

# How to Repair the D3 VME

D3's Virtual Machine Environment (VME) can sometimes lose virtual disk space due to corruption. Your files and data are safe and uncorrupted, but the amount of workspace you have available for users can shrink. At some point you may even get an "Out of disk space" error despite the fact that you have tons of drive space left. Repairing the VME will fix this problem without too much hassle.

This manual will give details on how to perform a VME repair. Please read each step carefully before continuing. If you run into any problems please contact healthpac for technical support.

**NOTICE:** This process will wipe out all hold files in the spooler. If you have any print jobs on hold in the VME that you want to keep, please back them up or print them out before you begin.

To use this manual, simply follow along with the steps. Each step will have a step number on the left (please follow them in order). The layout below is how each step will look like. If multiple tasks are listed in the same step, they will be given separate lines and listed in order as A, B, C...etc.

Step 00	This box holds a <b>brief description</b> of what you have to do.	: This is the command line box : CAPPED MEANS TYPE EXACTLY THIS : <i>lower italics means replace with file or path</i>
	This box holds detailed information about; how this step works, why it is necessary and possible problems to look out for. Always read these if this is your first time. Once you get the process down, use just the brief description to refresh your memory. Screenshots or examples will also be shown in this box to help. Remember that the examples won't always match your system perfectly; they just give you a structure to follow.	

**A** Boxes like these would point to the correct places to click during the current part of the step.

Step 01

- A. Check **Free** memory
- B. Check **Errors**
- C. **Notify Users to Logout** of D3

```
: FREE
: LIST-ERRORS
```

Signs you've got VME corruption: receiving "Out of disk space" errors, the Free command shows low Available disk space, List-Errors command ("q" to exit the list) shows a "Coldstart after System Failure". Before performing a VME repair, notify all users to Logout. When all the users are out or no longer doing ANY work in D3, then you may move on to the next step.

```
Maximum disk space 100%
System usage 1%
Data usage 10%
A Available disk space 89%
```

Step 02

- A. **Select** all of the **pointers** to files in the FSI
- B. **Delete** all of the **pointers** to files in the FSI

```
: SELECT MDS WITH A1 = "QS"
: DELETE MDS
```

Part of repairing the VME is backing it up. If you leave the pointers in, many more things get backed up as well that you just don't need. So first you use the SELECT command (as shown above) to select all the pointers. The second command will delete whatever has been selected inside of the MDS file, which at this point is everything that happens to be a pointer.

```
A :select mds with a1 = "qs"
[404] 6 items selected out of 35 items.
```

```
B >delete mds
[435] Item 'archive' deleted
[435] Item 'sqldemo' deleted
[435] Item 'fsiDm' deleted
[435] Item 'h2000' deleted
[435] Item 'sql' deleted
[435] Item 'healthpac' deleted
:-
```

Step 03

- A. **Attach** to storage **device 2**
- B. Perform **Backup**
- C. **Wait** until backup finishes

```
: SET-DEVICE 2
: FILE-SAVE
: N
: N
: N
: Y
: N
: N
```

You first have to attach to the storage device where the VME is located, and that will always be Device 2. Then you use FILE-SAVE to run a backup. Since all of the pointers are gone, saving the file only saves the VME and nothing else. You'll be asked a series of 6 questions. The only one you'll "Y" to is the 4<sup>th</sup> one; "Verify save with 't-verify (enlt)". All the others you will answer "N" to. You'll know you're ready to move on to the next step after the processing stops and the message on the screen says "Tape verifies".

```
A :set-device 2
Block size: 500
[1705] Tape device is assigned to a hard disk file (pseudo floppy).
```

```
B :file-save
Is this an Incremental Save (y or <n>)?
Console Listing to printer (y or <n>)?
Send statistics Report to printer (y or <n>)?
Verify save with 't-verify (enlt)' (y or <n>)? y
Bypass inconsistent groups (y or <n>)?
Do you want to sleep (y or <n>)? _
```

```
C file save finished at 07:35:59 25 Jun 2009 Thursday
Verifying data...
Block size: 500
[1534] Tape verifies.
Block size: 500
[196] bot
-
```

Step 04

**A. Shutdown D3**

```
: SHUTDOWN  
: Y
```

When you use the shutdown command it will ask you if you want to continue, of course you do so answer "Y". After the shutdown is finished, Accuterm will lose the connection. Just ignore that for now.

