until you register and load your license.

For descriptions of the error messages generated, refer to the VMS documentation on system messages, recovery procedures, and VMS software installation. Take the appropriate action described in the message.

In case of a system failure, follow standard VMS procedure. After restoring the system, begin the installation procedure again.

Exhibit 4–5: Sample Error Messages

1

```
Quota-name quota is: value; must be value or higher to run MCC.
Your account quotas are too low to run the DECmcc DEV-TK startup and
IVP procedures.
```

2

```
This kit requires that the DECmcc Director or the DECmcc BMS be
installed prior to the installation of the DECmcc Developer's Toolkit.
```

3

```
This kit requires VAX/VMS V5.3 or later to install.
```

4

```
This kit requires at least value blocks to restore the initial saveset.
This kit requires at least value blocks to install.
```

5

```
%LICENSE-F-NOLICENSE, no license is active for this software product.

It is recommended that the product startup command procedure be run
after the license has been installed.

NOTE:  The DECdns clerk must be started up before the MCC_STARTUP_TK
       command procedure is invoked.

It is recommended that the product IVP be run after the license has
been installed.
```

5

Installing and Verifying Independent DECmcc Management Module Software

After installing the DECmcc Director software or the DECmcc Basic Management System software, you are now ready to install any optional DECmcc independent management modules. This chapter presents the general steps of the installation process. If you need to install the DECmcc Director software or the DECmcc Basic Management System software, refer to the previous chapters. The installation process consists of the following steps:

- Ensuring a Smooth Installation
- Invoking VMSINSTAL
- Selecting a Release Notes Option
- Choosing to Run the Installation Verification Procedure and Purging Files
- Updating the DECmcc Dictionary, Parse Tables, and Help File
- Verifying Registration with License Management Facility
- Running the Installation Verification Procedure
- Recovering From Errors During Installation

This installation procedure installs the DECmcc management module software on the disk defined by the MCC_SYSTEM logical. Refer to the specific management module *Release Notes* for all product-specific installation requirements, a sample installation, and a list of files and logicals.

If you upgrade either the DECmcc Director or the DECmcc Basic Management System, you should reinstall all independent management modules to update the DECmcc dictionary again and to rebuild the parse tables and help file.

Ensuring a Smooth Installation

This section lists several steps that, if done ahead of time, can save you time and ensure a smooth installation.

Exhibit 5–1 provides a preinstallation checklist and a list of associated documents. The following tasks must be completed before you begin software installation:

1. Check the distribution kit. Ensure that you have a complete distribution kit by comparing the kit against the bill of materials (BOM). If any part of the kit is missing, contact your Digital representative.

2. Back up the system disk. This installation involves writing to your system disk. You should make a backup copy of your system disk before installing DECmcc.

3. Meet all requirements. Ensure that you obtain all prerequisite software, system privileges, quotas, and disk space before you begin the installation. Refer to the specific management module release notes for a complete list of requirements for specific DECmcc management modules. The specific management module Software Product Description (SPD) and System Support Addendum (SSA) list hardware and software requirements.

4. Register and load the licenses for the DECmcc management modules you wish to install. If you do not register and load the licenses, you can complete the installation procedure; however, the Installation Verification Procedure (IVP) will not run. Refer to "Registering the Licenses for DECmcc" in Chapter 1 to register and load the license for DECmcc.

5. Load the distribution tape into the tape drive; then, mount the distribution tape.

6. Access and read the on-line release notes. They contain the latest information about DECmcc. To access on-line release notes, enter the following command:

   ```
   $ @SYS$UPDATE:VMSINSTAL productvvu ddcn: OPTIONS N
   ```

   Replace *product* with the name of the product, such as MCCFDA or MCCTCPIP. Replace *vv* with the major software version number and *u* with the update software version number, such as 010 for Version 1.0.

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number, such as MUA0.

   OPTIONS N is an optional parameter that indicates you want to be prompted to display or print the release notes, or copy them to SYS$HELP. If you do not include the OPTIONS N parameter, the installation procedure does not prompt you to display, print, or copy the release notes.

