

Hitachi Data Systems Cloud Solutions

The integrated portfolio of Hitachi cloud technologies, solutions and services simplifies and accelerates the adoption of private, hybrid and public cloud environments. You can adopt cloud cost-effectively and at your own pace, with existing IT investments.

Rapid, Flexible, Scalable IT Service Delivery

Data center complexity and massive data growth multiply the computing and resources required to store, process, optimize and serve information to end users. Many organizations are moving to a cloud service delivery model in order to remain agile and competitive, and to improve operations and cost efficiency.

Cloud Computing

Cloud computing is not a product. It's a way to deliver IT services in an on-demand, rapid, flexible and scalable fashion. Hitachi Data Systems (HDS) lets you choose your best cloud delivery method, deployment model and underlying infrastructure, all at your own pace.

For on-demand IT delivery, private, hybrid and public cloud models have many benefits, including significant cost savings. Organizations often overpurchase for future growth, fluctuating needs and segmented business silos, leaving many underutilized hardware resources. Cloud computing grows and contracts storage resources in concert with business needs, minimizing up-front capital expense and moving many "fixed costs" to "variable costs."

HDS lets you move data from your existing environments into the cloud without disrupting applications or users. A single, virtual pool of storage with a host of key cloud attributes can be provisioned for all types of IT services on demand. They are delivered via different hardware and software solutions that provide "on-ramps" to storage for applications and consumers of cloud services, without disruption to the business.

Cloud Solutions

Hitachi Data Systems cloud solutions provide seamless access to all information and IT resources. Companies can gain agility by leveraging the ability to rapidly provision or relinquish a service and dynamically scale up or down an existing service without pre-planning. With our block storage layer, we can build a very large and scalable storage foundation. Add our file and content portfolio for connectivity options and features, such as data management, protection and discovery. With multiple cloud delivery options, including services, we provide integrated, modular cloud solutions for private, hybrid and public deployments, which let you adopt cloud at your

own pace and while protecting your existing investments.

- Reduce cost with intelligent management of multitiered infrastructure.
- Simplify IT environment; operate efficiently.
- Mitigate risks with a secure, highly available infrastructure.
- Ensure service level agreements (SLAs) with enterprise-class hardware and software.
- Populate the cloud from multiple sources within existing environments, without disrupting applications or users.

Integrated Cloud Portfolio

Hitachi Data Systems delivers premier cloud storage infrastructure and services that deliver integrated, elastic, virtualized and highly available cloud environments for all data. Our cloud storage solutions are secure, flexible, scalable and easy to manage, enabling users to meet SLAs and improve operational efficiency. HDS also delivers fully managed consumption-based private cloud services, helping users reduce

CAPEX and OPEX. At the same time, these services provide the agility to grow and shrink capacity to meet the ever-changing demands of the business. Our integrated portfolio includes the following:

Technology

- Integrated content and file portfolio
- Enterprise and modular storage
- Converged data center solutions
- Compute
- Management software

Delivery

- Hitachi Data Systems managed services
- Technology packaging
- Delivery with partners
- Multiple financial models

Solutions: Infrastructure Cloud

- Hitachi Cloud Service for Private File Tiering
- Hitachi Cloud Service for File Serving
- Hitachi Cloud Service for Microsoft® SharePoint® Archiving
- Self-service Cloud Management Portal
- Digi-Data online storage

Cloud Technologies

Hitachi Data Systems has a number of advanced, cloud-enabling technologies and delivery models to support private cloud environments. We also have providers looking to offer infrastructure as a service, platform as a service and/or application as a service.

With partitioning and replication in Hitachi storage systems, you can isolate data for use in public or private clouds, so a single infrastructure serves both roles. A few key technologies include:

* Powered by BlueArc®
 **Powered by CommVault®

BENEFITS OF HITACHI DATA SYSTEMS CLOUD SOLUTIONS

Gain Business Agility

- Grow or shrink capacity and resources on demand.
- Speed time to value and time to market.
- Use data mobility services for nondisruptive upgrades and greater uptime.

Save on Capital and Operational Expenditures (CAPEX and OPEX)

- Enable “just in time” consumption.
- Reduce management overhead.
- Save on hardware and licensing fees.

Maximize Utilization

- Allow greater consolidation and efficiency with multitenancy.
- Free up primary systems by moving inactive content to the cloud.
- Align information to IT and quality of service (QoS) tier based on value.

Extract the Value of Data

- Provide intelligence, content awareness, application independence and automation needed for big data situations.
- Make information easier to find, share, manage and repurpose.

Investment Protection

- Proceed at your own pace.
- Increase return on assets by extending useful life.

Replication. Hitachi ShadowImage® Heterogeneous Replication or ShadowImage Replication software replicates “in the box.” Content created on another platform is immediately available for review on the public cloud using Hitachi Content Platform. Hitachi Dynamic Provisioning software defines virtual disk storage and allocates only enough physical storage to meet short-term requirements. Additional storage capacity can be allocated from the Dynamic Provisioning pool with no impact to the cloud infrastructure’s availability.

Data mobility. Hitachi Tiered Storage Manager with Hitachi NAS Platform* and Hitachi Data Protection Suite** enables secure and transparent data mobility between storage tiers. It reduces risks and easily moves data within your storage cloud.

Multitenancy. Hitachi Content Platform enables a truly multitenant environment. SLAs can be assigned to specific data types or applications. Multitenancy, global

namespaces, access rights and security layers prevent unauthorized access and ensure security and privacy among constituents.

HDS also offers compression and single instancing to improve cost savings, encryption to provide greater security, and billing and chargeback for you to bill consumers based on consumption. With protocols and 3rd-party technologies, HDS helps you leverage existing IT investments and let legacy devices inherit cloud attributes. This keeps the cloud from becoming just another silo or requiring a complete refresh of hardware and software.

Your Hitachi Data Systems Cloud Solutions

To learn how our solutions can help you maintain IT agility, with an on-demand service model for today and a solid data center foundation for tomorrow, please visit www.hds.com.



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