



Successfully Managing a Virtual Desktop Infrastructure implementation through the project lifecycle:

VDI solutions from HP, VMware and AMD

Presented by:

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60 Minutes

Agenda

- **VDI Landscape**
- **VDI Architecture**
- **The VDI Implementation Lifecycle**
- **The Solution Block Approach**
- **VMware View**
- **HP Services for VDI**
- **Resources, Q&A**

The Changing Desktop Landscape

Compliance and Security

Need for
preventative/proactive measures



- Data theft
- Virus/malware
- Phishing
- Hacking

Outsourced and offshore teams



Business continuity and disaster recovery



Diverse Workforce



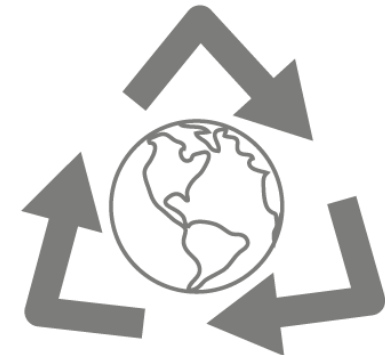
- Office
- Corporate office
- Working from home
- Mobile employee

Heterogeneous hardware



- Desktops
- Laptops
- Multiple vendors
- Different refresh cycles

Go green

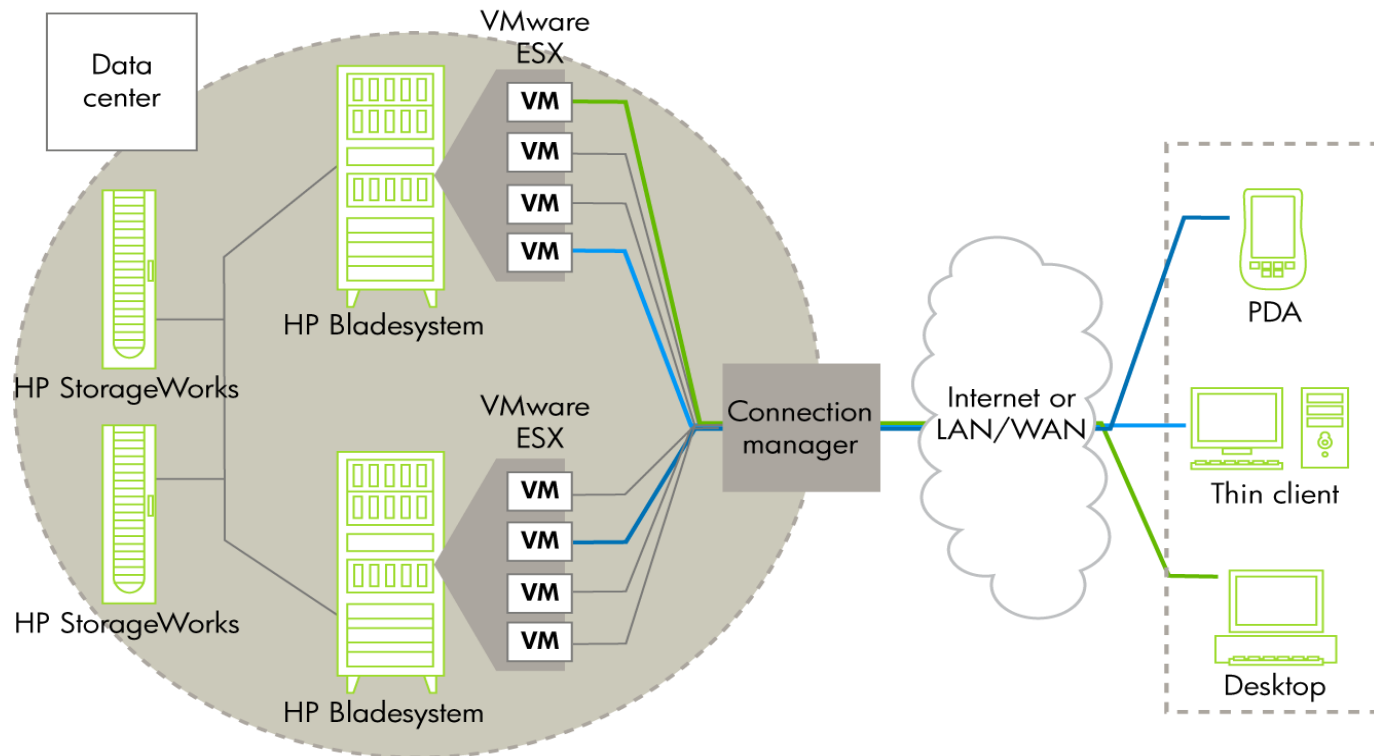


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HP, VMware and AMD VDI Architecture

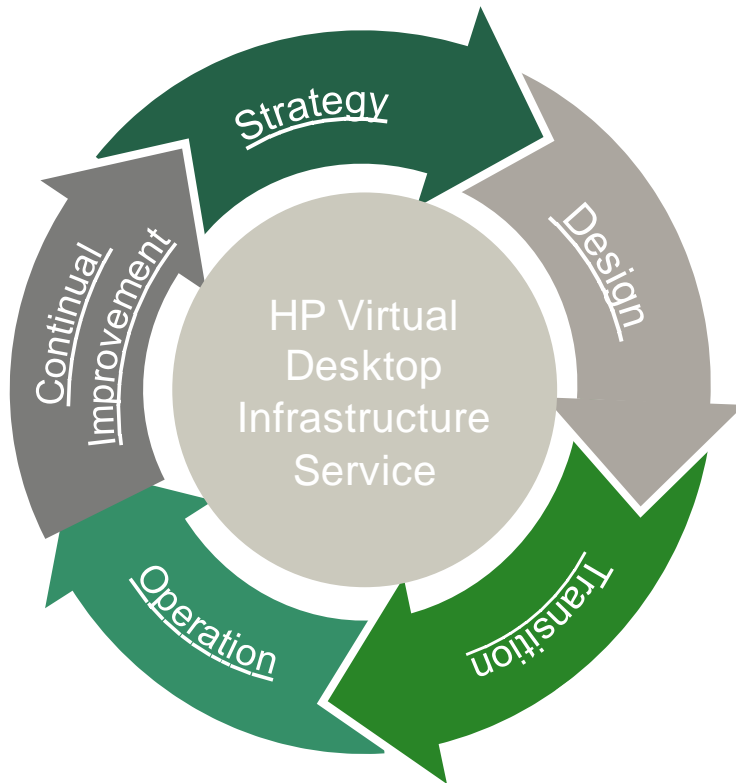
An end-to-end virtualization solution that delivers enterprise-class desktop control and manageability while providing a familiar user experience



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VDI Implementation Lifecycle



