

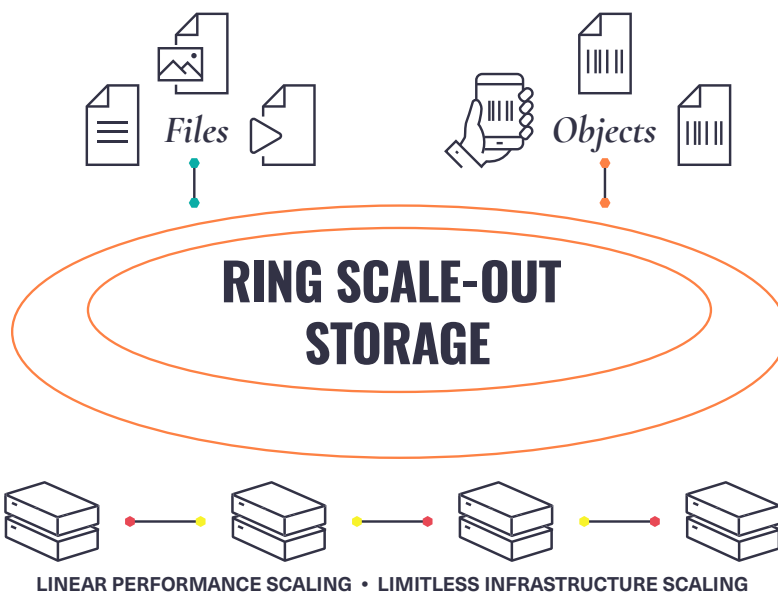
Scale-Out File & Object Storage at Petabyte-Scale

**ALWAYS-ON****PETABYTE-
SCALE****IMMUTABLE
DATA****CLOUD
ECONOMICS**

RING is software-defined storage deployed in your data center. It empowers enterprises and service providers with resilient, highly-available, petabyte-scale data storage for web, video, archives, backups, analytics and custom applications.

The RING deploys on any standard x64 servers 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 becomes unbreakable through replication, erasure coding, immutable object-locking, and multi-geo distribution to achieve 14x9s of durability and 100% availability. Recognized as a 'Leader' in file and object storage by both IDC and Gartner — and with integrated support for native file, object, and AWS S3 & IAM APIs interfaces — the RING provides high performance across a variety of workloads at up to 90% lower TCO than legacy storage.



Key Features

Highlights

- Enterprise-ready scale-out file and object storage
- Software-defined approach turns industry standard x64 servers into storage nodes
- Unlimited, independent scaling of capacity and performance
- Guaranteed data availability
- No single point of failure
- Native data protection and self-healing
- All-Flash support for optimized performance and expanded use cases

Distributed File System

- Scale-out capacity and performance via NFS v4, SMB & LinuxFS (fuse)
- Scale-out, high-performance replication with assured consistency
- Stretched (synchronous) multi-site deployment for site failure protection
- Asynchronous geo-replication for disaster recovery
- Concurrent multi-zone/multi-site file access with site failure tolerance

Distributed Object Storage

- AWS IAM & S3-compatible API
- Replication to secondary site or AWS S3; with fully S3-compatible API
- 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
- S3 service management console

Hybrid Cloud Support

- Data management across RING and public clouds with lifecycle and replication policies
- Global metadata namespace, visibility & search across RING & public clouds

Enterprise Security

- Key Management System (KMS) integration via KMIP 1.2
- Deployment on SE Linux & elimination of root-level processes
- Kerberos KDC authentication for NFS v4
- Ransomware protection through AWS S3 Object Lock

Multi-Tenancy for Service Provider Deployments

- AWS-compatible IAM and V4 authentication
- S3-based quotas for STaaS

Scality Use Cases

RING enables both data-rich custom and packaged applications aggregating multiple workloads into a single storage environment. This eliminates silos, drives increased utilization and creates cloud-like economies of scale. 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 TARGET

- Unified repository for capacity and performance

MEDIA CONTENT DELIVERY

- Media nearline archive
- Origin server (video / content distribution, VOD)
- Cloud media workflows

BIG DATA ANALYTICS

- HPC / AI / ML archives
- Data lakes
- Forensics / digital evidence archives
- Genomics archives

CUSTOM-DEVELOPED APPS

- Consumer web portals
- Mobile apps
- SaaS (business apps)

MEDICAL IMAGING ARCHIVE

- Medical imaging archives and primary PACS and VNA storage
- Unified repository for capacity and performance

CONTENT & COLLABORATION

- Email storage
- Enterprise file sync & share
- Digital libraries

File and Object Performance

RING ensures high performance and throughput while eliminating silos. 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 to achieve tens of gigabytes per second throughput and beyond.

