Gluster Overview

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Red Hat Storage Technology Highlights

High Performance

- Fast file access - no metadata server
- Scale-out with linear performance
- Petabyte scale storage
- 1GbE, 10GbE

Architecture

- Software only–you choose the infrastructure
- Fully distributed architecture–no metadata server
- Simultaneous file and object storage
- Stackable userspace design
- No kernel dependencies
- Simple installation
- Early maturity and rich functionality

High-Availability

- No single point of failure
- Replication to survive hardware failure
- Self-healing
- Data stored in NFS-like native format
- Business Continuity and Disaster Recover
- Replicate from datacenters to pubic clouds

No Hot-Spots/Bottlenecks

- File placement and retrieval is algorithmically controlled
- Files are spread evenly throughout the file system

Single Global Namespace

- Single mount point – easier storage management
- Spans data center/private cloud or public cloud
- Eases and accelerates movement to the cloud

Why It's Different?

No metadata server

- No single point of failure, automated self heal and failover
- No performance bottleneck on data lookups for fast file access

Built in replication

- Synchronous for inter-node replication
- Asynchronous for geo-replication

No block size restrictions

- Ideal for small and large files

POSIX compatible file system

- Out of the box NFS, CIFS and GlusterFS native access

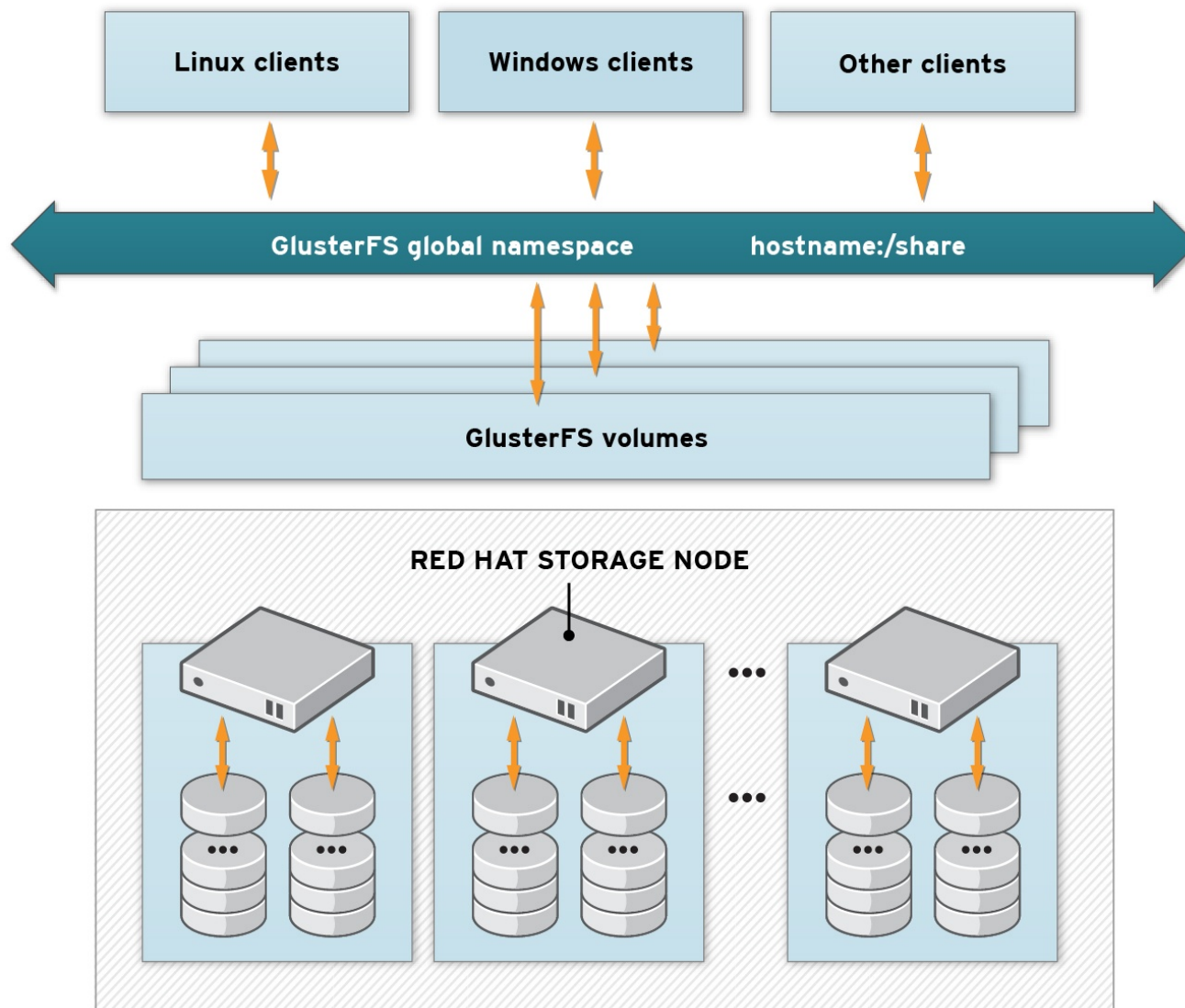**Expanded data access options**

- File and object access to data
- Access files from your object interface and access data within objects as files
- File based applications can access data without modification

