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CISCO

SwiftStack Software with the Cisco UCS S3260 Storage Server

Scale-out storage for greater flexibility, performance, and value

Flexibility

- Universal access to your data
- Move data between public and private clouds
- Scale from terabytes to petabytes in a cluster

Performance

- 160 Gbps of bandwidth per node
- Multithreaded access with load balancing

Value

- Simple day-0 deployment
- Easy management
- Better data durability than with RAID

Reduced Risk

- Cisco® Validated Design

Imagine if you had storage for unstructured data that was radically simple to deploy and scale.

How would this capability change the way you manage and grow your on-premises and cloud infrastructure? The Internet of Things (IoT) and digital transformation are driving tremendous growth in the amount of data that organizations must manage, and most of this data is unstructured. According to industry experts, the majority of newly generated data will be unstructured and a small amount will continue to be structured (Figure 1). Scale-out storage systems must address this growth in unstructured data. With even traditional businesses digitizing today, healthcare records, machine data, and video surveillance, as well as multimedia, images, messages, and more, are adding to the dramatically expanding amounts of data. These new data streams require a new architecture for storage that is more scalable and that offers higher performance while still remaining cost effective.

The majority of the world's data is unstructured

Figure 1 Organizations must manage increasingly massive amounts of unstructured data

Flexible and powerful storage solutions with Cisco and SwiftStack

Cisco and SwiftStack have developed a solution that meets the challenges of scale-out storage. This solution uses SwiftStack

Object Storage software with Cisco UCS® S-Series Storage Servers powered by Intel® Xeon® processors (Figure2). Policies help ensure universal access to your data regardless of where your data is physically stored: on your premises, in the public cloud, or in a combination of both environments (hybrid cloud). Common management across the solution delivers fast day-0 deployments and continuing operations. The building-block architecture of this solution makes scaling out fast and easy. You can make changes when your applications demand, without disruption. The high-bandwidth networking helps ensure fast object retrieval and data transfer. This

solution puts muscle behind active archive, video surveillance, data protection, life sciences, media, and entertainment environments.

Radical flexibility

Cisco and SwiftStack deliver universal access regardless of where data is physically located. Now you can move your data close to where it is being processed. As your data grows, this solution easily grows with it.

Universal access to your data

Your data is stored in a single shared name space, enabling you to place data close to your applications, regardless of location.

Freedom to move between clouds

Because of the shared name space between clouds, you can easily move your data across a hybrid cloud. For example, suppose you want to perform some specialized processing on your data. You find that it makes sense to use the public cloud for this short-term need rather than building out that infrastructure yourself. This solution allows you to quickly move the data close to where it will be processed. After the processing is complete, you can move the resulting data set into your data center.
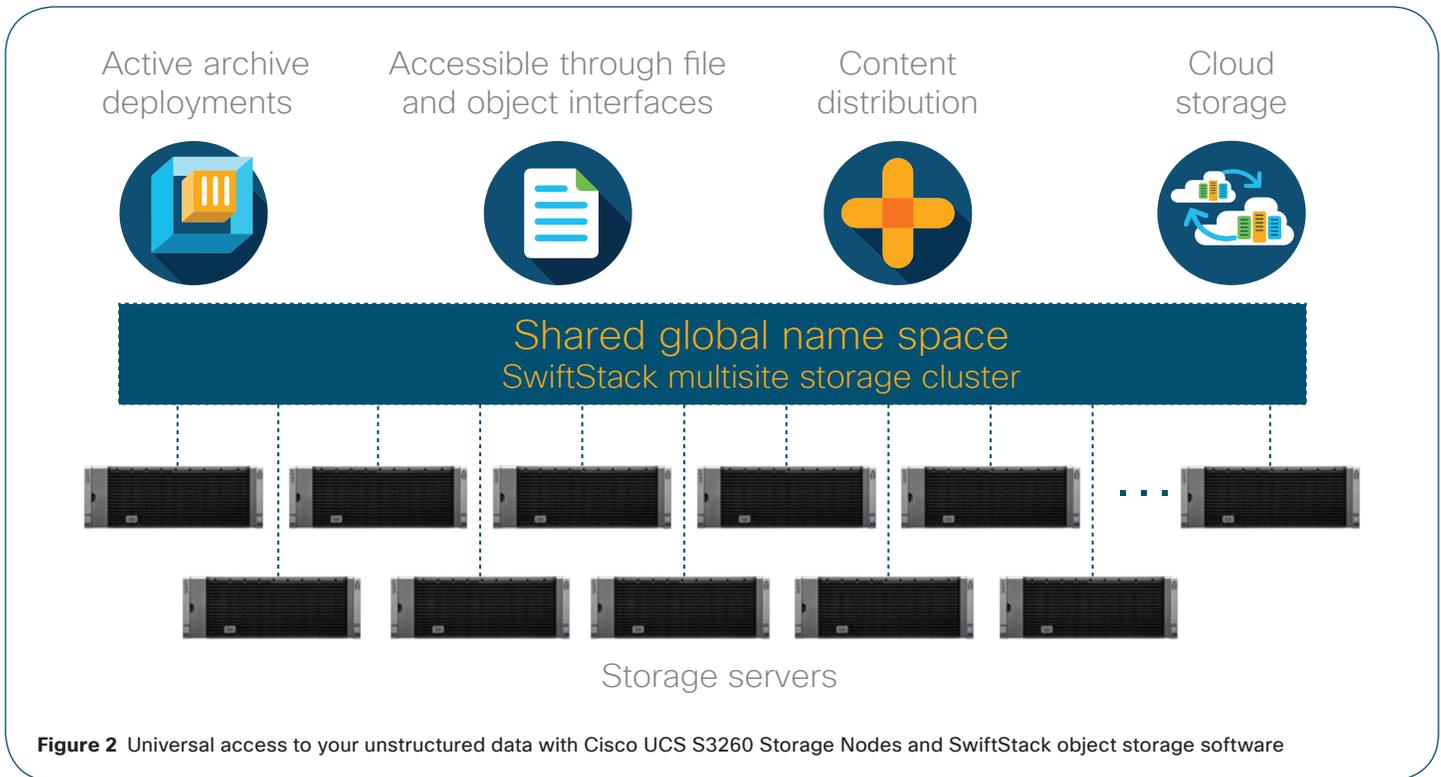

