Deploying VMware Mirage™: Tips and Tricks for Success

Bonny Babu
20th May 2014
Agenda

1. What is VMware Mirage?
2. What’s new in VMware Mirage 5.0?
3. VMware Mirage and PC Lifecycle Management
4. Tips and Tricks for Deployment
What is VMware Mirage?
VMware Mirage
Unified image management across physical, virtual, and BYO PCs

Dynamic Layering
Automated Backup and Full System Recovery

Designed for distributed environments
Easy extension of PC Lifecycle Management tools
VMware Mirage: How It Works

Manage Centrally while Executing Locally

Base Layer

CVDs (Centralized Virtual Desktops)

VMware Mirage™ Server

WAN

Network and Storage Optimized Synchronization

Desksops

Desktops/Laptops with Mirage Client
VMware Mirage: Layered Image Management
Unified image management across physical, virtual, and BYO PCs

<table>
<thead>
<tr>
<th>Layer Description</th>
<th>Functionality</th>
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<tbody>
<tr>
<td><strong>User Personalization Layer</strong></td>
<td>(user data, installed apps &amp; profile)</td>
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<tr>
<td><strong>Machine Identity Layer</strong></td>
<td>(identity, customizations)</td>
</tr>
<tr>
<td><strong>VMware Mirage Application Layers</strong></td>
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<tr>
<td><strong>Base Layer</strong></td>
<td>(OS, infra software, core apps)</td>
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<tr>
<td><strong>Driver Library</strong></td>
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- Dynamic layering simplifies OS and application delivery
- Non-disruptive restoration and deployment
- VMware Mirage performs granular operations on managed desktops
  - Blue layers continuously backed up
  - Green layers managed by IT
VMware Mirage: Layered Image Management

Unified image management across physical, virtual, and BYO PCs
What’s new in VMware Mirage 5.0?
Windows 8.1 Support
Migration and Image Management Support

Migrate from Windows 7 to Windows 8.1

- Full support for Windows 7 OS endpoint migration to Windows 8.1
- Revert to Windows 7 snapshot in case of inadequate migration

Windows 8.1 Image Management

- Apply base and application layers to Windows 8.1 endpoints
- Provision new Windows 8.1 devices with standard corporate image
- Distribute applications and patches across LAN/WAN
VMware Mirage Gateway Enhancements
Help manage branch office and remote endpoints without VPN

**Overview**
- Secure gateway supports centralized management of remote endpoints without VPN
- Supports 1000s of endpoints per gateway

**Benefits**
- Easy access for end-users who never or rarely connect to the corporate environment
- Simplified endpoint management of distributed users across the WAN
- Enterprise-grade scalability, manageability, and usability
VMware Mirage: Use Cases

Unified image management across physical, virtual, and BYO PCs

- Automated Windows Migration
- Endpoint Backup & System Recovery
- PC Refresh
- Break/Fix (Reduce Helpdesk escalations)
- Centralized Image Mgmt.
### Key Benefits of VMware Mirage

#### Summary

<table>
<thead>
<tr>
<th></th>
<th>End-User freedom</th>
<th>Zero / low touch management</th>
<th>Remote Branch Offices</th>
<th>Safety Net</th>
<th>Minimal end-user downtime</th>
<th>Empower Apple Users</th>
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1. **End-User freedom**
   - Personalisation and profiles maintained
   - User-installed applications allowed

2. **Zero / low touch management**
   - No PXE environment required
   - Avoid engineering visits

3. **Remote Branch Offices**
   - Branch Reflectors minimise load
   - Storage and network optimisation

4. **Safety Net**
   - VMware Mirage maintains a full backup
   - Revert to snapshot if problem exists

5. **Minimal end-user downtime**
   - Updates downloaded whilst user works
   - Fast recovery to existing or new desktop

6. **Empower Apple Users**
   - VMware Mirage includes Fusion 6 Professional
# Customer ROI Example

## Assumptions

- 7,800 PCs to Restore
- €1,500,000 in Help Desk Costs

## Mirage Savings n Help Desk Costs

<table>
<thead>
<tr>
<th>Mirage Savings n Help Desk Costs</th>
<th>Savings</th>
<th>Weight in IT Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Problems</td>
<td>27%</td>
<td>13%</td>
</tr>
<tr>
<td>Software Problems</td>
<td>40%</td>
<td>37%</td>
</tr>
<tr>
<td>Restore (from backup)</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>Settings &amp; Configuration</td>
<td>60%</td>
<td>12%</td>
</tr>
<tr>
<td>Software Install (core apps)</td>
<td>42%</td>
<td>4%</td>
</tr>
<tr>
<td>PC Replacement (refresh)</td>
<td>78%</td>
<td>20%</td>
</tr>
<tr>
<td>PC Replacement (broken PC)</td>
<td>83%</td>
<td>4%</td>
</tr>
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## Help Desk Savings by YEAR

<table>
<thead>
<tr>
<th></th>
<th>Without Mirage</th>
<th>With Mirage</th>
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</thead>
<tbody>
<tr>
<td>Hardware Problems</td>
<td>€195,000</td>
<td>€142,350</td>
</tr>
<tr>
<td>Software Problems</td>
<td>€555,000</td>
<td>€333,000</td>
</tr>
<tr>
<td>Restore (from backup)</td>
<td>€150,000</td>
<td>€15,000</td>
</tr>
<tr>
<td>Settings &amp; Configuration</td>
<td>€180,000</td>
<td>€72,000</td>
</tr>
<tr>
<td>Software Install (core apps)</td>
<td>€60,000</td>
<td>€34,800</td>
</tr>
<tr>
<td>PC Replacement (refresh)</td>
<td>€300,000</td>
<td>€66,000</td>
</tr>
<tr>
<td>PC Replacement (broken PC)</td>
<td>€60,000</td>
<td>€10,200</td>
</tr>
<tr>
<td>Global Cost of Help Desk</td>
<td>€1,500,000</td>
<td>€673,350</td>
</tr>
</tbody>
</table>

