

Version 5.0-1 Cover Letter

AV-LX25A-TE

Dear Customer,

VMS Version 5.0-1 is the first maintenance update to VMS Version 5.0. The "-1" part of the version number indicates that this is a maintenance release that contains no new functionality. VMS Version 5.0-1 updates can only be made to systems running VMS Version 5.0. VMS Version 5.0-1 also supports a rolling update in which Version 4.7 and Version 5.0-1 systems coexist in a VAXcluster environment.

Store this cover letter and the attached update procedure in the binder that contains the *VMS Version 5.0 Release Notes*.

Kit Contents

Enclosed are the VMS Version 5.0-1 media. Attached to this letter are instructions on how to update to VMS Version 5.0-1. The *VMS Version 5.0-1 Release Notes* are included on the distribution media. During the update, the procedure displays the following menu:

Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. Copy release notes to SYS\$HELP
5. Do not display, print, or copy release notes

* Select option [2]:

* Do you want to continue the installation?

This menu allows you to do the following:

- Display the release notes at the console terminal.
- Print the release notes on a line printer
- Copy the release notes to the SYS\$HELP directory on the system disk.

To read the release notes without updating your system (either before or after the update), choose an option from the menu and type NO when the procedure asks if you want to continue. Regardless of the method you choose, DIGITAL recommends that you read the *VMS Version 5.0-1 Release Notes* before using your updated system.

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Updating to Version 5.0-1

This document describes how to update to Version 5.0-1 of the VMS operating system.

1.1 The Version 5.0-1 Kit

The VMS Version 5.0-1 update kit consists of patches, documentation, and replacement files. The update kit is available on the following distribution media:

- One nine-track, 1600 bpi magnetic tape
- Two RX50 diskettes
- One RX33 diskette
- Four RX01 diskettes
- Four TU58 cassettes
- One TK50 tape cartridge
- One CDROM

Save set A on the distribution media contains fixes to the VMS operating system and the *VMS Version 5.0-1 Release Notes*.

1.1.1 Requirements

Before you update to Version 5.0-1 of the VMS operating system, make sure the following conditions exist:

- The system disk you want to update is running VMS A5.0, B5.0, or V5.0.
- The Version 5.0 mandatory update has been installed.

The amount of time it takes to update your system depends on the type of media you use. The following are approximate times for updating one system disk:

- Magnetic tape-15 minutes
- Two RX50 diskettes-20 minutes
- One RX33 diskette-15 minutes
- Four RX01 diskettes-40 minutes
- Four TU58 cassettes-two hours
- One TK50 tape cartridge-20 minutes

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1.2 Preparing to Update Your System

1.2

Preparing to Update Your System

This section describes what you must do before you can update to Version 5.0-1. Before performing the update, you should read this entire section.

To prepare your system for the update, use the following procedure:

- 1 Make sure the system disk has enough free blocks. The VMS Version 5.0-1 update procedure requires 5000 free blocks on the system disk (peak disk block utilization). Enter the following command and press RETURN:

```
$ SHOW DEVICE SYS$SYSDEVICE:
```

If you do not have 5000 free blocks on the system disk, create some free space on the system disk by doing the following:

- a. Log into an account that has sufficient privileges to create space on the system disk. DIGITAL recommends that you use an account other than the SYSTEM account, because the SYSTEM account has all privileges and is intended only for installing software, booting, and diagnosing system problems.
 - b. Delete or purge all unwanted files from the system disk.
 - c. If there still is not enough available space, copy the following files to another disk or tape and delete them from the system disk:
 - All files with file types of JNL, MAP, and LOG
 - All files in the [SYSHLP.EXAMPLES] and [SYSTEMTEST] directories
- 2 Back up and restore the system disk. Backing up the system disk preserves the original system disk in case the update fails. Restoring the system disk improves disk performance by storing all files contiguously and making all free disk space contiguous.

CAUTION: If you do not back up the system disk, a system failure at a critical point in the update procedure might ruin the contents of the disk.

