

Tru64 UNIX

Setting Up and Using the Diskette Drive

December, 2000

This Best Practice describes how to set up the Diskette drive in order to use the DOS Tools application.

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Setting Up and Using the Diskette Drive

This Best Practice describes how to set up the Diskette drive in order to use the DOS Tools application.

See the Tru64 UNIX Best Practices Web page for more information about Best Practices documentation.

Is This Best Practice Right for You?

Not all Best Practices apply to all configurations, so you must be sure that it is appropriate for your system and circumstances. To use this Best Practice, you must meet the requirements described in the following table:

Requirement	Description
Operating System Software	<ul style="list-style-type: none">• Tru64 UNIX Version 5.0 or higher• The optional <code>OSFDOSTOOLS</code> software subset must be installed.
Media	<ul style="list-style-type: none">• Preformatted (for DOS) diskette, 1.44MB, 2HD, write enabled.
Impact on Availability	<ul style="list-style-type: none">• The system will be temporarily unavailable while any optional procedure is taking place at the console level.
Assumptions	<ul style="list-style-type: none">• The instructions assume that your system is equipped with a single diskette drive.• The instructions assume that your system's diskette drive is not a SCSI device.• Some instructions assume that your system is equipped with a graphical display device.

Before You Begin

Before you apply this Best Practice, you must understand some background information and be prepared to answer several questions.

Be Prepared to Answer these Questions

Before setting up the diskette drive, prepare yourself to answer the following questions:

- Is the OSFDOSTOOLS software subset installed on your system?
- What is the device name of the diskette drive?
- Is `/usr/bin/mttools` referenced in your PATH environment variable?
- Do you have a diskette that is preformatted for DOS?

Determining whether the OSFDOSTOOLS software subset is loaded

Enter the `setld` command to verify the installation of the optional OSFDOSTOOLS`nnn` subset; `nnn` indicates the operating system revision.

```
$ /usr/sbin/setld -i | grep DOSTOOLS
```

A message that includes the phrase `not installed` indicates that the OSFDOSTOOLS software subset is not installed. Use the `setld -l` command to install the OSFDOSTOOLS software subset. See `setld(8)` for more information.

Determining the name of the diskette drive

The name of the diskette drive device at the console level differs from the operating system device name.

At the Operating System Level

Determine the name of your system's devices by using the `ls` command, for example,

```
$ cd /dev
$ ls -lF disk/floppy*
```

The diskette drive file is `/dev/disk/floppy`. It also is represented by `/dev/disk/floppy0a` and `/dev/disk/floppy0c`.

At the Console Level

See the hardware documentation that came with your system for the name of the diskette drive device at the console level. Here is a method for determining the console level device name if the hardware documentation is not available. The system will be unavailable during the time it takes for this method.

1. As root, shut down and halt the system. Remember to give the users enough time to log off.

```
# shutdown -h +15 "system going down"
```

Eventually, you will see the console prompt, >>>.

2. Enter the `show device` command.

```
>>>show device | more
```

Your output should be similar to the following:

```
dkb0.0.0.12.0      DKB0      COMPAQ BD009222C7 B016
dqa0.0.0.107.0     DQA0      Compaq   CRD-8322B  1.07
dva0.0.0.0.0       DVA0
ewa0.0.0.0.3.1     EWA0      08-00-2B-86-75-8D
pka0.7.0.6.1       PKA0      SCSI Bus ID 7  5.57
pkb0.7.0.12.0      PKB0      SCSI Bus ID 7
```

3. Locate the device that has only two columns of information. In this example, it is `DVA0`. The device names at the console level are case insensitive. Typically, the diskette drive is named `DVA0`.
4. Return the system to multiuser mode by rebooting.

```
>>>boot -fl a
```

Determining whether `PATH` includes `mtools`

The directory for the DOS Tools applications is `/usr/bin/mtools`. Unless this directory is referenced in the environment variable `$PATH` (for Bourne and Korn shells) or `$path` (for the C Shell).

1. Enter the following command to determine which shell you use:

```
$ echo $SHELL
```

If the result is:	You are using this shell:
<code>/bin/sh</code>	Bourne shell
<code>/bin/csh</code>	C shell
<code>/bin/ksh</code>	Korn shell

2. For the Bourne and Korn shells and their variants, enter the following command:

```
$ echo $PATH
```

For the C shell and its variants:

```
% echo $path
```

3. Look for the output for the `/usr/bin/mtools` directory in the output. You may skip the remaining instructions if `/usr/bin/mtools` is in the `PATH`.

4. Change to your home directory by using the `cd` command.

```
$ cd
```

5. Use the `grep` command to find which file sets your `PATH` environment variable.

```
$ grep -i PATH .*
```

6. Edit the file where your `PATH` variable is defined to include the `/usr/bin/mttools` directory. Typically, this is the `.profile` file if you use the Bourne or Korn shell and the `.login` file if you use the C shell.
7. For Bourne and Korn shells, edit the text that sets the `PATH` variable, as shown in the following example:

Before `/bin:/usr/bin:/usr/bin/X11`

After `/bin:/usr/bin:/usr/bin/X11:/usr/bin/mttools`

For the C shell, edit the text that sets the `PATH` variable, as shown in the following example:

Before `/bin /usr/bin /usr/bin/X11`

After `/bin /usr/bin /usr/bin/X11 /usr/bin/mttools`

8. The `PATH` variable now includes the `mttools` directory for all future logins by the user.
9. Exit the current window and start a new one.

Applying the Best Practice

Before you set up the diskette drive, be sure to follow the recommendations in *Before You Begin*.

