InfoServer Monitor

Installation and User's Guide

This manual explains how to install and use the InfoServer Monitor, a sample system management application for the InfoServer system.

InfoServer Monitor software is written in VAX BASIC, utilizing system service and library calls to obtain device information and mount disks. Users are free to modify the supplied source code to suit environment-specific needs.

InfoServer Monitor software is not supported by Digitial Equipment Corporation. However, the software has been tested and performs the functions described in this manual.

Revision/Update Information: This is a new manual.

Operating System and Version: VMS Version 5.4 or later

Software Version: InfoServer Monitor Version 1.3

November 1992

The information in this document is subject to change without notice and should not be construed as a commitment by Digital Equipment Corporation. Digital Equipment Corporation assumes no responsibility for any errors that may appear in this document.

The software described in this document is furnished under a license and may be used or copied only in accordance with the terms of such license.

© Digital Equipment Corporation 1992.

The following are trademarks of Digital Equipment Corporation: DEC, DIGITAL, OpenVMS, VAX, and the DIGITAL logo.

This document was prepared using VAX DOCUMENT, Version 2.0.

Contents

Preface v

1 InfoServer Monitor Description

1.1 Devices Selected and Actions Taken 1–2
1.2 Event Logging 1–3
1.3 InfoServer Monitor Files 1–4

2 Installing InfoServer Monitor Software

2.1 Disk Space Requirements 2–1
2.2 Disk Mounting Requirements 2–1
2.3 Installation Procedure 2–1
2.3.1 Installation Questions 2–2
2.3.2 Informational Messages 2–3
2.3.3 Completing the Installation Procedure 2–3
2.3.4 Error Recovery 2–3

3 After Installing InfoServer Monitor Software

3.1 Starting InfoServer Monitor from the System Startup Procedure 3–1
3.2 Service Names 3–1

A Sample Installation

Index

Examples

1–1 InfoServer Monitor Log File 1–3

Tables

1–1 InfoServer Monitor Files 1–4

Preface

Purpose of This Guide

This guide explains how to install and use InfoServer Monitor software on processors that are running the OpenVMS operating system.

Keep this document with your distribution kit. You will need it to install maintenance updates or to reinstall InfoServer Monitor for any other reason.

Intended Audience

This guide addresses the system manager who installs and uses InfoServer Monitor software.

Document Structure

This guide is organized as follows:

- Chapter 1 describes InfoServer Monitor functions.
- Chapter 2 describes installation and error recovery procedures.
- Chapter 3 describes post-installation procedures.
- Appendix A shows an installation procedure listing.

Related Documents

The following documents provide information about the InfoServer system:

- *InfoServer System Operations Guide*
- *InfoServer 100 Installation and Owner's Guide*
- *InfoServer 150 Installation and Owner's Guide*
- *InfoServer Client for OpenVMS Utilities Manual*

Conventions

The following conventions are used in this guide:

UPPERCASE TEXT	Uppercase letters indicate that you must enter a command (for example, @SYS$UPDATE:VMSINSTAL).
`system output`	This typeface is used in interactive and code examples to indicate system output.
boldface text	This bold typeface is used in interactive examples to indicate typed user input.
Return	In procedures, a key name is shown enclosed to indicate that you press a key on the keyboard.

1
InfoServer Monitor Description

InfoServer services can become inaccessible for a number of reasons:

- **A compact disc is replaced with a new disc that has a different volume label.**

  When compact discs are routinely updated (for instance, Online Documentation Library Discs, OpenVMS software kits) the volume label changes with each new version. The InfoServer Monitor regularly checks volume labels and remounts disks using the new volume labels.

- **Connection is broken between OpenVMS client and InfoServer system**

  This condition can be caused by network failure, power outage, or by rebooting the InfoServer system. The InfoServer Monitor ensures that all InfoServer services are remounted after such events.

- **Data has been written to an InfoServer hard disk**

  When an InfoServer hard disk is accessed for write, all read connections are terminated. These connections must be manually reestablished using the OpenVMS command MOUNT. The InfoServer Monitor regularly checks InfoServer hard disks and remounts any disks that are found to be inaccessible because of a previous write access.

The InfoServer Monitor ensures that all InfoServer devices remain accessible to users when such events occur. As described in Section 1.1, the Monitor takes actions on specific devices and creates a log file like that shown in Example 1–1.