• Strategy

- VDI use cases
- TCO/ROI of VDI
- From POC to pilot and to production

• Design

- Sizing
- Policy review & assessment
- Basic / Standard / Enterprise

• Transition

- Install, configure & integrate VDI
- Test plan

• Operation

- Optimization & administration

• Continual Improvement

- Expand VDI implementation

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HP VMware VDI Building Blocks

HP Virtual Desktop Infrastructure

Servers



Storage



Software



Management



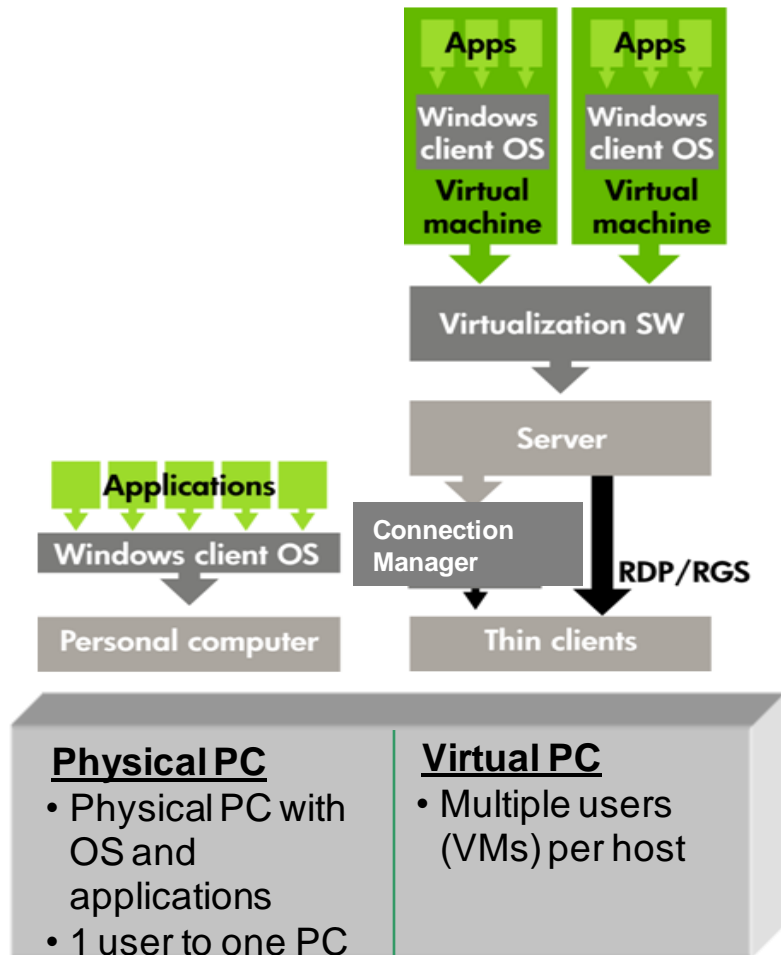
Access devices



Services

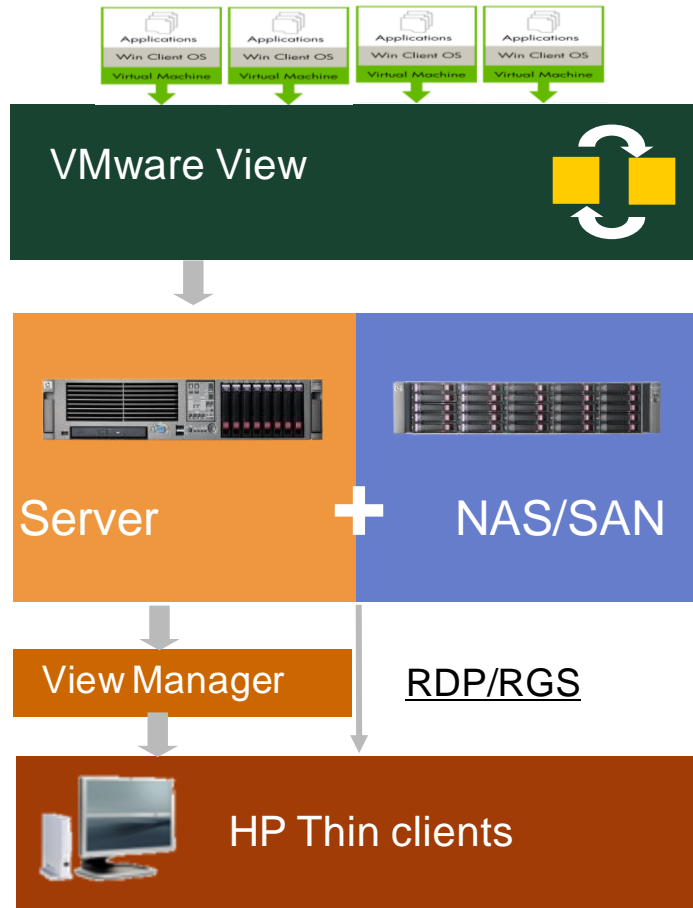


Planning Steps



- **Physical PCs have MORE power than what the user will need!!!**
- **Determine user activity levels in order to:**
 - Determine users suitable for VDI
 - Define applications and service loads for VMs
 - Determine what loads will be eliminated from VDI considerations
- **Optimization comes from:**
 - Preventing power users from migrating to VDI
 - Manage user concurrency
 - Optimizing power utilization for greener IT & lower solution costs

A Solution Block Approach to VDI



- HP recommends that VDI deployments be broken up into Solution Blocks for simplicity of support, deployment and for reliability in sizing and configuration
- All of the pieces are broken into logical groups based on the lowest common performance denominator (LCPD) in the deployment.

VDI Building Blocks: Servers

- Processor virtualization enablement (AMD-V™)
- Drives need for more cores
- Rule of thumb: 4 to 6 active users/core

- Increased need for memory (denser memory and more slots)
- Rule of thumb: 4GB/core



- Integrated hypervisors
- Diskless servers
- Management tools



- Need for virtual I/O

Optimal Virtualization with Quad-Core AMD Opteron™ Processors

AMD Features

Direct Connect Architecture

AMD-V™ with Rapid Virtualization
Indexing (RVI)

AMD Balanced Smart Cache

Extended Migration

AMD-V I/O Virtualization (planned)

Business Value

Scalability that seamlessly handles heavy workloads and improves resource utilization

Increased performance through superior memory management to drive demanding virtualized workloads

Improved efficiency for multi-threaded virtualization environments

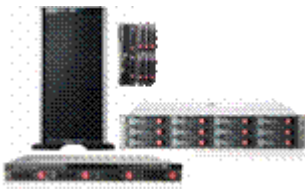
Investment Protection by enabling live migration of VMs across entire family of AMD Opteron processors

Enhanced I/O by direct device assignments and improved security through hardware isolation of VMs

