



Veritas InfoScale

Software-Defined Infrastructure
for the Enterprise.

CHALLENGES

Data center transformation continues to alter business landscapes at an exponential rate. Nowhere is the impact more evident than in how organizations evaluate the role of IT in their business. IT departments are now expected to deliver on new expectations:

- Support modern trends and approaches such as hybrid and native cloud, data-driven workloads, virtualization and flash storage.
- Support multi-vendor, multi-cloud IT deployments spanning physical, virtual and cloud environments.
- Execute corporate migration challenges and risk reduction initiatives to meet goals.
- Transition IT from a cost center to a critical revenue generator.

A major goal of IT in modern businesses is to deliver a competitive edge by supporting the mission-critical applications that are an organization's lifeline. However, adopting an application-focused approach leaves organizations struggling with multiple challenges:

- **Business continuity**—Regardless of whether business-critical applications are deployed in physical, virtual or cloud environments, it is imperative to minimize any downtime because such incidents have direct business impacts.
- **Application demands on infrastructure**—Modern applications have varying performance, storage capacity, recovery point objective (RPO) and recovery time objective (RTO) needs that are difficult to achieve using existing infrastructure and without massive new IT investments.
- **Modern technology orchestration**—Adopting new technologies is complex and the benefits are often outweighed by business disruptions, vendor lock-in, massive CapEx investments and compromises on data and application availability.

SOFTWARE-DEFINED STORAGE

Veritas InfoScale™

Veritas InfoScale is a workload-centric storage virtualization solution that abstracts applications from their underlying infrastructure, enabling enterprise-grade functionality around business continuity, performance optimization, orchestration and agility (see Figure 1). InfoScale insulates applications from infrastructure changes that would otherwise require extensive and expensive changes to applications and processes. It is especially effective in situations where modifying the application is difficult or impossible—such as in the case of services that leverage traditional database platforms. InfoScale's software-defined infrastructure increases flexibility and application performance by virtualizing back-end storage and transforming it into a pool of capacity that increases server and storage efficiency.

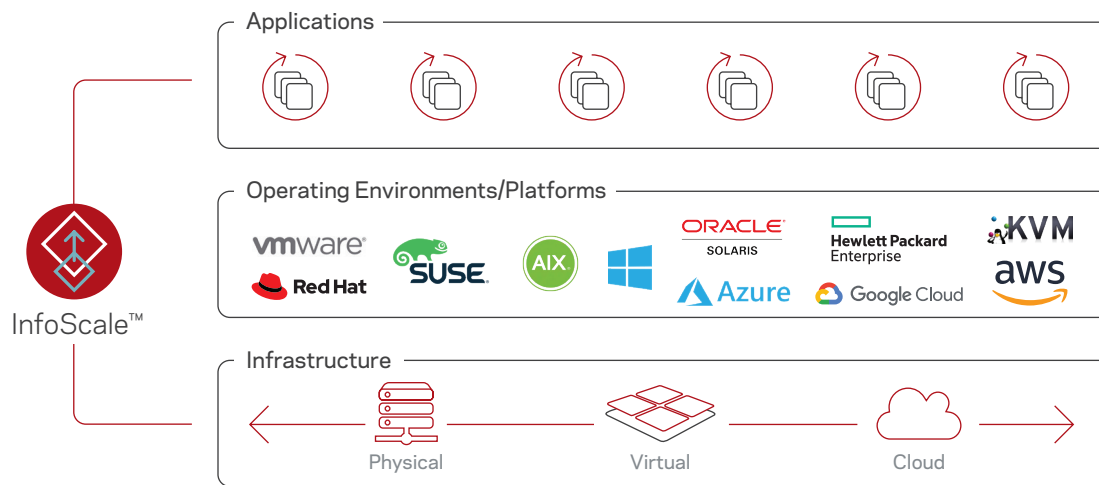


Figure 1. InfoScale is the software-defined bridge between tier one applications and infrastructure.

INFOSCALE BENEFITS

InfoScale's software-defined infrastructure offers distinct benefits such as greater agility and enhanced quality of service (QoS) by supporting all major platforms including hypervisors, Unix, Linux™ and Windows® on your hardware of choice. Using a single, InfoScale-based solution to manage different types of storage—including spinning disks, solid state drives, storage area networks (SANs), direct-attached storage (DAS) or “just a bunch of disks” (JBOD)—greatly simplifies storage management and reduces costs.

InfoScale comprises a suite of software products that offer a variety of advantages including those described below.

Ensure Availability and Quality of Service for Mission-Critical Applications

Normally, all applications accessing data from the storage pool get the same level of storage performance. Not all applications are born equal, however—some are more mission-critical than others. Veritas SmartIO allows administrators to match the QoS to the importance of the application, essentially fine-tuning the infrastructure to hit important service-level agreements (SLAs) while minimizing overprovisioning of resources. SmartIO can be enabled at the block or file level to satisfy SLAs and applications' performance characteristics without manipulating the architecture or requiring downtime.

