

Wanova Mirage™ Software

Desktop Cloud Solution

Wanova's turnkey Desktop Cloud solution centralizes desktop images in the network like VDI, but allows a virtual copy of the image to run locally on a laptop so that users take advantage of the native performance of a PC – including the ability to run multimedia apps and work while disconnected from the network.

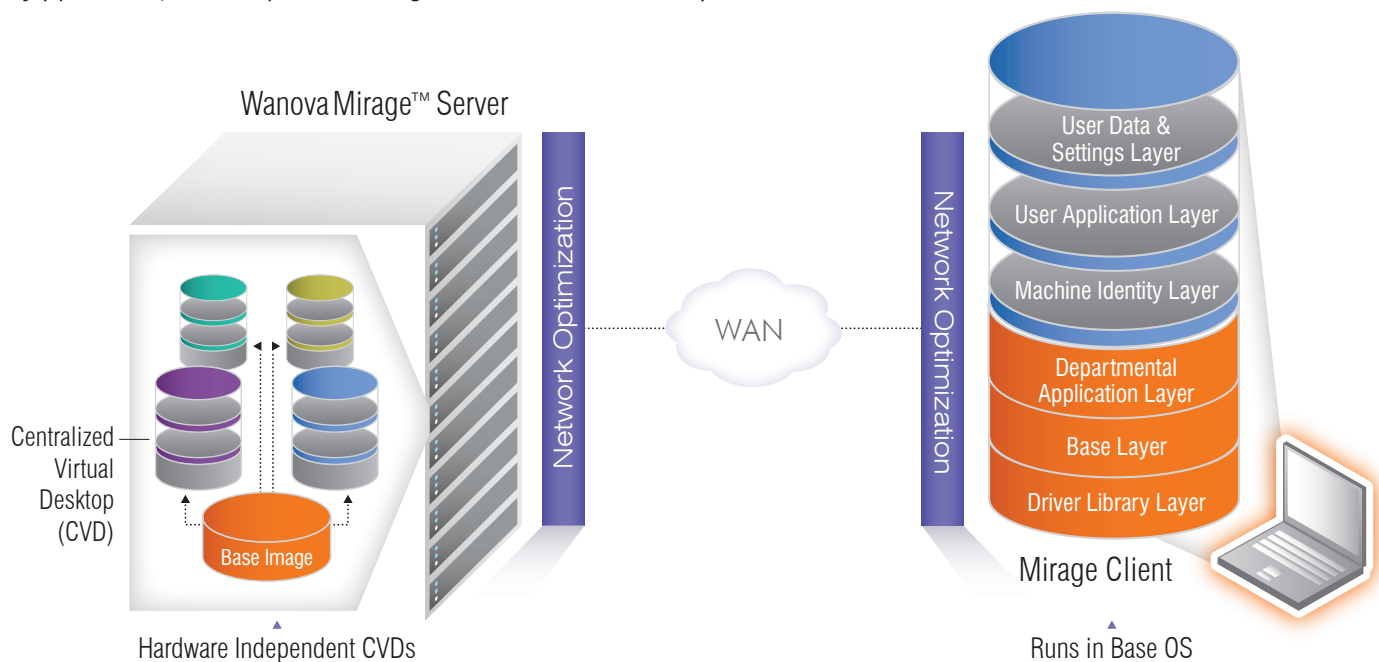
Using Wanova's Desktop Cloud Computing Solution to create a Desktop as a Service offering provides the same benefits whether deployed on-premise or at a managed service provider:

- **Centralized single image management** enables Enterprise IT and service providers to take advantage of the power of one – one copy of Windows and one copy of each application. Manage and update a single copy of Windows and a single copy of each application instead of trying to manage thousands of endpoints inside the firewall or worse, outside the firewall.
- **Total image restore** creates a perfect image of any computer to allow easy disaster recovery or easily move from one computer to another when upgrading – even down to end user personalization. Restoring is as easy as installing a new Wanova client – no need for CDs, DVDs, or other complicated restore alternatives.
- **Full bi-directional network optimization and integrated storage de-duplication** stores only one copy of a file, application, or operating system in the datacenter and does not transfer a file, application, or operating system over the WAN if another user's system has already done so.
- **Integrated PC troubleshooting** enables IT and service providers to use centralized images to solve common PC issues or revert back to a previous version of an image where there was no issue – all without affecting user installed applications, user data, and user personalization.

How it Works:

Wanova Mirage software centralizes the entire desktop contents at the data center for management and protection purposes, distributes the execution of desktop workloads to the endpoints for superior user experience, and optimizes the synchronization in between.

