VMware Mirage

Solution Basics

Q. What is VMware Mirage?

A. With VMware Mirage™, IT can centrally manage physical desktops and laptops remotely while their end users continue to leverage all of the local power of those devices. When IT has all of these endpoints centralized, they can perform remote disaster recovery, hardware refreshes, Windows 7 migrations, and single image management. Mirage offers the benefits of centralization and VDI manageability coupled with the power of local execution and persistent end-user personalization.

Q. How does VMware Mirage work?

A. Mirage centralizes virtual copies to the datacenter of every end point that the Mirage Client (no hypervisors) is installed on. Mirage will keep that device synchronized with the datacenter but the end user can use that endpoint online or offline any time, any place. And the IT Administrator can push out golden images to the Mirage-managed endpoints at any time to upgrade and patch Windows and applications.

Q. How does VMware Mirage optimize network and storage?

A. Mirage was designed to excel over the WAN by leveraging deduplication both in storage and during network transfers. Mirage uses a global manifest in storage to ensure that data is only stored once. In addition, Mirage will only send data across a network when it is needed. This means that Mirage (before a network transfer) scans the source against the destination, computes the delta (i.e., the missing files) and only sends what is required. It also compresses everything that gets sent across the network for additional network savings.

Q. Is Mirage customizable?

A. Yes, Mirage contains settings that allow the IT Administrator to customize how the Mirage system works, including but not limited to: how often snapshots are taken, what types of files are (and are not) centralized, how endpoints get centralized to the system, role-based authentication controls for the Mirage Management System, and more.

Q. What happens to the user's profile, files, and installed applications?

A. Mirage maintains all of that data even when an IT Administrator applies Base Layers. The only time user data is changed or modified is when it conflicts with data in the actual Base Layer. Otherwise, user personalization, files, and applications are all completely persistent.

Q. How does Mirage split the data on the computer into separate layers?

A. The data is all stored in the datacenter and Mirage uses algorithms to determine what objects on the endpoint belong to what logical layer. The information in the datacenter is stored logical groupings of data from each endpoint that the Mirage server records.

Q. How is data security managed?

A. There are a few key points with regards to Mirage security:

- Third-party storage encryption can be used, which is independent from Mirage, on local storage, network storage, and/or end points.
- Server-client communication can be encrypted using SSL.
- NTFS permissions can be used to secure the data Mirage stores.
- Administration is role-based.
- Full audit logs are provided on tasks initiated in the Mirage console.

Desktop Management and Repair

Q. How much of the desktop image is backed up?

A. Mirage provides a backup of the entire PC—not just the files—and restoring is simple because Mirage restores an exact image of the user's old PC, including personal apps, files and personalization, to any replacement PC.

Q. How granular is the recovery and repair for a desktop image?

A. When you recover an endpoint, you will have three options to select from:

- Restore the entire device (OS, apps, user data and profile).
- Restore just the applications, user data and profile.
- Restore just the user data and profile.

Q. Can the repair be initiated by the end user?

A. Currently, no. Restore and migrations must be initiated by the IT Administrator.

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Windows 7 Migration

Q. How is Windows 7 migration simplified using Mirage?

A. IT can create one single Windows 7 golden image in the datacenter and deploy it to hundreds or thousands of endpoints to upgrade them in-place to Windows 7 without affecting the user's profile or files (note: user-installed applications will not persist into Windows 7 as VMware cannot ensure they will work in Windows 7). That also means that no additional backup solution is required, as Mirage maintains user profiles and files. Additionally, Mirage requires no additional infrastructure at a branch office. Mirage can also rollback a device to the previous Windows XP state if the migration does not complete successfully on an endpoint.

Q. What is the typical end-user downtime during migration?

A. The user can continue working normally while their device downloads the Windows 7 image from the Mirage server. User downtime is usually no more than 30 minutes which occurs during the reboot to apply the Windows 7 image (once it is done downloading).

Clients

Q. What are the client bandwidth requirements?

A. Mirage was developed to work over the WAN. Though this varies on clients, we have computed that on average Mirage requires 15 Kbits/sec per user, which equals roughly 50 MB per user per day. Also, QoS can be implemented in a number of ways in a number of locations to ensure bandwidth is not taxed. The Mirage client also automatically monitors bandwidth and latency to throttle itself up or down, as appropriate, based on user needs.

Q. Are there client versions of Mirage for DOS / Linux / Mac / Unix?

A. There are only Mirage clients for Windows XP 32-bit and Windows 7 32-bit and 64-bit. To restore a bare metal machine (without a Windows install), IT would need to either use bootable Mirage media (OS + Mirage client + drivers) or would need to provision that endpoint with Windows and then install the Mirage client another way.

Q. How many different endpoints can a user have?

A. An end user can have as many endpoints as they wish. However, Mirage does not currently do multi-device synchronization.