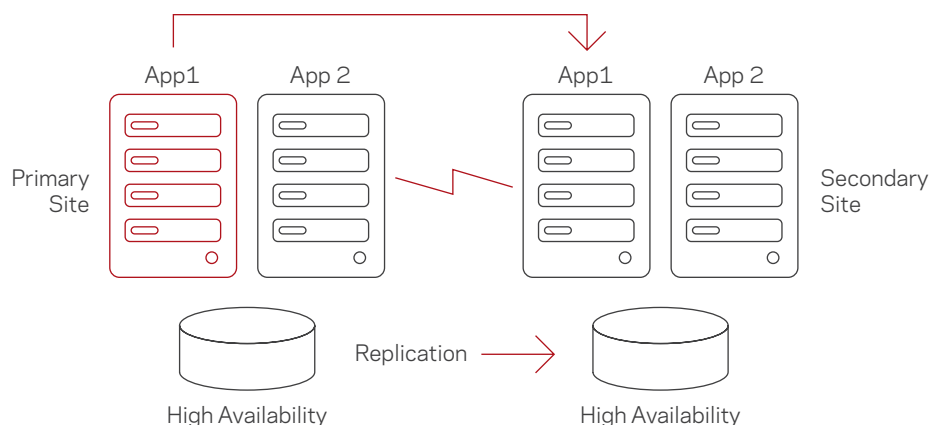


Figure 2. InfoScale includes local, metro and global recovery options.

InfoScale also protects an organization's most important IT services against unwanted downtime through effective application monitoring, visibility and insight. Virtual Business Services (VBS) in InfoScale is aware of a complete business service and takes action in the event of a failure to restore the entire service (see Figure 2). When an individual component fails, VBS automatically orchestrates the connection to other computing resources, on-site or across sites, providing faster recovery and minimal downtime with no manual intervention.

InfoScale enables predictable recovery times for business services by providing single-click recovery options locally (high availability), in a metro region (through campus clusters) and globally (through wide-area disaster recovery). InfoScale automates the process of replication management and application startup at the remote site without the need for complicated manual recovery procedures that require storage and application administrators.

InfoScale also includes Fire Drill, a tool that simulates disaster recovery (DR) tests by starting up an application at the DR site as it would in an actual disaster. Because it is a simulation, Fire Drill does not disrupt production applications, so it can be run as often as necessary, eliminating the need for extensive manual weekend testing.

Leverage In-Server Storage Capabilities

Traditionally, a SAN is needed to provide high availability for data. When a node fails, data needs to be accessible to other nodes. Because InfoScale virtualizes back-end storage into a pool of capacity that all servers can use, DAS is always accessible.

Flexible Storage Sharing is a feature of the Veritas Cluster File System that enables any local device to be shared with other members of the cluster. It combines shared and direct-attached storage for near-local read and write performance to and from remote disks. This approach results in a highly resilient configuration, extending traditional volume manager and file system capabilities to “shared nothing” environments.

Benefits of the Veritas approach to flexible storage sharing include:

- **Flexibility**—Any type of storage can be used and nodes can be easily added and removed.
- **Reliability**—Sharing doesn't compromise reliability. Using data replication, multiple copies of the data are maintained across nodes so there's no data loss, even if a node goes down.
- **Support**—Both InfiniBand and Ethernet are supported as interconnects, which provides flexibility in balancing infrastructure performance and costs.

Safeguard Data with Advanced Storage Service Capabilities

InfoScale includes advanced services such as storage tiering, dynamic multipathing, thin reclamation, deduplication, compression and embedded cache for solid state devices. These advanced storage services can be delivered across any platform, including Linux®, Microsoft® Windows® or virtual machines (VMs).

InfoScale's advanced storage services offer:

- **Built-in deduplication and compression**, reducing the primary storage footprint.
- **Increased storage utilization** across heterogeneous environments, which improves usage and efficiency across all major operating systems.
- **Automated storage tiering** that seamlessly and transparently moves data based on business value.
- **I/O path availability and performance** efficiently spreads I/O across multiple paths, providing maximum performance, path failure protection and fast failover.
- **Thin provisioning optimization** nondisruptively migrates data to thinly provisioned storage, with the ability to reclaim capacity automatically.
- **Local and remote data protection** safeguards data across any environment with point-in-time copies, mirroring and data replication.

Simplify Storage Management with Automation

By using defined policies, InfoScale simplifies management and helps storage administrators focus on higher-level tasks rather than being distracted by immediate problems that can degrade SLAs. InfoScale Operations Manager centrally manages application, server and storage environments, delivering faster application deployment and higher service levels while reducing errors. Operations Manager can also identify and visualize potential application and storage problems by correlating health and status across multiple applications, servers, storage and replication resources.

Ensure High Performance with Scalability

InfoScale scales storage infrastructure without disrupting availability, QoS or SLA performance, making it ideal for application scale-out while delivering optimum performance and data integrity. Flexible storage sharing supports scalability by non-disruptively allowing the addition of storage and compute nodes.

Reduce Costs by Choosing Any Hardware Platform or Vendor

InfoScale solutions are platform-agnostic. The benefits of this approach include reduced operational costs and capital expenditures across storage platforms, regardless of the hardware and software supplier.

NEXT STEPS

A software-defined infrastructure solution is often the easiest route to enhanced performance and infrastructure flexibility. For enterprises that require high performance without compromising flexibility or data availability, Veritas InfoScale maximizes storage efficiency, data availability, operating system agility and performance across heterogeneous server and storage environments. Visit [Veritas InfoScale](#) for more information.

ABOUT VERITAS TECHNOLOGIES LLC

Veritas Technologies is a global leader in enterprise data management. Over fifty thousand enterprises—including 90% of the Fortune 500—rely on us to abstract IT complexity and simplify data management. Our 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 supports more than 500 data sources and over 150 storage targets, including 50 clouds. Learn more [veritas.com](#). Follow us on Twitter at [@veritastechllc](#).

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