VDI Solution Blocks: Storage

Consolidation and Performance

All-in-One Storage family



Radically Simple Storage ≤ 12 TB

- Network storage management at application level
- iSCSI SAN and Optimized NAS, snapshots, backup, replication

MSA family



Low cost, simple consolidation

≤ 64 TB

- Uses ProLiant Management Tools
- Simple DAS-to-SAN (ProLiant)

EVA4400



EVA family



Outstanding TCO

≤ 120 TB

- Storage consolidation + disaster recovery
- Simplification through virtualization
- Industry leading TCO
- **Scale up with EVA Virtualization Services**

XP20000
≤ 69+ TB

XP family



XP24000
≤ 332+ TB

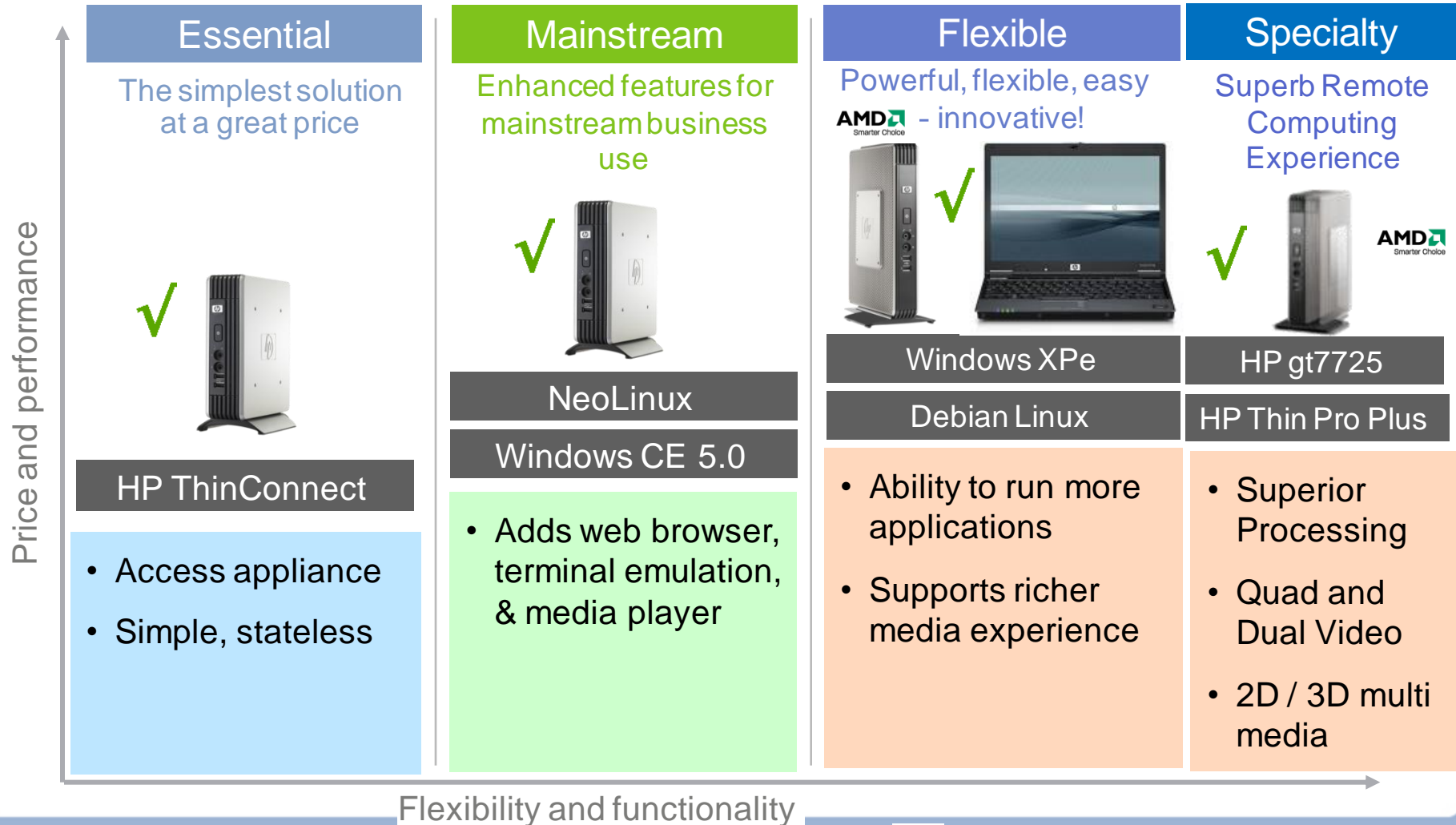
Always-on availability

≤ 332+ TB

- Data center consolidation + disaster recovery
- Simplification through External Storage and Thin Provisioning

Business Continuity and Availability

VDI Building Blocks: Access Devices



Planning for Network Bandwidth

The primary planning consideration for network in a VDI environment is the connection protocol itself

•Latency

- Nearly always more critical than bandwidth with regards to end user experience
- <100ms is optimal. ~150ms acceptable. >200ms require special treatment

•Protocols

- MS RDP (&HP RDP Enhancements on HP Thin Clients)
- HP Remote Graphics Software (w/ HP SAM broker)
- Rule of thumb: minimum 150Kbps per user



