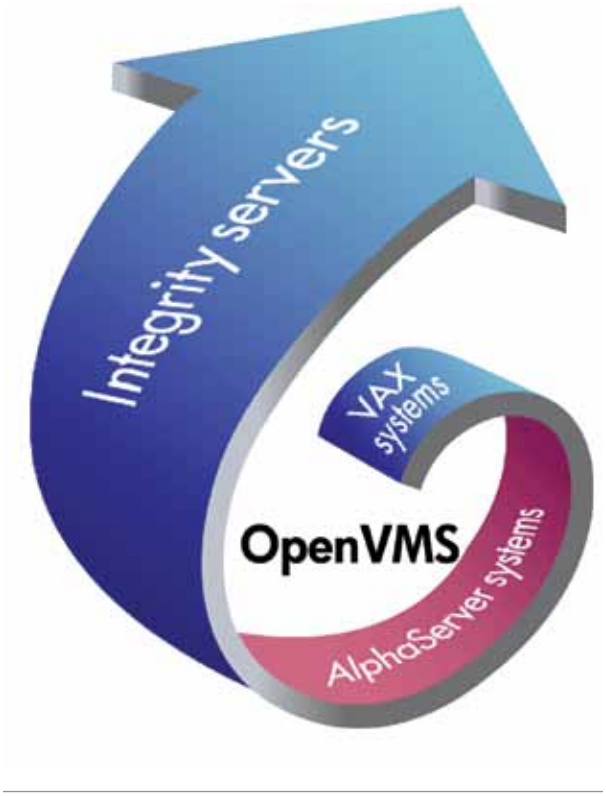
HP OpenVMS V8.4 OS and operating environments

Data sheet



Going strong for over three decades, HP OpenVMS continues to meet or exceed the demands of the world's challenging IT environments.

Running mission-critical applications, real-time transaction processing, high-availability, disaster tolerance, and robust security measures are imperative for businesses today. Is your existing technology infrastructure ready to address these requirements?

Consider the OpenVMS V8.4. It has been designed to consolidate your infrastructure with virtualization and provide scalability, data availability, and security, while providing up to 100 percent application availability in a properly configured cluster.

OpenVMS V8.4 key features and enhancements

Improved performance of your environment

Enhanced performance: Existing OpenVMS V8.3-1H1 customers can see 10–15 percent better application performance on average with OpenVMS V8.4, and improved application performance up to 2x per socket when migrating from dual-core Integrity systems to new quad-core Integrity systems.

Distributed lock manager: Enables dedicated CPU resources to perform locking operations that might enhance the performance of applications and relational databases that rely on this feature.

Accelerated Virtual I/O: As a guest on HP Integrity Virtual Machine, increases I/O bandwidth between the guest and the network or SAN with special drivers that reduce the virtualization I/O overhead.

Integrity Resource Affinity Domains (RAD) support: Enhances system performance by enabling processes to take advantage of cell local memory on cell-based servers.

TCP/IP enhancements: Improve performance of TCP/IP with a dedicated CPU as a packet processing engine.

LAN convergence with Flex-10 technology: Reduce management requirements, the number of NICs and interconnect modules needed, and power and operational costs by configuring a single 10 Gb Ethernet port to represent four FlexNICs.

Storage capabilities: Deliver improvements with:

- Increased SCSI disk volumes that are supported from 1 TiB to 2 TiB
- Reduced data flowing through your network and storage required for savesets (archived data format) with a new compression feature in the `Backup` utility to create and restore compressed savesets on disks and magnetic tapes

- Enhanced storage connectivity by supporting the newest and fastest generation of 8 Gb Fibre Channel stand-up and mezzanine interface cards

Improved resource utilization with virtualization

OpenVMS as a Guest OS on Integrity VM: Enables OpenVMS to be part of a virtualized environment and offers increased server utilization, reduced floor space and power costs, and faster deployment of new environments. With virtualization, you can share hardware resources among a number of OS instances that are running side-by-side on the same server. Dynamic resourcing is builtin, which allows you to dynamically and automatically adjust the resources used by a virtual machine based on need.

Enable business continuity with high uptime capabilities

Clusters over TCP/IP: Brings efficiencies to cluster interconnect technology by using TCP/IP, by removing the need to route dedicated system communications services traffic over costly LAN bridging or Layer 2 services.

