



# Unbreakable cloud storage for data centers



Object storage  
(S3 & XP APIs)



Secure IAM  
multi-tenancy



Always-on



Multidimensional  
scaling



Immutable data



Cloud-style  
economics

## Scality RING is storage software deployed in your data center to create an unbreakable cloud storage infrastructure.

Built to accommodate the demands of any workload at any scale, it empowers enterprises, government agencies and service providers with data storage that is secure and resilient, highly performant and available. 500+ organizations worldwide trust RING to power critical business workloads, including AI, backup, ransomware protection, analytics, archives, media content delivery and more.

RING deploys on any standard x64 storage servers of your choice, taking immediate advantage of server and media innovation over time. Acting as a single, distributed system, RING scales linearly across three to thousands of servers and multiple sites with the ability to store an unlimited number of objects.

Data becomes unbreakable through erasure coding, replication, immutable object-locking, and multi-geo distribution to achieve 14 nines of durability and a 100% availability SLA. Recognized as a 'Leader' by Gartner and GigaOm — and with integrated support for native file and object with comprehensive AWS S3 & IAM APIs interfaces — RING provides high-performance storage for a variety of workloads at up to 90% lower TCO than legacy solutions.

## RING key features

### Highlights

- Enterprise-proven scale-out file and object storage
- Software-defined approach leverages industry standard x64 servers
- Unlimited, independent scaling of capacity and performance to petabytes and beyond
- Guaranteed data availability
- Stretched (synchronous) multi-site deployment for site failure protection
- No single point of failure
- Native data protection and self-healing
- All-flash and hybrid storage server support
- Global, domain and detailed level dashboards for monitoring and reporting all aspects of RING processes and hardware

### Distributed object storage

- AWS-compatible S3 API and IAM
- Extreme performance RING XP object storage API
- Simple multi-tenant management interface for secure access control
- Replication to secondary site with fully S3-compatible API
- Synchronous geo-stretched deployments for high availability and disaster recovery
- 256-bit data encryption at rest and secure connections over HTTPS
- Built-in S3 browser in UI for easy bucket and object management
- Federated authentication
- S3 service management console

### Distributed file system

- Scale-out capacity and performance via NFS v4/v3, SMB 3.0
- Scale-out, high-performance replication with assured consistency
- Asynchronous geo-replication for disaster recovery
- Enhanced write performance for demanding workloads with Storage Accelerator
- Automated transparent file compression
- Concurrent multi-zone/multi-site file access with site failure tolerance

### 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
- Kerberos KDC authentication for NFS v4
- Ransomware protection via S3 Object Lock API
- Multi-factor authentication (MFA) for secure system admin access

### Multi-tenancy for service provider deployments

- Integration with VMware Cloud Director Object Storage Extension
- AWS-compatible IAM and V4 authentication
- S3-based quotas for STaaS

## Scality RING use cases

RING enables the aggregation of multiple ISV applications and custom-developed workloads into a single storage environment. This eliminates silos, drives increased utilization and creates cloud-like economies of scale to lower your cost of ownership. RING supports use cases across many industries, including enterprises (financial services, manufacturing, transportation and more), government and public sector, healthcare/life sciences, media & entertainment, and cloud service providers.

### AI data lakes and analytics

- AI and machine learning data pipelines
- Big data analytics
- Forensics / digital evidence archives
- Genomics

### AI models

- AI model training and fine-tuning

### Backup target with ransomware protection

- Validated as a target for Veeam, Commvault and other leading data protection solutions

### Long-term archives

- Scalable and highly-durable protection of corporate, media and healthcare image archives
- Aggregation of data from multiple object and file-based applications
- Certified as compliant with SEC 17a-4 immutable storage rule

### Media content delivery

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

### Cloud service providers

- Scalable, secure multi-tenant storage for private, hybrid and public cloud services
- SaaS, Email-as-a-service, IaaS, cloud file shares and more

## Cloud-scale system management

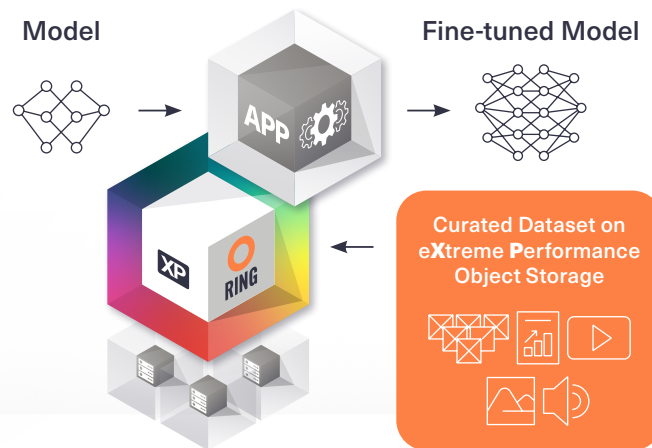
With RING, you can easily and cost-effectively manage and automate extremely large-scale, globally-dispersed storage operations. RING Supervisor UI is a comprehensive, unified portal for all aspects of monitoring, management, and maintenance of RING's native AWS S3 and file (NFS, SMB) storage interfaces.