HP Remote
Graphics Software

VDI Building Blocks: HP Insight Control Software

Complete lifecycle management

Insight Control Environment



- Deploy
- Monitor
- Control
- Protect
- Optimize
- Integrate



Insight Control Environment for BladeSystem



- Deploy
- Monitor
- Control
- Protect
- Optimize*
- Integrate



* Includes virtual machine management

Complete lifecycle management for ProLiant and BladeSystem environments

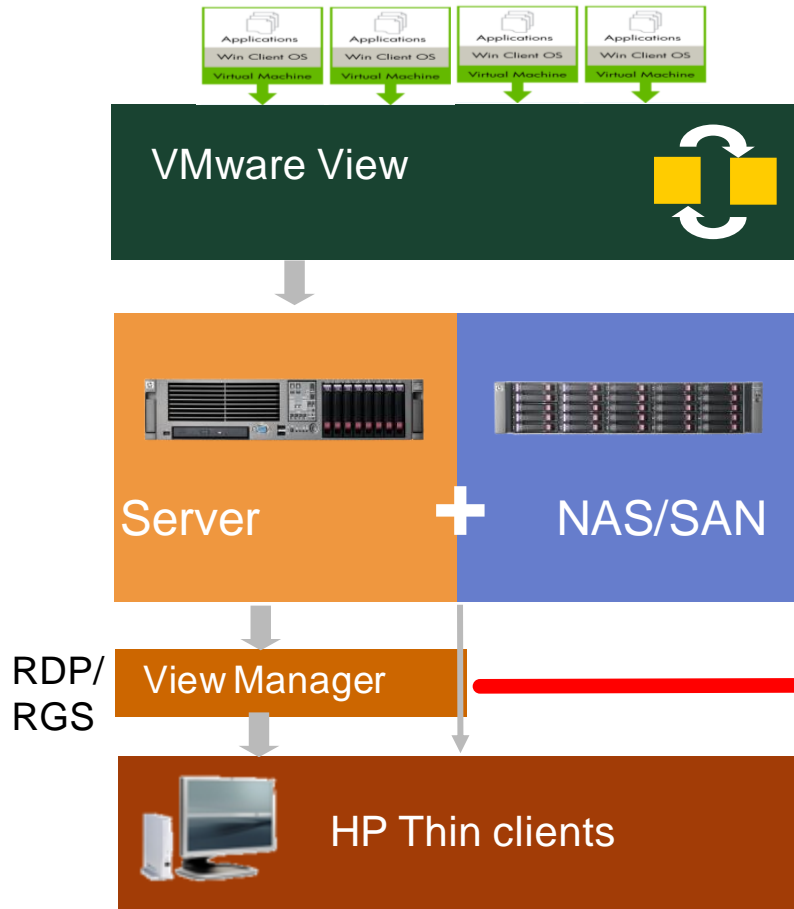
- > Total Control → Deliver stable IT with faster problem detection and resolution
- > Maximum Flexibility → Respond to business needs with rapid resource optimization
- > Tangible Savings → Lower costs through improved IT staff efficiency

No need to stick together multiple tools to get the job done

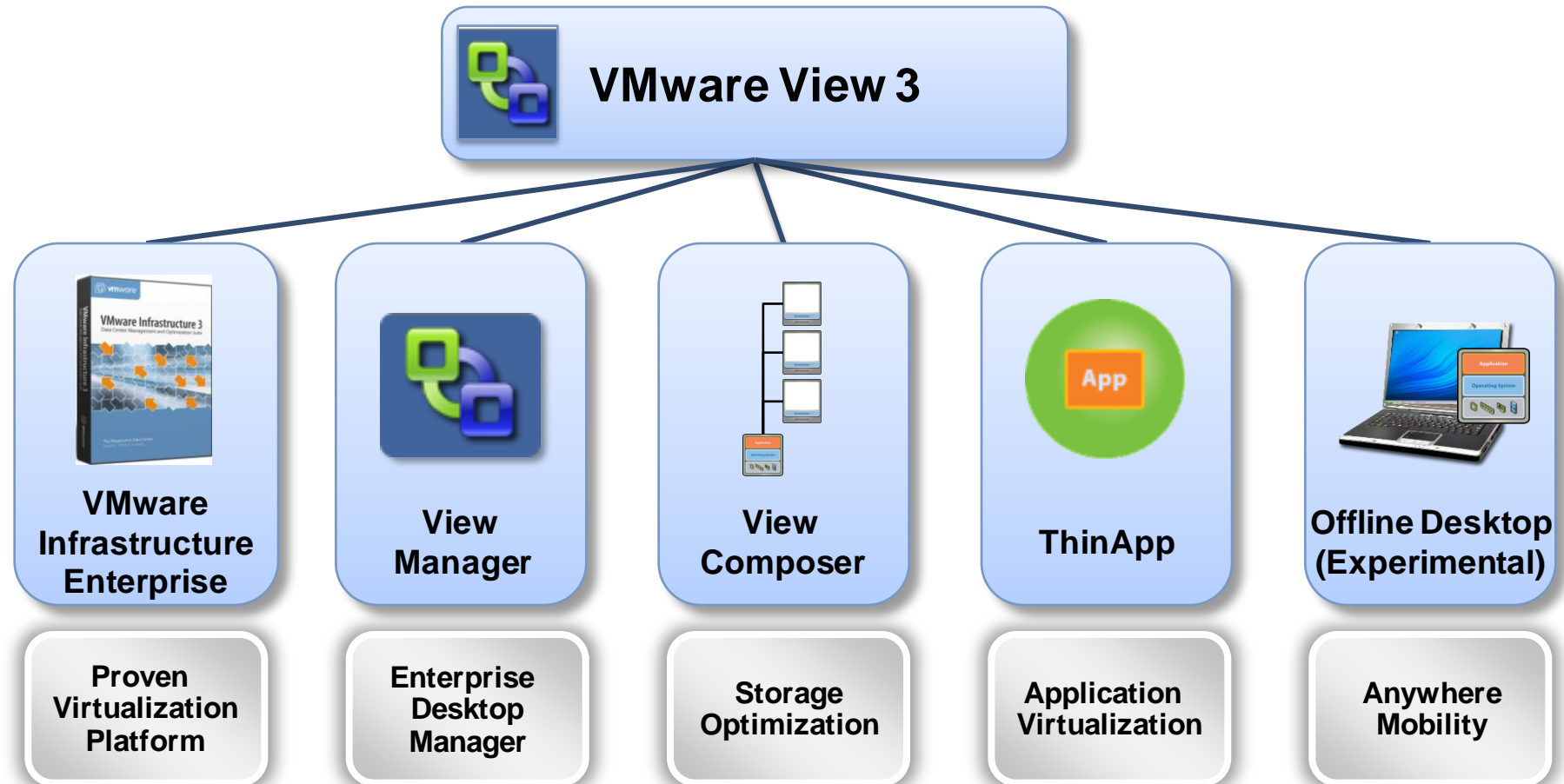
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VDI Building Blocks: VMware View

