Q-VET Read Me

V7.9 for OpenVMS 7.3

V8.6 for OpenVMS 8.x

V8.6 for Tru64Unix

Q-Vet is included on the Alpha Systems Firmware Update CD for use by authorized Hewlett-Packard Service Personnel and Service Partners only.

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1 IMPORTANT NOTICE

Q-Vet is included on the Alpha Systems Firmware Update CD for use by authorized Hewlett-Packard Service Personnel and Service Partners only.

1.1 Latest Q-Vet Information

Authorized Hewlett-Packard Service Personnel and Service Partners can get the latest Q-Vet information and documentation from the following website: **http://cisweb.mro.cpqcorp.net/projects/qvet/**

Always check the website for the latest information including:

- Compatibility with larger memory configurations
- Compatibility with newer version of the operating systems

1.2 Q-Vet Kits for Alpha Systems Running OpenVMS

There are two Q-Vet kit versions for Alpha platforms running OpenVMS:

- Q-Vet V7.9 is for only OpenVMS V7.3-2
- Q-Vet V8.6 is for only OpenVMS V8.x

Q-Vet V8.6 will not install on VMS v7.3-2 or earlier releases

1.2.1 Possible Performance Issues

Q-Vet V7.9 can be installed and run on OpenVMS V8.x, but it is not recommended because of possible performance issues. The Q-Vet installation will warn of possible performance issues, and will allow the installation to continue.

1.3 Q-Vet for Alpha Systems Running Tru64 UNIX

The Q-Vet kit version for Tru64UNIX is 8.60

1.4Uninstall Q-Vet before Doing an Operating System Upgrade

Before doing an OS upgrade you should do the following:

1. Uninstall Q-Vet to reset the system to the original tuning.
2. Reboot the system.
3. Perform the system upgrade (which may change tuning).
4. Reinstall Q-Vet

1.4.1 Bad Drives or Missing Media

Bad drives or missing media can add considerably to the startup time for Q-Vet.

1.5 Q-Vet Usage

Q-Vet should be used to verify a new system installation prior to configuring the system into a cluster or prior to connecting to any storage devices that contain customer data.

1.5.1 Pre-Installation Notes

1. For hardware testing network devices, TCP/IP onTru64UNIX or DecNet_Phase IV on OpenVMS should be configured before installing Q-Vet. However configuring is not required unless hardware testing of the network device is desired.
2. If a system has been partitioned, Q-Vet must be installed and run separately on each partition to verify the complete installation.
3. Q-Vet must be de-installed upon completion of system installation verification.

CAUTION: Q-Vet IVP scripts are for installation verification at new system installation sites. All Q-Vet IVP scripts use Read Only and/or File I/O to hard drives. Non IVP scripts verify disk operations, for some drives, with "write enabled" techniques and are for Engineering and Manufacturing Test use only. Floppy and Tape drives are always write tested from Q-Vet scripts and should have scratch media installed.

1.5.2 Tru64Unix Swap Space or OpenVMS Pagefile Space

For proper Q-Vet operation, the system must have adequate swap space or pagefile space. You can set this up either before or after Q-Vet installation.
If you wish to address the swap/pagefile size before installing Q-Vet, use the Swap/Pagefile Estimates below:

1.5.2.1 Tru64 UNIX Swap Space Estimates

Total $Swap_{(MB)}$ = Base $Swap_{(MB)}$ + (7MB * number of CPUs) + (2MB * number of disks)

Base Swap Table			
Ram (MB)	Swap (MB)	Ram (MB)	Swap (MB)
64	100	8192	4870
128	192	16384	7670
256	364	20480	8860
512	660	32768	12000
1024	1135	49152	15600
2048	1536	65536	19000
4096	3060	131072	30000
128 GB is the maximum tested, using the IVP script on Q-Vet			

Remember to add the swap for CPUs and Disks to the base Swap size to get the Required Total.