Exhibit 5–1: Preinstallation Checklist

Things To Do Before Installation	Where To Find Information	Done?
Check distribution kit	n/a	☐
Back up system disk	n/a	☐
Obtain Saveset Name	Cover letter, release notes	☐
Meet all requirements	Refer to list below	☐
System manager level privileges	n/a	☐
Software	Release notes, SSA	☐
Distribution media	Release notes	☐
Process quotas	Release notes	☐
System parameters	Release notes	☐
Disk space	Release notes	☐
Estimated time to install	Release notes	☐
Register the licenses for the product	Release notes, product authorization key (PAK)	☐
Load and mount the distribution tape	n/a	☐
Read on-line release notes	n/a	☐

Associated Documents

Document Title	Description of Contents
Build of Materials (BOM)	Lists all items in the distribution kit
Management Module Cover Letter	Introduces the product
Management Module Release Notes	Contains the latest information about the DECmcc management module, such as changes to the installation procedure
Software Product Description (SPD)	Describes the product generally
System Support Addendum (SSA)	Lists software and hardware requirements and processors supported
Guide to VMS Software Installation	Provides general installation information
VMS System Manager's Manual	Contains information on setting recom-mended user account quotas, privileges and system parameters

Invoking VMSINSTAL

Invoke VMSINSTAL, and check your system disk backup. After you mount your distribution media, the system begins the installation.

1. Log in to the SYSTEM account.
2. Invoke VMSINSTAL by entering the following command:

   `$ @SYS$UPDATE:VMSINSTAL` *`productvvu ddcn`*`: OPTIONS N`

   Replace *product* with the name of the product, such as MCCFDA or MCCTCPIP. Replace *vv* with the major software version number and *u* with the update software version number, such as 010 for Version 1.0.

   Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number, such as MUA0.

   OPTIONS N is an optional parameter that indicates you want to be prompted to display or print the release notes, or copy them to SYS$HELP. If you do not include the OPTIONS N parameter, the installation procedure does not prompt you to display, print, or copy the release notes.

   The system displays a message stating the software installation procedure version it is using and the current date and time.
3. Check for active processes.

   If you have any active processes running, the installation procedure lists the active processes and asks if you want to continue.
4. Check your system disk backup.

   Verify that you are satisfied with the backup copy of your system disk before continuing with the installation.
5. Load the distribution tape into the tape drive. Mount your media.

   When installing from the distribution medium (not from copied savesets), the installation procedure checks that the device is mounted. Then the installation procedure prompts you to mount the distribution volume, and asks if you are ready to continue the installation.
6. DECmcc installation begins.

   The installation procedure displays a message that the media containing the DECmcc management module is mounted on the specified device and that the installation is beginning. The installation procedure indicates what version number of the DECmcc management module it is installing.

Exhibit 5–2: Log of Steps 1 Through 6

1

```
Username:  SYSTEM             RET
Password:                     RET
```

2

```
$ @SYS$UPDATE:VMSINSTAL product010 MUA0: OPTIONS N

        VAX/VMS Software Product Installation Procedure V5.3

It is 24-OCT-1990 at 10:06
Enter a question mark (?) at any time for help.
```

3

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
           62893_8236
           PARIS_8241
           SERVER_000C
* Do you want to continue anyway [NO]? YES RET
```

4

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

5

```
Please mount the first volume of the set on MUA0:
* Are you ready? Y
%MOUNT-I-MOUNTED, MCC mounted on _MUAO:
```

6

```
The following products will be processed:

  product Vn.n

        Beginning installation of product Vn.n at 10:06

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

Selecting a Release Notes Option

Select a release notes option and choose whether or not to continue with the installation.

7. Select a release notes option.

   If you specified OPTION N when you invoked VMSINSTAL, the installation procedure prompts you for a release notes option. These options are as follows:

   - If you select option 1 or 3, the installation procedure displays the release notes immediately on your terminal. You can terminate the display at any time by pressing CTRL/C.
   - If you select option 2 or 3, the installation procedure prompts you for a print queue name. Enter a queue name or press RET to send the file to the default output print device, SYS$PRINT.
   - If you select option 4, the installation procedure does not display or print the release notes; however, it does automatically copy them to SYS$HELP.

