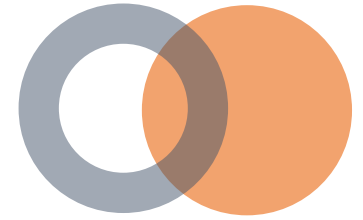# Journée du 22 novembre "Données de la recherche" Strasbourg

Pascal Le Cunff
Regional Sales Director

David Bull
Technical Sales Director

Run file workloads on any object storage on-premises or in the cloud

Cloud economics with high performance data access

LucidLink Filespaces™

The cloud file system for object storage

Stream data, on-demand

Cloud native software design

Multi-cloud & OS support

End-to-end encryption

Servers, workstations, laptops, VMs, containers

Data center

Main office

Branch office

Remote user

Global namespace

Cloud-native file system backed by object storage
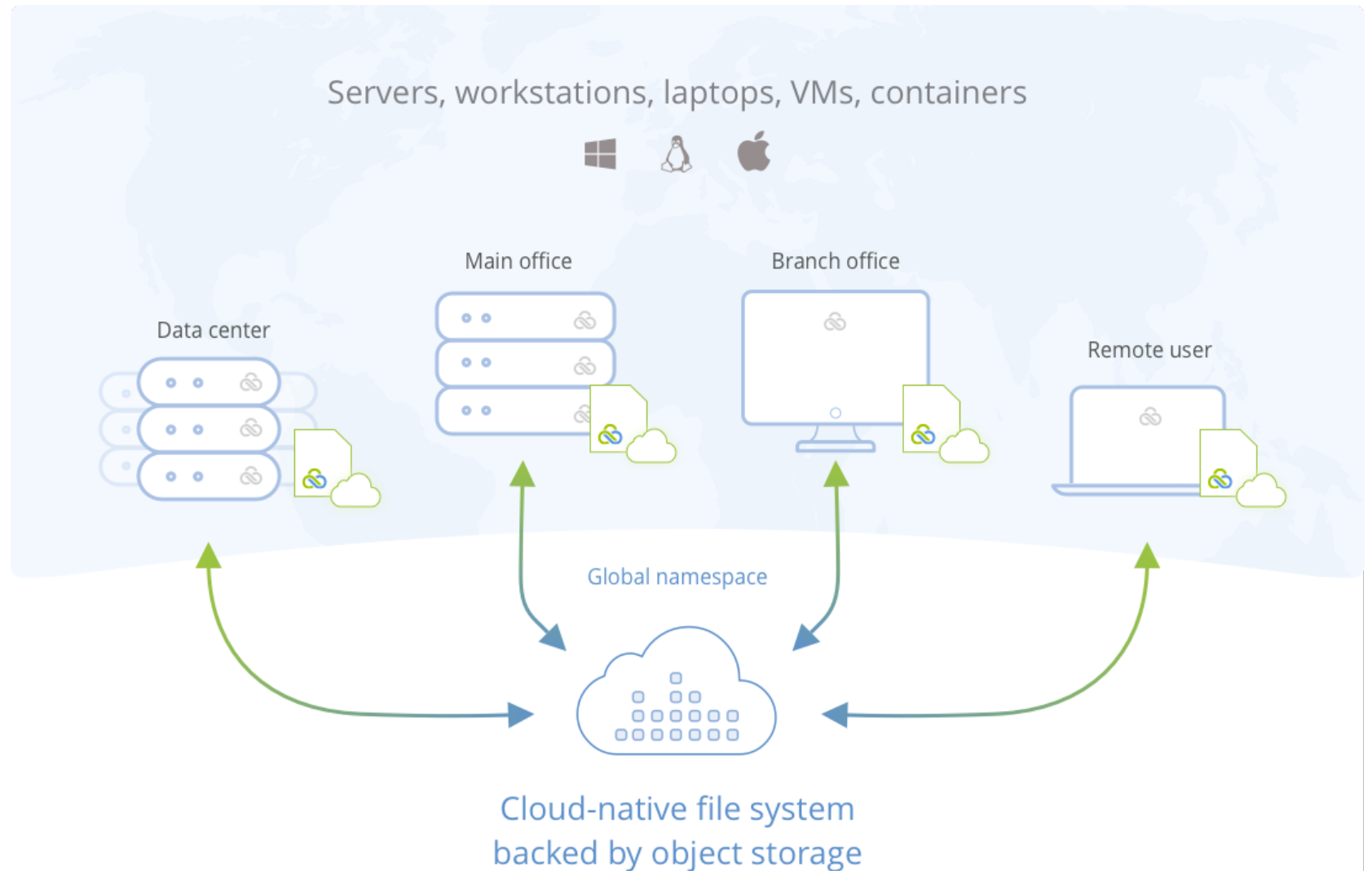
LucidLink

