Hitachi Content Platform

Combine the Best of Public and Private Cloud

Visibility, Management and Control of Data Across Workloads and Clouds

REST / S3 / Cloud Native Applications   **File Services**   **NextGen Applications**

Traditional Applications | S3 Enabled Applications | Big Data Integration | Cloud File System | Parallel File System | Modernize

The Hitachi Content Platform (HCP) is a highly reliable, flexible, and powerfully secure object storage platform designed for managing unstructured data across workloads and clouds. Its multi-cloud architecture delivers portability of data and comprehensive S3 compatibility for cloud-native applications. The platform is tightly integrated with ultra high-performance, content intelligence, gateways, sync and share, and **Hitachi Network Attached Storage** (HNAS). This includes **Hitachi Content Software for File** for high-performance parallel file, HNAS to leverage object storage for data offload and **HCP Anywhere Enterprise** to halt ransomware attacks in real time.

Flexibility

HCP provides massive scale, cloud capabilities, and broad protocol support. A single cluster can scale to more than an exabyte of data under management, supporting hundreds of billions of objects. All-flash configurations are supported, along with policy-driven tiered storage. HCP scales performance and capacity independently, enabling a more cost-effective outcome.

Customers have many configurations and deployment options with HCP. Use cases span traditional archive and backup to newer cloud-native, AI/ML and analytics workloads. HCP's broad portfolio includes appliance, software-only, cloud, on-premises, multiprotocol, and all-flash configurations.

There is a wide range of financial models from consumption-based pricing to
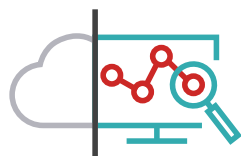
SW-Defined | Integrated Application | Hybrid Cloud | Intelligent Management

Key Features

Storage Efficiency

- Data compression and deduplication increase usable storage capacity.
- Policy-based cloud tiering migrates cold data to S3 storage.
- Configurable Polyphase Erasure Coding improves storage efficiency with better data and parity placement.
- Mirroring enhancements reduce the storage needed for data protection.

Operations Management

- Comprehensive performance and capacity alert metrics and reports.
- Hitachi APIs support infrastructure-as-code operations.
- Integrated with cloud-based Ops Center Clear Site to simplify operational use and include fleet-wide telemetry.
- Added performance, capacity and alert metrics to Grafana dashboards and Hitachi Ops Center View Point.

managed services. These include traditional term and modern perpetual licenses, subscriptions with different service levels, and traditional leases and licenses. HCP is included in Hitachi's XaaS offerings and data assurance guarantees.

This flexibility expands with HCP's ability to connect to multiple storage targets simultaneously, with multiple protocol support. HCP supports seven ingest protocols: HTTPS (REST), S3, CIFS/SMB, NFS, SMTP, WebDAV and Swift. A unique feature of HCP is that data ingested via any one protocol is fully accessible by every other protocol. For other products it is common that clients are restricted to only using the same protocol that was used for initial ingest for all subsequent reads.

Massive Ecosystem

Thousands of HCP customers benefit from the industry's most capable metadata architecture and object storage features. HCP's overall feature set tightly integrates with over 200 applications from an ecosystem of 80 independent software vendors (ISVs) for data protection, performance-related workloads, and data-driven insights. **Hitachi's comprehensive compatibility guide** provides a complete list of certified ISVs.

Reliability

HCP assures business continuity and delivers compliance from the edge and across private clouds and public cloud services. Built-in data resiliency keeps your data always available, protected, and secure. Hitachi Content Platform enables trusted content mobility with full visibility of all the control points where data enters, exits and exists across a global IT landscape. Object storage is now a primary target for new cloud-native applications, so reliability and availability are paramount requirements.

Hardware failures are inevitable, and their impact on data can be catastrophic. HCP mitigates this risk through its distributed architecture. By replicating data across multiple nodes, object storage safeguards against hardware failures. In the event of a failed component, requests are

automatically redirected to functional nodes, ensuring continuous access to data. This redundancy protects organizations from potential data loss or service interruptions, enhancing overall system resilience.

HCP leverages patented technology and advanced capabilities to deliver unbreakable data resiliency. Customers experience continuous access to their data with the assurance of HCP's erasure coding and data replication that enables 100% availability and 15x9's of data durability.

Handle the unexpected with smart load balancing that helps manage unexpected outages and activity surges. Self-healing, immutable object-locking, multi-site replication, multi-geo distribution, and global active topology are additional features built-in to HCP. Our erasure code storage appliances have been enhanced with additional disk health analytics of operation and performance logs. The self-healing functionality also has more detectable signatures of recoverable events.