Cluster communication module enhancements: Improve cluster communication between nodes in an OpenVMS cluster with enhancements to the cluster communication module, which supports both LAN and TCP/IP for cluster communication.

Extended membership on shadowing: With an increase to six supported shadow sets, a balanced multi-site cluster can be designed with either:

- Two sites with three disks per site
- Three sites with two disks per site

These options meet today's leading-edge design standard for disaster-tolerant storage configurations. In addition, enhancements to the `minicopy` and `minimerge` functions improve availability by reducing the time needed to write a copy of the data to disk and synchronizing or merging data following a disk failure.

Simplify system management

Easy provisioning: OpenVMS V8.4 can be installed or upgraded on up to eight Integrity servers simultaneously using HP Systems Insight Manager (SIM) Provisioning.

HP Matrix Operating Environment v6.0: Enables OpenVMS nodes to be managed through the Matrix OE (formerly known as Insight Dynamics VSE) central management server. With OpenVMS V8.4 as a guest on Integrity Virtual Machine, Matrix OE provides management of physical and virtual resources through a single, easy-to-use graphical interface. Key components of Matrix OE support OpenVMS V8.4, including:

- **Capacity Advisor:** Provides information needed to increase server utilization, reduce power consumption, and improve application performance.
- **Global Workload Manager (gWLM):** Allocates resources automatically among multiple workloads to increase server utilization while meeting service levels for high-priority applications.
- **Virtualization Manager:** Enables visual representation and easy modification of both physical and virtual resources.

Enhanced blade management: Captures more management parameters on blade systems to provide to HP System Insight Manager (SIM) with an increase in the number of Web-based Enterprise Management (WBEM) providers on blade systems.

HP Insight Power Manager: Optimizes data center power and cooling with Insight Power Manager's support in OpenVMS V8.4.

HP utility pricing for cell-based systems: Allows you to pay for additional CPU resources as needed, enabling a cost-effective solution to planned or unplanned load increases and temporary spikes. OpenVMS V8.4 supports HP Instant Capacity (iCAP) V9.0 for cell-based systems, which provides reserve capacity that can be deployed with minimal disruption of operations.

Strengthen security for your systems

Secure Sockets Layer refresh: Enhances Secure Sockets Layer (SSL) with a refresh based on the new **openssl.org** base level, 0.9.8h, which includes new cryptographic algorithms.

Active Directory authentication support: Improves authentication using LDAP by adding the mapping of the login name to the VMS username in an Active Directory environment.

Secure kit delivery: Through a new process that can validate an HP signature on the kit, the OpenVMS kit delivered to a customer can be guaranteed free of tampering from its date of manufacture.

Networking security enhancements:

- **TCP/IP v5.7:** Improves security by enabling a system administrator to restrict a user's FTP access with FTP anonymous light and enhances secure communications with the newly supported Stream Control Transmission Protocol (SCTP).
- **Common Internet File System (CIFS) v1.2:** Improves file security by supporting delete protection bit with mask, and session security, NTLMSSP, 128-bit encryption.

DECnet enhancements: Improve security of DECnet networks by enabling DECnet over TCP/IP connections to pass through Secure Shell (SSH), which establishes a secure tunnel between OpenVMS systems by encrypting all DECnet traffic between them.

Easily port UNIX applications and utilities

Symbolic link redesign: Simplifies the porting of UNIX® applications that use symbolic links or symlinks, by transparently changing these calls into OpenVMS Record Management Services (RMS) calls for file operations. In addition, the redesign of symbolic links now supports logical names in POSIX filenames.

Improvements in C runtime library support for:

