



Whitepaper

Infinite Scale Architecture

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As a Data Management Platform, Infinite Scale is providing the tools to integrate, organize, share and govern data and metadata, thus making collaboration easy for users. Infinite Scale provides a Unified Data Access Layer spanning across organizations' storage ecosystems.

Infinite Scale supports building Cloud Data Ecosystems either operated within a single Infinite Scale instance or by federating multiple Infinite Scale instances. They can be operated on-premises and/or in private, public or hybrid cloud environments.

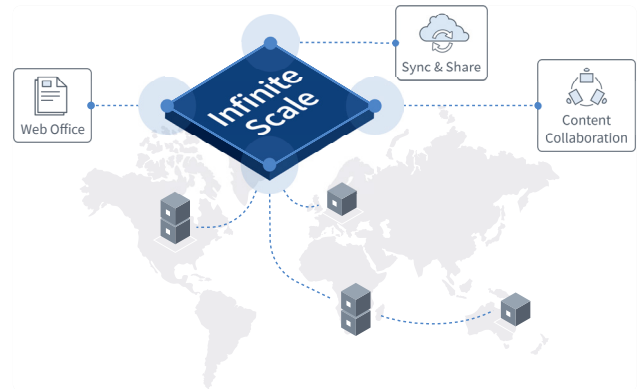


Figure 1: Infinite Scale is flexible, transparent, fast, enterprise grade and easy to use: The #1 platform for secure file and collaboration sharing.

Modernizing ownCloud From the Ground up

Infinite Scale is a complete (and compatible) modernization of ownCloud 10 with a new 3-tier architecture. We designed it for high scalability, speed, always focused on security,

efficiency and flexibility, with open standard interfaces and task separation. Under the hood, Infinite Scale controls the microservices launched.

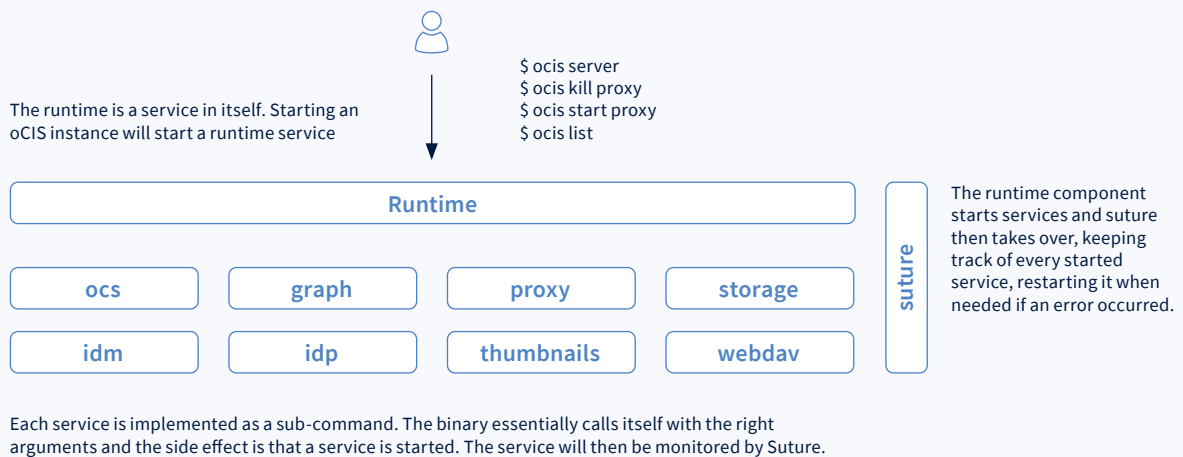


Figure 2: ownCloud microservices strategy and usage: The runtime component starts services. Suture will take over, keeping track of every started service, restarting it when needed.