   No matter which option you select, the installation procedure then asks you if you want to continue the installation. Answer YES to continue or NO to exit the installation procedure.

   The installation procedure copies the release notes to SYS$HELP. Then it verifies that all required quotas are met, sufficient free global pages exist, DECdns nameserver is accessible, and the correct version of VMS is installed. Refer to "Recovering From Errors During Installation" later in this chapter for the exact text of messages that display if any of these requirements are deficient.

Exhibit 5–3: Log of Step 7

7

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

    Additional Release Notes Options:
        1. Display release notes
        2. Print release notes
        3. Both 1 and 2
        4. None of the above

* Select option [2]: RET
* Queue name [SYS$PRINT]: RET
* Do you want to continue the installation [NO]? YES RET
%VMSINSTAL-I-RELMOVED, The product's release notes have been successfully moved
to SYS$HELP.
***********************************************************************
*                       DECmcc product Vn.n                           *
*                        Management Module                            *
*                                                                     *
*                      Installation Procedure                         *
*                                                                     *
***********************************************************************
```

Choosing to Run the IVP and Purging Files

Choose to run the Installation Verification Procedure (IVP) automatically. Choose to purge files.

8. Choose to run the IVP.

   The installation procedure asks if you want to automatically run the IVP at the end of the installation. The IVP for DECmcc ensures that the installation is successful. You should run the IVP immediately after installation.

   The installation procedure verifies that you registered and loaded the PAK for each product you are installing. If you do not register and load the PAK for a DECmcc product, the installation procedure will not run that product's IVP. Refer to "Recovering From Errors During Installation" later in this chapter for the exact text of the message that displays if any of the PAKs are missing.

   If you do not update the DECmcc dictionary and parse tables, the installation procedure will not run that product's IVP. Refer to "Recovering From Errors During Installation" later in this chapter for the exact text of the message that displays if the DECmcc dictionary and parse tables are not updated.

9. Choose to purge files from previous versions of DECmcc.

   You have the option to purge files from previous versions of the DECmcc management module that are superseded by this installation. Purging is recommended because it will save disk space.

Exhibit 5–4: Log of Steps 8 and 9

8

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

9

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

Updating the DECmcc Dictionary, Parse Tables, and Help File

Choose to update the DECmcc dictionary. If you are installing more than one independent management module, delay rebuilding the DECmcc parse tables and help file until you install the last management module.

10. Choose to update the DECmcc dictionary.

    The installation procedure adds new management specification information to the DECmcc dictionary. If you do not update the dictionary, you cannot use the management module.

    This process takes a minimum of 15 minutes. You should update the dictionary. If you do not update the dictionary, the installation procedure will not run the IVP.

    If you update either the DECmcc Director or the DECmcc Basic Management System, you should reinstall all independent management modules to update the dictionary again.

11. Choose to rebuild the DECmcc parse tables.

    The installation procedure incorporates new DECmcc directives into the parse tables using the specification information in the dictionary. If you do not rebuild the parse tables, you cannot use the management module.

    This process takes a minimum of one hour. You should rebuild the parse tables. If you do not rebuild the parse tables, the installation procedure will not run the IVP. If you are installing more than one independent management module, delay rebuilding the parse tables until you install the last management module.

    If you update either the DECmcc Director or the DECmcc Basic Management System, you should reinstall all independent management modules. If you are reinstalling more than one independent management module, delay rebuilding the DECmcc parse tables until you install the last management module.

12. Choose to rebuild the DECmcc help file.

    The installation procedure adds new help file information to the DECmcc help file. If you do not rebuild the help file, help text information for that management module will not be available.

    This process takes a minimum of one hour. You should rebuild the help file. If you are installing more than one independent management module, delay rebuilding the help file until you install the last management module.

    If you upgrade either the DECmcc Director or the DECmcc Basic Management System, you should reinstall all independent management modules. If you are reinstalling more than one independent management module, delay rebuilding the help file until you install the last management module.

Exhibit 5–5: Log of Steps 10 through 12

10
```
* Do you want to update the DECmcc dictionary [YES]? RET
```

11
```
* Do you want to rebuild the DECmcc parse tables [YES]? RET
```

12
```
* Do you want to rebuild the DECmcc help file [YES]? RET
%VMSINSTAL-I-RESTORE, Restoring product saveset B ...
```

Verifying Registration with License Management Facility

Verify that you registered the DECmcc management module with the License Management Facility. Remember to add a command invoking the DECmcc Managmenet Module to your system startup command procedure.

13. Verify that you registered and loaded the product licenses with the License Management Facility.

    The installation procedure prints out information about your particular DECmcc management module license and asks if you have registered and loaded your PAKs. If you registered and loaded your PAKs, answer YES to these question. If you did not register and load your PAKs, answer NO. The installation procedure reminds you to register and load the PAKs before you run the product.

14. Add a command invoking the DECmcc management module to your system startup command procedure.

    The installation procedure notifies you that the DECmcc management module startup procedure will be invoked after the files are copied. The installation procedure then directs you to modify your local system startup command procedure to automatically set up the DECmcc management module. After the installation procedure completes, refer to “Modifying Your Local System Startup Procedure” in Chapter 6 for more information on how to modify your system startup command procedure.

Exhibit 5–6: Log of Steps13 and 14

13