To back up the system disk, do the following:

- a. If an additional drive with an unused disk of equal capacity is available, you can perform a disk-to-disk backup using the Backup Utility. If you choose to do this, use the backup copy as the system disk during the update. The files on the backup copy are stored contiguously.
- b. If no drive with a disk of equal capacity is available, you must back up the system disk to whatever media is available using standalone BACKUP (see the installation and operations guide for your VAX computer). After you back up the system disk, do the following:
 - If the system disk is removable, remove it and insert a scratch disk in the drive. Restore the backup copy to the scratch disk (see the installation and operations guide for your VAX computer). This creates a working copy of the system disk. Use the working copy as the system disk for the update and save the original system disk.

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1.2 Preparing to Update Your System

- If the system disk is not removable, you must use the original system disk for the update. However, you should restore the backup copy to the system disk before performing the update. By restoring the system disk, you ensure that there is enough contiguous free space on the disk.
- 3 Because you apply the update from the SYSTEM account, you must make sure that the SYSTEM account has sufficient quotas and limits. To confirm the quotas and limits of the SYSTEM account, use the following procedure:

- a. Log into the SYSTEM account.
- b. Run the Authorize Utility (AUTHORIZE) by entering the following commands:

```
$ SET DEFAULT SYSS$SYSTEM
$ RUN AUTHORIZE
UAF> SHOW SYSTEM
```

- c. Compare the SYSTEM account's limits and quotas to the following values:

Open file quota (Fillm)	40
Buffered I/O limit (BIOlm)	18
Direct I/O limit (DIOlm)	18
AST limit (ASTlm)	24
Enqueue quota (Enqlm)	200
Buffered byte quota count (Bytlm)	32768

- d. Adjust the limits and quotas, as needed, to ensure that they are equal to or greater than the required values. You can change each value by entering a command in the following format:

```
UAF> MODIFY SYSTEM/limit=new_value
```

For example:

```
UAF> MODIFY SYSTEM/DIOLM=18
```

- e. Enter the following command and press RETURN:

```
UAF> EXIT
```

If you adjusted any of the SYSTEM account's values, log out and log in again so that the new values take effect.

- 4 The update procedure requires at least 10 unused global sections and 50 unused global pages. To make sure that sufficient unused global sections and global pages are available, use the following procedure:

- a. Display the number of *unused* global pages by entering the following command:

```
$ WRITE SYSS$OUTPUT F$GETSYI("FREE_GBLPAGES")
```

- b. Display the number of *unused* global sections by entering the following command:

```
$ WRITE SYSS$OUTPUT F$GETSYI("FREE_GBLSECTS")
```

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- c. If the number of unused global sections is less than 10, add the following line to SYS\$SYSTEM:MODPARAMS.DAT:

```
ADD_GBLSECTIONS = 10
```

- d. If the number of unused global pages is less than 50, add the following line to SYS\$SYSTEM:MODPARAMS.DAT:

```
ADD_GBLPAGES = 50
```

- e. If you added a line to MODPARAMS.DAT to modify either the GBLPAGES or GBLSECTIONS parameters, run AUTOGEN as follows:

```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS REBOOT
```

This command runs AUTOGEN, shuts down and reboots the system. After the system reboots, log into the SYSTEM account.

- 5 Make sure that you are the only user logged into the system during the update by doing the following:

- a. Notify current users that they must log out.
- b. Prevent new users from logging in by entering the following command:

```
$ SET LOGINS/INTERACTIVE=0
```

- 6 If your system is running DECnet-VAX software, shut it down. If you are not sure whether your system includes DECnet-VAX software, enter the following command and press RETURN:

```
$ SHOW NETWORK
```

If the system displays the following message, skip to the next step:

```
%SHOW-I-NONET, network unavailable
```

If your system includes DECnet-VAX software, shut it down by entering the following commands:

```
$ RUN SYS$SYSTEM:NCP  
NCP> SET EXECUTOR STATE OFF  
NCP> EXIT
```

- 7 If your system has batch and print queues running, shut them down by doing the following:

- a. Determine the state of all system queues by entering the following command:

```
$ SHOW QUEUE/DEVICE/BATCH/FULL/ALL
```

- b. Stop each active queue by entering the following command:

```
$ STOP/QUEUE/NEXT queue_name
```

The NEXT qualifier allows the current job to complete before the system stops the queue. If the current job will take a long time to complete, you might want to ask the person who submitted the job if it is safe to stop it prior to completion.