The Monitor runs as a detached process on each OpenVMS node on which InfoServer disk access is desired. The process is usually created during system startup by running the InfoServer Monitor startup procedure.

InfoServer services must be bound (using the OpenVMS LADCP utility) but do not need to be mounted. The InfoServer Monitor can handle all mounting of disks.

1.1 Devices Selected and Actions Taken

A device is selected for InfoServer Monitor action if all the following criteria are met:

- **The device name begins with DAD.**

  On OpenVMS systems, all InfoServer compact disc and hard disk device names begin with DAD.

- **The device is read-only.**

  A writable InfoServer device is one that has been created with the LADCP command BIND /WRITE. Mounting such a device would disconnect all read access to the service mounted under another device name, so the device should never be mounted systemwide. This condition would exist if someone had bound a service for write and had not yet mounted it or had logged off before unbinding the device.

- **The device is not allocated.**

  The InfoServer Monitor ignores any InfoServer device that is allocated to another user.

If these criteria are met, the InfoServer Monitor takes the following actions:

- **If the device is mounted**, InfoServer Monitor attempts a read of the device to determine whether it is accessible.
  - If the read fails, InfoServer Monitor remounts the device with the known volume label.
  - If the remount fails because the volume label is different, the device is mounted to find the new volume label and then mounted systemwide with the new volume label.
- **If the device is not mounted**, the disk is mounted to find the volume label and then mounted systemwide.

By default, InfoServer Monitor checks devices every ten minutes. If you want to change this interval, define the system logical name INFO_INTERVAL to be the number of minutes between checks. For example, if you want the Monitor to check every two minutes, define the logical name as follows:

```
$ DEFINE/SYSTEM INFO_INTERVAL 2
```

Note that because the Monitor checks the value of INFO_INTERVAL after each cycle, you can change the interval without having to stop and restart the Monitor.

1.2 Event Logging

InfoServer Monitor records device mounting and dismounting activity in a log file like that in Example 1–1.

Example 1–1 InfoServer Monitor Log File

```
InfoServer Monitor V1.3 ❶

28-FEB-1992 13:52:37  CDDOC02JAN21 mounted on _DAD2:  ❷
28-FEB-1992 13:52:48  CDDOC02JAN22 mounted on _DAD3:
28-FEB-1992 13:52:55  VMS_DOCS_HD mounted on _DAD4:
28-FEB-1992 13:53:03  CDBIN02JAN21 mounted on _DAD5:
28-FEB-1992 13:53:13  CDBIN02JAN22 mounted on _DAD6:
28-FEB-1992 13:53:20  CDBIN02JAN23 mounted on _DAD7:
28-FEB-1992 13:53:26  CDBIN02JAN24 mounted on _DAD8:
28-FEB-1992 13:53:32  VMS_KITS_HD1 mounted on _DAD9:
28-FEB-1992 13:53:38  VMS_KITS_HD2 mounted on _DAD10:
28-FEB-1992 13:53:45  NETWORK_DATA mounted on _DAD11:

29-FEB-1992 06:04:46  VMS_DOCS_HD dismounted from _DAD4:  ❸
29-FEB-1992 06:04:50  VMS_DOCS_HD mounted on _DAD4:

11-MAR-1992 19:15:17  CDBIN02JAN21 dismounted from _DAD5: ❹
11-MAR-1992 19:15:28  CDBIN04MAR21 mounted on _DAD5:
11-MAR-1992 19:15:43  CDBIN02JAN22 dismounted from _DAD6:
11-MAR-1992 19:16:12  CDBIN04MAR22 mounted on _DAD6:
11-MAR-1992 19:16:27  CDBIN02JAN23 dismounted from _DAD7:
11-MAR-1992 19:16:48  CDBIN04MAR23 mounted on _DAD7:
11-MAR-1992 19:17:03  CDBIN02JAN24 dismounted from _DAD8:
11-MAR-1992 19:17:23  CDBIN04MAR26 mounted on _DAD8:
```

❶ InfoServer Monitor software version running on the system.

❷ The next ten lines show ten InfoServer devices, bound with LADCP during system startup, that are being mounted by the InfoServer Monitor.

❸ These two lines show an InfoServer hard disk service being dismounted and remounted after a write access.

❹ The remaining lines show four compact discs being remounted with new volume labels after a new versions of OpenVMS Consolidated Distribution compact discs are placed in InfoServer drives.

1.3 InfoServer Monitor Files

Table 1–1 lists files included in the InfoServer Monitor kit and created on your system.