```
        Product:           DECMCC-product
        Producer:          DEC
        Version:           n.n
        Release Date:      dd-mmm-yyyy

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

Following the copying of the files, this procedure will
invoke the DECmcc product startup command procedure(s).
Operational tables will be updated.
```

14

```
    To automatically set up DECmcc product on your system,
    edit your local system start-up command procedure

           SYS$MANAGER:SYSTARTUP_V5.COM

    so that it invokes the product start-up command procedure.
    Add:

           @SYS$STARTUP:product_STARTUP.COM

    after the statement that invokes the DECmcc DIRECTOR or
    DECmcc BMS startup command file (MCC_STARTUP_DIR.COM or
    MCC_STARTUP_BMS.COM)

    Following the product start-up, this procedure will
    invoke the product postinstallation command procedure.

    VMSINSTAL asks no additional questions.

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

Running the Installation Verification Procedure

The installation procedure automatically runs the IVP for the DECmcc management module and completes the installation.

15. The installation procedure runs the DECmcc management module postinstallation procedure.

    If you answered YES to the questions about the DECmcc dictionary, parse tables, and help file, the postinstallation procedure for the DECmcc management module automatically updates the dictionary, rebuilds the parse tables, updates the help file, and runs the management module startup procedure. This process takes a minimum of two hours.

16. The installation procedure runs the IVP.

    If you answered YES to the IVP question, the installation procedure automatically runs an IVP for the DECmcc management module if a PAK is registered and loaded and the DECmcc dictionary and parse tables are updated.

    The IVP performs a test on the management module software to verify proper installation.

Exhibit 5–7: Log of Step 12

15

```
Beginning DECmcc product Postinstallation Procedure ...

                                  .
                                  .
                                  .

Completing DECmcc product Postinstallation Procedure ...
```

16

```
Beginning product Installation Verification Procedure ...

                                  .
                                  .
                                  .

Completing product Installation Verification Procedure ...
        Installation of product Vn.n completed at 10:19
        VMSINSTALL procedure done at 10:19
```

Recovering From Errors During Installation

A few errors can occur that cause the system to abort the installation. Recover from these errors by carrying out VMS recovery procedures or ensuring that all prerequisites are met.

Errors can occur that can cause the system to abort during installation. Some of these errors occur because you did not obtain all the prerequisites for DECmcc. Refer to the specific management module *Release Notes* for all product-specific installation requirements. Installation errors can include the following:

- If you do not meet the following requirements, the installation procedure aborts the installation. Refer to Exhibit 5–8 for the text of the messages.
  - All required quotas must be met. Refer to example 1.
  - Sufficient free global pages must exist. Refer to example 2.
  - The DECmcc Director or DECmcc BMS software must be installed. Refer to example 3.
  - DECdns must be installed and operational. Refer to example 4.
  - The correct version of VMS software must be installed. Refer to example 5.
  - Sufficient blocks of disk space must be available. Refer to example 6.
- If you did not register and load your license for DECmcc, the installation completes successfully. However, DECmcc and the IVP will not run until you register and load your license. Refer to example 7.

