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VMware View 3
Technical Deep Dive

VMware View Extends VDI

Components of VMware View

Client Virtualization
- Hypervisor
- Offline Desktop

VDI
- VMware Infrastructure
- View Manager

Application Virtualization: ThinApp

Storage Optimization: View Composer
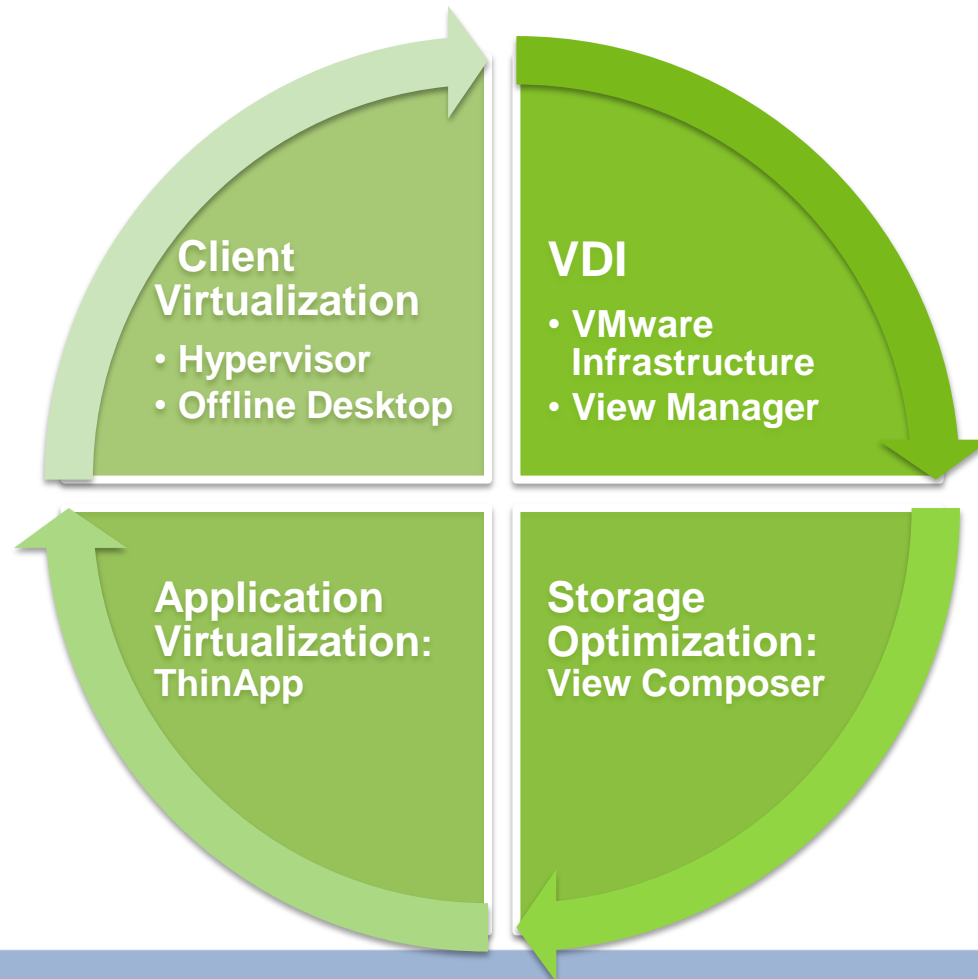
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View 3 Technical Deep Dive – Agenda

VMware View Overview

Introduction to VMware View Manager

View Manager Components
- VMware View Manager Agent
- VMware View Manager Client
- VMware View Manager Portal
- VMware View Connection Server
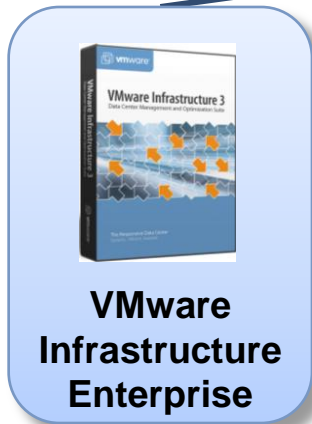- Vmware View Manager Features