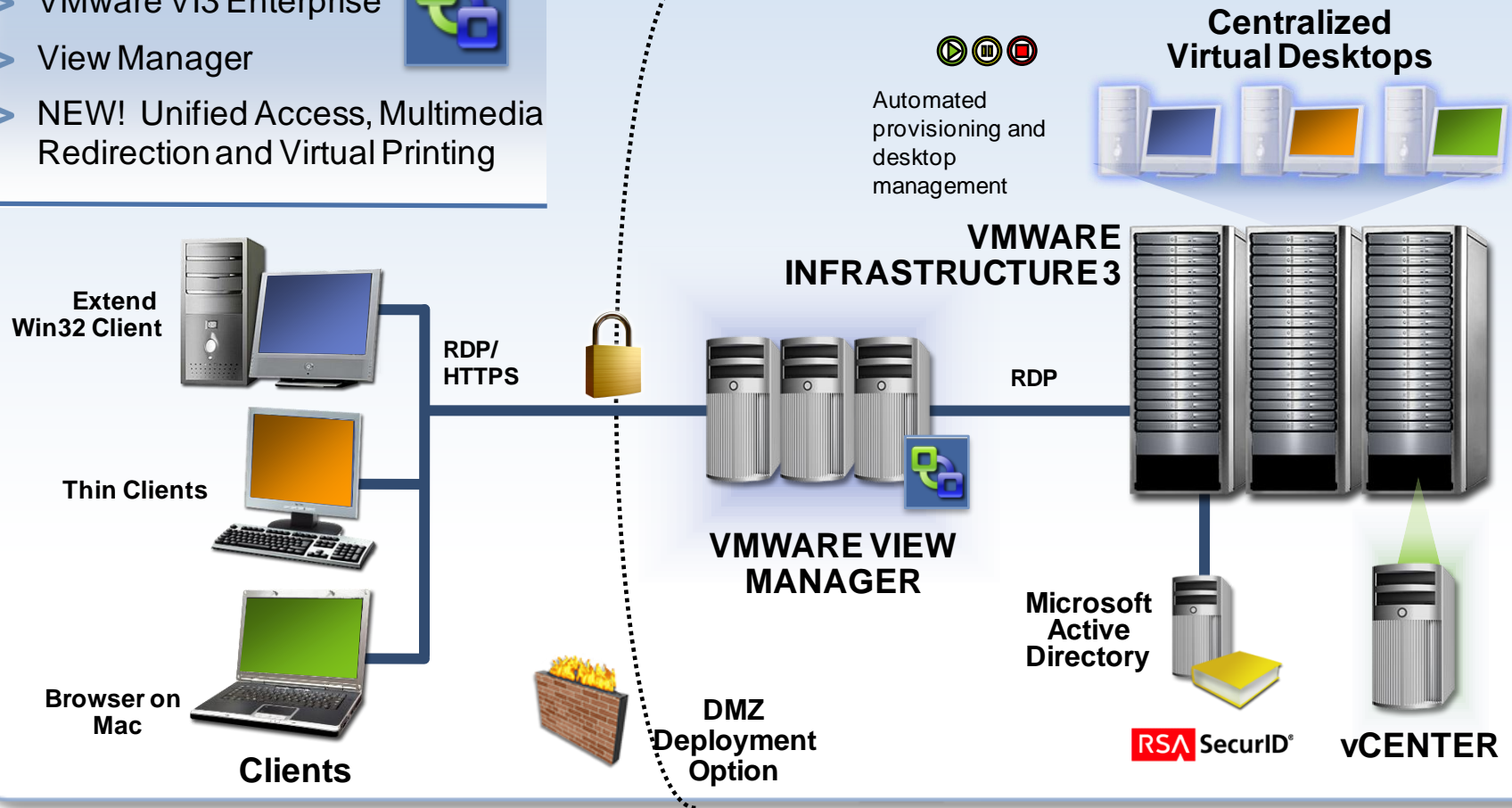


Components of VMware View



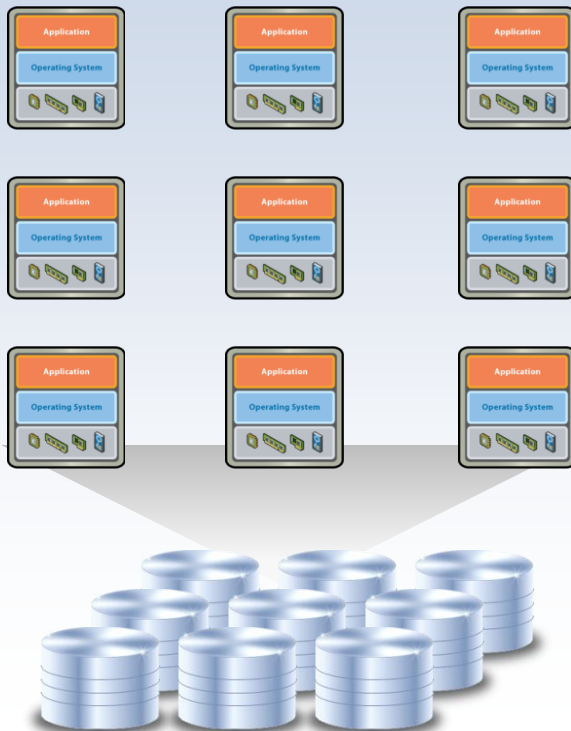
View Components: VI3 Enterprise and View Manager

- > VMware VI3 Enterprise
- > View Manager
- > NEW! Unified Access, Multimedia Redirection and Virtual Printing

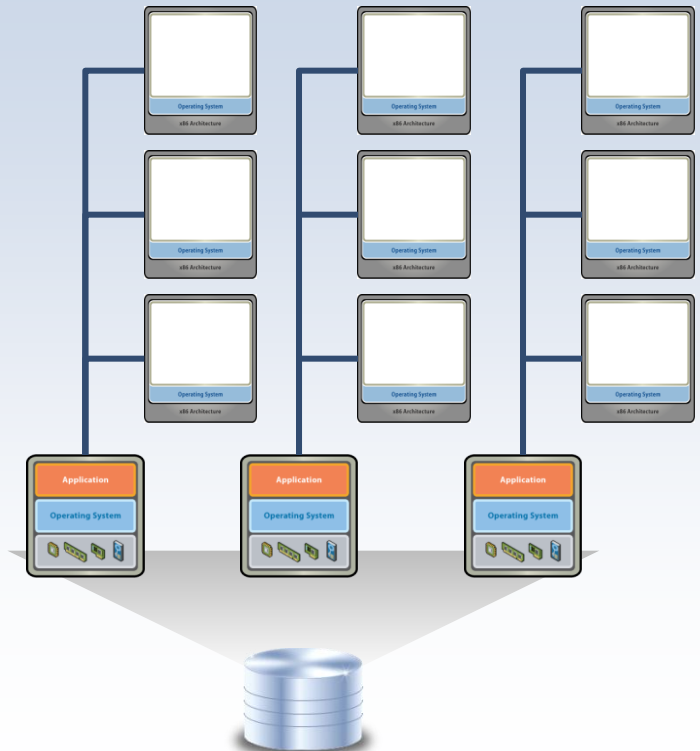


View Composer: Storage Optimization, Simplified Management

Traditional VDI



With Linked Clones

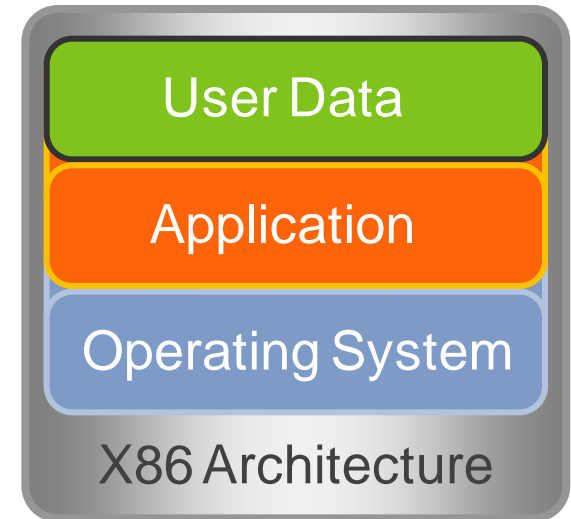


View Composer: Image Management

Disk Separation

- > Highly Managed OS Disk
 - Reduces provisioning time
 - Roll out updates and patches rapidly by creating a new snapshot
- > User Data Disk
 - Persistent disk to store user data and settings
 - Helps maintain user personalization

