VERITAS

InfoScale Enterprise Version Comparison

Features	7.1 -7.4.1	7.4.2	8.0	Feature Notes
Application & OS Support				
Support for Oracle 19c	✓	✓	✓	Support for single-instance configurations with Oracle 19c
Support for SUSE 15	✓	✓	✓	Support for SUSE Linux Enterprise Server 15
Support for RHEL 8	✓	✓	✓	Support for Red Hat Enterprise Linux 8
Support for Windows Server 2019	✓	✓	✓	Support for Windows Server 2019
Veritas Cluster Server (VCS)				
Rolling upgrade of cluster nodes with different versions of the VCS engine		✓	✓	You can configure InfoScale clusters with nodes that run different versions of the VCS engine, allowing rolling InfoScale upgrades with zero cluster downtime and reducing application downtime to the time it takes to failover a service group.
Improved VCS password encryption		✓	✓	The VCS component now uses the AES-256 algorithm to encrypt the VCS user and VCS agent passwords by default for enhanced security. The **vcsencrypt** utility and the **hauser** command generate passwords that are encrypted using the standard AES-256 algorithm.
Intelligent Monitoring Framework (IMF)–aware mount agent		✓	✓	IMF for mounts is now supported for the Veritas File System (VxFS), ext4, XFS, and NFS file system types, providing faster fault detection and reducing monitoring load on the servers.
Intelligent Monitoring Framework (IMF)–aware SambaShare agent	✓	✓	✓	The SambaShare agent, used for monitoring Windows SMB shares mounted to Linux servers, is now IMF–aware.
Support for up to 128 nodes in a cluster	✓	✓	✓	Supported features include: ▪ Concatenated and striped volume layout ▪ Thin provisioning and thin reclamation ▪ Veritas File Replicator (VFR) ▪ Volume grow and shrink operations master switching and preference ▪ Command shipping ▪ Private region I/O shipping ▪ Split and join operations on disk groups ▪ Volume re-layout, hot relocation ▪ SCSI-3 I/O fencing for avoiding network split brain ▪ Data disk fencing for preventing I/Os from nodes that are not part of the cluster ▪ LLT over Ethernet and online coordination point replacement (SCSI-3 to SCSI-3 mode)

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Support for migrating applications from one cluster to another	✓	✓	✓	The Application Migration add-on lets you migrate applications that are under VCS management from one cluster to another.
VCS agent for Oracle supports Oracle Flex ASM	✓	✓	✓	The VCS agent for Oracle supports the Oracle Flex ASM feature. It detects Flex ASM in your installation and extends high-availability (HA) support to the configuration. The disk group status is reported based on the configured ASM cardinality.
Storage				
Improved Non-Volatile Memory Express (NVMe) SSD support			✓	InfoScale on Linux uses NVMe IOCTL instead of SCSI inquiry to detect NVMe attributes to support RHEL 8 and improve Flexible Storage Sharing (FSS) performance on all Linux platforms.
Protection against ransomware	✓*	✓	✓	The VxFS protects against ransomware with: ▪ Host-based data isolation (split mirror) ▪ Write once, read many (WORM) volumes *(7.4 and later) ▪ Audit logging
Improved FIPS 140-2 compliance			✓	For encrypted volumes created with disk group version 300 or later, InfoScale uses the FIPS 140-2 standards to validate the wrapping key (KEK) that secures volume encryption.
Improved Flexible Storage Sharing (FSS) performance		✓	✓	Support for configuring LLT over UDP with multiple ports, which improves parallelism and FSS I/O shipping throughput.
Adaptive synchronous Veritas Volume Replicator (VVR) replication		✓	✓	The adaptive synchronous mode in VVR is an enhancement to the existing synchronous override mode. In the adaptive synchronous mode, replication switches from synchronous to asynchronous based on cross-site network latency. This process allows replication to take place in synchronous mode when network conditions are good and automatically switch to asynchronous mode when there is an increase in cross-site network latency.
Support for disk group–level encryption key management and the re-key operation		✓	✓	InfoScale supports the use of a single KMS key for all volumes in a disk group. Consequently, you can maintain a common KMS key at the disk group level instead of maintaining an individual KMS key for each volume.
Support for volume encryption	✓	✓	✓	Veritas Volume Manager (VxVM) provides advanced security for data at rest through encryption of VxVM data volumes.
Support for replication of encrypted volumes	✓	✓	✓	To enable volume encryption for RG volumes, you need to perform a few settings on primary and secondary volumes. To facilitate the process, execute the **vxsetupencryption** utility for each disk group that is to be replicated. The vxsetupencryption utility sets consistent encryption keys on primary as well secondary volumes.
SmartAssist – SmartIO Caching Profilertool	✓	✓	✓	SmartAssist is now installed as part of VxVM. It supports many targets such as the VxVM volume, the VxVM disk group, the ZFS or VxFS mount point, the CFS mount point, the CVM volume, and the database instance.