Figure 2 Universal access to your unstructured data with Cisco UCS S3260 Storage Nodes and SwiftStack object storage software

With 160 Gbps network connectivity, you get more bandwidth per node than any other storage solution available today.

Easy, nondisruptive scaling

With this solution, storage resources are elastic. Pay for only what you need now, and add capacity nondisruptively as you need it. You no longer have to overprovision for storage you may or may not need at some later date. With each node, you get two-thirds of a petabyte of storage space. Start where you are today and scale larger with your on-premises or cloud deployment.

Performance

This solution provides high performance and capacity for your data-intensive workloads. The Cisco UCS S3260 Storage Server has a dual-node architecture using Intel Xeon processors. It offers the right balance between computing power and capacity.

High bandwidth

The Cisco UCS S3260 server uses two system I/O controllers (SIOCs). These controllers provide an aggregate of 160 Gbps of network connectivity. No other storage server can deliver this level of bandwidth.

Multithreaded data access with load balancing

SwiftStack Object Storage Software is designed with a two-tier architecture; the proxy tier and the storage tier. The proxy tier interacts with applications to provide read and write services for objects, and it also provides load balancing across the cluster. You can run the proxy tier on dedicated nodes to easily manage and scale performance independent

of capacity. The storage tier stores and protects all objects and can be scaled independently for capacity and availability.

Value

The true value of a solution becomes evident when it supports your business rather than hinders it. This solution is easy to deploy, scale, and manage. You don't have to worry about the durability of your data; the solution is always on and always available.

Simple day-0 deployment and easy management

The SwiftStack Controller provides a single-pane dashboard to manage your entire SwiftStack Object Storage deployment, whether you have a few terabytes at one site or hundreds of petabytes distributed worldwide. The controller enables you to manage, deploy, scale, upgrade, and monitor the object storage system through APIs and a browser-based dashboard.

More data durability than RAID

SwiftStack is designed to withstand hardware failures without any downtime. Because cluster nodes can be globally distributed, major disasters won't stop your data from getting to you.

Best practices suggest replicating data to three unique locations of the cluster. You can use the erasure coding option for increased utilization. Because of its distributed architecture, standard cluster

Our solution delivers 12-nines data availability and enables rolling updates without application downtime.

configurations deliver 12-nines availability: equivalent to less than 1 second of downtime per year. This availability is significantly better than that offered by any traditional RAID level.

This high availability allows you to maintain, upgrade, and enhance the storage system without the downtime associated with traditional storage systems. For example, with one click, the solution performs all the steps needed to implement rolling updates across all nodes automatically in the background with no application downtime. Your staff no longer needs to schedule maintenance late at night or on holidays.

Reduced risk

Cisco and SwiftStack have worked together to create a Cisco® Validated Design for this solution. The design document uses data center best practices to provide a prevalidated recipe for success, with all details listed in an easy-to use manner. You no longer have to create your own design or worry about long deployment times. The Cisco Validated Design takes the risk out of deploying this solution.

Cisco and SwiftStack deliver flexible and powerful storage solutions

Cisco and SwiftStack have combined Cisco UCS S3260 storage nodes with SwiftStack Object Storage software to create an easy-to-use scale-out storage solution. This combination delivers universal access to your data regardless of where your data is located: on your premises, in the cloud, or in a combination of both environments (hybrid cloud). Common management across the solution delivers fast day-0 deployments and continuing operations. The building-block architecture of this solution allows you to quickly, easily, and nondisruptively scale out your system as your applications demand and consume more data. The high-bandwidth networking helps ensure fast object retrieval and data transfer. This solution can help you manage your data transformation and data growth in a rational, cost-effective, and thoughtful way.

For more information

For more information about SwiftStack software, visit https://www.swiftstack.com/about-us/partners/cisco.

For more information about SwiftStack Object Storage for the Cisco Unified Computing System™ (Cisco UCS), visit https://marketplace.cisco.com/catalog/companies/swiftstack.

For more information about Cisco UCS S-Series Storage Servers, visit http://www.cisco.com/go/storage.

For more information about Cisco Software Defined Storage Solutions, visit http://www.cisco.com/go/sds.