

# How to Build an Always-On Infrastructure

## NINE STEPS TO MEET DEMANDS OF A RAPIDLY EVOLVING BUSINESS LANDSCAPE

Real-time customer expectations are driving the need for an always-on business environment. To keep pace with these demands, organizations need to deploy innovative, mobile solutions and manage explosive data growth, while also reducing risk and costs.

To gain a competitive advantage, organizations need an always-on infrastructure that is futureproof, reliable, adaptable and responsive to change. To accomplish this, data center technologies must be software-defined, automated, high-performance, scalable, nondisruptive, extensible and virtualized.

The following nine steps give you a framework to build an always-on infrastructure at your organization.

### 1. ANALYZE EVERYTHING

IT infrastructures continue to grow in size and complexity. With separate virtual server, storage and network infrastructures, organizations are challenged to identify how to optimize end-to-end IT operations. When you assess your infrastructure, you should first determine which applications and data are most critical, the costs and benefits of your current infrastructure, and the appropriate level of protection required. A thorough analysis also includes the collection of configuration and capacity data for virtualized server environments, NAS and file sharing, as well as network footprint and performance.

### 2. CONSOLIDATE EVERYTHING

With the rampant rise in unstructured data storage requirements, traditional separate file and block solutions are no longer adequate to meet business cost-efficiency goals. In addition to lower overall costs through reduced capital expenditures, lower utility costs and saved space, consolidation offers several benefits to this challenge. Intelligent consolidation of file, block and object data on a central platform extends the life of existing storage assets. And reducing data silos makes it easier to analyze data and gain valuable insights, reclaim unused storage capacity, simplify management and meet service level objectives.

### 3. VIRTUALIZE EVERYTHING

Transform legacy silos of IT resources in converged, virtualized pools, to extract greater value and deliver the computational and data capacities that your stakeholders require. To achieve the greatest benefits from server virtualization, virtualize your storage solution to allow similar consolidation and flexibility benefits to those achieved at the server level. Also, allow for tiering, which optimizes performance. Support for all data types a virtual server may need is also critical, as it helps to deliver greater capacity efficiency and data access.

### 4. ACCELERATE WITH FLASH

Business-critical applications require maximum responsiveness to deliver faster access to data and to accelerate response times and foster productivity. Select a flash technology that scales to meet even the most demanding growth requirements. The right flash solution also provides lower cost-per-bit density than commodity flash methods and offers the flexibility to mix media types to best match costs to required performance.

### 5. STREAMLINE OPERATIONS

Building an always-on infrastructure requires automation to streamline IT operations. Automation at this level means leveraging built-in intelligence and tools to detect changing conditions and optimize assets. Automation not only promotes lower operating expenditures and alleviates manual intervention, but it also corrects performance issues and bottlenecks by moving data to the right tier at the right time. Policy-based provisioning also dials down complexities to encourage application-aligned management and service level attainment.

## ❑ 6. PROTECT DATA

With increased amounts of data from more devices than ever, traditional data protection methods no longer meet the needs of today's enterprise. To protect data and support compliance with regulations, you need to reduce the amount of data that needs protection, improve backup and restore performance, and simplify data management. Reduction of data takes a load off production systems and lowers the cost of primary storage. This is accomplished through policy-based archived (or tiered) data to a self-protected storage platform. Snapshot, cloning and replication technologies improve backup and restore performance. Managing all storage-based copy technologies from a central interface enables improved data protection policies and reporting.

## ❑ 7. STREAMLINE BACKUP

There simply isn't enough time to perform full backup of large databases without impacting user productivity and, ultimately, enterprise performance. Storage-based snapshot and replication technologies reduce risk by elimination of the backup window and increased frequency of backups. Application-aware snapshot technology streamlines, centralizes and simplifies snapshot and replication management across storage platforms. It also automates and orchestrates recovery of objects, applications and databases.

## ❑ 8. ENSURE EFFECTIVE DISASTER RECOVERY AND BUSINESS CONTINUITY

To ensure effective disaster recovery and business continuity, you should first determine which solutions best fit the various resilience requirements of your organization. An advanced set of disaster recovery and business continuity solutions for hardware- and software-based replication offers several benefits. For example, they allow advanced multi-data-center replication strategies to copy data beyond wide-area disaster range with full data integrity and no data loss. These solutions also avoid impact on application performance and bring data back online quickly and efficiently through enhanced tools that automate system failover and failback.

## ❑ 9. ACHIEVE ACTIVE-ACTIVE INFRASTRUCTURE

To ensure continuous operations of key applications, provide nonstop data access, and refresh systems without downtime, you need an active-active infrastructure. A global-active device assures that an active and up-to-date storage volume is available to a production application, despite the loss of a local site or storage system. Also, active-active stretch clusters can be used for nondisruptive workload and data migration efforts. With an active-active infrastructure, your organization gains greater flexibility, reliability and resiliency with eliminated downtime for mission-critical data and applications.

## SUCCEED IN AN ALWAYS-ON WORLD

Hitachi believes that with the right infrastructure in place, and a keen focus on the data center to support the enterprise in all of its endeavors, your business can redefine its future. The transition to an always-on infrastructure will enable more reliable, trusted and cost-effective solutions for your critical business information.

Through proven solutions, flexible purchase options and industry-leading services, we help you build an infrastructure that enables IT to do more to support the business in less time, increasing strategic IT value. We help you transition to a software-defined infrastructure to meet the demands of an always-on world, today and tomorrow.



**Corporate Headquarters**  
2845 Lafayette Street  
Santa Clara, CA 96050-2639 USA  
www.HDS.com community.HDS.com

**Regional Contact Information**  
**Americas:** +1 408 970 1000 or info@hds.com  
**Europe, Middle East and Africa:** +44 (0) 1753 618000 or info.emea@hds.com  
**Asia Pacific:** +852 3189 7900 or hds.marketing.apac@hds.com

© Hitachi Data Systems Corporation 2015. All rights reserved. HITACHI is a trademark or registered trademark of Hitachi, Ltd. All other trademarks, service marks, and company names are properties of their respective owners.

CL-013-A DG April 2015