### Mirage Savings on Help Desk

€826,650

## W7 Migration Savings

### W7 Migration Costs

<table>
<thead>
<tr>
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<th>Without Mirage</th>
<th>With Mirage</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>€384,000</td>
<td>€112,000</td>
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</table>

### Mirage Savings on W7 Migration

€272,000

## Mirage Project Cost on 3 Years

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Hardware Cost (Server + Storage)</td>
<td>€250,000</td>
</tr>
<tr>
<td>Software Cost (Mirage License + 3Y SnS)</td>
<td>€750,000</td>
</tr>
<tr>
<td>Service Cost</td>
<td>€50,000</td>
</tr>
<tr>
<td><strong>Mirage Investment</strong></td>
<td><strong>€1,050,000</strong></td>
</tr>
</tbody>
</table>

## Mirage Project Gains

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<table>
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<tbody>
<tr>
<td>Financial Gain – First Year</td>
<td>€48,650</td>
</tr>
<tr>
<td>Financial Gain – On 3 Years</td>
<td>€1,701,950</td>
</tr>
<tr>
<td>Average Gain by Year – On 3 Years</td>
<td>€567,317</td>
</tr>
</tbody>
</table>
VMware Mirage and PC Lifecycle Management
VMware Mirage Complements PCLM

- OS Deployment / Migration
- Application Delivery
- Patch Management
- System Protection / Backup
- Disk Encryption
- Power Management
- Remote Control
- Helpdesk
- Asset Management
- Reporting

Enables IT to deploy and manage layers of applications outside of the base layer on any Mirage managed device.

Seamlessly backs up changes on endpoints which helps avoid data loss due to device failure or theft.

Data backup honours device encryption.

Restore a user’s desktop to previous snapshots without overwriting user data.
VMware Mirage Extends PCLM

OS Deployment / Migration
- Deploy Windows images to devices with a few clicks

Application Delivery
- Deploy layers of preinstalled applications outside of the base layer

System Protection / Backup
- Quickly migrate users to replacement PC or HW from a different vendor, while retaining personalization
- Recover PC over LAN / WAN with zero / low touch

Helpdesk
- Tasks that used to require diagnosis and escalation can now be handled with a few clicks by Tier 1 helpdesk staff

Patch Management

Disk Encryption

Power Management

Remote Control

Asset Management

Reporting
VMware Mirage: Recap
Unified image management across physical, virtual, and BYO PCs

- Automated Windows Migration
- Endpoint Backup & System Recovery
- PC Refresh
- Break/Fix (Reduce Helpdesk escalations)
- Centralized Image Mgmt.
Tips and Tricks for Deployment
VMware Mirage: Tips and Tricks

**Infrastructure Assessment**

- Desktops: CPU/Disk/RAM
- Network Proximity - LAN / WAN / VPN
- Security: Encryption, Firewalls

**Application Delivery Strategy**

- Electronic Software Delivery
- User Installed Applications
- VMware Mirage Base / application layers
- VMware ThinApp

**Base Layer Considerations**

- Base layers: keep optimised
- Applications: (firewall, antivirus, core software)
- OS and software licensing
- Download hardware drivers

- 3rd party tools: Lakeside / Liquidware labs
- Use existing PCLM tools

- Does VMware Mirage complement or replace existing application delivery strategy?

- Large base layer = more data to transmit
- Volume Licenses preferred
- Do not extract drivers from an endpoint
VMware Mirage: Tips and Tricks

Base Layer Conflicts

- Base Layers can conflict with existing software
- Understand how to handle conflicts

Upload Policies: Considerations

- More data = more time and more disk space
- Define protected and unprotected areas
- OS migrations - do you NEED to back up?
- Large File support

Branch Reflector

- Downstream only
- Ensure disk space available
- Ensure powered-on 24x7

1. Test before deployment
2. Use Dry Run reports
3. Use base layer rules
4. Use base layer override policies

- Do not backup what you do not need
- No upload = quick migration = no rollback
- Files >10MB are broken into 1MB chunks

• Try to use a dedicated desktop if possible
VMware Mirage: Tips and Tricks

**Networking**
- Understand bandwidth limitations
- Use QoS and traffic shaping
- Monitor and adjust

**Storage**
- Conduct Pilot to understand requirements
- Use representative desktops from different offices and lines of business
- Deduplication levels will vary

**Availability and Resiliency**
- Use multiple VMware Mirage servers
- Consider load-balancing solution
- Consider a dedicated/clustered MS SQL database

**IDLE desktops use more bandwidth**
**Develop synchronisation schedules**

**Many influencing factors on storage**

**Mirage can be deployed in a clustered configuration (N+1)**
Calls-to-Action

- Visit [www.whychoosemirage.com](http://www.whychoosemirage.com) to learn more
Calls-to-Action

• Download a trial version of VMware Mirage

• Visit VMware Hands-on-Labs Online
  – http://labs.hol.vmware.com/
  – HOL-MBL-1309 - Horizon Mirage - Manage Physical Desktops
Thank You