



WOS
WEB OBJECT SCALER

Cloud Storage System for Global Content Distribution

Create a high-performance intelligent storage cloud enabling policy-based content management at massive scale, while maintaining the ultimate in management simplicity.

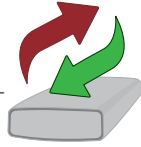
Traditional storage and file systems were not designed with the needs of large scale, global content distribution in mind. When storage needs grow to billions of files consuming Petabytes of capacity, all of which must be quickly and efficiently shared between multiple data centers, traditional solutions become complex to deploy, hard to manage, difficult to scale, and overly expensive.

DataDirect Networks is **changing the game** with **Web Object Scaler (WOS)**, a sophisticated cloud-based file storage technology that radically simplifies and improves how content is stored, distributed, and accessed across multiple geographically dispersed sites. From a single, easy-to-use management interface, you can build a global storage cloud that scales simply and limitlessly.

Benefits of WOS Storage Clouds include:

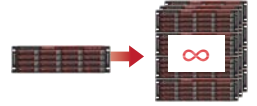
Single Global Namespace

Never manage multiple file systems, RAID's, LUN's or SAN's again. With WOS, regardless of the size of the storage cloud, all objects are in a single namespace that spans all storage nodes and zones. You'll never need to keep track of the location or look for your data—WOS automatically knows where it is and how best to serve it.



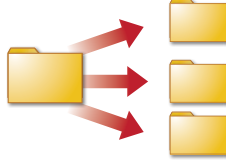
Start Small Yet Expand Without Limits

WOS' innovative cloud clustering technology allows you to start with just a few Terabytes of capacity, yet easily and non-disruptively grow your storage capacity to multiple Petabytes in a cost-effective, pay-as-you-grow fashion.



Policy-Based Content Distribution

Define policies that govern which locations and/or tiers of the WOS cloud each file should be stored on. Easily get content close to users for low-latency delivery, generate multiple copies of popular files for performance, and create automated backup and disaster recovery processes



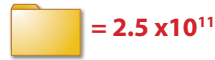
User-Defined Metadata

Store important information about your data with the files themselves. When WOS delivers a file, the user-defined metadata is automatically delivered with it.



Massive File Counts

WOS clouds easily store hundreds of billions of files. Eliminate the need to create and manage multiple file systems built on top of multiple storage systems.



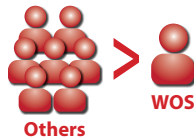
Fully Resilient

WOS' cloud clustering technology is fully distributed with no single points of failure or bottlenecks. Data is always online and available, and all failure conditions are automatically handled by the WOS cloud without interrupting data access.



Simple Integrated Management

Regardless of the size of a WOS cloud or the number of geographies in which it is deployed, it is managed as a single entity, from an intuitive, easy-to-use Web-based user interface. You can literally setup a multi-Petabyte, geographically dispersed WOS cloud with automated multi-site replication in under 10 minutes.

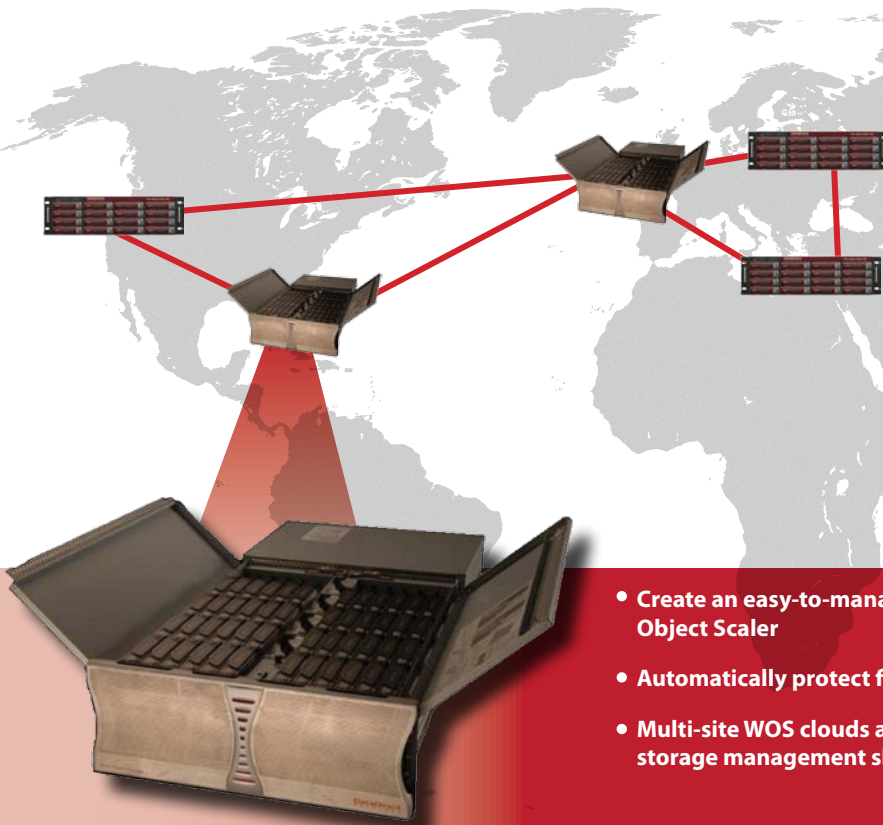


Internet-Scale Performance

WOS clouds can deliver millions of random files per second with extremely low latency. WOS offers the same performance even with small files – the ability to keep up with high-transaction systems makes WOS ideal for such environments.