For descriptions of the error messages generated, refer to the VMS documentation on system messages, recovery procedures, and VMS software installation. Take the appropriate action described in the message.

In case of a system failure, follow standard VMS procedure. After restoring the system, begin the installation procedure again.

Exhibit 5–8: Sample Error Messages

1

```
Quota-name quota is: value; must be value or higher to run product.
Your account quotas are too low to run the product startup and IVP
procedures.
```

2

```
This node has value free global pages/value free, contiguous global
pages. DECmcc requires value free global pages for installing shared
images.

This node requires value additional global pages unless this product is
already installed and currently utilizing the required resources.

Please consult the VMS System Generation Utility Reference Manual for
information regarding the global pages system parameter, as well as for
instructions regarding how to modify the global pages system parameter.

* Do you want to continue [NO]?
```

3

```
This kit requires that the DECmcc Director or the DECmcc BMS be
installed prior to the installation of the product.
```

4

```
This kit requires DECdns to install.
```

5

```
This kit requires VAX/VMS V5.3 or later to install.
```

6

```
This kit requires at least value blocks to restore the initial saveset.
This kit requires at least value blocks to install.
```

7

```
%LICENSE-F-NOLICENSE, no license is active for this software product.

It is recommended that the product startup command procedure be run
after the license has been installed.

NOTE:  The DECdns clerk must be started up before the MCC_STARTUP_TK
       command procedure is invoked.

It is recommended that the product IVP be run after the license has
been installed.
```

6

Preparing to Use DECmcc

After installing DECmcc, you can read the release notes in the following files, where *vv* represents the major software version number and *u* represents the update software version number.

- SYS$HELP:MCCBMS*vvu*.RELEASE_NOTES
- SYS$HELP:MCCDIR*vvu*.RELEASE_NOTES
- SYS$HELP:MCCTK*vvu*.RELEASE_NOTES

Once you install DECmcc, there are a few things you must do before you can manage your network. These preparatory tasks are described in these topics:

- Verifying the Installation
- Modifying Your Local System Startup Procedure
- Running DECmcc in a Cluster Environment
- Setting Protection on DECmcc Files
- Troubleshooting

Verifying the Installation

You can run the IVP separately from the installation procedure.

If you installed your software before registering and loading the license, you should run the IVP immediately after loading the license. To run the IVP:

1. Log in to the SYSTEM account.
2. Enter this command to run the IVP for DECmcc Director.

   ```
   $ @SYS$SYSROOT:[SYSTEST]MCC_DIR_IVP.COM
   ```

3. Enter this command to run the IVP for DECmcc Basic Management System.

   ```
   $ @SYS$SYSROOT:[SYSTEST]MCC_BMS_IVP.COM
   ```

4. Enter this command to run the IVP for DECmcc Developer's Toolkit.

   ```
   $ @SYS$SYSROOT:[SYSTEST]MCC_TK_IVP.COM
   ```

5. Enter this command to run the IVP for a DECmcc asynchronous management module.

   ```
   $ @SYS$SYSROOT:[SYSTEST]product_IVP.COM
   ```

Exhibit 6–1: Running the IVP

```
$ @SYS$SYSROOT:[SYSTEST]MCC_DIR_IVP.COM
.
.
.
DECMCC DIRECTOR V1.0 Installation Successful
$

$ @SYS$SYSROOT:[SYSTEST]MCC_BMS_IVP.COM
.
.
.
DECMCC BMS V1.0 Installation Successful
$

$ @SYS$SYSROOT:[SYSTEST]MCC_TK_IVP.COM
$
```

Modifying Your Local System Startup Procedure

Add a command to your local system startup procedure to automatically set up DECmcc every time you reboot.