**Seamless user experience by
logically joining two virtual disks**



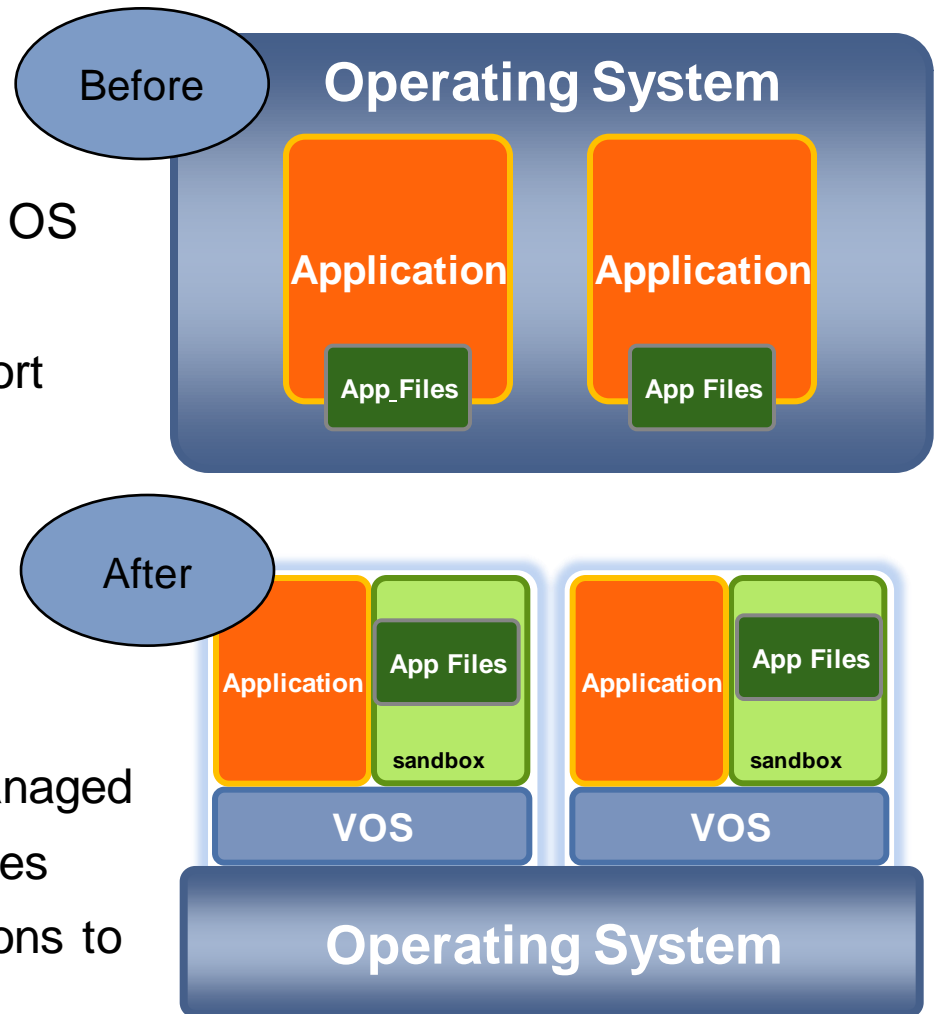
ThinApp: Application Virtualization

Features

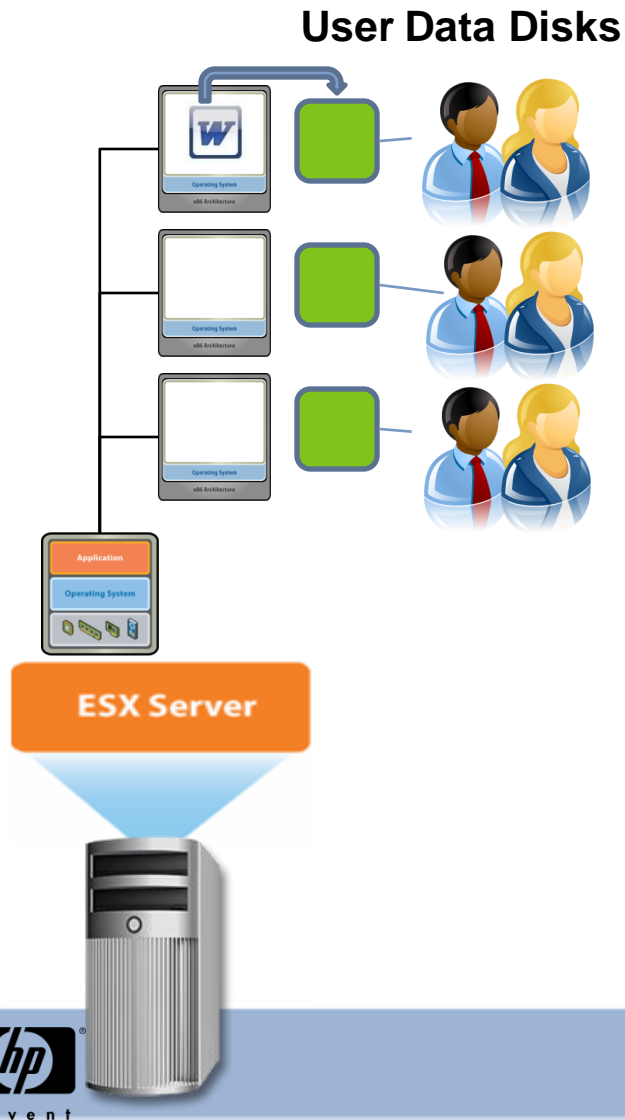
- > Decouples applications & data from OS
- > Agent-less architecture
- > Wide platform and application support
- > Plugs into existing Application Management tools

Benefits

- > Reduces Storage Costs
- > Minimizes desktop images to be managed
- > Streamlines application patch updates
- > Allows multiple versions of applications to be used