Scale-Out File and Object Storage

Access all of 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.



Cloud-scale System Management

With RING, you can easily and cost-effectively manage and automate extremely large-scale, globally-dispersed storage operations. 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

FILE STORAGE SPECIFICATIONS

- Fully parallel, scale-out with POSIX- style file system
- High-performance file system replication with assured consistency
- Integrated load balancer for NFS and SMB connectors
- Volume quotas and space reporting
- Volume protection
- NFS v4 with Kerberos KDC authentication and IPv6 support
- SMB 2.0 (based on Samba 3.5 and later)
- Linux FUSE (supports data compatibility with REST)

OBJECT STORAGE SPECIFICATIONS

- AWS S3-compatible API (supports Bucket, Object & MPU APIs, AWS IAM, AWS Signature v4/v2 authentication, SAML 2.0 for SSO with Active Directory)
- AWS S3 Object Lock API

Local and Multi-Site 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 RING, IT organizations have fine-grained 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 ensure resiliency while reducing overhead for large objects
- Single or multi-RING sync and replication

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 compatibility, NFS v4/v3, SMB 3.0, LinuxFS (Fuse)
- 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 (with multi-part uploads for efficient large object upload via S3 API)

Ransomware Protection

Scality RING offers enhanced ransomware protection with support for S3 Object Lock API, which renders data immutable by preventing it from being deleted or overwritten (for a period of time or indefinitely) by bad actors. RING provides for air-gapped, tamper-proof backup data that stays immune to ransomware, offering a robust and swift recovery path in the face of attacks.

Agile Deployment

With RING, you're free to deploy in ways that best suit your infrastructure. RING connectors and storage servers are independently scalable. 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. Choose to replicate locally, across sites, or both. RING's unified installer with silent (unattended) mode enables customers to deploy RING easily in under an hour on any of 45 reference platform architectures, including new 3-server entry point configurations.

Hybrid Cloud Support

DATA ORCHESTRATION AND MOBILITY FEATURES

Metadata-driven, policy-based data orchestration engine for data mobility across private and public clouds

- Replication and lifecycle management

METADATA NAMESPACE AND SEARCH

- Global metadata namespace, visibility & search across RING & public clouds
- Support for both system- and user-defined metadata

SUPPORTED STORAGE AND CLOUDS

- Scality RING
- Amazon S3
- Azure Blob Storage
- Google Cloud Storage

All-Flash Support

RING supports all-flash storage servers, paving the way for a new level of file and object storage performance, with both higher throughput and lower latency. This development not only improves Scality customers' existing workloads on RING, but it also greatly expands the portfolio of use cases RING can be deployed to support.

ABOUT SCALITY Scality® storage propels companies to unify data management no matter where data lives — from edge to core to cloud. Our market-leading file and object storage software protects data on-premises and in hybrid and multi-cloud environments. With [RING](#) and [ARTESCA](#), Scality's approach to managing data across the enterprise accelerates business insight for sound decision-making and maximum return on investment. To compete in a data-driven economy, IT leaders and application developers trust Scality to build sustainable, adaptable solutions. Scality is recognized as a leader by Gartner and IDC.

Licensing

RING software is available either as an annual subscription or under a traditional software license model. Licensing is based on the customer's unique usable capacity (not affected by the choice of data protection scheme). The license includes all file and object interfaces (connectors). Licensing options include multi-geo configurations and special email application connectors.

Premium Support Options

Scality offers premium services for RING through three tiers of optional support: Business Scale Care, Enterprise Scale Care, and Secure Site Care.

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