Linear Performance and Capacity

Flash Accelerated Cloud

Put your data to work with HCP's flexible architecture, enabling extreme performance at predictable costs. HCP is designed for hyperscale cloud and enterprise environments, scaling to exabyte capacities with multi-petabyte nodes and extreme performance levels for real-time processing, HPC, AI/ML, and big data repository/data lakehouse solutions. Policy-driven tiering and data placement combined with flash-accelerated storage improve outcomes for applications requiring hyperscale, high-performance and comprehensive S3.

Based upon testing done by ESG for the Hitachi Content Platform and **High-Performance Object Storage for Cloud-native Applications**, time-to-first-byte metrics were gathered in real-time and measured at 50% faster response times and 15x less latency over the previous report.

Hybrid Multi-cloud
- Shared name spaces support reading and writing data from anywhere with control where cached copies reside.
- Patented Polyphase Erasure Coding supports geo-distributed erasure coding across up to six sites.
- 100% compatibility with the Amazon S3 protocol, including SSE-S3 API's, S3 Overwrite Object, S3 Delete Version, and S3 Select.

Scalability and Performance
- Supports solid-state drives (SSDs) to accelerate metadata operations.
- Supports SSDs and hard disk drives (HDDs) to scale performance and capacity.
- HCP includes a highly parallelized tool that saves many hours during deployment of large-scale clusters.
- Enables independently scaling performance and capacity resources up and down as needed.

High Reliability
- Unbreakable through multi-site replication, immutable object locking, and multi-geo distribution.
- Delivers resiliency with no single points of failure with industry-leading 100% availability and 15x9s durability.
- New smart load-balancing handles activity surges to achieve service level objectives.

Flexibility
- Support a wide range of traditional and modern applications with S3, CIFS, SMB, NFS, HTTPS, SMTP, WebDAV, and Swift data access.
- Transform data between formats by ingesting with one protocol and accessing it with another.
- Simplify data migrations between edge, core, and cloud locations.

Scalability

The HCP architecture supports high speed access to information across a high-capacity erasure-coded storage pool. Capacity scales from terabytes to exabytes for object workloads on-premises and in the public cloud, and for distributed applications across hybrid clouds.

Multitenancy divides physical HCP clusters to support multiple tenants assigned to different IP networks. HCP subdivides into thousands of namespaces for additional organization of content, more refined policies, and robust access control.

Secure, Performant, Resilient, S3-Compatible Object Storage Software

Case Study: Significance of Metadata

A large IT services provider used HCP to build a custom cloud-native application to provide digital services for their client. The primary requirement was for a solution capable of massive scale without compromising performance across multiple unpredictable workloads. The previous platform had the ability to scale capacity but not performance, so the user experience suffered. Another key requirement was the ability to locate files quickly and efficiently. Using custom metadata with HCP allowed them to tag the information inside the object store so users could find exactly the information they needed without having to crawl the entire data set. The HCP all-flash cluster demonstrated that it could achieve 15 ms or lower time-to-first-byte, which was more than sufficient for the client's needs and gave them confidence that the solution could handle peak loads and spikes.

Learn More ↗

RWTH Aachen partners with Hitachi to consolidate backup to object services at scale and boost cybersecurity.

Intelligent Data Services

The Hitachi Content Platform works with Hitachi Content Intelligence (HCI) for data quality, deeper search, and analytics. Organizations can use HCI, in conjunction with the intelligent and policy- based tiering inherent in HCP, to perform real-time data classification as data is ingested to identify sensitive information inside of unstructured data. This is based on user-defined criteria and execute actions from user-designed workflows for business, governance, or other objectives.

The combined software can simultaneously leverage multiple different storage targets and cloud services for the data itself and moves data to the appropriate place over time based on value, policies, or workflows for robust data lifecycle management.

Hitachi customers report that HCP is helping them to reduce not only costs but time and effort. For more complex data pipelines, HCP integrates with message brokers like Apache Kafka, RabbitMQ, and AWS SNS.

Robust Compliance and Risk Management

HCP provides functionality that supports organizational efforts to meet the surge of stringent regulatory compliance requirements, including enforceable data retention policies and defensible disposal with the ability to apply multiple legal holds to each object, which is especially important in highly regulated industries.

Rapidly profile data with automatic classification for faster discovery, better understanding, and dependable governance with quicker time to value. Automate processes for storing and protecting data for the correct amount of time based on policies, with the appropriate access privileges, including any deletion requirements for compliance. Hitachi helps customers manage SEC, FINRA, MiFID, and the surge of new regulations on-premises and in the cloud.