From EFSS to Data Platform

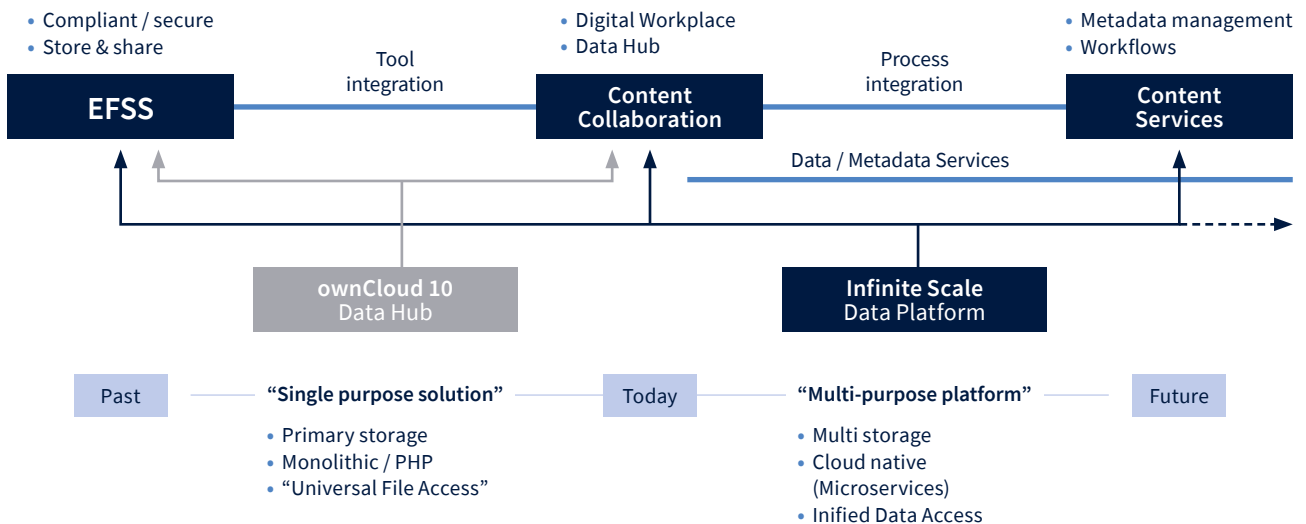


Figure 3: From EFSS to Data Platform, from ownCloud 10 to Infinite Scale

For the user the new web interface ownCloud Web brings tons of improvements in usability. The new backend allows integration and management of all of your data silos, making it easy for both your users and administrators. Thanks to the new, “cloud-native” architecture customers are prepared for integrating their data fabrics, meta data management, semantic searches and artificial intelligence applications.

Extending ownCloud's Capabilities

As successor to ownCloud 10 (not necessarily a replacement), Infinite Scale benefits both from many years of experience in the field and extends ownCloud's capabilities and features (Figure 3). Where ownCloud 10 works perfectly as a data hub and a single purpose solution, Infinite Scale was developed as a multi-purpose data platform. Future versions will focus on metadata management, workflows, data fabric integration and more.

Cloud-native for Any Cloud, Any Deployment

Infinite Scale comes with a completely new code base that is completely open source. It replaces the PHP/LAMP stack with a modern cloud native microservices architecture written in Go, a statically typed, compiled programming language developed by senior engineers and computer pioneers like Ken Thompson (Co-Founder of Unix) at Google. Thanks to its flexibility, Infinite Scale runs in any cloud, scales perfectly and can be deployed easily. Its database-less approach offers significant advantages over the monolithic LAMP stack, leading to higher working speed (about 11 times faster than ownCloud 10), more efficiency and better integration in large scenarios (scalability).