By adding a command in your local system startup command procedure, you can automatically set up DECmcc on your system every time you reboot. The command you add runs the MCC startup command procedure.

You must position this command carefully in the system startup file, because the VAX DNS clerk and DECnet must both be started up before DECmcc is started. Follow these steps using your favorite editor to modify your system startup procedure.

1. Search for the place in your startup procedure where you start up the VAX DNS clerk. Make a note of the line number.
2. Search for the place in your startup procedure where you start up the DECnet software (search for STARTNET.COM). Make a note of the line number.
3. If you installed the DECmcc Director or the DECmcc Basic Management System, insert the following command on a line that is greater than both of the line numbers you found in the previous steps.

   ```
   $ @SYS$STARTUP:MCC_STARTUP_DIR.COM
   ```
4. If you installed the DECmcc Basic Management System, insert the following command on a line that is greater than the line number in the previous step.

   ```
   $ @SYS$STARTUP:MCC_STARTUP_BMS.COM
   ```
5. If you installed the DECmcc Developer’s Toolkit, insert the following command on a line that is greater than the line number where you start the DECmcc Director software.

   ```
   $ @SYS$STARTUP:MCC_STARTUP_TK.COM
   ```
6. If you installed an asynchronous management module, insert the following command on a line that is greater than the line number where you start the DECmcc Director software.

   ```
   $ @SYS$STARTUP:product_STARTUP.COM
   ```

If you do not add the above command(s) to your local system startup procedure, you will receive the following error when trying to invoke DECmcc after a system reboot.

```
%DCL-W-ACTIMAGE, error activating image MCC_MTS_PRIV_SHR
-CLI-E-IMGNAME, image file <disk>:[SYS0.SYSCOMMON.][SYSLIB]
MCC_MTS_PRIV_SHR.EXE;1
-SYSTEM-F-PROTINSTALL, protected image must be installed
```

Exhibit 6–2: Example System Startup Procedure

```
$ IF F$SEARCH("SYS$SYSTEM:NETACP.EXE") .NES. "" THEN @SYS$MANAGER:STARTNET
$ IF F$SEARCH("SYS$MANAGER:CMSSTARTUP.COM") .NES. "" -
  THEN $ @SYS$MANAGER:CMSSTARTUP.COM
$ IF F$SEARCH("SYS$MANAGER:DTMSTARTUP.COM") .NES. "" -
  THEN $ @SYS$MANAGER:DTMSTARTUP.COM
$ @SYS$STARTUP:MCC_STARTUP_DIR.COM           !For BMS and DIRECTOR
$ @SYS$STARTUP:MCC_STARTUP_BMS.COM           !For BMS
$ @SYS$STARTUP:MCC_STARTUP_TK.COM            !For DEV-TK
```

Running DECmcc in a Cluster Environment

If you execute DECmcc on other nodes in your VAXcluster, you must prepare the system-specific roots on each of the other nodes.

Log in to the SYSTEM account and create root directories on each node in a cluster.

1. Enter the following command:

```
$ CREATE/DIRECTORY SYS$SPECIFIC:[MCC]/OWNER_UIC=PAR/PROT=(G:RE,W:RWE)
```

Now you must build the DCL Table on each node by performing the following tasks.

2. Use the Install utility to replace the DCLTABLES file.

```
$ INSTAL
INSTALL> REPLACE SYS$COMMON:[SYSLIB]DCLTABLES.EXE/HEADER/OPEN/SHARE
INSTALL> EXIT
```

3. Add the MANAGE/ENTERPRISE command to the process DCL table.

```
$ SET COMMAND SYS$COMMON:[MCC]MCC_COMMANDS.CLD
```

4. Ensure that the VAX DNS clerk is started up. Run the MCC startup command file.

```
$ @SYS$STARTUP:MCC_STARTUP_DIR.COM          !For DIRECTOR and BMS
$ @SYS$STARTUP:MCC_STARTUP_BMS.COM          !For BMS
$ @SYS$STARTUP:MCC_STARTUP_TK.COM           !For DEV-TK
$ @SYS$STARTUP:product_STARTUP.COM          !For product management module
```