Table 1–1 InfoServer Monitor Files

File	Description
INFOSERVER_MONITOR.BAS†	VAX BASIC source code
INFOSERVER_MONITOR.COM† ‡	DCL command procedure to run Monitor
INFOSERVER_MONITOR.EXE‡	Executable InfoServer Monitor
INFOSERVER_MONITOR.LOG‡	Log of Monitor activities
INFOSERVER_MONITOR.INCLUDE†	VAX BASIC include file
INFOSERVER_MONITOR.OBJ†	VAX BASIC object code
INFOSERVER_MONITOR_STARTUP.COM† ‡	DCL command procedure to start Monitor at system startup
KITINSTAL.COM†	VMSINSTAL installation procedure

†Included in kit
‡Created on system

If you want to modify source code files, you can extract the files from the savset supplied in the [INFOMON.KIT] directory.

2

Installing InfoServer Monitor Software

This chapter describes installation prerequisites and explains how to install InfoServer Monitor software.

2.1 Disk Space Requirements

Installing the Monitor requires 27 blocks of disk storage on the system disk. Additional minimal space is needed for the log file after the Monitor starts to run. Space used by the log file depends on how much activity the Monitor performs but would typically be a few blocks per day.

2.2 Disk Mounting Requirements

If you mount InfoServer devices before starting the InfoServer Monitor, specifiy the /NOMOUNT_VERIFY qualifier to the OpenVMS command MOUNT. This qualifier enables quick determination of which devices need to be remounted. The InfoServer Monitor always mounts devices with mount verification disabled.

2.3 Installation Procedure

The installation procedure consists of a series of questions and informational messages and should take less than five minutes.

To start the installation, you invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account.

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

The following example displays the command to invoke VMSINSTAL to install InfoServer Monitor from tape drive MUA0: and the system response.

```
$ @SYS$UPDATE:VMSINSTAL

      VAX/VMS Software Product Installation Procedure Vn.n-n

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

2.3.1 Installation Questions

This section discusses the questions that appear during the installation. See Appendix A for a sample installation procedure.

Each question in the installation is marked with an asterisk (*) at the beginning of the line. Some questions show the default response in brackets, for example [YES]. If you want to give the default response, press the RETURN key.

1 System backup

VMSINSTAL asks if you are satisfied with your system backup. If you are satisfied with the backup of your system disk, press RETURN. Otherwise, enter NO to discontinue the installation. Because only three files are added to the system startup directory, there is no need to perform a system backup before the installation.

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

2 Device name

The device where the InfoServer Monitor kit is located. Specify the tape name or disk and directory where the kit is located. You may also specify a logical name pointing to that device or directory. For example, if the InfoServer Monitor kit is on InfoServer device DAD2, use DAD2 as the device-name.

```
* Where will the distribution volumes be mounted: DAD2
```

3 Product name

Enter the name of the product you are installing. Enter INFOMON.

VMSINSTAL displays the list of products that you have chosen.

```
Enter the products to be processed from the first distribution volume set:
* Products: INFOMON
```

4 Options

For information on additional VMSINSTAL options, see the OpenVMS documentation on Software Installation.

- Choosing installation options

```
* Enter installation options you wish to use (none): Return
```

VMSINSTAL now begins the installation procedure.

```
The following products will be processed:
  INFOMON Vn.n

    Beginning installation of INFOMON Vn.n at hh:mm

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

- Choosing to purge files

  You have the option to purge files from previous versions of InfoServer Monitor that are superseded by this installation. Purging is recommended; however, if you need to keep files from the previous version, enter NO in response to the question.

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

2.3.2 Informational Messages

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

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

2.3.3 Completing the Installation Procedure

The following messages indicate that the entire installation procedure is complete:

```
   Installation of INFOMON Vn.n completed at hh:mm

   VMSINSTAL procedure done at hh:mm
```

You can now log out of the privileged account:

```
$ LOGOUT
SYSTEM     logged out at dd-mmm-yyyy hh:mm:ss.ss
```

2.3.4 Error Recovery

If errors occur during the installation, VMSINSTAL displays the following failure message:

```
%VMSINSTAL-E-INSFAIL, The installation of INFOMON Vn.n has failed.
```

Errors can occur during the installation if any of the following conditions exist:

- The operating system version is incorrect.
- A prerequisite software version is incorrect.

- Quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, you should take the appropriate action as described in the message. For example, you might need to change a system parameter or increase an authorized quota value.