Create your Cloud Data Ecosystem

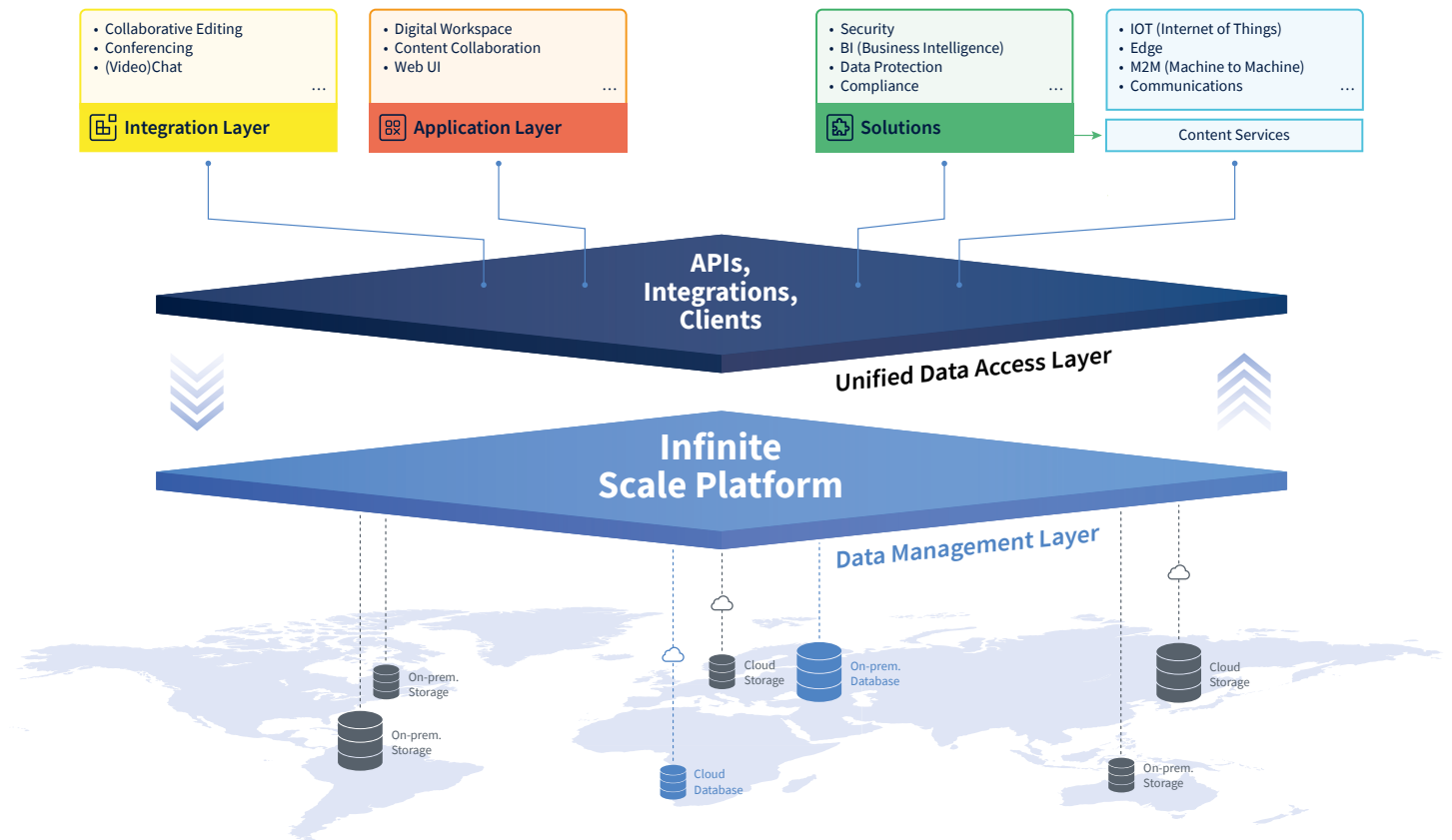


Figure 4: Create your own Cloud Data Ecosystem with ownCloud

ownCloud 10 is a stable and mature product, based on mature tech (PHP, LAMP, ...), but some customers had challenges that could not easily be overcome. A proof of concept was developed at CERN, an international research organisation based in Geneva, Switzerland (the home of the Large Hadron Collider). Besides many file actions, they also needed to write directly into their storage solution which was not feasible with the PHP architecture approach.

Infinite Scale can handle up to 150.000 file events per second. Customers experienced that this performance was simply not possible with the monolithic setup of the LAMP stack. A new architecture became necessary, and the approach chosen also allows bigger datasets and more geo-distributed setups (Figure 4).

All Features here:

<https://owncloud.com/news/infinite-scale-beta-available/#features>

Core Features

- ✓ Supports Local (POSIX), and network storage systems (e.g. S3, SMB, NFS, ...)
- ✓ Integrated, lightweight user & group management (LibreIDM), external LDAP, OpenID Connect for SSO
- ✓ User roles system
- ✓ File management, sharing, linking, locking, versioning
- ✓ Media viewer, three separate office integrations (Collabora, Microsoft, OnlyOffice)
- ✓ Frameworks for user setting, notifications and file metadata management, event system
- ✓ File search – global search by file name, filter current folder by file name
- ✓ WebDAV, OCS (Open Collaboration Services), LibreGraph
- ✓ Technical service metrics
- ✓ Technical log for operations and debugging
- ✓ Auditing
- ✓ Deployment as single binary, systemd service, docker container or through Helm and Kubernetes

Who needs Infinite Scale?

- Everybody who has to increase productivity and security when working with data
- Organizations that want to leverage the inherent value of their data
- IT departments and management that want to drive digitalization carefully with digital resilience and sovereignty
- Organizations that have specific, custom use cases related to data
- Software vendors and ISVs on the infrastructure layer that want to make data available for applications and end users
- Software vendors and ISVs on the applications layer who work with data and want to focus on their core competencies




About ownCloud

ownCloud develops and provides open-source software for content collaboration, allowing teams to easily share and work on files seamlessly regardless of device or location. More than 200 million users worldwide already use ownCloud as an alternative to public clouds – and thereby opt for more digital sovereignty, security and data protection.

For further information, please visit owncloud.com or find [@ownCloud](https://twitter.com/ownCloud) on Twitter.

ownCloud GmbH
Rathsbergstr. 17
90411 Nürnberg
Germany

Contact:
owncloud.com/contact
Phone: +49 911 14888690
owncloud.com

 [@ownCloud](https://twitter.com/ownCloud)
 facebook.com/owncloud
 linkedin.com/company/owncloud