

Data Availability and Protection in the Scality RING

Organizations deserve a cloud storage system that can give them guaranteed uptime and service availability with flexible data protection mechanisms in place to protect against common failure scenarios. Scality understands this need and is taking a bold stance in the market to provide organizations with a guaranteed 99.999% service availability for their digital business.

The foundation for a solid cloud storage system designed to meet today's demanding scalability and reliability requirements depends on a solution built with strong resiliency and protection mechanisms. Let's explore how the Scality RING can provide organizations with the protection and availability that they need.

The RING has no single point of failure and is designed to tolerate a wide range of component failures including disks, servers, network, and site failures all while ensuring that data remains durable and available during these conditions.

When a failure happens on the RING, such as with a disk or node, background rebuild operations are initiated to restore the missing data from its surviving replicas/erasure coding chunks. The RING also has an intelligent routing mechanism that will proxy connections around component failures until they are back online to provide continuous service availability.

The replication mechanism is used to store multiple copies of a file within the RING for durability and availability. When a file is written, the RING will spread these replicas across multiple storage nodes and disk drives in order to protect them from common failures.

Erasure Coding stores files durably with space efficiency (reduced overhead relative to replication) with an extended set of parity "chunks" instead of multiple copies of the original file like with replication. When an erasure coded file is broken into into multiple chunks, a mathematical formula is applied to produce an additional set of parity chunks used to tolerate disk or storage node failures.

Key Benefits

Predictable Costs

Scality RING is the only storage solution to accommodate multiple workloads and lower TCO by allowing a mix and match of standard servers. Unlike conventional storage, Scality RING enables worry-free capacity expansion so Service Providers can quote new business with confidence in the numbers.

Safer Data

Scality enables 100% availability and 14x9's durability, with multi-site options to tolerate entire site failure. And, unlike other object storage, the Scality RING enables different durability and overhead ratios to match data value and SLA's.

All Business

Scality software is enterprise-ready, with native support for traditional file systems, easy integration with existing IT – including Active Directory—standard management platforms and more than 45 certified applications. Simple to deploy, easy to grow—and build a business around – and cost-effective over time.

Storage Expertise

One size does not fit all, especially when it comes to the requirements that an IaaS, PaaS or Hosting business has for delivering quality service to its customers. Scality teams with top server vendors (and runs on any X86), and works closely with independent software vendors (ISV's) to ensure proper interoperability through configuration, tuning and performance in order for you to support a broad base of customers and their applications.

Safer Data

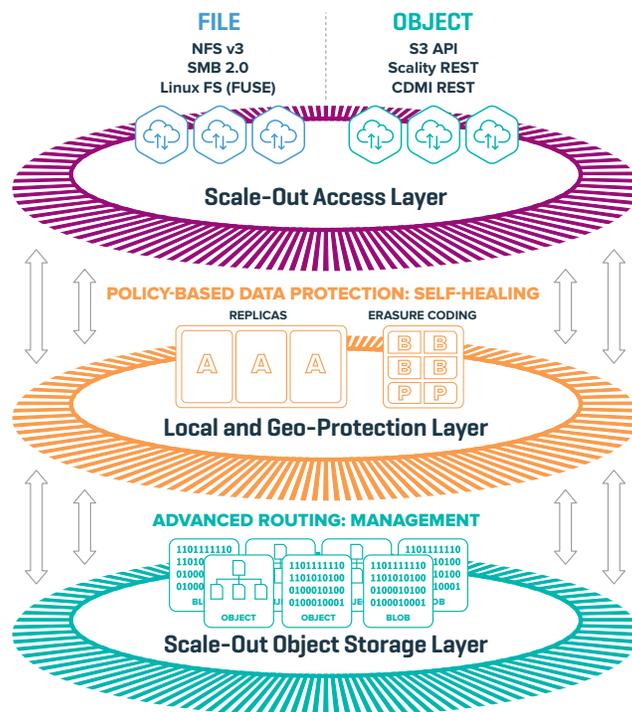
Enterprises demand data durability in the 14x9's with an intuitive management environment. The Scality RING enables you to meet those demands while increasing data recovery times significantly from traditional systems. Extreme fault tolerance with geo-distributed deployment and configurable protection policies (replication or erasure coding) take your protection to another level.

100% Data Availability

The RING enables 100% data availability and zero downtime. Support your most rigorous SLAs with reliability guaranteed under contract. The RING preserves data through its distributed architecture, which provides geographical redundancy and no single point of failure. Our customers run for years without downtime through hardware failures, upgrades, patches, and expansions.

Any-to-Any Performance

The 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 to thousands of nodes, all of which can be accessed directly and concurrently. RING Connectors scale performance nearly linearly.



Data Protection Mechanisms on the RING. The replication mechanism is used to store multiple copies of a file within the RING for durability and availability. When a file is written, the RING will spread these replicas across multiple storage nodes and disk drives in order to protect them from common failures.

Erasur Coding stores files durably with space efficiency (reduced overhead relative to replication) with an extended set of parity “chunks” instead of multiple copies of the original file like with replication. When an erasure coded file is broken into into multiple chunks, a mathematical formula is applied to produce an additional set of parity chunks used to tolerate disk or storage node failures.

About Scality Scality, world leader in object and cloud storage, develops cost-effective Software Defined Storage (SDS): the RING, which serves over 500 million end-users worldwide with over 800 billion objects in production; and the open-source S3 Server. Scality RING software deploys on any industry-standard x86 server, uniquely delivering performance, 100% availability and data durability, while integrating easily in the datacenter thanks to its native support for directory integration, traditional file applications and over 45 certified applications. Scality’s complete solutions excel at serving the specific storage needs of Global 2000 Enterprise, Media and Entertainment, Government and Cloud Provider customers while delivering up to 90% reduction in TCO versus legacy storage. A global company, Scality is headquartered in San Francisco.

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