1.5.2.2 OpenVMS Pagefile Space Estimates

Total Pagefile (512 byte blocks) = Base Pagefile + (14336 * num. of CPUs) + (4096 * num. of disks)

Base Pagefile Table	
Ram (MB)	Pagefile 512 byte blocks
Memory <= 512	1 * Memory
Memory <= 8GB	2GB + 550MB (5320704 blocks)
Memory > 8GB	4GB + 550MB (9515008 blocks)
128 GB is the maximum tested, using the IVP script on Q-Vet	

Remember to add the Pagefile for CPUs and Disks to the base Pagefile size to get the Required Total.
Note: Usually the default Pagefile size determined by OpenVMS Autogen is enough.
Do **NOT decrease the Pagefile size below that determined by Autogen**.

The OpenVMS SYSTEM account UAF will be required to have BYTLM set to 80000 or more and PGFLQUO set to 65000 or more. Verify these values, increase if necessary, log off and back on to set the changes.

1.5.3 Setting up Swap/Pagefile Space After Installation

During initialization, Q-Vet will display a message indicating the minimum amount of swap/pagefile needed if it determines that the system doesn't have enough.
You can then re-configure the system.

- During Q-Vet installation, autogen OpenVMS will try to create the correct amount of pagefile, if the system drive has enough space.
- For Tru64 you will have to manually add required swap space.

If you increase memory size or swap/pagefile space, after installing Q-Vet, you must run **qvet_tune** to set new parameters.

Before decreasing memory size, uninstall Q-Vet. If you do not, tuning may be incorrect.

1.6 Installing Q-Vet

The procedures to install Q-Vet differ between operating systems. For partition systems, you must install Q-Vet on each partition in the system. On OpenVMS, install and run Q-Vet from the **SYSTEM** account. On Tru64Unix, install and run Q-Vet from the **root** account. Installation instructions for each operating system are in the following sections.

1.6.1 On Tru64 Unix Systems

1. Verify there are no old Q-Vet kits (or DEC VET kits) using the following command:
   setld -i | grep VET

   Record the names of any listed kits (for example, such as OTKBASExxx) and remove the kits using the **qvet_uninstall** command or the following command: **setld -d kit1_name kit2_name kit3_name**

2. Copy the kit tar file (QVET_Vxxx.tar) to your system.

3. Be sure that there is no directory with the name of *output*. If so remove the directory with the following command: **rm -r *output***

4. Untar the kit with the **tar xvf QVET_Vxxx.tar** command.

5. Install the kit with the **setld -l output** command.

6. During the install, if you intend to use the graphic user interface (GUI) you must select the optional GUI subset. (QVETXOSFxxx)

7. The Q-Vet installation will size your system for devices and memory, and run the **qvet_tune** utility. You MUST answer **'y'** to any questions asked about setting parameters. Otherwise, Q-Vet will not install and *the kit file will be removed* from the system.

8. After the installation completes you should delete the output directory with the command **rm -r output.** You can also remove the kit tar file.

9. **You ***must*** reboot the system before starting Q-Vet.**

10. After reboot you can start up Q-Vet by typing : **vet &** or you can run non-GUI on a graphics window (Command Line) by typing **vet -nw**

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1.6.2 On OpenVMS Systems

1. Delete any old QVETAXPxxx.A or QVETAXPxxx.EXE file from the current directory.

2. Copy the self-extracting kit image file (QVETAXPxxx.EXE) to the current directory.

3. Extract the kit saveset with the **$run QVETAXPxxx.EXE** command. Then verify that the kit saveset was extracted by checking for the "*Successful decompression*" message.

4. The VMS SYSTEM account UAF will be required to have BYTLM set to 80000 or more and PGFLQUO set to 65000 or more. Verify these values, increase if necessary, log off and back on to set the changes.

5. Use the **@sys$update:vmsinstal** command for the Q-Vet installation. The installation will size your system for devices and memory. You MUST answer 'y' to any questions that may be asked about setting tuning parameters. Otherwise, Q-Vet will not install and the *kit file will be removed* from the system.

6. Select all the default answers during the Q-Vet installation. This will verify the installation, tune the system, and reboot. During the install, if you do not intend to use the GUI you can answer **no** to the question "Do you want to install Q-Vet with the DECwindows Motif interface?"

7. After the installation completes you should delete the QVETAXP0xx.A file and the QVETAXPxxx.EXE file.

8. On reboot you can start up Q-Vet via **$vet** If you have a graphics window *and* do not want the GUI, use **$vet/int=char**

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1.6.3 Installation Notes for all Operating Systems

When you install Q-Vet on your system, you will see the following warning message displayed.