3

After Installing InfoServer Monitor Software

This chapter describes operations you perform after installing InfoServer Monitor software.

3.1 Starting InfoServer Monitor from the System Startup Procedure

The InfoServer Monitor installation procedure starts the Monitor but does not provide for automatic startup of the Monitor when your system reboots.

The InfoServer Monitor installation places the InfoServer Monitor system startup file INFOSERVER_MONITOR_STARTUP.COM in the SYS$MANAGER directory. To start the Monitor with each system reboot, proceed as follows:

- If you start up your system with the SYSMAN utility, enter the following commands:

```
$ RUN SYS$SYSTEM:SYSMAN
SYSMAN> STARTUP ADD FILE SYS$MANAGER:INFOSERVER_MONITOR_STARTUP.COM
SYSMAN> EXIT
```

- Otherwise, add the following line to SYS$MANAGER:SYSTARTUP_V5.COM or the appropriate startup command procedure at your site:

```
$ @SYS$MANAGER:INFOSERVER_MONITOR_STARTUP
```

3.2 Service Names

By default, the InfoServer system creates service names for most volumes, using the volume label (for example, CDDOC04MAR21) as the service name. Specifying a generic service name for the volume (for example, VMSDOC) allows the same service name to be used when the volume label changes. See the *InfoServer System Operations Guide* for information about the CREATE SERVICE command.

After Installing InfoServer Monitor Software
3.2 Service Names

When used in conjunction with generic service names, InfoServer Monitor frees you from the need to know the volume labels of any InfoServer devices.

To take advantage of this feature, remove from your system startup procedure any commands that mount InfoServer devices. Because the Monitor mounts all InfoServer devices it finds, you need only enter LADCP BIND /SYSTEM commands. This feature saves time during system startup and eliminates the need to hard-code volume labels in your system startup procedures.

A

Sample Installation

```
$ @SYS$UPDATE:VMSINSTAL

        VAX/VMS Software Product Installation Procedure V5.5

It is 6-MAR-1992 at 12:35.

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

%VMSINSTAL-W-ACTIVE, The following processes are still active:
        NIXON
        FORD
        CARTER
        REAGAN
        BUSH
* Do you want to continue anyway [NO]? Y
* Are you satisfied with the backup of your system disk [YES]? Return
* Where will the distribution volumes be mounted: kits:[infomon013] Return

Enter the products to be processed from the first distribution volume set.
* Products: infomon
* Enter installation options you wish to use (none): Return

The following products will be processed:

  INFOMON V1.3


        Beginning installation of INFOMON V1.3 at 12:36

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

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

        All questions necessary for the installation
        of INFOMON V1.3 have been answered

%INFOMON-I-LINK, Linking InfoServer Monitor image...

        The following command should be inserted in the system startup
        command procedure SYS$MANAGER:SYSTARTUP_V5.COM or the appropriate
        command procedure for your site:

                @SYS$MANAGER:INFOSERVER_MONITOR_STARTUP

        Or, you may use SYSMAN to start the InfoServer Monitor:
```

Sample Installation

```
                $ RUN SYS$SYSTEM:SYSMAN
                SYSMAN> STARTUP ADD FILE INFOSERVER_MONITOR_STARTUP.COM
                SYSMAN> EXIT

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

Starting InfoServer Monitor...
%RUN-S-PROC_ID, identification of created process is 00004EBB

        Installation of INFOMON V1.3 completed at 12:38

Enter the products to be processed from the next distribution volume set.
* Products:  Return

        VMSINSTAL procedure done at 12:38
```

Index

C

Check interval
  adjusting, 1–2

D

Device
  actions taken, 1–2
  mounting, 2–1
  selection criteria, 1–2
Disk
  mounting, 2–1
Disk space requirements, 2–1

E

Error recovery, 2–3
Event logging, 1–3

F

Files included in kit, 1–4

I

Installation
  aborting, 2–1
  completing, 2–3
  disk mounting requirements, 2–1
  disk space requirements, 2–1
  questions, 2–2
  sample listing, A–1
  starting, 2–1
  time needed, 2–1

M

Messages, 2–3
MOUNT command, 2–1
  mount verification, 2–1
  /NOMOUNT_VERIFY qualifier, 2–1
Mounting devices, 2–1

S

Service name, 3–1
Starting InfoServer Monitor, 3–1

V

Volume label, 3–1