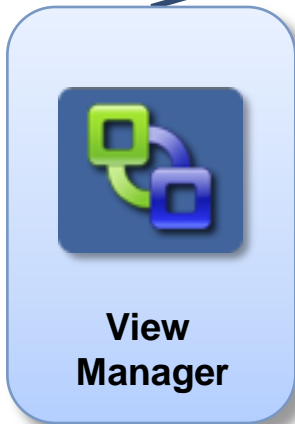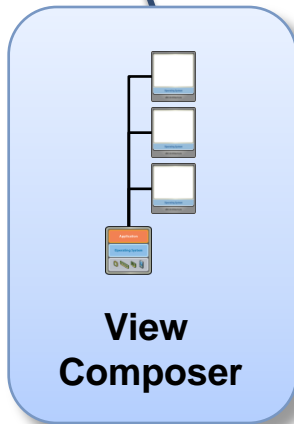**View Composer**

ThinApp

VMware View Deployment Scenarios

Troubleshooting

VMware View
Connection Server 3

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Components of VMware View

VMware View 3

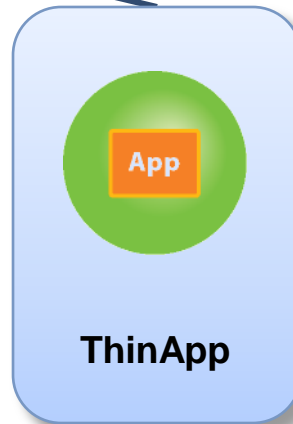| VMware Infrastructure Enterprise	View Manager	View Composer	ThinApp	Offline Desktop (Experimental)
Proven Virtualization Platform	Enterprise Desktop Manager	Storage Optimization	Application Virtualization	Anywhere Mobility

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Introduction to VMware View Manager

VMware View Manager:

> Brokers connections to user's virtual desktops

> Manages authentication and entitlements

> Integrates with the VI3 platform
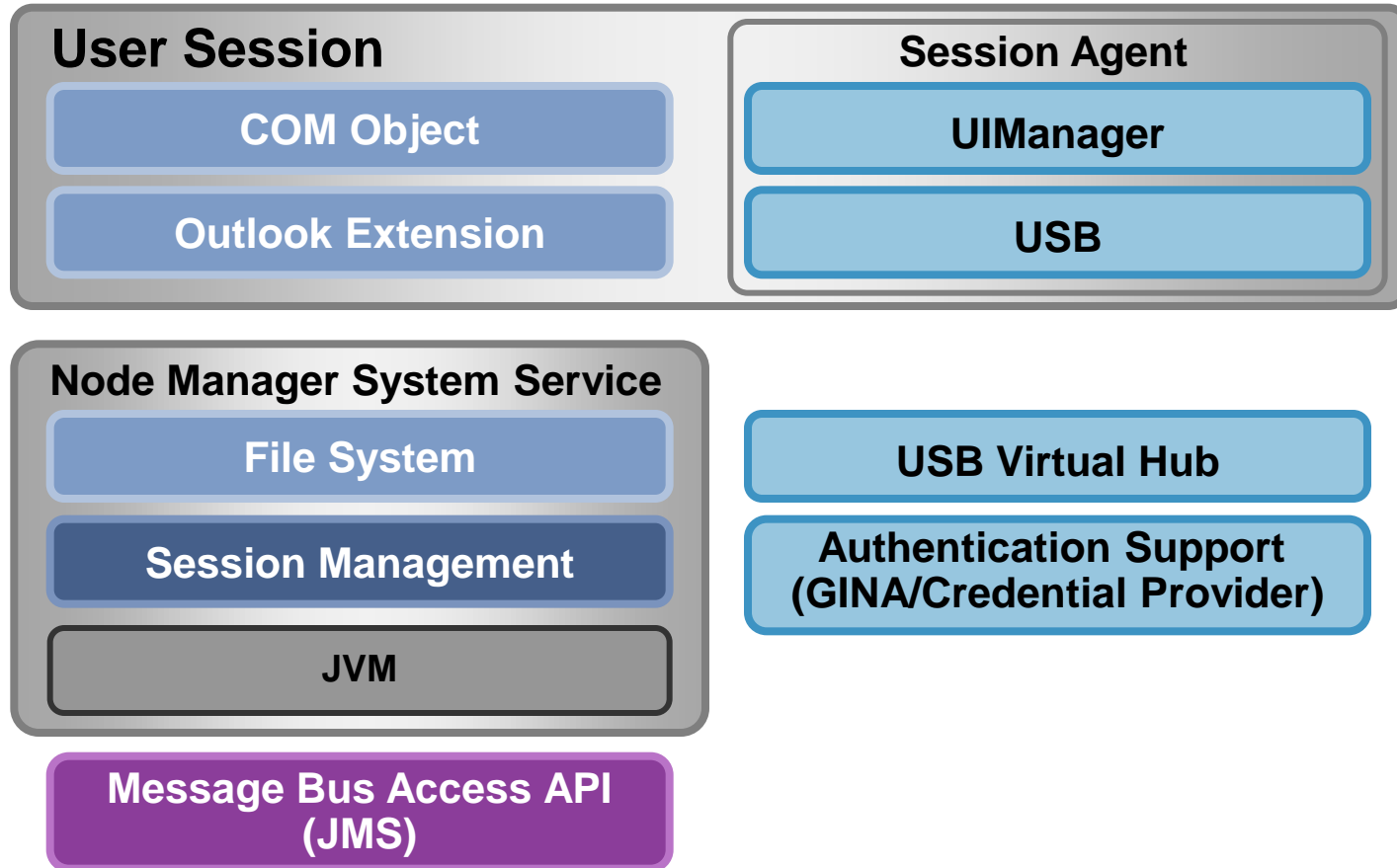
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VMware View Manager Components