1.3 How to Proceed

- To update a system that is part of a VAXcluster environment, go to Section 1.4.
- To update a standalone system, go to Section 1.5.

1.4 Updating VAXcluster Environments

To update a VAXcluster environment (either CI-only, mixed-interconnect, or local area), use the procedure in Section 1.4.1, unless you have one of the following configurations:

- A mixed-version VAXcluster environment (one that combines Version 4.7 and Version A5.0 systems). If you have this type of configuration, follow the instructions in Section 1.4.2.
- A local area VAXcluster environment with one boot server and two system disks. If you have this type of configuration, follow the instructions in Section 1.4.3.

1.4.1 VAXcluster Environments With Version 5.0 System Disks

Use the following procedure to update VAXcluster environments (not including mixed version VAXclusters and local area VAXclusters with one boot server and two system disks):

- 1 Make sure that you have prepared your system for the update, as described in Section 1.2.
- 2 Log into the SYSTEM account on a node that uses the system disk that you are updating.
- 3 Update to Version 5.0-1 using the instructions in Section 1.5.
- 4 If the VAXcluster environment uses several system disks, repeat steps 1 through 3 for each system disk that you are updating.
- 5 When you finish updating each Version 5.0 system disk, reboot the nodes that use the updated system disk(s). When each system reboots, it will be running Version 5.0-1 of the VMS operating system.
- 6 Follow the steps in Section 1.6.

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1.4 Updating VAXcluster Environments

1.4.2 Mixed-Version VAXcluster Environments—Rolling Update

You use a rolling update when a VAXcluster environment has several nodes running different versions of the VMS operating system. Since you apply the update only to certain system disks, the systems that are not being updated remain available to users.

A rolling update is *not* applicable when all systems boot from a single system disk. If all systems boot from a single system disk, you must follow the instructions in Section 1.4.1.

Version A5.0 of the VMS operating system can coexist in a VAXcluster environment with Version 4.7 of the VMS operating system. The Version 5.0-1 rolling update produces an A5.0-1 system that can coexist in VAXcluster with a Version 4.7 system. During the Version 5.0-1 rolling update, the Version 4.7 systems are available to users.

Versions A5.0-1 and 4.7 should be intermixed in VAXcluster environments only to update the various systems in the cluster incrementally and test newly installed operating systems on VAXcluster members.

While the two versions of the VMS operating system are operating in a cluster, consider the following factors:

- When a VMS Version A5.0-1 system boots in a VAXcluster environment that includes a Version 4.7 system, the console displays the following informational message:

```
%CSP-I-DIFSWVER, different versions of VAX/VMS exist in cluster
```
- You should complete the upgrade from Version 4.7 to Version 5.0 and then update to Version 5.0-1 on all the systems in the cluster as quickly as possible.