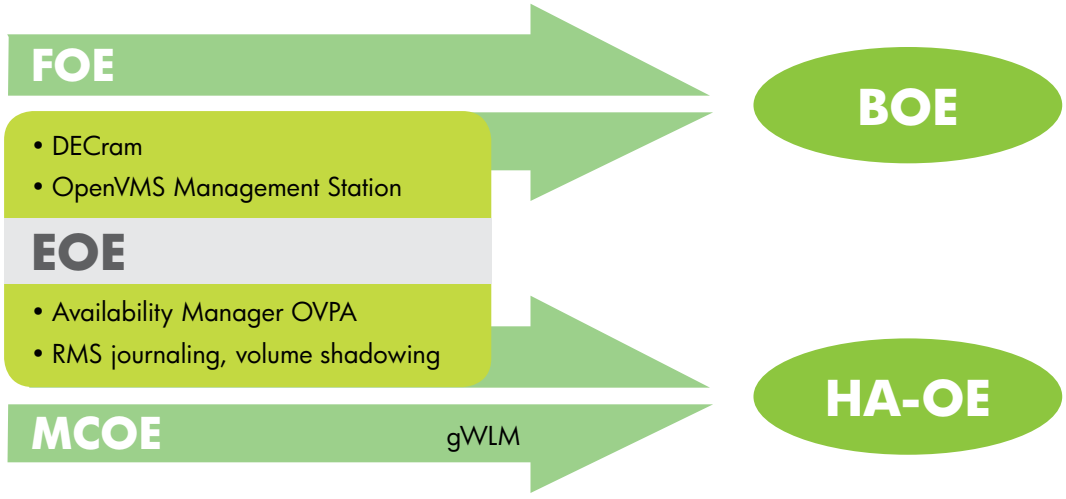
- **Semaphores:** OpenVMS V8.4 C runtime library (CRTL) supports the native use of semaphore calls, making it easier to port UNIX and open source applications to OpenVMS.
- **UTF8:** OpenVMS V8.4 C runtime library provides OpenVMS support for I/O calls in the UTF8 format.

New, streamlined operating environments

New two-tier operating environment portfolio: With OpenVMS V8.4, the operating environment portfolio is simplified to only two operating environments—Base Operating Environment (BOE) and High Availability Operating Environment (HA-OE)—to better match your business requirements. Prior to OpenVMS V8.4, OpenVMS supported three operating environments, including:

- Foundation Operating Environment (FOE)
- Enterprise Operating Environment (EOE)
- Mission-Critical Operating Environment (MCOE)

The mapping from the old three-tier operating environment structure to the simplified two-tier operating environment framework follows:



Systems supported	OpenVMS V8.4 operates on the Integrity servers supported by OpenVMS V8.3-1H1, and the Alpha servers supported by OpenVMS V8.3. OpenVMS V8.4 is also available on the new Integrity blade and rackmount systems with the Intel® Itanium® 9300 processor.
HP Integrity Virtual Machine	OpenVMS V8.4 is supported as a guest on HP Integrity Virtual Machine v4.2 PK1
Matrix Operating Environment	Key tools within the HP Matrix Operating Environment v6.0 support OpenVMS V8.4
HP Systems Insight Manager	HP Systems Insight Manager v6.0
HP Insight Power Manager	HP Power Insight Dynamics v6.0

Software warranty

This software product is provided by HP with a 90-day conformance warranty in accordance with the HP warranty terms applicable to the license purchase.

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, please visit: **www.hp.com/go/hpfinancialservices**

OpenVMS continues to offer customer credit for existing Integrity operating environment licenses when you upgrade to a higher-tier operating environment or a larger Integrity system. For customers on OpenVMS V8.3-1H1, the current upgrade path or mapping is given in the table below.

OpenVMS V8.3-1H1 Operating Environments (OEs)	Equivalent OpenVMS V8.4 OE Mapping	New OE Value Additions
FOE	BOE	DECram and OpenVMS Management Station functionality
EOE	HA-OE	Clustering technology, Reliable Transaction Router (RTR), and Global Workload Manager agent
MCOE	HA-OE	Global Workload Manager agent

HP Services

HP services are designed to lower your IT costs, increase availability, reduce the complexity of multivendor services, and to enable system implementation. You can trust the HP services professionals to keep your IT organization competitive and to evolve as your business needs change.

HP Care Pack Services: We offer custom support solutions that cover the entire IT solution lifecycle to help you design, deploy, integrate, and manage an agile infrastructure. **www.hp.com/support/services**

HP Mission-Critical and Proactive Services: Provides uptime for your environments. **www.hp.com/services/missioncritical**

HP Storage Services Portfolio: Helps you manage, enhance, reduce costs, and streamline your storage environments. **www.hp.com/services/storage**

HP Data Center Services: Helps you transform your data center into an energy-efficient data center that can meet your needs today and tomorrow. **www.hp.com/services/datacenter**

For information about the OpenVMS V8.4 new features, see:

HP OpenVMS V8.4 new features and documentation overview: **www.hp.com/go/openvms/doc/**

HP OpenVMS V8.4 for Integrity and Alpha servers Software Product Description: **www.hp.com/go/ovms-spd-docs**

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