Comparison to Existing Technologies

File Sync & Share

Files

Cloud Storage

Multiple replicas
continiously synchronized
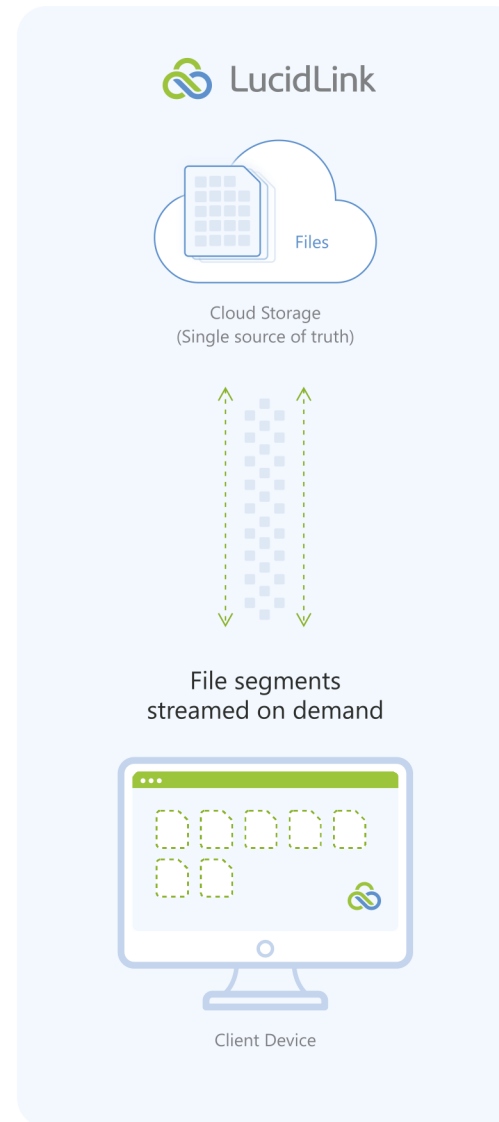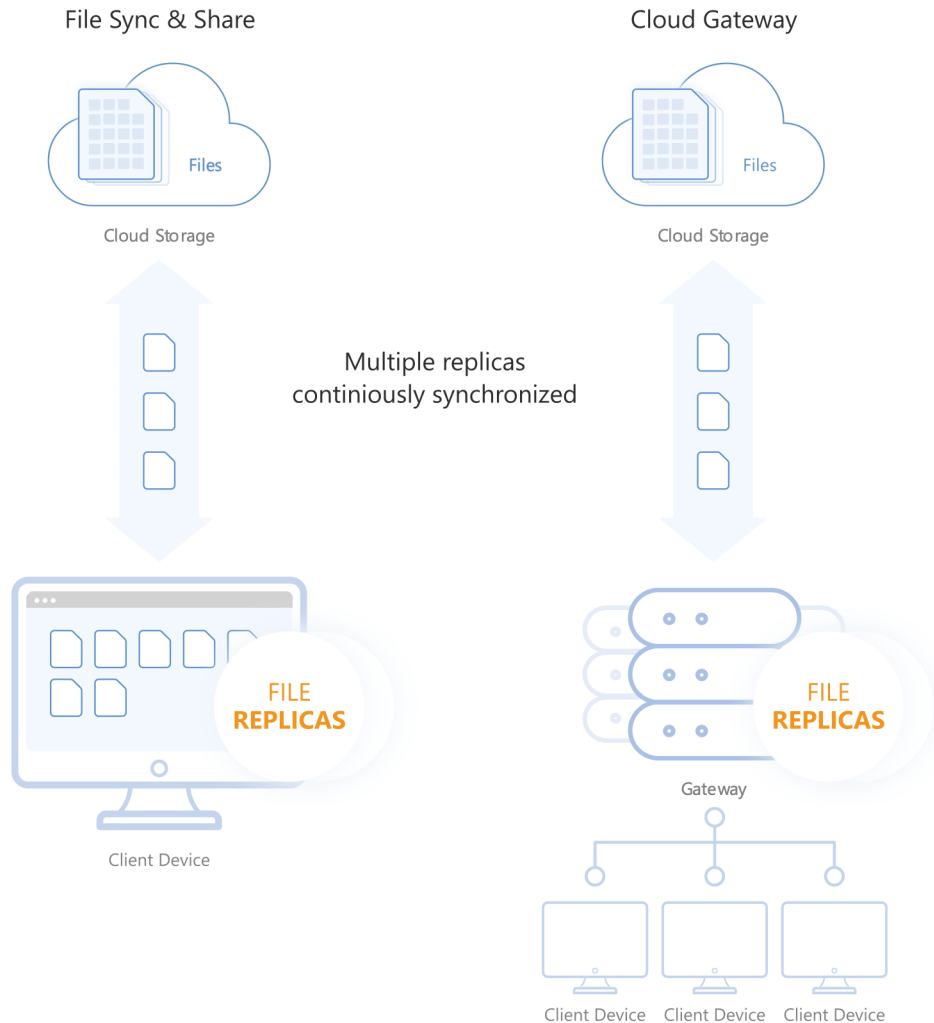
FILE
REPLICAS