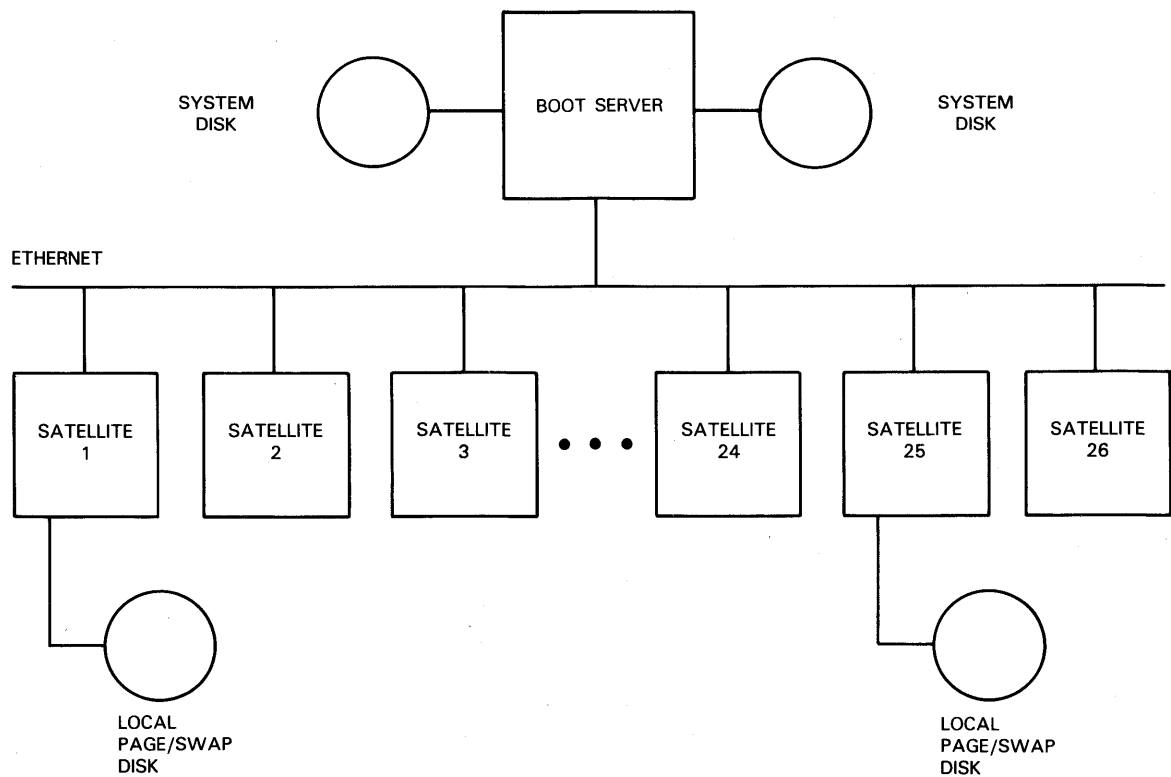
To perform a rolling update, complete the following steps:

- 1 Make sure you have prepared your system for the update, as described in Section 1.2.
- 2 Log into the SYSTEM account on a node that uses the system disk that you are updating.
- 3 Update Version 5.0-1 as described in Section 1.5. Note that while you update the system, users can remain logged into any Version 4.7 systems in the VAXcluster environment.
- 4 If your system has several Version 5.0 system disks, repeat steps 1 through 3 for each system disk that you are updating.
- 5 When you finish updating each Version 5.0 system disk, reboot the nodes that use the updated system disk. When each system reboots, it will be running Version 5.0-1 of the VMS operating system.
- 6 Follow the steps in Section 1.6.

1.4.3 Local Area VAXclusters with One Boot Server and Two System Disks

Figure 1-1 shows a local area VAXcluster with one boot server and two system disks.

Figure 1-1 Local Area VAXcluster with One Boot Server and Two System Disks



ZK-6165-HC

To update a local area VAXcluster with one boot server and two system disks, do the following:

- 1 Log into the **SYSTEM** account on the boot server.
- 2 Follow the steps in Section 1.2 to prepare your system for the update.
- 3 Apply the Version 5.0-1 update, as described in Section 1.5.
- 4 The first system disk is updated. To update the second disk, follow these steps:
 - a. Log into the **SYSTEM** account on a satellite node that runs off the second system disk.
 - b. Update to Version 5.0-1 as described in Section 1.5.
- 5 Reboot the remaining satellite nodes, one at a time.
- 6 Follow the steps in Section 1.6.

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1.5 Applying the Version 5.0-1 Update

1.5

Applying the Version 5.0-1 Update

To apply the Version 5.0-1 update kit, perform the steps in this section.