Follow this procedure:

1. Log in as root.
2. Change directory to `/dev/disk`.

```
# cd /dev/disk
```
3. Remove the file `floppy` if it exists.

```
# rm floppy
```
4. Create a symbolic link as shown if the file `/dev/disk/floppyc` exists on your system.

```
# ln -s floppy0c floppy
```

Continue with step 8 if you successfully completed this step; otherwise, continue with the next step.

5. Change directory to `/dev`.

```
# cd /dev
```

6. Create a device named `fd0`.

```
# ./MAKEDEV fd0
MAKEDEV: Special file(s) for fd0:
fd0a rfd0a fd0c rfd0c
```

See the Troubleshooting section if you could not make the special files for `fd0`.

7. Create a symbolic link from `/dev/rfd0c` to `/dev/disk/floppy`.

```
# ln -s /dev/rfd0c /dev/disk/floppy
```

8. Change the permissions of the `/dev/disk/floppy` file so that users can access the diskette drive.

```
# chmod ugo+rwx floppy
```

9. Log in as a non-root user.
10. Verify the success of the Best Practice.

Using the Diskette Drive

Now that the diskette drive is set up, you can use it in several ways:

- DOS Tools Graphic User Interface

The DOS Tools application has a rich set of commands that let you can store and retrieve files on a diskette easily, label a diskette volume, and format diskettes. This interface lets you transfer files to the diskette from the system and back. See the online help, `dxmtools(1)` reference page, and `mtools(1)` reference page for more information.

- Text based DOS Tools applications

All the tasks described in the previous paragraph are available from the command line interface. See `mtools(1)` for more information.

- Storage device for console commands

If necessary, you can redirect the output of console commands to the diskette drive, storing information on an FAT (File Allocation Table) formatted diskette. This is also a good method for testing the health of the diskette drive. Examples include the following.

Saving a record of the boot sequence

- Writing the system configuration record
- Creating a list of system devices.

You can read the contents of a diskette file either by using the DOS Tools applications when the system is in multiuser mode or directly from the console prompt (>>>) . The next few examples show how to interact with the diskette drive from the console level. As root, you first must bring your system down to the console level with the `shutdown` command. Remember to give the users enough time to log off.

```
# shutdown -h +15 "system going down"
```

Determine the device name of the diskette drive from the console. It is typically `dva0`; we use that value in the following examples.

- To write the system configuration record to a diskette file named `showconf.txt`, enter the following:

```
>>> show config > fat:showconf.txt/dva0
```

- To store a list of system devices on a diskette file named `showdev.txt`, enter the following:

```
>>> show dev > fat:showdev.txt/dva0
```

- To redirect the output of a `console-command` to a diskette file named `out`, enter the following:

```
>>> console-command > fat:out/dva0
```

- To display the contents of a diskette file from the console line, enter the following:

```
>>> more fat:filename.ext/dva0
```

Note

Diskette file names must be from one to eight alphanumeric characters long (the first character must be alphabetic) and the optional extension must be zero to three alphanumeric characters long.

Verifying Success

To verify the successful diskette drive set up, perform the following steps:

1. Insert the preformatted diskette into the diskette drive.
2. Enter the `mlabel` command to provide a volume label for the diskette:

```
$ mlabel a:
```

```
Warning: "/usr/users/you/.mcwd" is out of date, contents ignored
Volume in drive A is unlabeled
Enter the new volume label (11 characters): Diskette01
```

3. Generate a test file with the echo command:

```
$ echo "Test" > test
```

4. Enter the mcopy command to write the test file to the diskette:

```
$ mcopy test a:/test
Warning: "/usr/users/you/.mcwd" is out of date, contents ignored
```

5. List the files on the diskette with the mdir command:

```
$ mdir a:/
Warning: "/usr/users/you/.mcwd" is out of date, contents ignored
Volume in drive A is Diskette1
Directory for A:/

TEST          5  12-08-100  4:13p
1 File(s)    2923520 bytes free
```

6. Display the contents of the test file with the mtype command:

```
$ mtype a:/test
Warning: "/usr/users/you/.mcwd" is out of date, contents ignored
Test
```

7. If your system has a graphical display device, enter the following command to invoke the DOS Tools Graphical User Interface application.

```
$ /usr/bin/X11/dxmttools &
```

You also can invoke the DOS Tools Graphic User Interface application from the Hardware View of SysMan Station. Locate the icon for floppy0 and select it. Click on the Tools menu, then Storage Management submenu, then Dos Tools.

Exit the DOS Tools Graphical User Interface application when you are done.

If the Best Practice was not successful, see *Troubleshooting* for information about identifying and solving problems.

Troubleshooting

Use the following table to identify and solve problems:

Problem	Possible Solutions
fd0a mknod: fd0a: Not owner	Log in as root.
MAKEDEV: unknown device in: <i>device</i>	<ul style="list-style-type: none"> • Check for misspelling and try again.
All other problems making the fd0 device file	<ul style="list-style-type: none"> • Check the health of the diskette drive by performing read and write operations at the console level.
mlabel: not found or mcopy: not found or mdir: not found or mtype: not found	<ul style="list-style-type: none"> • Install the OSFDOSTOOLS software subset. • Add the directory /usr/bin/mtools to the \$PATH or \$path environment variable.
dxmtools: not found	<ul style="list-style-type: none"> • Install the OSFDOSTOOLS software subset. • Add the directory /usr/bin/mtools to the \$PATH or \$path environment variable. • Add the directory /usr/bin/X11 to the \$PATH or \$path environment variable.
The DOS Tools GUI application is running but nothing is displayed on the screen.	<ul style="list-style-type: none"> • Check the value for the DISPLAY environment variable. Reset it and try again. For information on how to set the DISPLAY environment variable, see the X(1X) reference page.

Comments and Questions

We value your comments and questions on the information in this document. Please mail your comments to us at this address:

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