Client Device

Cloud Gateway

Files

Cloud Storage

FILE
REPLICAS

Gateway

Client Device   Client Device   Client Device

LucidLink

Files

Cloud Storage
(Single source of truth)

File segments
streamed on demand

Client Device

LucidLink Advantages

- Streaming instead of syncing

- Performance increase

- Instant access to large files/volumes

- No gateways

- Uniform access from anywhere

- End-to-end encryption

- Control over data sovereignty

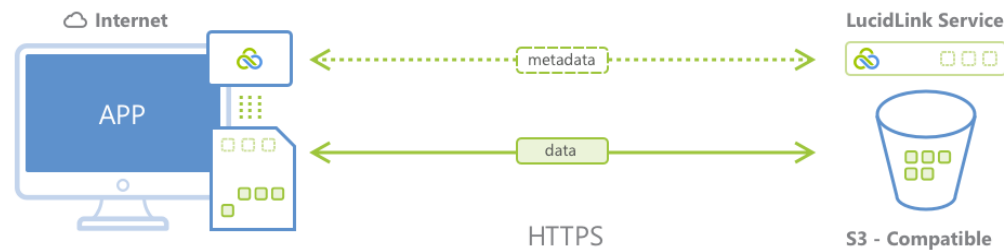- Fraction of the cost

- Full OS support

Why Traditional Protocols Don't Work

Standard protocols are "chatty" but in a low-latency environment such as a local LAN, they work fine.

