

Scality RING

Multi-Cloud Data Storage at Petabyte Scale



ALWAYS ON



PETABYTE-SCALE



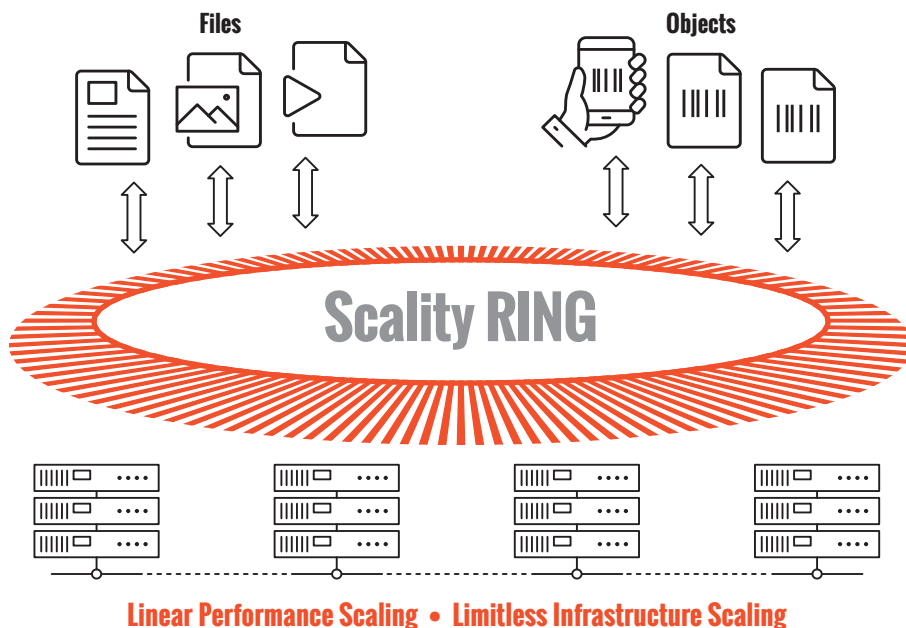
**ENTERPRISE
CLOUD-READY**



LOW TCOs

Software-defined Scality RING object storage enables enterprises and cloud service providers to run petabyte-scale, data-rich services like web applications, VOD, active archives, compliance archives, and private storage clouds.

The RING deploys on any standard x86 server of your choice, taking immediate advantage of server and media innovation over time. Acting as a single, distributed system, the RING scales linearly across thousands of servers, multiple sites, and an unlimited number of objects. Data is protected with policy-based replication, erasure coding, and geo-distribution, achieving up to 14x9s of durability and 100% availability. Regarded as a 'Leader' in file and object storage by IDC and Gartner, and with integrated support for native file, object, and AWS IAM & S3 interfaces, the RING provides high performance across a variety of workloads at up to 90% lower TCO than legacy storage.



Highlights

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- Enterprise-ready scale-out file, object, and AWS S3 storage
- Software-defined – runs on any x86 Linux servers
- Unlimited capacity and performance scaling
- Guaranteed data availability
- No single point of failure
- Policy-based data protection and self-healing
- Versioning for change tracking
- Volume and bucket data protection
- AWS IAM & S3-compatible API
- S3 Service Management Console

Distributed File System

- Asynchronous geo-replication for disaster recovery
- Efficient large file replication with smart delta based change tracking
- Concurrent multi-site file access

Distributed Object Storage

- Multi-use replication to secondary site or AWS S3; with fully S3-compatible API
- Location control for data sovereignty
- Geo-replication for disaster recovery
- Object encryption for ironclad security
- Simple multi-tenant management interface for secure access control.
- Built-in S3 Browser
- S3 Monitoring and Status
- Federated authentication

100% reliable with native policy-based data protection and geo-distribution

Advanced routing and object storage for unlimited, linear scalability

Supports any standard x86 servers, even mixed configurations

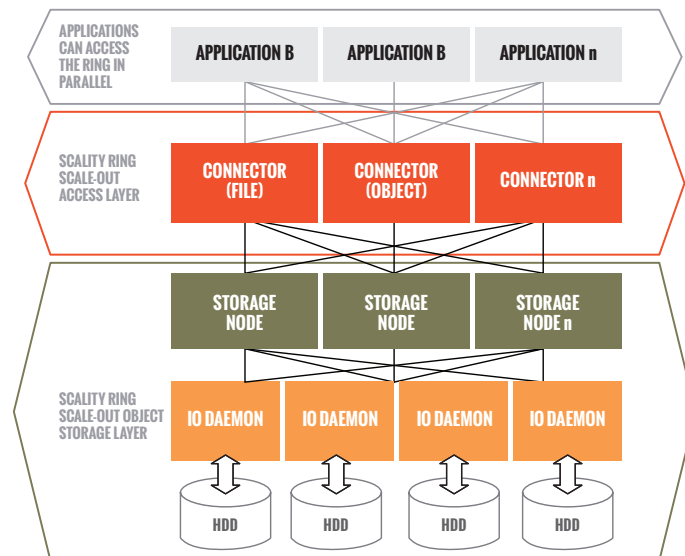
Consolidates many capacity-driven applications and mixed workloads

High throughput access across file and object interfaces

Any-to-Any Performance

RING offers superior performance over legacy storage and object-based systems. It ensures high throughput and low latency across small and large files through its unique any-to-any performance capabilities. The platform's access and storage layers can scale independently from as few as three to thousands of servers, all of which can be accessed directly and concurrently. RING Connectors scale performance nearly linearly.