VMware View Manager Agent

> Enables communication between the virtual machine and View Connection Server using the message bus.

> Agent is installed on the virtual machine

- XP Pro SP2 – 32bit
- XP Pro SP3 – 32bit
- Vista Ultimate/Business – 32bit

> Installs the

- View Composer components
- Virtual machine USB redirect drivers
- Virtual Printer drivers
- View Secure components

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VMware View Manager Components

VMware View Manager Agent – Architecture

User Session
- COM Object
- Outlook Extension

Session Agent
- UIManager
- USB

Node Manager System Service
- File System
- Session Management
- JVM

- USB Virtual Hub
- Authentication Support (GINA/Credential Provider)

Message Bus Access API (JMS)

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VMware View Manager Components

VMware View Client

> Windows application used to make connections with virtual desktops

> Provides USB device redirection:

  - XP, XPe, Vista

> Familiar Windows Style Logon

  - User Name
  - Password
  - Domain

VMware View Manager Components

VMware View Client Session Status:

> Connected

> Disconnected

> No session

> Configure Always connect to Default Desktop

Desktop Options:

> Default desktop

> Screen size

- Full Screen – Single Monitor

- Full Screen – Dual Monitors

- Windowed

VMware View Manager Components

VMware View Portal

> Provides access to virtual desktops using a web browser

> User logged on to Virtual Desktop

> Familiar look and feel:

- Use the desktop like an 'ordinary' PC

> Pinned Session Bar, top of screen:

- Connect to additional desktops

- Connect and disconnect USB devices
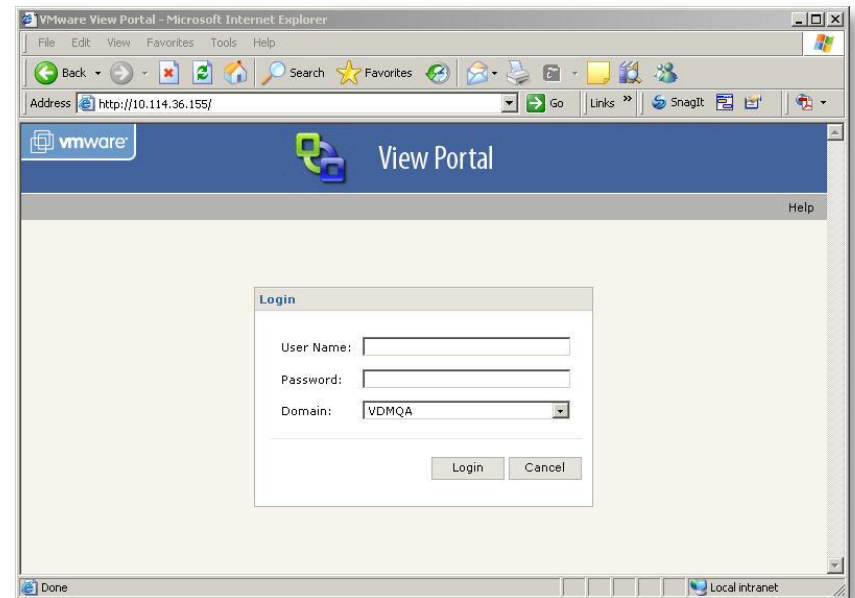 - For Windows based portal access only