Exhibit 6–3: Preparing Individual Nodes in a Cluster

1

```
$ CREATE /DIRECTORY SYS$SPECIFIC:[MCC]/OWNER_UIC=PAR/PROT=(G:RE,W:R)
```

2

```
$ INSTAL
INSTALL> REPLACE SYS$COMMON:[SYSLIB]DCLTABLES.EXE/HEADER/OPEN/SHARE
INSTALL> EXIT
```

3

```
$ SET COMMAND SYS$COMMON:[MCC]MCC_COMMANDS.CLD
```

4

```
$ @SYS$STARTUP:MCC_STARTUP_DIR.COM         !For DIRECTOR and BMS
$ @SYS$STARTUP:MCC_STARTUP_BMS.COM         !For BMS
$ @SYS$STARTUP:MCC_STARTUP_TK.COM          !For DEV-TK
$ @SYS$STARTUP:product_STARTUP.COM         !For product management module
```

Setting Protection on DECmcc Files

If nonprivileged people need to use DECmcc, you must change protection to allow them to access several files.

When DECmcc software is first installed, file protections are set for system, owner, and group to have full access and world to have read-only access. If a nonprivileged user attempts to execute a directive that requires privileges, error messages display indicating that a file protection violation exists. Follow your company security policy to change the protection in order to allow nonprivileged users access to DECmcc.

These are examples of how you might open a DECmcc common file for access by the nonprivileged user Wanda James. Refer to the specific access or function module manual for examples of how to open specific files for access by nonprivileged users.

1. This example illustrates how to change access control for only one user:

   ```
   $ SET FILE MCC_SPECIFIC:MCC_EVENT_POOL.DAT -
     /ACL=(IDENTIFIER=[NETMAN,W_JAMES],ACCESS=READ+WRITE)
   ```

2. This example illustrates how to change the file protection:

   ```
   $ SET PROTECTION=(W:RW) MCC_SPECIFIC:MCC_EVENT_POOL.DAT
   ```

Exhibit 6–4: DECmcc File Protections

File Name	Contents	Default Protections	Access Required
MCC_SPECIFIC:	This is a directory that contains the file below.	S:RWE O:RWE G:RE W:R	Change to match access of files within this directory.
MCC_EVENT_POOL.DAT	Event request data and the event itself	S:RWED O:RWED G:RWED W:RW	To request and receive event data you need to have RW access (Do this on each specific directory running DECmcc in a cluster).
MCC_COMMON:	This is a directory that contains the files below.	S:RWE O:RWE G:RE W:R	Change to match access of files within this directory.
MCC_DISPATCH_TABLE.DAT	Dispatch tables for DECmcc Management Modules	S:RWED O:RWED G:RE W:R	To enroll new Management Modules you need to have RW access.
MCC_META_DICTIONARY.DAT	Dictionary hierarchy for MCC_DICTIONARY.DAT	S:RWED O:RWED G:RWED W:R	To use DECmcc Developer's Toolkit you must have R access.
MCC_META_DEFINITION.DAT	Data that describe all known definitions for MCC_DEFINITION.DAT	S:RWED O:RWED G:RWED W:R	To use DECmcc Developer's Toolkit you must have R access.
MCC_MIR_DIRECTORY.DAT	List of all known repositories for DECmcc	S:RWED O:RWED G:RWED W:R	To use DECmcc Director or DECmcc BMS you must have R access. To use DECmcc Developer's Toolkit and Alarms FM you must have RW access.
MCC_MIR_ATTRIBUTE.DAT	Locations and RMS file attributes for all known repositories for DECmcc	S:RWED O:RWED G:RWED W:R	To use DECmcc Director or DECmcc BMS you must have R access. To use DECmcc Developer's Toolkit and Alarms FM you must have RW access.
MCC_DICTIONARY.DAT	Entity class hierarchies	S:RWED O:RWED G:RWED W:R	To use DECmcc Director or DECmcc BMS you must have R access. To use DECmcc Developer's Toolkit you must have RW access.
MCC_DEFINITION.DAT	Entity meta-data	S:RWED O:RWED G:RWED W:R	To use DECmcc Director or DECmcc BMS you must have R access. To use DECmcc Developer's Toolkit you must have RW access.

