

Overview

Organizations and agencies are creating data at unprecedented rates. Yet, to consume that data in a valuable way, the data must first be made accessible to the user or application. Existing data transfer technologies are typically slow, expensive, and unpredictable. This dampens productivity, operational costs, and business and mission outcomes.

Purpose-built to enable modern data mobility for high-performance applications and workloads, Vcinity's Ultimate X[®] (ULT X) family of software solutions accelerates access to data through two key capabilities: one, moving data from one point to another significantly faster and more efficiently than existing methods, and two, enabling applications to remotely access data. This enables simplified, near real-time access to an organization or agency's data, regardless of distance, latency, dataset size, or hybrid location.

Its core data movement capability is a great fit for edge-to-core or edge-to-cloud ingest workloads, backups, and/or migrations—reducing operational costs, increasing operational efficiency, and accelerating time-to-results and revenue. Its remote data access capability is a great fit for scenarios requiring a user or application to interact with data that cannot be moved, such as data that must remain on-prem due to data residency requirements or data that is sitting in another cloud region.

Benefits:

Increase productivity:

Accelerate time to action and outcomes by minimizing time waiting on data

Improve operational SLAs:

Accelerate data movement workflows such as edge-to-cloud ingest, data center relocation, or backup

Decrease Total Cost of Ownership (TCO):

Reduce costs associated with data duplication and transfers

Increase operational agility:

Enjoy the flexibility to execute on data anywhere—on-prem, at the edge, or in the cloud

Enhance security posture:

Better protect data while in-flight and improve security footprint with less redundant copies

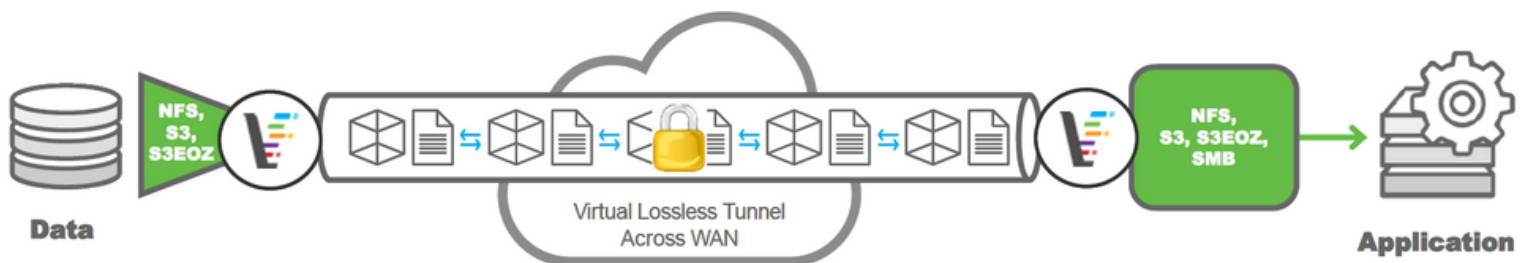


Figure 1: ULT X creates a tunnel to move data from storage location to application, presenting as simple shared storage interfaces (NFSv3, NFSv4, SMBv3) and supporting backend interfaces (NFSv3, NFSv4, Amazon S3 and Amazon S3 Express One Zone (S3EOZ))

ULT X is deployed as endpoints—allowing you to create "hub" and "spoke" nodes. It delivers unparalleled performance by creating a secure connection between nodes, employing advanced flow controls, and efficiently transferring data without manipulating it (e.g., no compression or deduplication).

Using ULT X, you can expect to benefit from its:

High Performance

- Transfer TBs to PBs of data ultra-fast (e.g., 1PB moved across the US over 100Gbps in less than 24 hours)
- Maintain ~90% of allocated bandwidth for continuous data throughput across distance
- Access and operate on remote data in near-real-time, as if it were local

Scalability

- Perform predictably across any distance independent of LAN, WAN, and transport protocols
- Provide a linearly scalable solution with addition of ULT X nodes, links, and bandwidth
- Provide global namespace creation for improved visibility to globally distributed data

Simplicity

- Easy configuration and deployment using an intuitive GUI and a simple CLI
- Seamless integration into existing orchestration platforms with REST APIs
- Comprehensive event logging and error reporting

When to use ULT X's data movement capability:

- **Edge-to-core data ingest:** A variety of use cases, like a racing team analyzing on-track performance data or a government agency analyzing distributed spatial imagery, depend on efficient data delivery and ingest to move data created at the edge to the core for processing or analysis. Quickly and securely moving large datasets from edge to core, across often intermittent or constrained networks, enables enhanced security, proactive decision-making, and competitive advantage.
- **Edge (or core)-to-cloud data ingest:** Many of today's most innovative tools, like artificial intelligence (AI), generative AI (GenAI), or high-performance computing, rely on cloud-native applications for high-powered compute and scale. Yet, the efficacy and impact of these applications depend on getting training data efficiently into the cloud. For instance, loading the right volume and variety of training data (in a timely manner) into an AI algorithm will have immense impact on the accuracy of its outputs. It also minimizes downtime, increases productivity, and unlocks new workflows.
- **Cloud migrations or datacenter consolidations:** Critical to projects that enable agencies and organizations to tap into the benefits of new infrastructures, the process of moving typically vast datastores is often complex, tedious, and time-consuming. Accelerating data movement from its original to new location not only lowers the risk profile of the project but decreases project time (and associated costs), as well as minimizes potential disruption to core operational workflows and revenue streams.
- **Backup and recovery:** Remote backup and restores are a critical function, and organizations and agencies seek to meet or improve on already aggressive metrics, like recovery time objective. Not meeting these criteria can mean potential fines or putting customer and organization data at risk. Accelerated data movement substantially alters the options and workflow considerations of traditional backup and recovery. This provides the ability to optimize operational costs, improve security profiles, and increase agility while maintaining performance SLAs.

When to use ULT X's data access capability:

- **Cloud-based applications running against data on-prem:** Many highly-performant applications (often AI- or machine learning (ML)-based) used for near real-time decision making or providing a seamless user experience are cloud-native, like robot orchestration on a manufacturing production line or an editing suite for a visual effects artist. Due to the need for near immediate action or to enable access while managing the locality-based sensitivity of the data, cloud-based applications need to access data on-prem without moving it. ULT X provides this ability, which enables cloud-based applications comprehensive data access to spur more accurate AI outputs, better decision-making, and workforce productivity.
- **Core-based applications running against data at the edge:** Applications sitting on-prem, such as an agency's centralized analyst team, often leverage edge data, such as remote sensor data collected at sea. The need for quick decisions can be stifled by the challenge of moving data across intermittent or latent networks, such as satellite. Remotely accessing edge data from a core location enables increased transparency to edge activity, spurs productivity, and enables better, faster decision-making.

ULT X Configurations

The ULT X family of software is designed to fit into your existing environment and is available as software-only options of VMs (on-prem or in the cloud) and bare metal or PCIe cards of varying capacities installed in a server for unprecedented scalability. View the [ULT X Data Sheet](#) to learn more about which configuration is a best fit for you as well as further product specifications.