- Logoff or disconnect the session

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VMware View Manager Components

VMware View Portal Session Status:

> Connected

> Disconnected

> No session

> Configure Always connect to Default Desktop

Desktop Options:

> Default desktop

> Screen size

- Full Screen – Single Monitor
- Full Screen – Dual Monitors
- Window mode

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VMware View Manager Components

View Client – Default RDP Settings

	View Manager Client Web Access Windows		View Manager Web Access Linux	View Manager Web Access MAC
RDP Settings	RDC 5.x	RDC 6.x	rdesktop	RDC for Mac OS X 1.0
Display				
Color Depth	24 bit	24 bit	16bit	16bit
Display Connection Bar	N/A	N/A	N/A	N/A
Local Resources				
Remote Sound	Disabled by default for View Manager USB	Disabled by default for View Manager USB	Yes	Yes
Apply Windows Keys	Yes	Yes	N/A	N/A
Printers	Yes	Yes	No	Yes
Clipboard	Yes	Yes	Yes	Yes
Smart Cards	Yes	Yes	No	No
Serial Ports	Yes	Yes	No	No
Local Drives	Yes	Yes	No	Yes
Supported Plug and Play Devices			No	No

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VMware View Manager Components

View Client – Default RDP Settings

	View Manager Client Web Access Windows		View Manager Web Access Linux	View Manager Web Access MAC
RDP Settings	RDC 5.x	RDC 6.x	rdesktop	RDC for Mac OS X 1.0
Experience				
Desktop Background	Yes	Yes	N/A	Disabled
Font Smoothing	N/A	Yes	N/A	N/A
Desktop Composition	N/A	Yes	N/A	N/A
Show Contents of Window While Dragging	Yes	Yes	N/A	Enabled
Menu and Window Animation	Yes	Yes	N/A	Enabled
Themes	Yes	Yes	N/A	Enabled
Bitmap Caching	Yes	Yes	Yes	Enabled
Reconnect if Connection is Dropped	No	No	N/A	No

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VMware View Manager Components

VMware View Connection Server

> Directs incoming user requests to the appropriate virtual desktop

> Provides virtual desktop management and user authentication

> Runs as a Windows Service
- VMware View Connection Server
- VMware View Manager DS