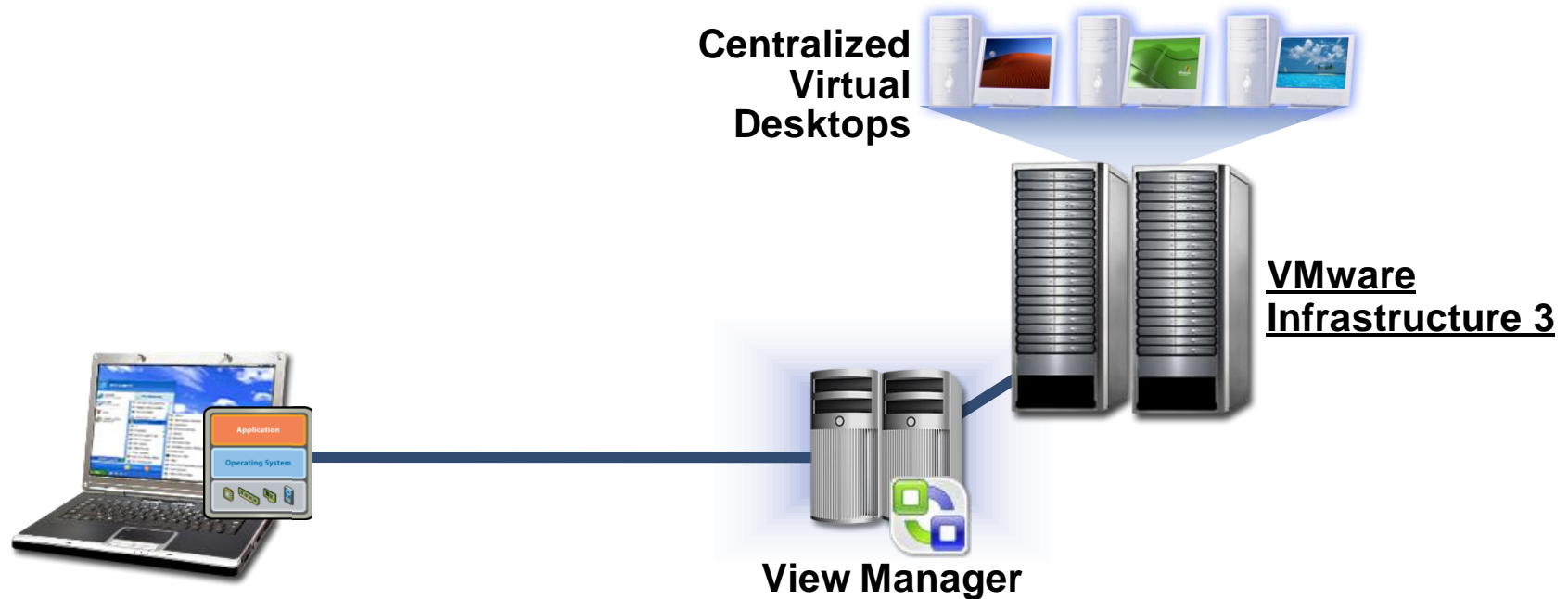
ThinApp with View Composer



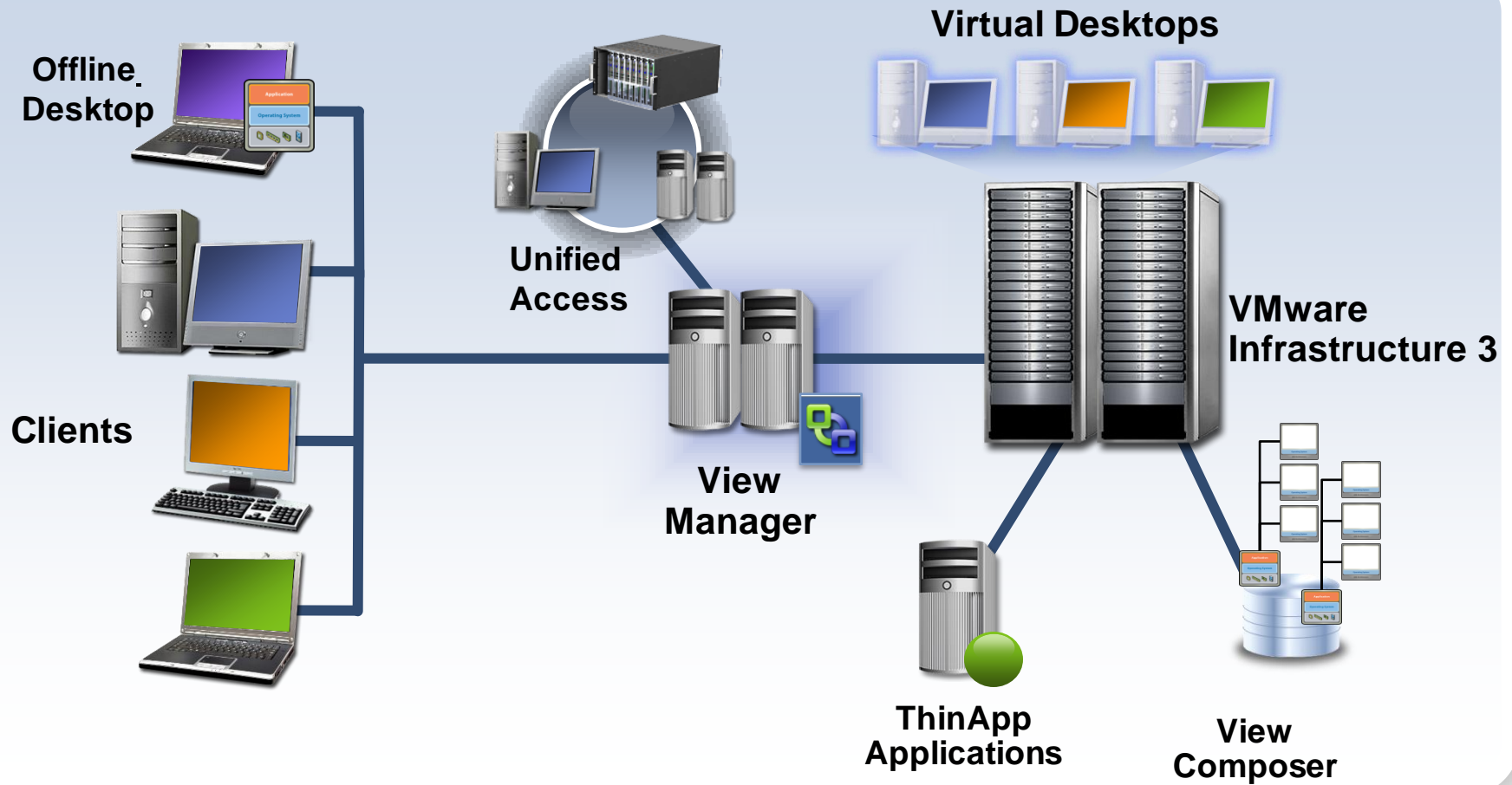
- > Reduce the number of master images and size of base disk
- > By default, packaged ThinApp applications redirect all application “writes” to the user data disk.
- > Provides a simplified means of entitling, deploying, and managing applications

