

## VMS System Crash Dumps

System crash dumps are a useful tool when a system has become non-responsive or frozen.

### Creating a Useful System Dump

To create a truly useful system dump, the following requirements must be met:

- System parameter DUMPBUG must equal 1.
- File SYS\$SPECIFIC:[SYSEXE]PAGEFILE.SYS must exist on the system disk, and system parameter SAVEDUMP must equal 1.
- Sufficient disk space must be available to hold a system dump file, or system parameter DUMPSTYLE must be set accordingly.

To ensure that the above is set correctly, enter the following at the system prompt:

```
$ mcr sysgen
$ use current
$ set dumpbug 1
$ set savedump 1
$ write current
$ exit
```

### Related Document

**OpenVMS System Manager's Manuals: Tuning, Monitoring, and Complex Systems**, DEC publication AA-PV5NA-TK.

## VAX Systems

### System Frozen

The following crash dump instructions will work for any VAX model. It should be used if the system is entirely frozen

1. Locate the hardware reset switch and depress it. The reset switch is a square, protruding button with a raised dot in the center. Above it is a “danger” symbol, a circle containing an inverted triangle. The switch is hidden under a front panel on some units. On others, it is at the rear of the unit.
2. Depressing the reset switch will clear the current display and place the unit in the *console* mode. EXT HLT (external halt) will display on the screen, and a system prompt (>>>) will appear.
3. To initiate the crash dump, type the following commands.

```
>>> d/g f
>>> d pc
>>> e/i 0
>>> e/i 1
>>> e/i 2
>>> e/i 3
>>> e/i 4
>>> d/g f ffffffff
>>> d pc 1f0000
>>> c
```

After the last command has been entered, VMS should go through the normal boot cycle.

### System Still Responding

If an active DECterm is available, and you wish to initiate a system crash dump, type the following at the system prompt.

```
> mcr opccrash
```

This will destroy the monitor display, and initiate the dump cycle. When the system comes to a halt, proceed with the step number three above.

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**NOTE** You must be logged into a system of HSQ account for this VMS command to work.

## Alpha Systems

The following crash dump instructions will work for any AlphaStation model. It should be used if the system is entirely frozen.

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**NOTE** If the Alpha system is not frozen, use Ctrl/P to halt the system and then proceed with step 2.

1. Locate the Halt button and depress it. This will clear the current display and place the unit in the *console* mode. EXT HLT (external halt) will display on the screen, and a system prompt (>>>) will appear.
2. To examine processor registers, enter:

```
>>> E -N F R0
>>> E PS
```

System information will display. You may wish to make a written copy of this information.

3. Enter the following:

```
>>> D PC FFFFFFFF00000000
>>> D PS 1F00
```

This forces the system to write a memory dump to the system dump file on the disk. (PC stands for Processor Count and PS indicates Processor Status.)

4. Enter the following:

```
>>> CONTINUE
```

This causes the system to perform a bugcheck.

5. After the system reboots, log into the System account.
6. To view the dump file, enter the following:

```
$ ANALYZE/CRASH SYS$SYSTEM:SYSDUMP.DMP
SDA> SHOW CRASH
```

### Related Documents

**OpenVMS Alpha Version 6.2 Upgrade and Installation Manual**, DEC publication AA-PV6XC-TE.

**Open VMS AXP System Dump Analyzer Utility Manual**, DEC publication AA-PV6UA-TE.

## Viewing the Results

To view the results of the crash dump operation, use the following VMS commands at the system prompt.

### \$ mcr sda

You will be prompted to enter the name of the crash dump file, press return to accept the default file name. A dump file listing will display by date.

**\$ show crash**

This command displays information on the contents of the internal registers.

**\$ show summary**

This command displays similar information to the VMS **show system** command.