> Supports integration with multiple VCenter instances for larger deployments

> Non-Intrusive Active Directory integration
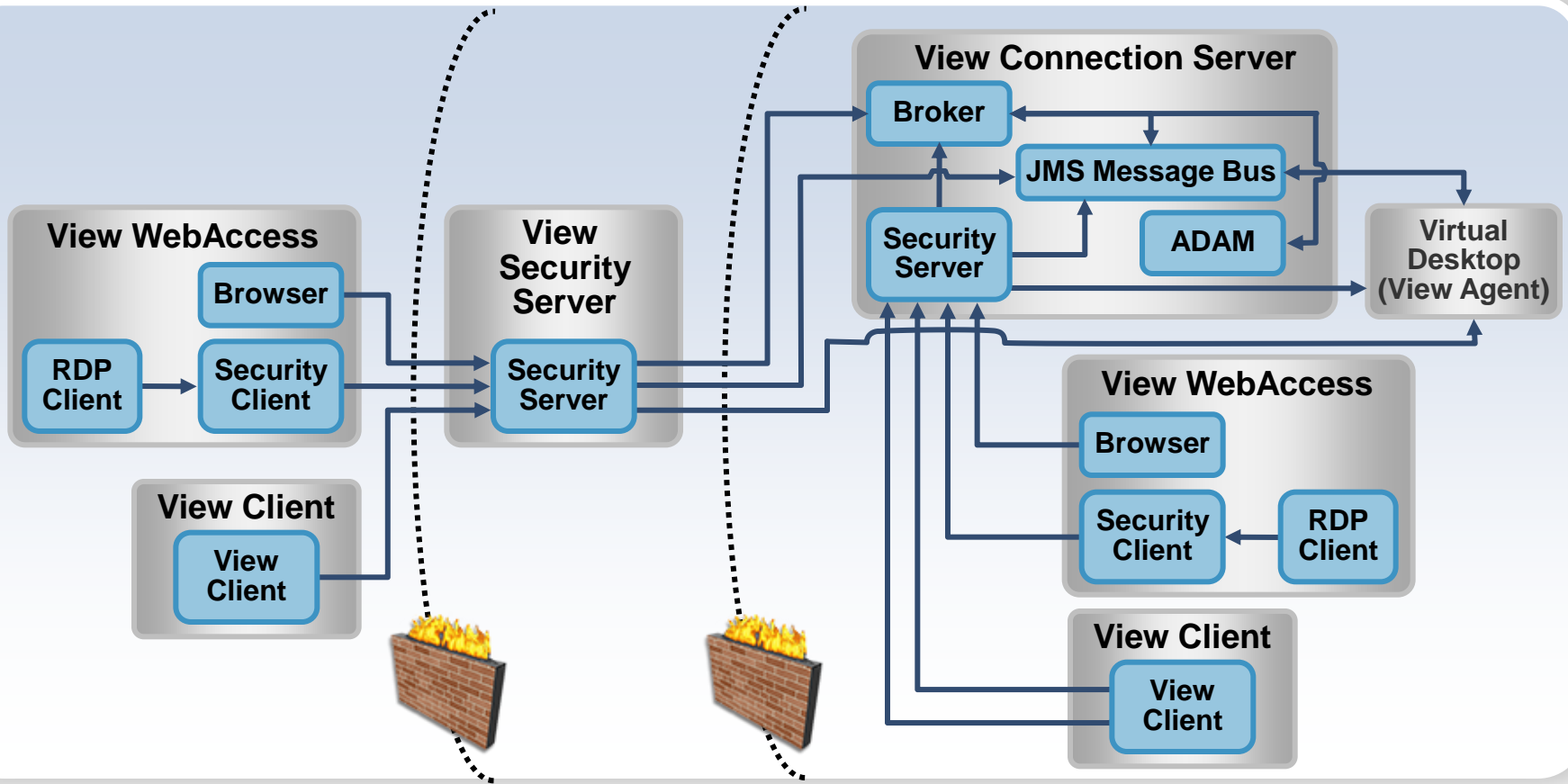
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VMware View Manager Components

VMware View Security Server

> Installed as part of the View Connection Server or individually, typically in a DMZ

> Provides SSL tunneling between the View Manager Client and the View Security Servers