LAN · **File Server**

APP ← metadata → data — NFS / SMB
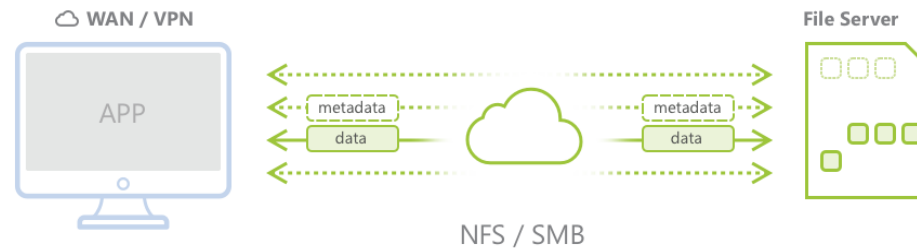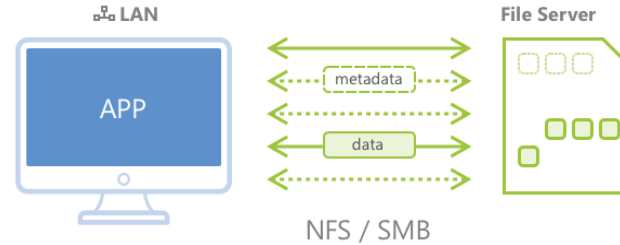
With distance, things break down, 1000s to 10,000s of small metadata packets travel round-trip, dragging performance to a crawl.

WAN / VPN · **File Server**

APP ← metadata · data → NFS / SMB

LucidLink decouples the metadata and the file data into separate planes.

Internet · **LucidLink Service**

APP ← metadata → ← data → · HTTPS · S3 - Compatible

Metadata is synced locally; only the file data that is requested by the application is streamed on demand.

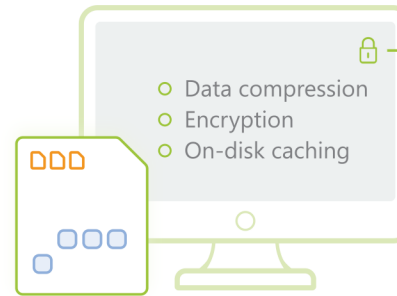LucidLink

LucidLink Solution

LucidLink Client

Embeds into the OS as a file system, presents files as if they are local. Handles all the encryption, compression, prefetching and caching.

LucidLink Service

Manages metadata coordination, garbage collection, file locking, snapshotting etc.

LucidLink Client

- Data compression
- Encryption
- On-disk caching

Using their own encryption key, customers have complete control over their files.
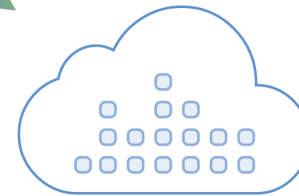
Metadata Synchronization