- 1 To start the VMSINSTAL command procedure, enter the following command and press RETURN:

```
$ @SYS$UPDATE:VMSINSTAL VMSU1050 source-drive: OPTIONS N
```

Where *source-drive*: is the device name of the drive that will hold the update distribution media. If the source-drive is an HSC drive, precede the device name with an HSC name and a dollar-sign (\$). For more information about the format of device names on your system, see the installation and operations guide for your VAX computer.

For example, if your distribution media is a TU80 magnetic tape drive on controller A with unit number 0, enter the following command and press RETURN:

```
$ @SYS$UPDATE:VMSINSTAL VMSU1050 MUA0: OPTIONS N
```

If you are updating from a TA80 magnetic tape drive connected to an HSC named VICE on controller A with unit number 0, enter the following command and press RETURN:

```
$ @SYS$UPDATE:VMSINSTAL VMSU1050 VICE$MUA0: OPTIONS N
```

If the VMSINSTAL command fails, determine whether either of the following conditions occurred:

- If VMSINSTAL displays the following message, you probably specified the letter "O" in the product name "VMSU1050" instead of zeros:

```
%VMSINSTAL-E-NOPRODS, None of the specified products were found
```

- If VMSINSTAL displays an "invalid device" error message, it prompts for a device name until you specify the correct name of a device existing on the system. Remember to put a colon (:) after the device name.

When the command succeeds, VMSINSTAL displays the following message:

```
VAX/VMS Software Product Installation Procedure V5.0
```

```
It is (date) at (time).
```

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

- 2 As the update procedure begins, VMSINSTAL displays the following prompt:

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

If you backed up the system disk, press the RETURN key and continue.

If you have not yet backed up your system disk, do the following:

- a. Type NO and press the RETURN key. VMSINSTAL returns to DCL level to permit you to perform the backup.
- b. Back up and restore your system disk (see step 2 of Section 1.2).

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1.5 Applying the Version 5.0-1 Update

- c. When the backup is completed, restart the update procedure at step 1.

VMSINSTAL might request additional information from you or display messages. For instance, if you did not specify a device name in the command that invoked VMSINSTAL in step 1, VMSINSTAL prompts for the name of the device holding the distribution media:

* Where will the distribution volume be mounted:

If prompted, enter the device name of the device that will hold the distribution media during the update.

- 3 VMSINSTAL displays the following prompt:

Please mount the first volume of the set on ddcu:.

* Are you ready?

Put the distribution media on the appropriate drive and put the drive on line.

- 4 Type Y (for YES) and press RETURN.

VMSINSTAL then displays the following messages and prompt:

%MOUNT-I-MOUNTED, VMSU1 mounted on _ddcu:
The following products will be processed:

VMSU1 V5.0

Beginning installation of VMSU1 V5.0 at (time)

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

- 5 If the distribution kit consists of only one piece of media, skip to the next step. If the distribution kit consists of several volumes, the procedure asks you to remove the volume that is in the drive, and insert the next one. For example:

%BACKUP-I-READYREAD, mount volume 2 on _ddcu: for reading
Enter "YES" when ready:

Each time the procedure asks you, remove the volume in the drive and insert the next one.

- 6 The procedure displays the following message:

Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. Copy release notes to SYS\$HELP
5. Do not display, print or copy release notes

* Select option :

Enter a number from 1 to 5, depending on whether you want the release notes displayed, printed, or copied.

The system displays the following message:

Do you want to continue the installation?

If you are want to continue the with the update, type Y (for YES) and press RETURN. If you only want a copy of the release notes, type N (for NO) to abort the update procedure.

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1.5 Applying the Version 5.0-1 Update

- 7 VMSINSTAL begins to apply the update to the system disk and displays the following message:

```
Installing VMS 5.0-1 update to a 5.0 system
*Do you want to purge files replaced by this installation [YES]?
```

If you want to purge files replaced by the update, press RETURN. If you do not want to purge these files, type NO and press RETURN.

- 8 The procedure displays the following messages:

```
Now applying the updates...
```

```
A description of these changes is in SYS$UPDATE:VMSU1050.TXT
```

```
.
.
.
```

Make sure that the last (or only) volume of the update media remains mounted until the update is completed.

