  * I/O errors - The system automatically retries failed I/O
    operations to recover from transient errors and marginal
    media conditions. Disk I/O errors are retried using the
    hardware recovery mechanisms. Optionally, the system
    validates disk I/O transfers with read-check and write-
    check functions. If an I/O request cannot be completed,
    all data that was correctly transferred is returned to
    the initiator.

The system logs all processor errors, all operating system errors
detected through internal consistency checks, all double-bit
memory errors (and a summary of corrected single-bit errors), and
all I/O errors. The log can be printed or examined interactively
to locate failed and troublesome components.

If the effects of an unrecoverable error cannot be limited to a
process, the system shuts down and restarts without operator
intervention by bootstrapping a fresh copy of VAX/VMS from the
system disk (although the user can inhibit the automatic restart
feature). Whenever the system fails, a dump of physical memory is
taken; the dump includes the contents of the processor registers.
Additionally, an entry is made in the error log indicating the
hardware and software states of the machine at failure. A utility
that can access system data structures symbolically is provided
for analyzing dumps.

On a power failure, the system shuts down automatically. On power
restoration, the system restarts automatically and resumes
processing at the point of interruption if the system has a time-
of-day clock and a memory battery back-up unit, and if the
contents of memory are still valid. The system restarts devices
and communications lines.   All I/O operations in progress,
including magnetic tape, are restarted. On request, programs can
be notified of power restoration. An optional battery operated
hardware clock resets the date and time of day when the system
restarts. If the system does not have a battery back-up unit, or
if the memory contents are not valid on power restoration, the
system will perform a cold start (reboot).

If for any reason the system disk does not come back on line
after power failure within a specific time after the CPU regains
power the system shuts down.

Diagnostics can be run on individual devices during normal system
operation. The system need not be shut down and run stand-alone
in order to format disks, to position disk and tape heads, and to
diagnose hardware faults on device drives.

Certain critical components can operate in degraded mode. For
example, the memory cache can be disabled. The system places a
component in degraded mode when errors pass a treshold.