Step 05

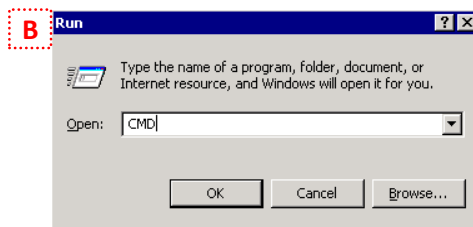
**A. Run CMD**

```
CMD
```

**B. Navigate to the D3Programs folder**

```
C:\> CD C:\PROGRAM FILES\D3\D3PROGRAMS
```

Use the start button to get to the Run... command. When it pops up, typing CMD and pressing enter will take you to the command prompt. Use the CD command to navigate to the D3Programs folder. The path is usually C:\Program Files\D3\D3Programs or C:\Program Files\RainingData\D3\D3Programs, but it could have a different drive letter. You can use Windows Explorer first to verify the path.



Step 06

**A. Stop the D3VME**

```
> D3VME /STOP
```

**B. Kill the D3VME**

```
> D3VME /KILL
```

**C. Verify that it is shut down**

The D3VME program is the actual virtual machine environment. Before you restore it, it has to be shut down. Doing the stop command is the proper way to shut it down, but it doesn't always work. Give the stop command about a minute to do its job, then just to make sure, run the kill command. You can and should (especially on Windows Server 2008) verify that the program really is shut down. You can use Task Manager, look at the running processes, and make sure that D3VME is not in the list. If it is in the list, shut it down from there.

```
A D:\Program Files\RainingData\D3\D3Programs>d3vme /stop  
Stopping Service D3Ume on healthpac2  
D3odbcsv on healthpac2 killed
```

```
B D:\Program Files\RainingData\D3\D3Programs>d3vme /kill  
D3Ume on healthpac2 killed
```

Step 07

A. Restore the D3VME

```
> D3VME /RESTORE
> Y
> 2
> N
> ↵
> N
> N
```

Use the Restore command then answer “Y” to proceed. Answer “2” to restore from Device 2. Answer “N” to NOT disable file reallocation. Press Enter to continue. It will perform most of the restore, and then it will ask two more questions. Do you want to restore from incremental tape? The answer is “N”. Do you want to restore from transaction log tape? The answer is “N”.

```

A D:\Program Files\RainingData\D3\D3Programs>d3vme /restore
** WARNING **

You are about to do a full file restore.
OK TO PROCEED <Y/N>?y
Full restore started...
Building overflow block list...
Diagnostics.. successfully completed

Activating Processes.....
Tape Status          25 Jun 2009 07:41:37
#   Type              Density          Owner           Device Name
-----
0 | Floppy              | 3 1/2" 1.44M   |              | \\.\A:
1 | Floppy              | Pseudo Floppy |              | D:\Program
2 | Floppy              | Pseudo Floppy |              | D:\Program
3 | Floppy              | Pseudo Floppy |              | D:\Program
4 | Floppy              | Pseudo Floppy |              | D:\Program

Enter a unit number from the above list: 2
Block size: 500
Do you wish to disable file reallocation <y/<n>? n
Load volume #1 and press <Enter> _

```

Step 08

A. Login from the Command Prompt  
B. Shutdown D3

```
> username
> password
> SHUTDOWN
```

Use your normal login info inside the command prompt itself to get back into D3. As soon as you get in, use the Shutdown command. Running the D3 environment from the command prompt can be unstable, so we want to shut that down. You can close the command window.

Step 09

A. Start the D3 Service

Go to Start → Administrative Tools → Services. Right-click on D3 Virtual Machine and choose Start. This will load the database back up correctly so that users can get back to work.

Step 10

A. Login to D3 through Accuterm  
B. Check Memory

```
: username
: password
: FREE
```

If you can login to D3, then you know the users can as well. Use the Free command to make sure that you unlocked more memory. If everything checks out at this point, tell everyone they can get back on the system.

## How to Repair the D3 VME (Quick Reference)

### 1. Verify and Notify

- a. FREE
- b. LIST-ERRORS
- c. Notify Users to log out of D3

### 2. Delete Pointers

- a. SELECT MDS WITH A1 = "QS"
- b. DELETE MDS

### 3. Save File

- a. SET-DEVICE 2
- b. FILE-SAVE
- c. N, N, N, Y, N, N

### 4. Shutdown D3

- a. *username*
- b. *password*
- c. SHUTDOWN

### 5. Command prompt to D3Programs

- a. Run... CMD
- b. *root\filepath\D3\D3Programs*

### 6. Stop the D3VME

- a. D3VME /STOP
- b. D3VME /KILL
- c. Verify the process is stopped

### 7. Restore the VME

- a. D3VME /RESTORE
- b. Y, 2, N, ↵, N, N

### 8. Shutdown from Command Prompt

- a. *username*
- b. *password*
- c. SHUTDOWN

### 9. Start the D3 Service

- a. Start, Administrative Tools, Services
- b. Start D3 Virtual Machine service

### 10. Verify access and memory

- a. Login through Accuterm
- b. FREE