

# Software Product Description

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**PRODUCT NAME: DECwatchdog/Autopilot for OpenVMS AXP, SPD 53.63.00  
Version 2.1**

## DESCRIPTION

DECwatchdog/Autopilot is a software product designed to improve client/server applications availability by failure detection and automated application recovery.

A copy of DECwatchdog/Autopilot software runs on each computer in a group. A group is composed of 2 to 16 computers communicating across a local area network and collaborating to perform a critical application.

A critical application and the description of the group of computers on which this application runs, form a DECwatchdog/Autopilot mission.

DECwatchdog/Autopilot can manage several missions simultaneously on several jointed or disjointed groups of computers to automate failover of several independent applications.

Used on top of redundant or partially redundant hardware, DECwatchdog/Autopilot provides unattended operation and mission continuity.

DECwatchdog/Autopilot performs four different roles:

- Mutual watch
- Distributed lock management
- Master/Slave management
- Automated recovery

## Features

### *Mutual Watch*

For each mission, DECwatchdog/Autopilot periodically watches the different computers of the group. DECwatchdog/Autopilot detects CPU failures and network failures. Detection delay can be modified from 5 seconds to 2 minutes. When the group uses redundant networks, DECwatchdog/Autopilot differentiates network failures from computer failures. When the group includes more than 2 computers, DECwatchdog/Autopilot localizes network failures by deduction.

*Distributed Lock Management*

For each mission, the group of computers can share a set of up to 24 resources. A resource represents either:

- A physical device identifier such as disk, tape, line or peripheral
- An access path to data or NFS® files
- Any virtual resource, flag, or event

*Master/Slave Management*

There are three different roles for computers in a mission: master, slave and satellite. DECwatchdog/Autopilot automatically assigns master and slave roles for each mission, conforming to user's preferences. A computer which is neither slave nor master is called a satellite computer.

*Automated Recovery*

DECwatchdog/Autopilot can automatically initiate standard command files on each computer in case of any state transition of

- computers
- networks
- resources

Command files include any application recovery action.

**Other Features**

DECwatchdog/Autopilot is specifically designed to manage heterogeneous groups of computers. While computers do not necessarily run the same operating system, a compatible version of DECwatchdog/Autopilot must be present on each of them.

DECwatchdog/Autopilot supports planned service interruptions for hardware maintenance or operating system upgrades. It allows online reconfiguration of applications and groups.

DECwatchdog/Autopilot does not prevent erroneous access conflicts on shared peripherals. Additional safe locking mechanisms will be invoked in command files when necessary.

## HARDWARE REQUIREMENTS

### *Processors Supported*

Alpha AXP:

- DEC 150 AXP,
- DEC 2000 Model 300 AXP Server,
- DEC 2000 Model 500 AXP Server

DEC 2100 Server A500MP

- DEC 3000 Model 300 AXP Workstation,
- DEC 3000 Model 300L AXP Workstation,
- DEC 3000 Model 300LX AXP Workstation,
- DEC 3000 Model 400 AXP Workstation,
- DEC 3000 Model 400 AXP Server,
- DEC 3000 Model 500 AXP Workstation,
- DEC 3000 Model 500 AXP Server,
- DEC 3000 Model 500X AXP Server,
- DEC 3000 Model 600 AXP Workstation,
- DEC 3000 Model 600S AXP Server,
- DEC 3000 Model 800 AXP Workstation,
- DEC 3000 Model 800S AXP Server

- DEC 4000 Model 610 AXP System,
- DEC 4000 Model 710 AXP System

DEC 7000 Model 610 AXP System

DEC 10000 Model 610 AXP System

### **Disk Space Requirements (Block Cluster Size = 1)**

Disk space required for installation: 3000 blocks

Disk space required for use (permanent): 1400 blocks

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

### **OPTIONAL HARDWARE**

The full DECwatchdog functionality is correctly performed on redundant DECsystems communicating through two independent Ethernet links.

## **CLUSTER ENVIRONMENT**

DECwatchdog/Autopilot is supported and can be used in a VMScLuster environment, but it requires the development of special additional command procedures and resources management to operate properly in this environment.

During quorum loss in a VMScLuster, processes are "jammed" or keep running depending whether they require clustered resource or not. Therefore DECwatchdog/Autopilot's behavior during cluster transition and node reboot depends on the type of application, cluster and mission configuration.

DECwatchdog/Autopilot leaves the choice to the customer with the development of his own command procedures and mission configuration, to decide if DECwatchdog nodes in cluster must be considered as faulty or running during quorum loss.

## **SOFTWARE REQUIREMENTS**

- OpenVMS AXP Operating System V 6.1
- DEC TCP/IP Services for OpenVMS AXP V3.1

## **GROWTH CONSIDERATIONS**

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

## **DISTRIBUTION MEDIA**

9-track 1600 BPI Magtape, TK50 Streaming Tape

## **ORDERING INFORMATION**

Software Licenses: QL-33ZA\*-\*\*

Software Media/Documentation: QA-03XAA-\*\*

Software Documentation: QA-33ZAA-GZ

Software Product Services: QT-33ZA\*-\*\*

- \* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

## **SOFTWARE LICENSING**

This software is furnished only under a license. For more information about Digital's licensing terms and policies, contact your local Digital office.

### *License Management Facility Support*

This layered product supports the OpenVMS License Management Facility.

License units for this product are allocated on a CPU-capacity basis.

For more information on the License Management Facility, refer to the OpenVMS AXP Operating System Software Product Description (SPD 41.87.xx) or the OpenVMS AXP Operating System documentation.

### **SOFTWARE PRODUCT SERVICES**

Digital can help the user in designing a redundant system integrating SCSI disk multiplexors, uninterruptable power supply, and communications servers that can be advantageously combined with DECwatchdog/Autopilot.

For more information on these or other services, please contact your local Digital office.

### **SOFTWARE WARRANTY**

Warranty for this software product is provided by Digital with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.

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