> *Running system sizer on node [your system node shown here] Please wait.*
>
> *CAUTION: Read carefully...*
> *- IVP Script Testing is File or READ-ONLY Except for Floppy and Tapes.*
> *- Ensure only scratch media is in Floppy and Tape drives.*
> *- NON IVP scripts may / can cause Hard Drives to be reformatted.*

Do not take this warning lightly. Q-Vet can destroy valuable data if you perform disk exerciser Write testing on storage media. (IVP scripts are Read-Only however)

When Q-Vet has completed its startup activities, you will see the Q-Vet Main Window displayed with the devices that Q-Vet has detected on your system and prepared to exercise.

Two IVP scripts are included in Q-Vet. A quick IVP script is provided for a simple verification of device setup. It is selectable from the GUI IVP menu and the script is called **.Ivp_short.scp (ivp_short.vms**). This script will run for 15 minutes and then terminate with a Summary. This script may be run prior to the Long IVP script if desired, but should not be run in place of the Long IVP script, which is the full IVP test.

1.7 Running Q-Vet - the Long IVP Script

1.7.1 On Tru64 UNIX

- Graphical Interface (GUI)
  > **vet**
  Select the **IVP** menu, **Load Script**, and select **Long Ivp**
  Press the **Start All** button.

- Command Line Interface:
  > **vet**
  Q-Vet_setup> **execute .Ivp.scp**
  Q-Vet_setup> **start**

- Note that there is a "**.**" in front of the script name for Tru64, and that the case matters.

1.7.2 On OpenVMS

- Graphical Interface (GUI)
  $ **vet**
  Select the **IVP** menu, **Load Script**, and select **Long Ivp**
  Press the **Start All** button.

- Command Line Interface
  $ **vet**
  Q-Vet_setup> **execute ivp.vms**
  Q-Vet_setup> **start**

1.8 Reviewing Results of the Q-Vet Run

After running Q-Vet, check the results of the run by reviewing the Summary Log.

If you run the Long IVP script , Q-Vet will run all exercisers until the slowest device has completed 1 full pass. (This is called a Cycle). Depending on the size of the system (number of CPUs and disks), this will typically take two to twelve hours.

Q-Vet will then terminate testing and produce a Summary log. The Termination message will tell you the name and location of this file. All exerciser processes can also be manually terminated via the Suspend and Terminate buttons (stop and terminate commands). After all exercisers report "Idle" the Summary Log is produced containing Q-Vet specific results and statuses as well as system log entries.

If there are no Q-Vet errors, no system event appendages, and testing ran to the specified completion time, the following message will be displayed.

"Q-Vet Tests Complete: Passed"

Otherwise, a message will indicate:

"Additional information may be available from the System Event Analyzer."

It is recommended that you run the System Analyzer to review Test results.
The Testing times (for use with the System Event Analyzer) are printed to the Q-Vet run window and are available in the Summary log.

If the message "Q-Vet Tests Complete: Passed" is not received on test completion, The System Event Analyze (WEBES) must be run to review Test results. The IVP scripts do not append translated events to the Summary, unless they are direct Q-Vet detected errors.

1.9 De-Installing Q-Vet

Q-Vet must be de-installed upon completion of system installation verification.
Do not leave this software installed; misuse may result in loss of customer data. You must de-install Q-Vet from each partition on the system.

The procedures for de-installing Q-Vet differ between operating systems.

Tru64

- Stop, Terminate and Exit from Q-Vet testing.
- Execute the command **qvet_uninstall** This will also restore system configuration/tuning file sysconfigtab
- Note: log files are retained in **/usr/field/tool_logs**
- Reboot the system. You MUST reboot in any case, even if Q-Vet is to be reinstalled.

OpenVMS

- Stop, Terminate and Exit from any Q-Vet testing.
- Execute the command **@sys$manager:qvet_uninstall** , to restore system tuning (modparams.dat) and the original UAF settings.
- Note: log files are retained in **sys$specific:[sysmgr.tool_logs]**
- Reboot the system. You MUST reboot in any case, even if Q-Vet is to be reinstalled.

1.10 Questions / Comments / Requests

For Field Q-VET/IVP issues, field service personnel should follow the normal call escalation flow and log calls with the Customer Support Centers.