Reduces requirement for replicated files from 3 to 2
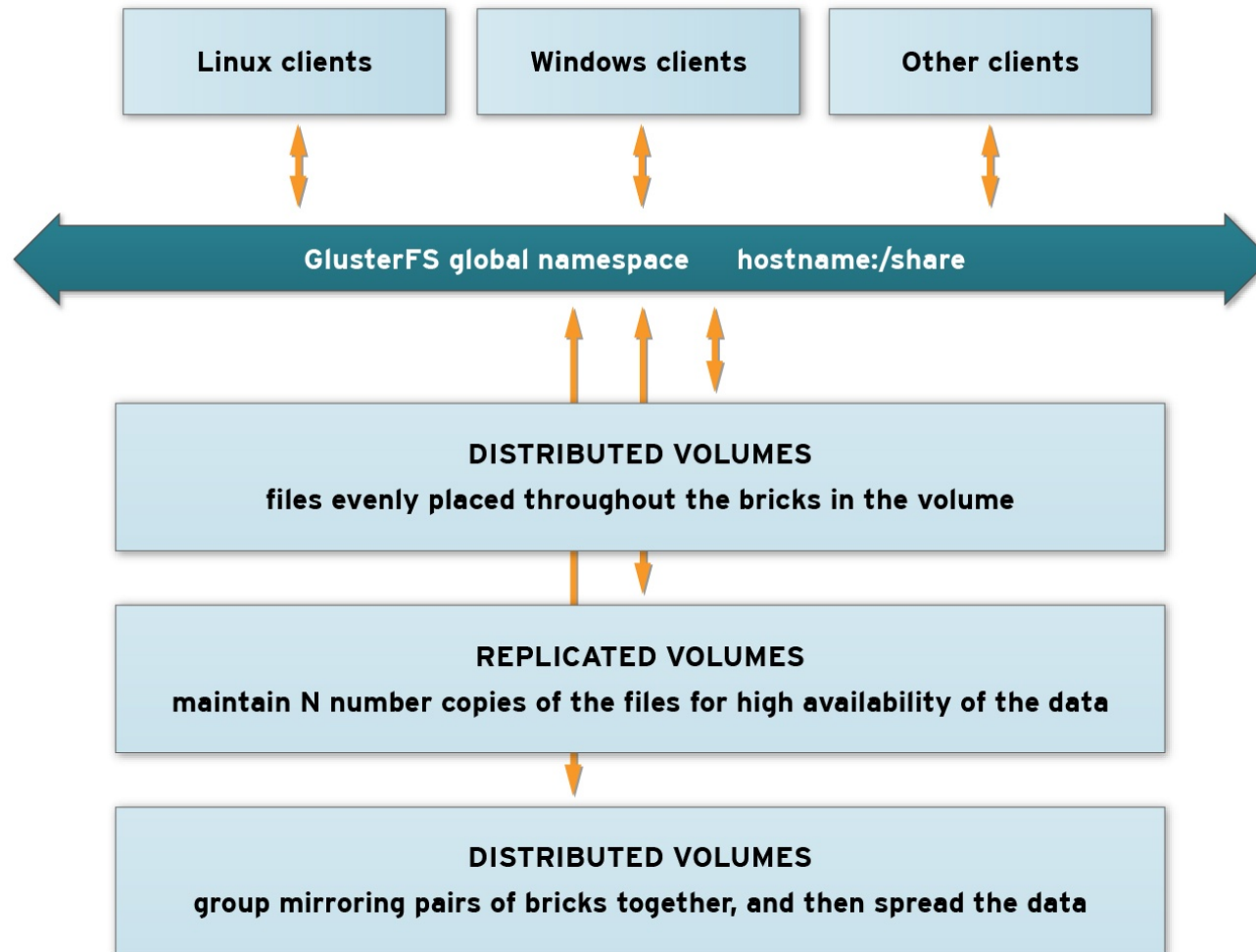
- 33% capacity savings