- FILE AND OBJECT PERFORMANCE:** horizontally scale connectors to achieve 10's of gigabytes per second throughput
- READ-AHEAD CACHE FOR SEQUENTIAL IOS:** System detects sequential access patterns and repeatedly doubles the amount of data fetched into cache.
- CACHE STRIPING OPTIMIZATION FOR SMALL FILE RANDOM IO:** System by default reads only the requested number of bytes into cache (avoids fetching whole stripes—unless sequential access detected).



The Safe Cloud Era

Since the advent of the cloud, concerns about security, availability, data sovereignty, and secure access control have been paramount. Security-focused enterprises struggle daily with adequately safeguarding digital assets and customer privacy and thus could not trust their most prized data to the uncertainty of the public cloud. Scality RING alleviates these concerns with a new era of safe cloud storage for the most security conscious organizations, placing Scality at the forefront of ironclad cloud security, and paving the way to achieve GDPR (General Data Protection Regulation) compliance.

Scality RING features data encryption, volume and bucket data protection, data restorative versioning, extended location control for data sovereignty, and geo-replication for disaster recovery.

THREAT	SCALITY RING FEATURE	BENEFIT
Ransomware	File/Object versioning, Volume Protect	Maintain prior versions from before the ransomware impact. Lock access to data so ransomware cannot impact.
Disaster-driven shut down	Asynchronous Replication for Files and Objects	Provide redundant copies of data across different datacenters—for both files and objects.
Customer Privacy Violation	Secure Access Control Lists and Identity and Access Management Interfaces	Secure data access integrated in with your corporate AD system
Internal or External based data hacking	Secure data encryption IAM & Federated authentication	Object Data encryption at rest. Store data with strong, industry standard cryptographic algorithms so that data, even stolen, is useless to hackers.
Data Sovereignty non-compliance	Location Control IAM & Federated authentication	Limit Object Data to specific RINGs located in different regions
GDPR	S3 API, S3 User Metadata, S3 IAM Policies, S3 Tags, S3 Auth v4, S3 Bucket encryption at rest, IAM & Federated authentication, Audit Log	Right to Access, Right to be Forgotten, Privacy by Design, Data Breach Notifications, Data Protection Impact Assessment, Data Processing Agreement

Scality Use Cases

The RING enables both data-rich custom and packaged applications aggregating multiple applications into a single storage environment. This eliminates silos, drives increased utilization, and creates cloud-like economies of scale. The RING supports use cases across many industries, including service providers, media & entertainment, public sector, financial services, healthcare, and R&D-intensive industries like manufacturing and research.



Backup and Archive Scality enables organizations to build petabyte-scale active archives that have all the performance benefits of online storage at a cost point comparable to tape. Scality RING supports standards-based compliance archiving with more than 60 validated ISVs.



Content Distribution Scality enables organizations to build scalable distribution infrastructures that meet all the performance requirements for high definition media streaming at a fraction of the cost of storage at CDN providers and enables non-linear models such as nDVR/nPVR and VoD. With Zenko, Scality provides a single interface for developers to code within any cloud on a common API set. You can write an application once and deploy anywhere on any cloud.



Medical Archives Scality stores electronic protected health information (ePHI), keeping it safe and seamlessly available. This matters; perhaps more in healthcare than anywhere, because patient care is at stake. Data storage is central to the practical, operational and regulatory demands to creating and sharing patient data and is central to compliance—and quality patient care.



Media Nearline Archive Make your media post-production workflow more efficient with Scality RING offloading costly SAN, and increase productivity by enabling media processing (such as video transcoding) in-place.



Public Cloud Store more, reliably, for less. Scality's 100% availability guarantee and robust durability options, combined with cloud-style economies that it brings make Scality RING the ideal storage for cloud service providers. The RING provides nearly unbounded capacity that scales without downtime, so end customers see no loss of availability.



Private and Hybrid Cloud Scality provides a ubiquitous storage platform with file and object, storage capabilities with a substantially lower TCO through unbundling of software and hardware, a wide range of standard x86 server options, and high durability with low overhead.

