

Ultimate X

Ultimate Access™. What if you didn't have to move your data?

VCINITY DELIVERS

- Accelerated digital transformation
- Significant IT cost savings
- Substantially greater ROI for IT spend
- Dramatic improvement in time to completion, insight, decision for AI/ML/ analytics
- Increased enterprise agility
- Higher resiliency and flexibility
- True hybrid and multi-cloud solutions
- Enhanced data security
- Seamless integration into existing IT infrastructures
- Transparent to applications
- Ease of implementation

Vcinity™ provides a disruptive set of technologies built on a strong patent portfolio that completely changes your assumptions about IT and how to manage enterprise data distributed across the globe. Purpose-built for today's enterprise, Ultimate X™ (ULT X) provides unbounded access to data anywhere, any time, from any place. It supports unprecedented performance transparent to applications while providing seamless integration into hybrid on-prem, colo and cloud environments. Whether the data is digital media content, complex genome or pharmaceutical datasets, financial records, data assets of mission-critical workflows, or just shared files, ULT X creates a global federated data platform across the MAN/WAN that makes geographically dispersed data available from anywhere—with performance as if it were local.

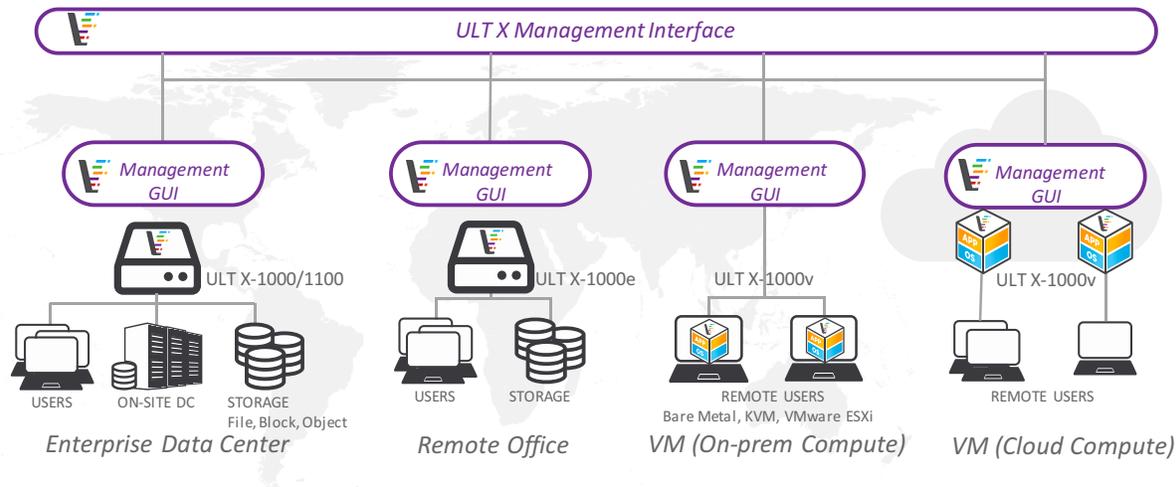
Challenges

Accessing data within an enterprise spread across geo-diverse locations challenges work productivity, time, and IT resources. Existing methods require data to be transferred and replicated leading to copy sprawl and compromised data security. Even with data transfer, data arrives at the destination in an unpredictable time and performance varies with data type/size and application. Utilizing existing technologies and applications is so cumbersome that even physical transportation of media or data is considered an acceptable solution. In summary, there is a need to access data with or without replication across distance to support location-independent data centers, distributed workflow operations, content creation across geo-diverse locations, business continuity objectives and content distribution in predictable time frames.

The Vcinity Solution

The Vcinity ULT X solution attaches to an enterprise similar to a standard NAS or transitional high-speed storage tier using industry-standard NFS/SMB client interfaces and when connected over the MAN/WAN, provides a high-performance, geo-diverse data exchange. ULT X essentially enables a global federated data platform for accessing data with or without replication, using global namespace and network-mapped drive volumes across geographically distributed enterprise storage. It utilizes high performance protocols, edge caching and a tiered storage architecture to bring together the local, remote, and MAN/WAN environments over a converged infrastructure.

ULT X does not require any software on clients or existing storage and facilitates easy maintenance of and integration into existing IT infrastructures. In addition, ULT X's comprehensive file management fully leverages its file sharing capabilities and allows users to copy or move folders/files and synchronize/backup data.