### 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 with email, chat, and pager alert options
- "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

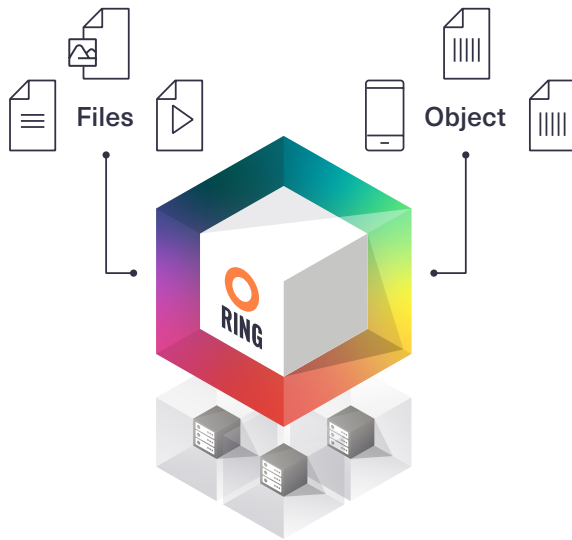


## RING XP

### The world's most flexible object storage is now the fastest

For many storage systems, the most demanding workloads are those requiring ultra low-latency, high transaction rate access to millions (or even billions) of small data objects. RING XP was designed to tackle these extreme performance requirements with ease.

Through a streamlined, lightweight architecture that efficiently utilizes NVMe flash, RING XP delivers microsecond-level access latencies, making it the perfect solution for workloads that access small (KB or less) objects, such as AI model training, fine tuning, and inferencing, real-time analytics, and other latency-sensitive, transaction-heavy environments



Scale capacity and performance

## Scale-out, high-performance file and object storage

Access all of your data at exabyte scale. Scality RING is the only storage platform that natively supports file (NFS, SMB) and S3 object access in one consolidated system. Each access point can be independently configured for high availability.

RING ensures high performance and throughput while eliminating silos. The platform's file and object access layer can scale independently to the capacity layer from as few as three to thousands of servers, all of which can be accessed directly and concurrently. RING can scale performance nearly linearly to achieve tens of gigabytes per second throughput and beyond.

### File storage specifications

- Scale-out POSIX-compatible file system with NFS v4, v3 and SMB 3.0
- 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

### Object storage specifications

- AWS S3-compatible API with Bucket, Object & MPU APIs
- Advanced APIs for versioning, geographic bucket replication, lifecycle management and more
- AWS IAM, AWS Signature v4 authentication Bucket policies and more
- AWS S3 Object Lock API for data immutability, with retention policies and compliance mode

## Local and multi-site data protection and self-healing

RING is designed to maintain 14 nines durability with 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, plus customizable failure domains to protect against disk, server, rack, and site failures.

### Policy-based data protection with native multi-site capabilities

- Policy-based replication from one to six copies (object-level replicas)
- Efficient erasure coding ensures ultra-resiliency while reducing overhead for large objects
- Advanced geo-stretched deployments for data center (site-level) fault tolerance

### 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

## Multidimensional scale-out storage with advanced routing

RING is limitlessly flexible to grow with you in number of apps, capacity, objects, buckets, transactions, throughput (and more) as a single system with guaranteed response and continuous availability.

- Scalable architecture with no single points of failure for full system level redundancy
- Integrated scale-out-file system (SOFS) with POSIX compatibility, NFS v4/v3, SMB 3.0,
- 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 S3 objects (with multi-part uploads for efficient large object upload via S3 API)

## Unbreakable 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) — plus CORE5 end-to-end cyber resilience capabilities.

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 any threat.

## VMware Cloud Director

RING is fully integrated with VMware Cloud Director, which allows service providers to easily create, manage and allocate RING object storage for multiple tenants directly through the Cloud Director user interface. This integration simplifies operational tasks for service providers allowing them to serve more clients with less effort.

The combination of RING and Cloud Director enables service providers to offer a wide variety of services to their customers including Storage-as-a-Service (STaaS), Backup-as-a-Service (BaaS), Ransomware Protection-as-a-Service (RPaaS), and more. Scality is part of the VMware Partner Program™ for Object Storage Extension (OSE) and is certified by VMware as an Object Storage Interoperability Service (OSIS) partner, which is VMware's preferred integration method for Cloud Director.

## 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 3-server entry point configurations.

## Licensing

RING software, including RING XP functionality, 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.

**ABOUT SCALITY** Scality solves organizations' biggest data storage challenges — security, performance, and cost. Designed to provide the strongest form of immutability plus end-to-end cyber resilience, Scality solutions safeguard data at five core levels for unbreakable ransomware protection. Delivering utmost resilience, Scality makes storage infrastructures limitlessly scalable in all critical dimensions. The world's most discerning companies trust Scality so they can grow faster and execute AI data-driven ideas quicker — while increasing efficiency and avoiding lock-in. Recognized as a leader by Gartner, Scality S3 object storage software is reliable, secure and sustainable.



## Hybrid-cloud support

### Data orchestration and mobility features

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

- Replication (one-to-one or one-to-many) between on-premise and cloud locations
- S3 lifecycle expiration and transition policies

### Metadata namespace and search

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

### Supported storage and clouds

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

## Hardware agnostic

For high-throughput applications, RING is deployed on the customer's choice of hybrid (flash/HDD) storage servers. The integrated Storage Accelerator enables internal tiering for fast writes to flash, deferred tiering to cost-efficient HDD-based storage with efficient data compression. Storage Accelerator expands the portfolio of latency-sensitive use cases RING can be deployed to support.

## Extreme performance all-flash support

For latency-sensitive applications, RING XP supports a range of AMD EPYC-based all-flash NVMe storage servers to deliver microsecond-level write (PUT) and read (GET) latency for 4KB objects.

## 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.