Mirage conceptually splits the PC into layers, combining a centrally managed Base Image (driver library layer, base layer, and department application layer) with three user layers from the endpoint (machine identity layer, user application layer, and user data & settings layer). These six layers form an individually managed, centrally-stored Centralized Virtual Desktop (CVD). CVDs are hardware-agnostic, and can be easily migrated from one desktop (physical or virtual) to another, creating a wide range of use cases. The Wanova Client runs a copy of this CVD directly on the endpoint, so users can work offline, use processor-intensive applications, and enjoy predictable, native PC performance regardless of network connectivity.



MIRAGE LAYERS

The Mirage architecture includes Wanova Mirage™ Server in the data center to centralize desktop management and protection; Mirage Client to create a local cache for optimal user experience at the endpoint, and advanced WAN optimization technology to speed bi-directional synchronization over the WAN.

Wanova Mirage™ Features and Benefits

- 1 Wanova Mirage Server** – Centralizes management of all desktops in the data center and provides a powerful management console and functionality for controlling image management, storage and clients.

Single image management

Update or patch a Base Image once, and automatically propagate changes to all related desktop images

BENEFITS:

- ▶ Central image management even if end users are not connected to the network
- ▶ Synchronize changes automatically when end user connects

Image layering

PC is conceptually divided into six layers:

Centrally managed: Base Layer (OS and core Apps), driver library layer, and departmental app layer

User layers: user application layer, machine state layer, and user data and settings layer

- ▶ Enable single image management with persistent user customization
- ▶ Allow re-imaging while preserving user data and personalization

Continuous compliance with Base Image

Base Image enforcement ensures endpoints match central Base Image

- ▶ Avoid the 'image sprawl' phenomena
- ▶ Reduce support calls by ensuring an 'always-good' image

Continuous backup of the complete desktop

All data on the desktop is automatically protected, and can be restored, including user-installed applications, machine state, user settings and data

- ▶ Protect mission critical data and enable desktop continuity
- ▶ Gain visibility into applications installed on endpoints
- ▶ Maintain a year of snapshots for point in time restores

Fast CVD restore or re-base

Restore desktop image to new PC – even from a different hardware manufacturer

- ▶ Reduce end user downtime if a laptop is lost, stolen or broken
- ▶ Simplify hardware migration by quickly moving users to new hardware, complete with user-installed applications and personalization

Fast endpoint re-image

Restore an endpoint to a previous snapshot to fix a problem – in minutes – optionally preserving or cleaning up user-installed applications

- ▶ Reduce cost of support and improve SLAs
- ▶ Maximize end user productivity

Global single instance store

Deduplicate data across all users, including OS, applications and data

- ▶ Significantly reduce storage requirements for CVDs

- 2 Wanova Mirage Client** – A copy of the centralized desktop image executes at the endpoint giving end-users native performance, as well as the ability work offline and install their own applications.

Hypervisor-free (but hypervisor-friendly)

Mirage does not require a hypervisor of any kind, though it does support execution on one

BENEFITS:

- ▶ Manage the primary OS, with no underlying unmanaged OS or hypervisor
- ▶ Avoid purchase of two OS licenses
- ▶ Avoid limited hardware compatibility associated with Type-1 hypervisors

User-Initiated backup and restore

In addition to the IT-managed backup policy, users can selectively restore files and initiate backup at their convenience

- ▶ Reduce support requests for file restores
- ▶ Ensure fast backup for mission-critical data

Image executes locally at endpoint

Run a complete instance of the centrally-stored and managed CVD at the endpoint

- ▶ Achieve native PC performance, regardless of connectivity or bandwidth
- ▶ Work offline
- ▶ Instantly transition between online and offline; no check-in/check-out

Local compute power

Leverage local compute resources of the endpoint

- ▶ Avoid costly data center server build-out
- ▶ Increase scalability by an order of magnitude over VDI

Branch Reflector

Client role that makes it possible to distribute an image once across and then let local peers access what they need across local LAN

- ▶ Reduce WAN traffic
- ▶ Avoid server buildout at branch offices for software distribution or PXE-boot
- ▶ Centrally manage software updates such as Windows XP to Windows 7 migration

- 3 Wanova Network Optimization** – A robust combination of deduplication and optimization technologies dramatically reduce network traffic and speed synchronization for remote and mobile users.

Desktop pipelining over the WAN

Download minimal set for boot, and intelligently stream remaining data in the background or on-demand

BENEFITS:

- ▶ Restore a complete desktop to a remote endpoint in minutes
- ▶ Fix a corrupted remote endpoint within minutes

Global data reduction

Block and file-level deduplication across all files, users, network and storage

- ▶ Reduce network traffic, transfer times, and storage capacity
- ▶ Accelerate full desktop image transfer by 100X

SYSTEM REQUIREMENTS:

Mirage Client

- ▶ Windows XP Professional with SP2 or SP3, 32-bit or Windows 7
- ▶ Standard laptop/desktop hardware

Mirage Server

- ▶ Windows Server 2008 R2 Standard Edition, 64-bit
- ▶ Commodity hardware or ESX