Cyber-resilience and Data Security

- Immutable object-locking protects data from deletion and ransomware.
- Strong data encryption protects data against unauthorized access.
- External key management services with KMIP and TLS 1.3 support.
- Support form S3 Bucket Encryption policies and S3 Object Lock.

Cost Management

- Adapts to changing requirements with all-flash and hybrid media options.
- Pick the deployment models (e.g., systems, software, and services) that align with your financial plan.
- Policy-based data placement options optimize storage costs.
- Investment protection with multi-protocol access to the same data.

Flexible Licensing

- Leverage proactively managed infrastructure to support service level agreement (SLA) commitments
- EverFlex provides customers with a choice of financial, consumption and managed services-based offerings.
- Storage-as-a-service options for OpEx models with capacity-based term and perpetual licenses.

Data Protection

Rapidly return to a previously known good version of data with **HCP immutable data**. HCP has multiple data protection mechanisms and supports different hardware combinations, with technology that is very proactive in monitoring for data health and integrity. Other platforms

perform integrity checks only when data is requested, risking data at rest to unrecoverable corruption between uses. HCP monitors data integrity throughout the life of objects.

Infinite Retention

HCP takes care of storage performance and protection so you can focus on servicing and curating the data. Features like dynamic data protection, data retention enforcement, advanced erasure coding and parity design change over time so you are not locked into the technology of today.

Security and Privacy

HCP's security and privacy features are built-in and you do not have to pay extra for additional services. They are available in HCP when you plug it in and turn it on.

Immutability and Authenticity

Policy-based object management guarantees archived data is authentic, available, and secure while guarding against corruption or tampering. HCP supports the Key Management Interoperability Protocol (KMIP) for distributed key management. Security includes S3 bucket encryption policies and TLS 1.3 support.

Encryption of Data at Rest

Customers can select their preferred encryption algorithm, including SHA-1 256/384/512, MD5, and RIPEMD-160. Content is protected against unauthorized recovery from stolen media using patented "secret sharing" technology.

Audit and Search

Part of HCP's robust compliance options include the auditing of significant events. Discovery is delivered via a full context metadata search and indexing mechanism. Data Destruction and shredding is compliant with DOD spec 5520.22-M.

S3 On-Premises Cloud Storage

Openness is also a hallmark of HCP. It has powerful native REST and Amazon Simple Storage Service (S3) based interfaces, permitting seamless WAN or LAN access for new and existing Web 2.0 and mobile applications. Further, it supports the NFS, SMB, SMTP and WebDAV protocols, and offers dual- stack support for IPV4 and IPV6. The platform can handle all kinds of data and almost any application. It offers high reliability, massive scale, seamless data mobility and storage across private clouds and public cloud services with features, such as access control, easy provisioning, and charge-back measurement.

HCP is compatible with the modern S3 APIs made popular by Amazon. HCP supports everything from basic create, read, update, and delete (CRUD) capabilities to advanced analytics functions provided by S3Select. HCP allows for modern applications to utilize the S3 APIs without modification while enabling applications to take advantage of the richer capabilities being defined by S3.

HCP offers S3 object lock for ransomware protection, S3 overwrite for versioning, S3 delete version for lifecycle management, and Select data formats, providing cloud interoperability and sync to and from via APIs. HCP supports S3 event notifications to Kafka and RabbitMQ.

Sustainability

Hitachi is accelerating a sustainable future for all, so HCP provides single instancing, data compression, extremely dense storage, and highly-rated Energy star Power Distribution Units (PDUs). In comparison with leading object storage vendors, HCP delivers increased total savings for power consumption and overall capacity costs. It reduces carbon footprint through intelligent data lifecycle management (e.g., storage location, number copies, timely deletion) that optimizes to reduce cost and environmental impact.

Storage efficiency maintains data integrity while reducing footprint by finding, inspecting, and de-duplicating data. Data compression minimizes storage usage and reduces the size of the data stored in HCP. New 20TB media increases storage capacity by 11%, lowering energy cost per TB per U through greater density. Together, this enables greater storage efficiencies, scalability, and enhanced total cost of ownership.

Learn More

Explore the Hybrid Cloud Storage with Hitachi Content Platform solution brief.

- 2,500+ Customers Globally
- 4/5 Largest Banks and Insurance Organizations Trust HCP
- Leader in Unstructured Data Management by GigaOm
- Top 5 SDS Object Storage by DCIG
- 52 Five-Star Reviews on Gartner

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