Scale-Out File and Object Storage

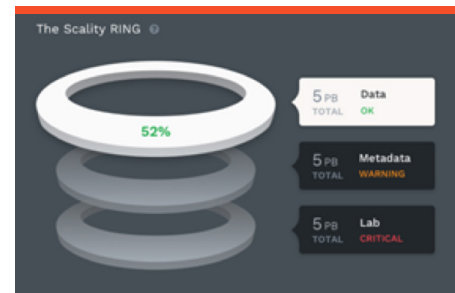
Access all your data at petabyte scale. Scality RING is the only storage platform that natively supports file and object access in one consolidated system. Each access point can be independently configured for high availability.

AWS S3

- Compatible API — AWS IAM, AWS Signature v4 and v2 HMAC authentication schemes, SAML 2.0-compatible Identity Providers for Single Sign-On with Active Directory

File Specifications

- Fully parallel, scale-out with POSIX-style file system
- New cache for shared folder view
- Integrated load balancer for NFS and SMB connectors
- Volume quotas and space reporting
- File undelete (Recycle Bin)
- Volume protection
- Asynchronous metadata and data replication



Webscale System Management

With RING, you can operate and manage extremely large-scale, globally dispersed storage operations simply and cost-effectively, automating many common storage optimizations. RING Supervisor UI is a comprehensive, unified portal for all aspects of monitoring, management, and maintenance of RING's native AWS S3 and file (NFS, SMB) storage interfaces.

Comprehensive Monitoring

- Browser-based administrative interface with full topology view, monitoring, reporting, and graphing
- RING status with Zone, Server and Node details
- Support for monitoring and alerting via SNMP, MIB and traps
- "At-a-glance" dashboard with REST API, unified trending and forecasting metrics and KPIs, monitoring, alerts, server and disk monitoring

Intuitive Operations and Management

- Full management and control with rich and scriptable CLI
- System capacity and performance expansion
- Automated disk failure detection and handling framework
- Automatic rebuild of failed drive data on remaining drives
- Automated storage rebalancing
- Integrated server management
- Integrated zone management
- Easy point-and-click provisioning of S3 and file system services
- UI private labeling and branding

- NFS v3 (Supports full scale-out, load balancer, quotas)
- SMB 2.0 (based on Samba 3.5 and later)
- Linux FUSE (supports data compatibility with REST)
- iCAS Compliance (NFS, SMB, SOAP-based interfaces)

Object Specifications

- AWS S3-compatible API (supports Bucket, Object & MPU APIs, AWS IAM, Sig v2, Sig v4, SAML 2.0, and Active Directory)
- Native Scality REST API

Local and Geographical Data Protection and Self-Healing

RING is designed to maintain 100% data availability and require no downtime during planned and unplanned events including hardware failures, capacity upgrades, and software upgrades. With the RING, IT organizations have fine-grain data protection control on a per object basis, and customizable failure domains to protect against disk, server, rack, and site failures.

Policy-based Data Protection with Native Multi-site capabilities

- Replication up to six copies (object level replicas)
- Erasure coding to reduce overhead for large objects
- Single or Multi-RING Sync and Replication at the object level

Self-Healing

- Distributed self-healing processes to resolve disk and server failures
- Replacement of failed disks as scheduled process
- Data integrity assurance through integral CRC checksums

Scale-Out Storage with Advanced Routing

RING is designed to scale to exabytes of capacity and trillions of objects as a single system with guaranteed response and continuous availability even at massive scale.

- Scalable peer-to-peer architecture, with full system level redundancy,
- Integrated Scale-Out-File-System (SOFS) with POSIX semantics
- Unique native distributed database – full scale-out support of object key values, file system metadata, and POSIX methods
- Unlimited namespace and virtually unlimited object capacity
- No size limit on objects (including multi-part upload for S3 REST API)

Agile Deployment

With RING, you're free to deploy in ways that best suit your infrastructure. RING connectors and storage servers are independently scalable. You can run the connectors co-located with customer application servers, on virtual machines, or on the storage servers. Deploy a RING environment on a single site or stretched over multiple sites. You can also choose to replicate locally, across sites, or both. A unified installer with silent (unattended) mode is now offered, enabling customers to deploy RING easily in under an hour on any of 45 reference platform architectures, including new 3-server entry point configurations.

Licensing

Licensing is based on usable capacity (unique data, not replicas). It includes a range of file and object connectors. Options include multi-geo configuration and email connectors.

Software Warranty

Worldwide, 24-hour support is available. Customers receive complete installation services and options like proactive health checks and migration assistance.

About Scality Scality builds the most powerful storage tools to make data easy to protect, search and manage anytime, on any cloud. We give customers the autonomy and agility necessary to be competitive in a data-driven economy. Recognized as a leader in distributed file and object storage by Gartner and IDC, we help you to be ready for the challenges of the fourth industrial revolution. Let us show you how.

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