ULT X Use Cases

As shown in the figure above, the ULT X family of products provides a scalable platform from sub-1Gbps to 100Gbps throughput and addresses environments from data center, colo to remote edge and cloud environments. It offers compelling benefits for a variety of customers in media & entertainment, oil & gas, financial services, healthcare, HPC and government.

Run applications using data from anywhere

Typically, data needs to be moved to users and applications prior to its processing, which slows down business agility while the user waits for transfer of data. ULT X remotely accesses data without moving it enabling live editing or processing of data in-place and accelerates workflows.

AI/ML/Deep Learning

Current AI/ML platforms need large source datasets to be pre-processed for data reduction leading to additional delays. They are also limited due to the need to predict viable subsets of data ahead of time, which significantly diminishes the real value of data. ULT X allows the analytics platform to leverage complete source datasets in-place without pre-processing thus unleashing the true value of data.

Migrations/ On-boarding/ Syncing

Moving workloads in and out of colo, public or private cloud platforms is the largest barrier for adoption of hybrid IT strategies. It becomes very costly to migrate workloads with the additional risk

of placing wrong workloads onto the platform. ULT X moves data at unprecedented speeds, which enables workloads to be dynamically rotated in hybrid environments based on business/mission needs resulting in better SLAs and less risk.

Breaking down enterprise data silos

NAS silos limit enterprise flexibility with restricted access to enterprise information and complex security management and protection. ULT X’s federated and consolidated NAS enables a unified data fabric with clients accessing remote NAS resources via their local ULT X. There is no client software needed and file shares are presented with standard SMB/NFS interfaces.

Agile data access for disconnected/disadvantaged environments

Intermittent cloud-enterprise connectivity poses the primary challenge for cyber foraging use cases. Existing protocols support limited data transfer ability and utilization of the available connectivity resulting in reduced agility of the edge node-based architecture and posing challenges to mission success. ULT X empowers edge node-based architectures to transfer data from command center/cloud to the edge node for data pre-staging and caching at the tactical edge. It also allows the user to reach in, to process data in-place immediately where it is stored or to transfer data between edge node and command center/cloud during mission operations (i.e., in the event of loss of connectivity, mission completion or data uploading).



ULT X-1000v

Up to 1G per VM or
10G per VM w/ FPGA
Software-only
Remote Users



ULT X-1000e

Up to 2x10G
1U Server with
Embedded RADX-1010e
Small enterprise or ROBO



ULT X-1000

Up to 2x40G/6x10G
1U Server with
RAD X-1040
Enterprise data center, colo



ULT X-1100

Up to 2x100G/4x40G/24x10G
1U Server/s* with
RAD X-1100
Large data center, colo

* More servers needed for larger configs

ULT X Features

Unprecedented Performance

- Near-real-time access to remote data as if it were local
- Transfer of terabytes to petabytes of data at the speed of light over virtually any distance (e.g., 1PB in less than a day over a 100Gbps link across the U.S.)
- ~95% end to end bandwidth utilization of terrestrial and satellite links independent of size of the network connection

Maximum Scalability

- Predictable low-latency performance over any distance and independent of IT, LAN, WAN and transport protocols
- Linear performance with the addition of ULT X nodes, links and bandwidth
- Remote edge applications enabled by software-only solution (ULT X-1000v)
- Policy-based multi-tenancy support
- Comprehensive policy and security (LDAP credentials)
- Global Namespace support

Integration with Existing Infrastructure

- Seamless integration into existing workflows with no application rewrite

- Industry standard NAS with NFSv3/4 and SMBv3 connectivity
- Expandable tiered storage with embedded drives or external iSCSI/FC/IB attached storage for performance levelling across the network (ULT X-1000/1000e/1100)
- Deployable in any virtual environment—KVM, VMware ESXi, AWS EC2 VM, AWS F1, Microsoft Hyper-V, Xen or bare-metal (ULT X-1000v)
- Data movement APIs for seamless integration with existing automated workflows

Ease of Operation

- Data access through simple network-mapped storage
- Rack-mount or travel case options for AC or DC powered, low power solution (ULT X-1000/1000e/1100)
- Ruggedized portable version (ULT X-1000e)
- Integration with network managers via SNMP
- RESTCONF/NETCONF APIs for seamless integration into existing orchestration platforms
- Comprehensive file management (copying and moving files/folders) and synchronization features with flexible scheduling modes (Manual, Scheduled and Continuous) and powerful synchronization modes



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