> Runs as a Windows Service

  ■ VMware View Security Server

VMware View Connection Server

VMware View Security Server– Architecture

VMware View Connection Server

VMware View Connection Server Installer
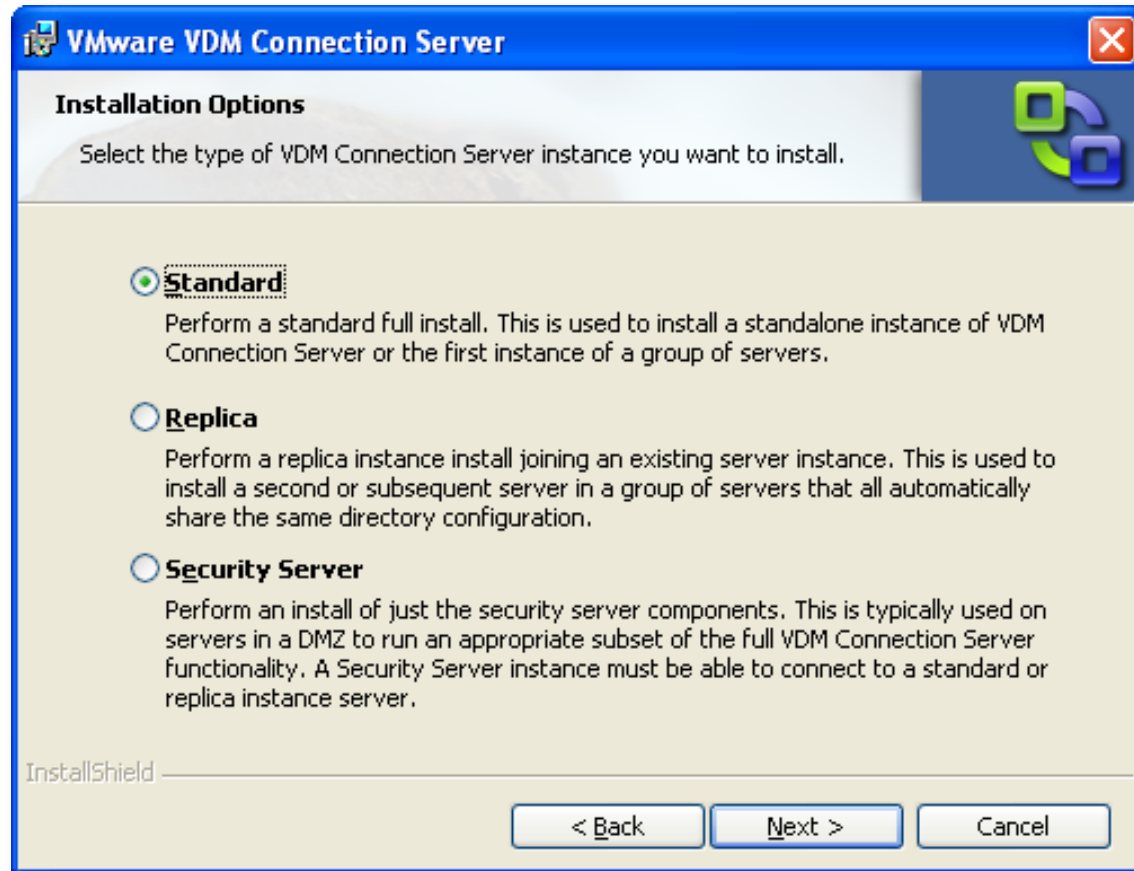
View Administrator

VMware View Connection Server

VMware View Connection Server Installer

> Single MSI installer – Installs and configures
  - Standard – View Connection Server
  - Replica – View Connection Servers
  - Security Server

> Standard / Replica Installations Include
  - SwiftMQ – Used for JMS Bus
  - ADAM – Used as a Data Store for broker communication and View Composer
  - Tomcat – Used for Web Admin, WebAccess, Application Container
  - RSA SecurID Libraries – Used to support RSA SecurID authentication

> Security Server Installations Include
  - SwiftMQ - Used for JMS Bus
  - Tomcat - Used for Web Admin, WebAccess, Application Container
  - SecurID APIs – Used to support RSA SecurID authentication

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VMware View Manager Administration

VMware View Manager Administrator – Configuration

> Web Based Administration

> Configuration Settings

- USB Redirection – Global Policy
- Tunneling – Direct Connect to Virtual Desktop – Global Setting
- View Manager Servers – Disable, Enable
- View Manager Administrators
- License Keys
- VirtualCenter Servers
  - View Composer settings
  - Provisioning thresholds
- Session Timeout

> Any configuration changes are replicated to each server

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VMware View Connection Server

View Connection Server – Configuration

> Manage Inventory

- Create, Disable and Delete Individual Desktops
- Create, Disable and Delete Desktop Pools
- Manage Desktop Entitlements
- Manage Control Policies
- View, Disconnect, Reboot Active sessions

> Event Viewer for viewing logs

> Any configuration changes are replicated to each server

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VMware View Manager- Configuration

VMware View Manager- Inventory

View Manager 3 Pool Types

Desktop Type	Persistence	Machine Configuration	Power Management	Template Deployment	Offline VDI
Automated Desktop Pool	Persistent	vCenter VM	✓	✓	✓
		Linked Clone	✓	✓	
	Non-persistent	vCenter VM	✓	✓	
		Linked Clone	✓	✓	
Manual Desktop Pool	Persistent	vCenter VM	✓		✓
		Unmanaged			
	Non-persistent	vCenter VM	✓		
		Unmanaged			
Individual Desktop	N/A	vCenter VM	✓		✓
		Unmanaged			
Terminal Services Pool	N/A	N/A			