Providing Access to Your Data

- GlusterFS enables you to create a Global Namespace

- On that namespace you can create volumes where data resides

- Clients access data from the volumes

- GlusterFS handles all volume-level policies

  - Distribute

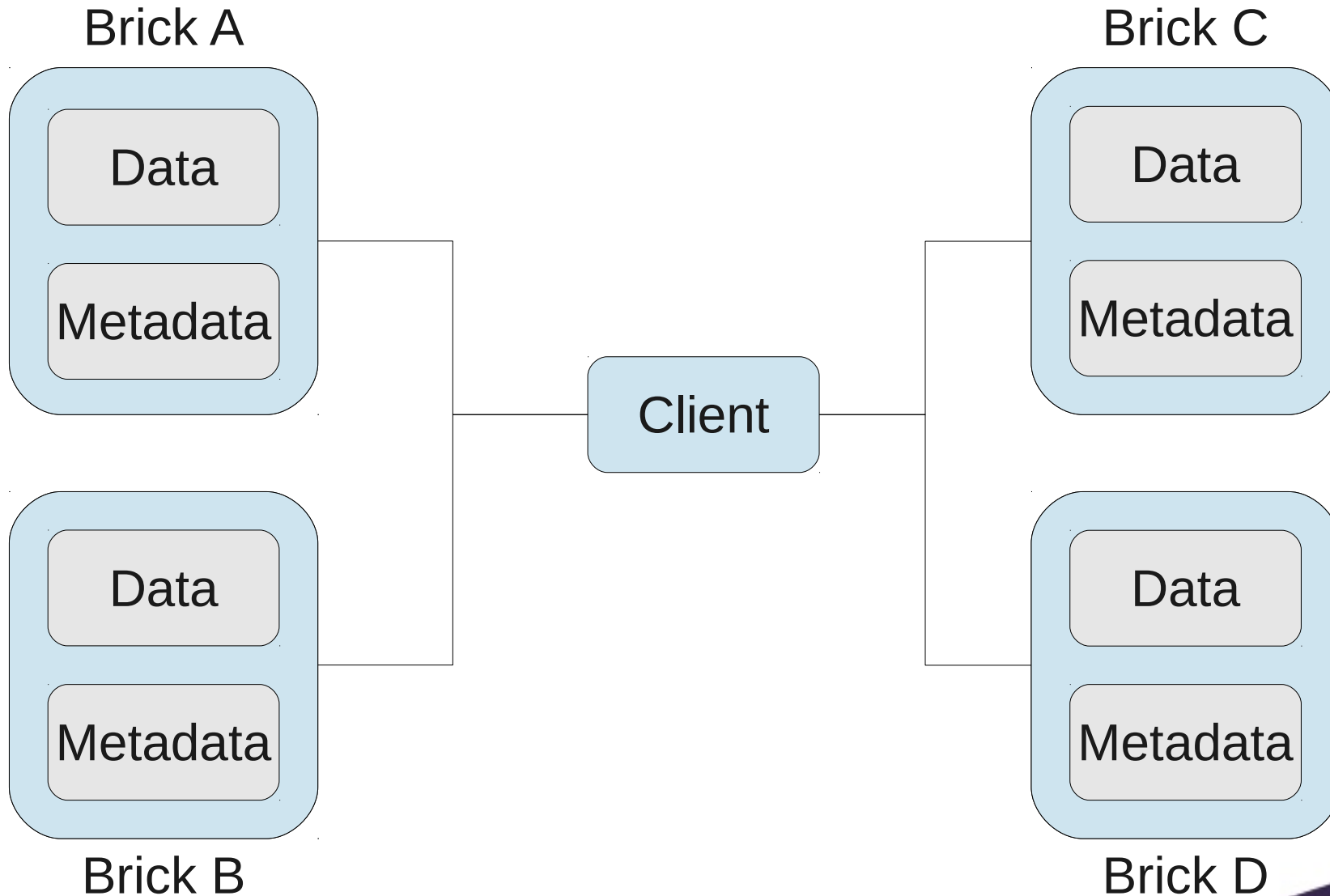 - Replicate

  - Geo-Rep

  - And more…

Gluster FS Handles Everything Else From There

- Any GlusterFS node can handle client requests
- GlusterFS handles distributing, replicating, and remotely replicating the data
- Clients perceive volumes as being one share that they can read and write the data
- Everything that GlusterFS does behind that is transparent to the client

GlusterFS Diagram

Brick A

Data

Metadata

Brick C

Data

Metadata

Client

Brick B

Data

Metadata

Brick D

Data

Metadata

Questions