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Support for Network File System version 4 (NFSv4)	✓	✓	✓	InfoScale storage now supports NFSv4.
Support for migrating Oracle databases from Oracle ASM to Veritas File System (VxFS)	✓	✓	✓	Support for real-time migration of single-instance Oracle databases hosted on Oracle ASM disks to VxFS systems mounted over VxVM disks.
Virtualization				
Virtualization support for Microsoft, Nutanix, and VMware	✓	✓	✓	▪ Microsoft Hyper-V 2016 ▪ Nutanix AOS 5.10.5 ▪ VMware ESXi 6.5U3, 6.7 U3, and 7.0
Kubernetes & Containers				
Red Hat OpenShift support			✓	Red Hat Certification for Operator and CSI Plug-in Validation enables easy InfoScale container deployment and lifecycle management.
Native Kubernetes support on Linux			✓	Kubernetes support lets you orchestrate and schedule containers in InfoScale clusters, providing improved application availability and advanced storage management. Native deployment of InfoScale supported on Oracle Linux 8.4 and SLES 15 SP2.
Persistent Volume support			✓	Static or dynamic storage provisioning for Kubernetes workloads via CSI Plug-in v1.2. Support for RWX/ RWO/ROX access modes.
Persistent Volume scaling and migration			✓	Provides scaling and migration of InfoScale persistent storage volumes with minimal disruption.
I/O Fencing for Persistent Volumes			✓	Prevents data corruption by allowing only the active cluster nodes to write to the volume. The I/O fencing feature recovers from cluster disruptions quickly by ensuring application pods are moved to another node to continue normal operations.
Stateful Workloads support			✓	Cloud-native storage and data services for stateful Kubernetes applications.
Persistent Volume snapshot support			✓	Creates snapshots of Persistent Volumes for backup products, data analytics or forensic discovery, and analysis.
Disaster recovery (DR) support			✓	The DR feature (Tech preview in 8.0) provides the ability to test and validate DR capabilities by migrating Kubernetes cluster metadata and application components to a peer cluster in case of a local or remote disaster.
Automatically provision storage for Docker containers	✓	✓	✓	The Veritas Volume driver enables the Docker daemon to automatically provision storage to Docker containers.
Application monitoring inside Docker containers	✓	✓	✓	The InfoScale Application Agent is enhanced to support application monitoring in Docker containers.

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Cloud				
Support for configuring volume replication in the Amazon Web Services (AWS) Cloud	✓	✓	✓	You can now configure replication between Amazon EC2 instances, which is used to support various HA and DR scenarios for applications in the AWS Cloud. VVR is used to configure stand-alone replication between Amazon EBS volumes. Cluster volume replication (CVR) is used in clustered environments with single-node and multi-node clusters. With Veritas Flexible Storage Sharing (FSS) technology, you can create shared-nothing clusters by sharing Amazon EBS volumes over the network.
New high-availability agents for Google Cloud Platform (GCP)	✓	✓	✓	InfoScale has introduced the GoogleIP and the GoogleDisk agents for GCP environments.
New high-availability agent for AWS	✓	✓	✓	InfoScale has introduced the EBSVol agent for AWS environments.
Support for Amazon Simple Storage Service (S3) connector	✓	✓	✓	InfoScale now supports the use of S3 connectors with VxVM. The S3 connector lets you use cloud storage as a tier to manage your storage needs with agility and flexibility. With the S3 connector, you can build a hybrid storage environment that seamlessly integrates local on-premises storage with cloud storage.
Support for file-level tiering to migrate data using cloud connectors	✓	✓	✓	InfoScale supports file-level tiering to migrate data using cloud connectors.
Veritas InfoScale Operations Manager (VIOM) enhancements		✓	✓	Improved visibility into information on InfoScale clusters hosted in Microsoft Azure.
Enhancements to SAP HANA support in Microsoft Azure		✓	✓	Removes possible single-point failures.
DevOps				
Ansible support	✓	✓	✓	You can now use Ansible modules in playbooks to install or upgrade InfoScale, deploy clusters, or configure features such as Flexible Storage Sharing (FSS), Cluster File System (CFS), and Disk Group Volume.
Enhanced support for Ansible		✓	✓	You can now use Ansible to add and delete nodes in a cluster, configure fencing, configure a cluster with LLT over UDP, create volumes based on disk tags, configure, and create resources for VVR and Cluster, Volume Replication (CVR), and to create a single-node cluster.
Use Chef to deploy and configure InfoScale	✓	✓	✓	You can now deploy and configure the InfoScale product suite in your environment using Chef.

About Veritas

Veritas Technologies is a global leader in data protection and availability. Over 80,000 customers—including 87 percent of the Fortune Global 500—rely on us to abstract IT complexity and simplify data management. The Veritas Enterprise Data Services Platform automates the protection and orchestrates the recovery of data everywhere it lives, ensures 24/7 availability of business-critical applications, and provides enterprises with the insights they need to comply with evolving data regulations. With a reputation for reliability at scale and a deployment model to fit any need, Veritas Enterprise Data Services Platform supports more than 800 different data sources, over 100 different operating systems, more than 1,400 storage targets, and more than 60 different cloud platforms. Learn more at www.veritas.com. Follow us on Twitter at @veritastechllc.

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