Accelerate and secure S3 at scale: F5 BIG-IP with Scality RING

Scality RING delivers highly durable, enterprise object storage at scale. F5 sits in front of RING as an application delivery controller (ADC) to balance traffic, maximize availability, and add security services without changing critical applications. Together, they provide a clean, controlled S3 entry point that can scale, stay online during disruptions, and simplify operations.

Expose one stable S3 endpoint, backed by intelligent load balancing, strong security controls, and flexible deployment options. BIG-IP can be deployed as hardware or virtual editions, enabling a consistent architecture across data center and cloud environments.

Solution benefits:

- **Simple application configuration:** Expose a single virtual IP and DNS name for S3 while distributing traffic across RING storage nodes transparently.

- **Higher availability:** Health checks and pool-based traffic steering reduce the impact of node failures and maintain application responsiveness.

- **Improved security posture**: SSL and access controls can be centralized at BIG-IP, including optional WAF and access policy features depending on licensed modules.

- **More performance headroom**: By handling SSL offload, connection management, and traffic optimization at the access layer, BIG-IP reduces load on backend RING services and helps sustain predictable performance under peak S3 workloads.

Ideal for enterprise and service provider architectures where RING is delivered as a shared object platform and a controlled, scalable access point for S3 is required.

Why F5 BIG-IP in front of Scality RING

F5 BIG-IP provides a robust S3 access layer in front of Scality RING. Using a full proxy architecture, it terminates client connections and independently manages backend connections gaining full visibility into traffic, and allowing management, optimization, and security enforcement at the S3 entry point.

Validated integration

The combined solution of F5 BIG-IP with Scality RING has been fully tested and validated with a Commvault application workflow, confirming compatibility for enterprise and service provider use cases. Validation included:

- TLS termination and SNAT automap at the access layer

- Load distribution was verified using MinIO Warp over TLS for PUT, GET, DELETE with a traffic split over each node

- Multi-site global server load balancing (GSLB)

Key access-layer capabilities

Load balancing with health awareness

A virtual S3 endpoint is published in front of a pool of RING storage node IPs. Incoming requests are distributed to prevent overload, and traffic is automatically redirected away from unhealthy nodes to maintain availability and low response times.

Seamless site protection

For multi-site deployments, global traffic steering directs clients to the closest or best-performing data center based on availability, latency, and policy, supporting resilient access to distributed RING environments.

SSL/TLS termination

SSL offload, connection handling, and traffic optimization at the S3 access layer reduce load on backend storage services, helping maintain consistent performance as demand scales.

Application acceleration

Connection multiplexing, reduced handshake overhead, and optional compression or caching improve client-perceived performance and consistency, particularly under high concurrency against a shared S3 endpoint.

Application-level protection

Optional application-layer security controls can protect S3 endpoints and APIs from common threats such as injection attacks, cross-site scripting, and automated bot activity before requests reach the storage layer.
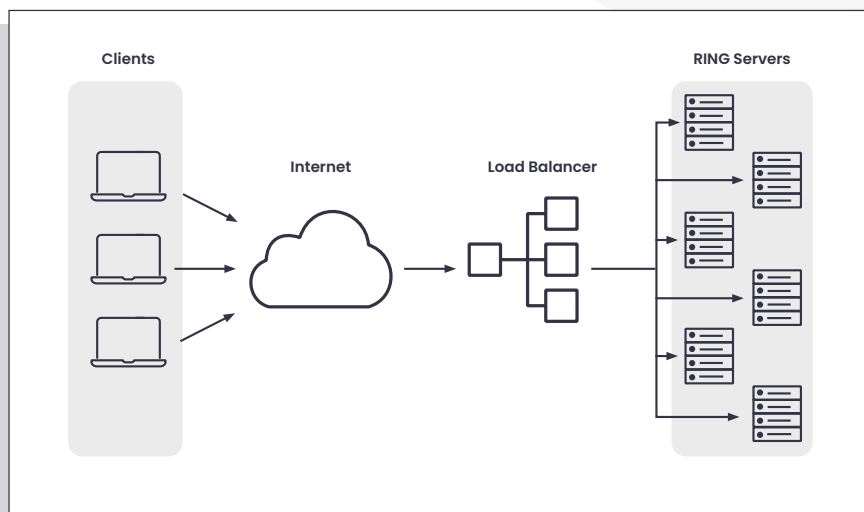
Deployment Options

Virtual Edition (VE): Runs on VMware, KVM, Hyper-V, and public cloud platforms

Hardware appliances: rSeries and iSeries, spanning entry-level to high-performance tiers

Chassis systems: VELOS and VIPRION with blades for very high scale and modular growth

About Scality

Scality builds infinitely scalable, cyber-resilient S3 object storage for the world's most discerning and data-driven companies. Our patented MultiScale Architecture scales independently across all critical dimensions to meet the unpredictable demands of modern workloads — from AI/ML to backup and cloud infrastructure. Powered by CORE5 technology, Scality delivers end-to-end cyber resilience for unbreakable protection against the threats of today and tomorrow.

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