

A distributed object, block, and file storage platform. It provides high availability, automated data distribution, and horizontal scalability for large-scale data centers.

Challenges of Modern Data Centers

Large data volumes and modern applications generate high-performance distributed storage needs. Traditional storage systems can fall short in terms of scalability, accessibility, and data continuity. Distributed data structures and increasing access demands complicate management processes. Decentralized storage architectures can reduce operational efficiency. Backup, data protection, and multi-access management can complicate operational sustainability. Hardware dependency and data access interruptions can create critical operational risks.

⚠️ What Problems Does It Solve?

· Scalability issues

· Centralized storage bottlenecks

· Data continuity problems

· Hardware dependency

Core Principles



Distributed Architecture
High availability is achieved by distributing data across different servers.



High Availability
Uninterrupted access and service continuity are supported.



Flexibility
Capacity needs can be met through horizontal growth.



Automation
Data balance is preserved with self-healing mechanisms.

How Does Ceph Work?

Ceph writes data to different nodes in a distributed architecture to provide high availability, data integrity, and a scalable storage infrastructure.

Technical Specifications

📁 Storage Services

✔️ Block Storage support

✔️ Object Storage support

✔️ CephFS file system support

✔️ S3 support

📁 Data Management

✔️ CRUSH algorithm distribution

✔️ Self-healing mechanisms

✔️ Data replication support

✔️ Erasure Coding

📁 Management

✔️ Cluster Management

✔️ Monitoring Systems

✔️ Performance Analysis

✔️ Log Management

📁 Integration

✔️ Kubernetes

✔️ OpenStack

✔️ S3 API

✔️ RBD

📁 Data Processing Features

✔️ Big Data Systems

✔️ Data Analytics

✔️ High Transaction Volume

✔️ Corporate Style Audit