Offline Desktop (Experimental): Anywhere Mobility

- > Enables end-users to check-out their hosted VM to a local physical computer
- > Enables administrators to extend security and encryption policies
- > When checked out – the virtual machine has a “heartbeat” back to the datacenter allow administrators to deactivate if necessary
- > When the user checks-in, only the delta is checked in

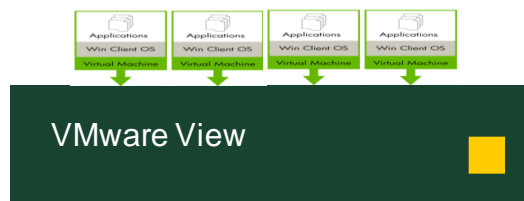


Summary - VMware View

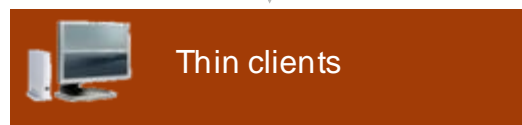


HP VDI Solution Blocks

Base

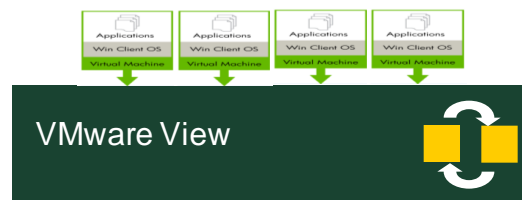


RDP/RGS



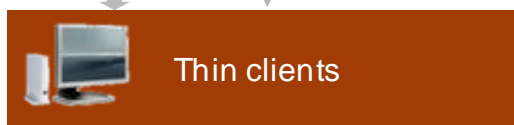
Building block	1 server with internal storage
No. of users	40–60 / block
Features	Lowest cost

Standard



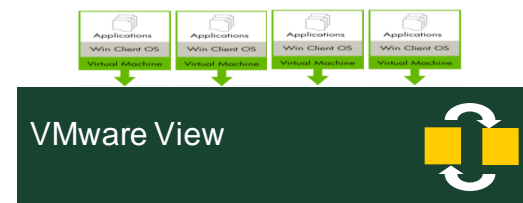
View Manager

RDP/RGS



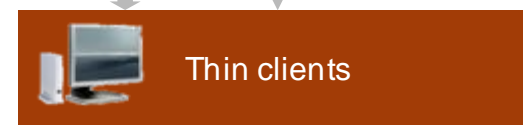
Building block	3 servers + AiO storage
No. of users	120–180 /block
Features	Live migration High availability

Enterprise



View Manager

RDP/RGS



Building block	6 servers + EVA/XP storage
No. of users	250+/block
Features	Enterprise data protection Multi-site failover

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Deployment through HP Factory Express Services

A comprehensive portfolio of configured, customized, and integrated factory solutions and deployment services for customers



HP Factory



No customer configuration required



Deploy Site

System Customization

Make changes to standard settings, customize system hardware, add asset tagging & labeling before leaving the factory.

Software Image Mgmt

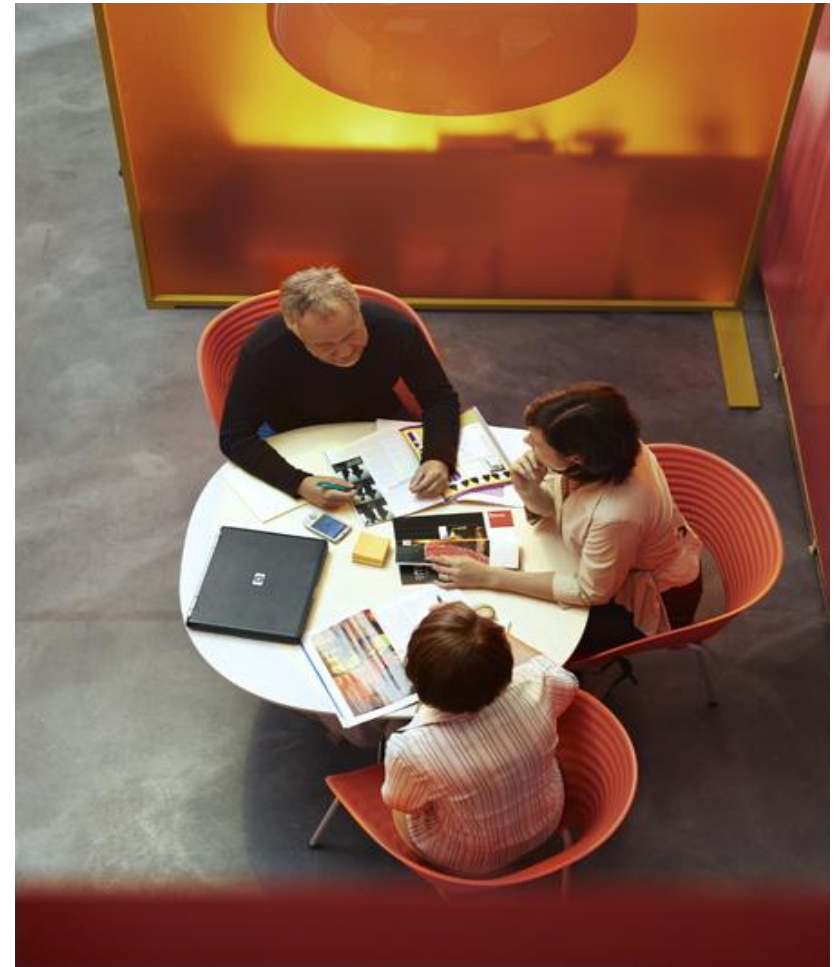
HP helps manage your software needs including creating, loading, and testing a designed image or provided image.

Solution Services

A point of contact manages the build of the solution, works with HP engineering teams to help optimize and deliver the solution directly to the customer.

HP VDI Planning Services

- **VDI Discovery**
Identify stakeholders, current state, applications, data and user impact
- **VDI Business Assessment**
Business drivers, model VDI business process, and define financial baseline
- **VDI Roadmap and Design**
Identify virtualization strategy, future state, business alignment, investments, phases and measures



HP VDI Quick Start Services

Three week intensive engagement to assess your VDI priorities for:

- Infrastructure and devices
- Application availability
- Data protection
- Virtual machine management
- Continuity, failover, disaster recovery, and high availability
- Network capacity

Limited VDI Discovery

Proof of Concept (POC) based on VDI discovery



HP VDI Implementation Services

•Infrastructure Planning and Design

- Solution & architecture design
- Application compatibility testing & remediation
- Virtual machine management

Migration and Co-existence Planning and Design

Proof on Concept (POC) / Pilot

- Verify design and integration, performance & user acceptance

•Implementation

- Project management
- Deployment



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For More Information

Ziff Davis Resource Page

<http://www.webbuyersguide.com/landingzone/VMWare-HP-AMD>

Contact Us

virtualization@hp.com

Thank You!

Questions and Answers

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