EXTREME STORAGE



- Create an easy-to-manage, scalable global storage cloud with Web Object Scaler
- Automatically protect files and distribute content close to end-users
- Multi-site WOS clouds are managed as a single entity. No specialized storage management skills are needed

Ideal Use Cases for Web Object Scaler Storage Clouds include:



High Transaction Billing Systems – CDR's (Call Data Records) and internet bandwidth use records are small files that arrive in the millions per second; existing storage technology simply cannot keep up with the demand of such high-transaction levels without significant infrastructure expansion. And even then data is often lost during peak times. WOS can handle the massive number of transactions per second that such systems generate with ease.



Video Surveillance – Smart IP cameras currently talk to NVR's (Network Video Recorders) that in turn move the video to storage devices such as iSCSI arrays. Using WOS, it is possible to eliminate the NVR so that the cameras record directly to the WOS storage. This reduces cost and complexity and, with the inherent versatility of WOS, allows multiple monitoring centers to have access to the video archive at the same time. WOS also provides inherent failover and disaster recovery capability, important for such sensitive data.



Health Care – PACS systems challenge traditional storage environments with large volumes of image files, the need to share data within medical provider organizations, and the need to rapidly serve images to scores of doctors. By taking advantage of WOS' versatile metadata, a physician can annotate the image without interfering with the original. Integrating a WOS cloud simplifies the overall storage architecture, enables pay-as-you-grow storage expansion, and automatically creates a shared and highly protected data environment among multiple medical facilities.



Banking – Check imaging applications create hundreds of millions of small files that wreak havoc on traditional NFS-based filers. A single WOS cloud easily stores billions of check images in a single namespace and can automatically distribute the images to multiple data centers for data protection and rapid access times.



Document & File Archiving – WOS clouds are an ideal large-scale repository for the 80%+ of all unstructured data that is needed online but only accessed occasionally. Migrating this infrequently used data to WOS frees up expensive Tier 1 capacity, extending its useful life and reducing its cost of ownership. As the archived data grows, WOS nodes can be quickly and seamlessly added on-demand.



Government & Intelligence - WOS clouds deliver the massive scale and performance needed for large-scale video, imaging and archiving projects, while enabling the automated and rapid sharing of information between agencies and warfighters.



Internet/Web2.0 -- Sites that manage user generated content must contend with rapidly growing stores of persistent data and the challenge of managing hundreds of millions of files. Versatile WOS with its ability to track hundreds of billions of files with no significant effort on the part of the client offers an ideal solution for such a high growth need.

Discover how Web Object Scaler helps you:

- Drastically reduce your management burden
- Reduce your reliance on expensive Content Delivery Networks
- Vastly simplify your storage and file system infrastructure
- Eliminate the headaches associated with multi-site deployments
- Create a true, globally active low-latency file storage service

Creating a Web Object Scaler Storage Cloud is as easy as 1-2-3!

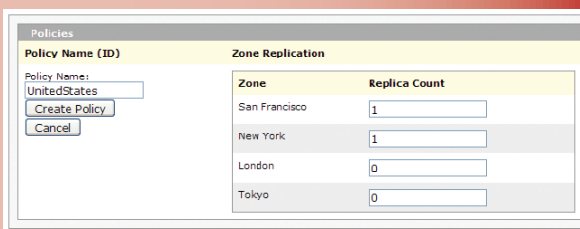
1 Assign a unique network address to each WOS node.



2 Create Zones in the WOS cluster and assign node(s) in each as you prefer.







3 Create the policies that you will use to manage your cluster.



You've just configured a scalable, multi-site storage cloud in about 10 minutes!

WOS Cloud Specifications

Supported Zones	16			
Cloud Object Space	250+ Billion			
Cloud Capacity	From 32TB to Multiple Petabytes			
Data Placement Policies	Unlimited			
Data Replication	Synchronous or Asynchronous by policy			
User-Defined Metadata	From 0 to 64MB			
Random File Reads/Second 50KB objects	Up to 8,000,000			
Management Interface	Web-based Graphical User Interface with e-mail alerts of key system events			
Available API Commands	PUT object, GET object, DELETE object, RESERVE Object ID			
Supported API Languages	RESTful, PHP, Python, C++, Java			
WOS Cloud Node Specifications	WOS 6000 High Density Enclosure	WOS 6000-HP High Density, High Performance Enclosure	WOS 1600 Standard Density Node	WOS 1600-HP Standard Density, High Performance Node
Form Factor	4U – 60 drives	4U – 60 drives	3U – 16 drives	3U – 16 drives
File Reads/Second (50KB objects)	4,800	12,000	1,250	3,200
Storage Capacity	120TB	39TB	32TB	10.6TB
Network Connections	8 x Gigabit Ethernet	8 x Gigabit Ethernet	4 x Gigabit Ethernet	4 x Gigabit Ethernet
Node Count	2 embedded	2 embedded	1	1
				

All specifications subject to change without notice. Contact your DataDirect Networks representative for up-to-date information.

DataDirect
NETWORKS