Note: When updating a tailored system, some files might not be present. Because the Version 5.0-1 update might attempt to repair these files, you should do the following:

- Ignore any "file not found" error messages that appear during the application of the Version 5.0-1 update.
- If you use VMSTAILOR to restore these files at any time, reapply the Version 5.0-1 update after restoring the files. You can do this by entering the following command:

```
$ @SYS$UPDATE:VMSINSTAL VMSU1050
```

If you are updating a tailored system or reapplying the update, the procedure displays the following message:

```
*VMS-E-ERRORS, Of the nn fixes listed above, the following nn should be
reviewed
```

Ignore this message if you are updating a tailored system or if you are reapplying the update.

- 9 VMSINSTAL creates a journal file (with a JNL file type) for each image that is patched during the update process. (See Section 1.7 for additional information on the JNL files produced by the Version 5.0-1 update.)

When VMSINSTAL completes the update, it displays the following message:

```
Installation of VMSU1 V5.0 completed at (time)
VMSINSTAL procedure done at (time)
```

1.6 Tasks to Perform After the Version 5.0-1 Update

After you update to Version 5.0-1, DIGITAL recommends that you perform the following tasks:

- 1 If you have a standalone system, manually reboot the system as described in the installation and operations guide for your VAX computer. If you have a VAXcluster environment, you should already have booted the nodes that use the newly updated Version 5.0-1 system disk(s).
- 2 Log into the SYSTEM account.
- 3 After the update you will notice that the size of the system disk increased by as much as 4500 blocks (net disk block utilization). Using the following procedure, you can recover all but approximately 50 blocks of this space:

- a. Confirm the free block count by entering the following command:

```
$ SHOW DEVICE SYS$SYSDEVICE:
```

- b. To purge files which the update procedure could not, enter the following command and press RETURN:

```
$ @SYS$UPDATE:VMSU1050-PURGE.COM
```

- c. You can also use the Verify Utility to determine if the update procedure purged files incompletely.

The Verify Utility determines if there are any inconsistent files on a disk. To determine if your system disk contains any partially-purged files, use the following command:

```
$ ANALYZE/DISK_STRUCTURE ddcu:
```

Where *ddcu* is the device name of the system disk.

The Verify Utility displays the following error message if files were purged incompletely:

```
*VERIFY-I-DELHEADER, file 'file-header' 'file-name' marked for delete
```

If the Verify Utility displays this error, use the following command to repair your system disk:

```
$ ANALYZE/DISK_STRUCTURE ddcu:/REPAIR
```

Where *ddcu* is the device name of the system disk.

For more information, see the *VMS Analyze/Disk_Structure Utility Manual*.

- d. If you modified the values of GBLSECTIONS and GBLPAGES in step 4 of Section 1.2, you might want to restore the old values at this time. To restore the old values of these parameters, edit SYS\$SYSTEM:MODPARAMS.DAT and delete the ADD_GBLSECTIONS and ADD_GBLPAGES lines.
- e. Run the AUTOGEN procedure to adjust system parameters. If you updated a system disk that is part of a VAXcluster environment, you should run AUTOGEN on each node that uses the updated system disk. To run AUTOGEN, shut down and reboot the system, enter the following command and press RETURN:

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```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS REBOOT
```

For more information on the AUTOGEN procedure and the MODPARAMS.DAT file, see the *Guide to Setting Up a VMS System*.

1.7

Printing Patches Applied by the Update Kit

If you select option 4 in step 4 of Section 1.5, VMSINSTAL copies the *VMS Version 5.0-1 Release Notes* from the distribution media to the file SYS\$HELP:VMSU1050.TXT. You can either display the *VMS Version 5.0-1 Release Notes* at a terminal or print them on a line printer.

If you want a listing of the patches produced by the update process, you can print the journal files by logging into any account that has SYSPRV privilege and entering the following command:

```
$ PRINT SYS$SYSTEM:*.JNL, SYS$LIBRARY:*.JNL, SYS$LOADABLE_IMAGES:*.JNL
```