On-demand Data Streaming

LucidLink Service

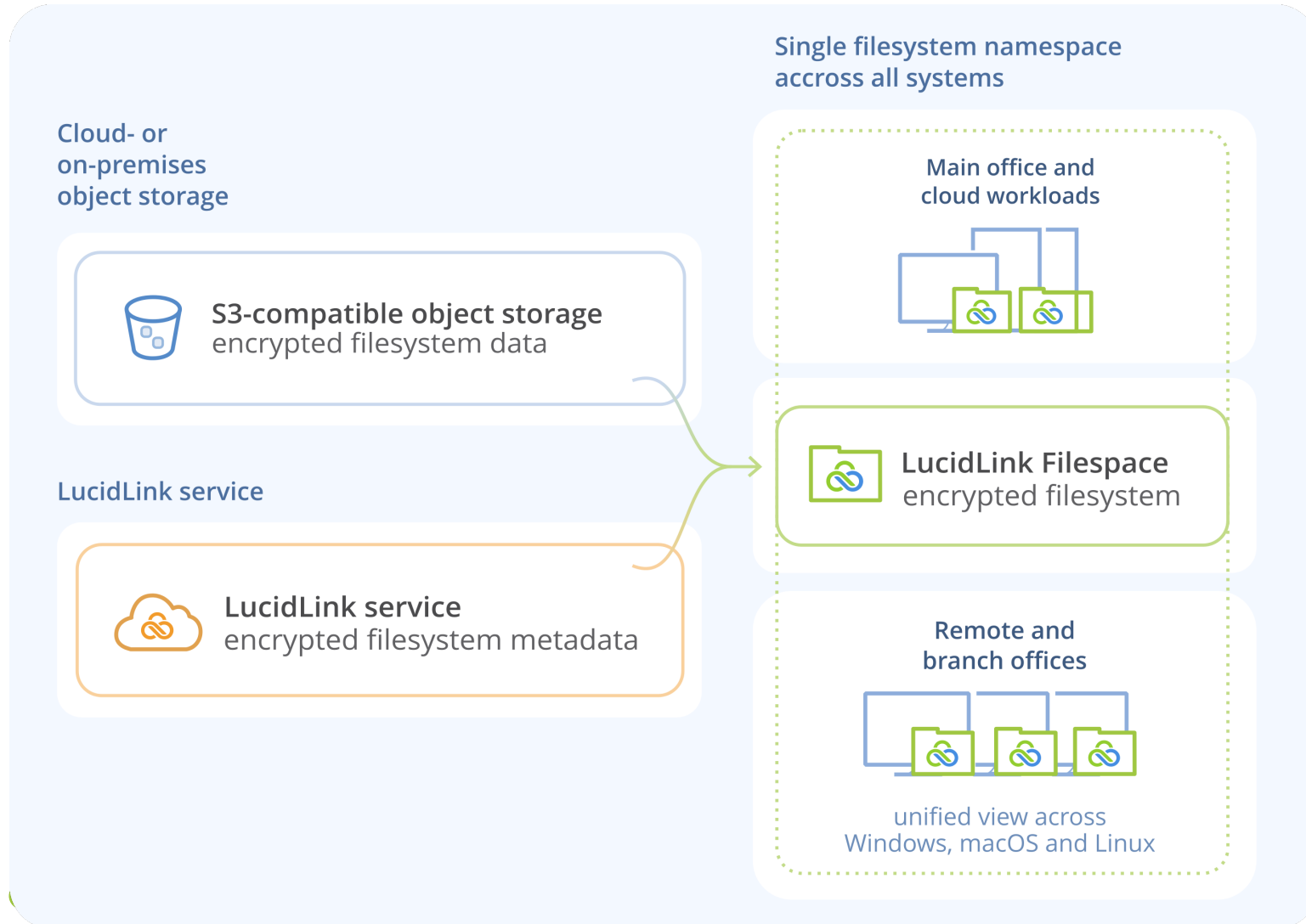Metadata is encrypted and synchronized across all connected clients

Object Store

Files are split into multiple objects, providing immediate random read/write access

Object Store

Hosts all data in a bucket in customer's account. We use a unique data layout, which treats the object store as an elastic, block device.

LucidLink

Demo - Streaming data from object storage

**Cloud- or
on-premises
object storage**

S3-compatible object storage
encrypted filesystem data

LucidLink service

LucidLink service
encrypted filesystem metadata

**Single filesystem namespace
accross all systems**

**Main office and
cloud workloads**

LucidLink Filespace
encrypted filesystem

**Remote and
branch offices**
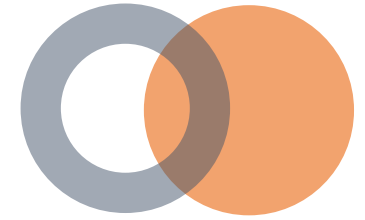
unified view across
Windows, macOS and Linux

1. Create Filespace
2. Showcase security
3. Configure user access control
4. Collaborate on Windows, macOS
   and Linux
5. Highlight data protection
6. Demonstrate high performance
   throughput:
   a. Video
   b. Image
   c. Database
   d. Virtual machine

Cloud-Native Distributed File System

Secure, enterprise-scale cloud service

- A shared, global namespace

- Full file system semantics

- High-performance over distance

- Highest degree of security and privacy

- Any object store

- Large volumes in the PB range/100's million of files

- All modern desktop/server, VM and container platforms

LucidLink

www.lucidlink.com
Thank you

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