Troubleshooting

If you encounter a problem with the DECmcc software or documentation, please document the problem thoroughly and submit a report on that problem to Digital.

If an error occurs and you believe that the error is due to a problem in DECmcc, document that error using the following suggestions:

- Describe the state of the system and the circumstances when the problem occurred as accurately as possible. Ensure that you specify the version number of DECmcc that you are running (use SHOW MCC 0 ALL CHARACTERISTICS to get the version number). Illustrate the problem with specific examples.

  If you report a documentation error, specify the title of the document as well as the section and page number where the error was found.

- Isolate the error as much as possible.
- Submit sources on machine-readable media (magnetic tape), if possible. All media will be returned to you when the problem report is answered.
- Report only one problem at a time. This will facilitate a faster response.

Experience shows that many problem reports do not contain sufficient information to duplicate or identify the problem. Complete and concise information will help Digital give accurate and timely service to software problems.

Exhibit 6–5: Information To Supply in Your Problem Report

- Your network configuration
- Any enrollment data
- Problem occurred in foreground or background mode
- Entity that was being managed
- Problem in access, function, or presentation management module
- Who supplied the software (for example, Digital, third party name, or your company)
- Problem occurred in management or user interface
- Other network management products installed

A

Installation Checklist

This appendix contains a preinstallation and a postinstallation checklist for quick reference.

Table A–1: Preinstallation Checklist

Tasks	Requirements	Where Discussed	Completed
Obtain your network address IDP	Contact allocation authority	Page 1–4	☐
Set up your VAX DNS namespace	Create new directories & set access	Pages 1–6 to 1–10	☐
Check distribution kit	Compare against Build of Materials	Page 1–2	☐
Back up system disk		Page 1–2	☐
Obtain prerequisite software and hardware	VAX/VMS V5.3 software or later VAX DNS software installed and operational DECnet software up and running (Refer to SPD and SSA for the correct software versions) VAX supported processors (refer to the SPD and SSA)	Page 1–12	☐
Check privileges	System manager level	Page 1–12	☐
Set process quotas	ASTLM = 48 BIOLM = 36 DIOLM = 18 ENQLM = 512 FILLM = 40 PGFLQUO = 30000 PRCLM = 2 TQELM = 128 WSQUO = 2048	Page 1–12	☐
Set system parameters	GBLPAGES = 2000 (BMS) GBLPAGES = 1288 (Director)	Page 1–12	☐
Plan for required disk space	44,000 blocks for DECmcc BMS 39,000 blocks for DECmcc Director 12,000 blocks for DECmcc Developer's Toolkit	Page 1–12	☐
Schedule time for installation (on a TK50 on a MicroVAX II with 9 MBytes of memory)	75 minutes for DECmcc BMS 70 minutes for DECmcc Director 45 minutes for DECmcc Developer's Toolkit	Page 1–12	☐
Load and mount distribution tape	TK50 tape distribution kit	Page 1–2	☐
Register and load the PAKS	DECmcc–BMS DECmcc–DIRECTOR DECmcc–DEV–TK	Page 1–16	☐
Access on-line release notes		Page 1–18	☐
Decide on location for DECmcc common files	Disk and directory name	Page 1–2	☐
Calculate your TDF	Offset from UTC (was GMT)	Page 1–20	☐
Log in to the SYSTEM account		Page 2–2	☐
Invoke VMSINSTAL		Page 2–2	☐

Table A–2: Postinstallation Checklist

Tasks	Requirements	Where Discussed	Completed
Modify your local system startup procedure	Add command to automatically set up DECmcc on reboot	Page 6–4	☐
For cluster environments, create a new directory on each node.	Prepare system-specific roots	Page 6–6	☐
Set protection on DECmcc files	Opening files for nonprivileged users	Page 6–8	☐

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