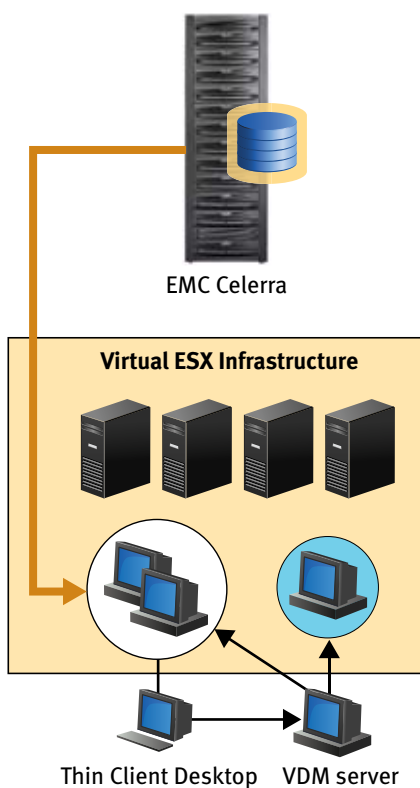


Desktop Manageability: VMware Virtual Desktop Infrastructure and EMC Celerra

Unique flexibility and scalability options enable deployment of hundreds of desktops in minutes



Desktop Management: The Business Challenge

Key challenges facing many corporations include controlling cost and ensuring data security and protection in a compliance-driven and increasingly fragmented operational IT model. As businesses move to an offshore model for critical support functions, look to enable workforce mobility, or merely look to exercise greater levels of control of their distributed IT assets, the issue of controlling, managing, and securing the desktop environment becomes an increasing challenge.

What is VDI?

VMware[®] Virtual Desktop Infrastructure (VDI) leverages a thin client architecture and centralizes client desktop images as Virtual Machines within a VMware infrastructure in the data center. VDI, allows corporations to deliver a robust enterprise support model for company PCs and laptops and their data. VDI values include:

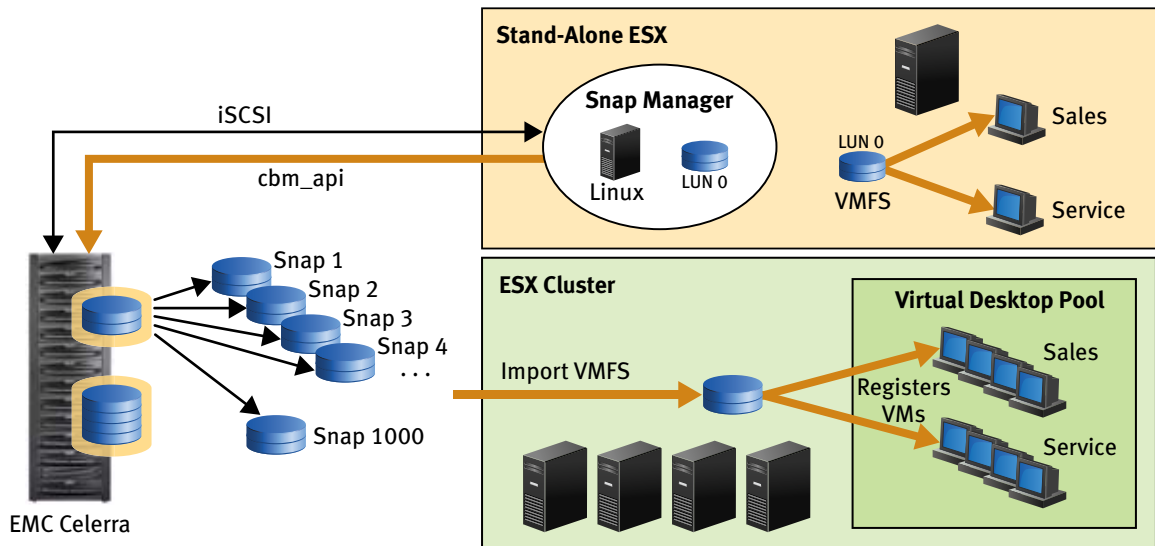
- VDI is VMware with its associated value proposition of consolidation, dynamic resource management, high availability, and optimized infrastructure management solutions, extended to the desktop.
- Placing desktop images close to centralized IT resources improves fault isolation and remediation and thus, support responsiveness.
- Desktop data resides on a secure network and users do not store data locally, leading to improved security.
- Centralized management allows the application of data-center-class data management, backup, and protection practices to desktop data.
- Standardizing on desktop deployment templates simplifies management, allows rapid deployment, and provides a real desktop OS so applications run natively, with no customization.
- Implementing a pooled, shared model for desktop images reduces the total number of systems to be supported, managed, patched, etc.

EMC Celerra: Extending the Value of VDI

VMware's Virtual Desktop Infrastructure provides tremendous value to its users, and the information infrastructure supporting VDI is key to ensuring the most optimal deployment. The EMC[®] Celerra[®] IP storage platform provides a robust set of capabilities that extends the value and optimizes a VDI environment, resulting in:

Rapid Desktop Deployment

- **Challenge:** Even though building Virtual Machines (VMs) for each desktop is far more efficient than building individual physical desktop images, the process introduces an unprecedented challenge of scale to VMware administrators as the environment grows.



- **Solution:** Typically, the basic desktop images are identical for each user in a business unit. Rather than build each VM image in VMware, leverage Celerra SnapSure™ technology to create array-based replications of VMs very quickly—up to 100 VMs in less than 10 minutes. Each “snapped” image consumes essentially no storage in the array. SnapSure is included with all Celerra systems at no cost.

Leverage Market-Leading Infrastructure for User Data

- **Challenge:** Effectively manage end-user data to maximize user productivity and manage costs.
- **Solution:** EMC Celerra complements the VDI solution by delivering a centralized platform for storing user files. Not only can Celerra be used to rapidly create the desktop images, it can also be leveraged to provide a “companion” data store for each individual’s user data. And because the data is presented as a personal folder, and stored centrally, you can further reduce cost by implementing centralized backup and archiving. Further flexibility is provided by allowing end users to perform file restores, and centralized controls can be applied such as quotas and file filtering of unauthorized data types, like MP3 files.

Enterprise Availability for the Desktop

- **Challenge:** When consolidating hundreds of desktops onto a single storage solution, it is critical that the solution provide high availability and advanced data protection options.
- **Solution:** The Celerra architecture provides no single point of failure and five-nines availability to support the largest VDI implementations. Celerra Replicator™ provides a remote replication solution for offsite disaster recovery (DR) purposes, and will soon be integrated with VMware Site Recovery Manager. Celerra Replicator provides a cost-effective, single DR solution for VDI and user data.

Further Reductions in Cost

- **Challenge:** VDI solutions may require support for different tiers of storage, as well as need large amounts of space for hundreds of copies of desktop images, typically around 5-10 GB in size
- **Solution:** EMC Celerra supports all protocols supported by VMware and VDI in a single platform: FC, iSCSI, or NFS. Celerra delivers flexible tiered storage with support for SATA or FC disks in a single system, allowing you to match your requirements to the appropriate storage technology.



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