View Manager 3 Pool Types

Desktop Type	Persistence	Machine Configuration	Use Case
Automated Desktop Pool	Persistent	vCenter VM	Users need similar capabilities but may customize their desktops over time.
		Linked Clone	
	Non-persistent	vCenter VM	Users are provided with a standard desktop every time they access their system.
		Linked Clone	
Manual Desktop Pool	Persistent	vCenter VM	Thirdparty deployment tool or a group of physical machines for the desktop sources.
		Unmanaged	
	Non-persistent	vCenter VM	
		Unmanaged	
Individual Desktop	N/A	vCenter VM	Minimise licenses for an expensive application, user may need to heavily customize their desktop.
		Unmanaged	
Terminal Services Pool	N/A	N/A	Existing terminal services infrastructure.

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VMware View Connection Server

Advanced Pool Configuration Settings

> Overrides Standard Settings

> Maximum Number of Virtual Machines:

  - Maximum number of VMs that can be created in the pool

> Minimum:

  - Minimum number of VMs initially created in the pool

> Available VMs:

  - Number of virtual machines that should always be available, powered-on

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VMware View Connection Server

Pool Configuration and Policies – Cont.

> vCenter Server: VC server that will manage the virtual machines

> Template: Template from VC used to create the virtual desktops in a pool

> Folder Location: Location in VC where the virtual machines are organized

> Host or Cluster: ESX host or Cluster that will run the virtual machine

> Resource Pool: Resource pool from which the virtual machine will get compute resources

> Datastore: Location where the virtual machine files will be stored

> Guest Customization: Instance customization file used to customize the virtual machine during creation. – Optional
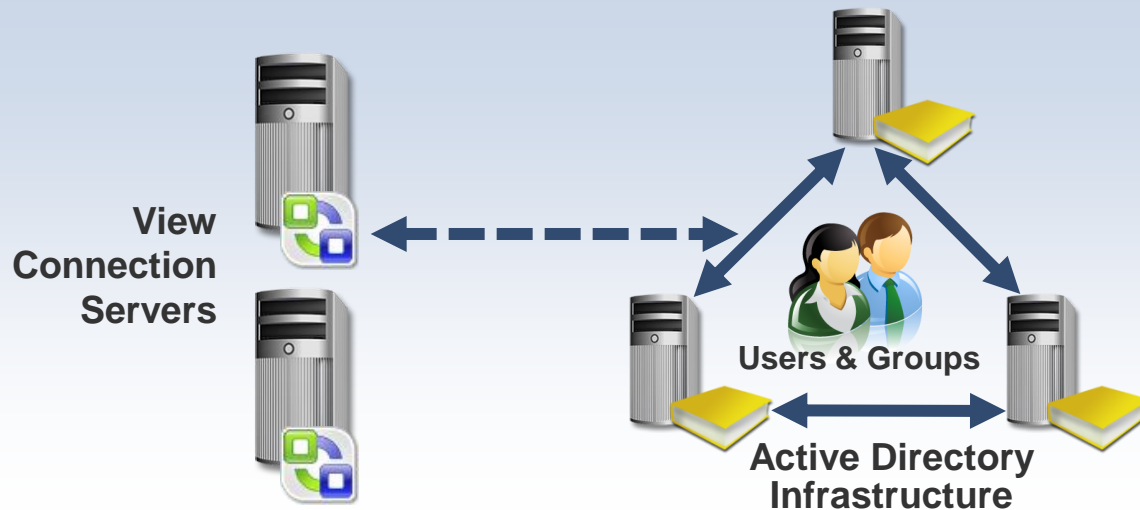
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VMware View Connection Server

Datastore Spanning

> Pools can span multiple datastores for increase capacity and better management

> Pools use a "most storage available" algorithm

> If datastores have equal amounts of available storage round-robin is used

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VMware View Connection Server

Desktop Entitlement

> Individual Desktops and Pools must be entitled by User or Group before they are accessible

> Users and Groups are still managed using Active Directory

> View Connection Server searches AD for Users and Groups

> Supports cross-domain, forest searches

View Connection Servers

Users & Groups

Active Directory Infrastructure

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VMware View Connection Server

Desktop Entitlement – Cont.

> Entitlement configurations are stored in the View Connection Server datastore (ADAM)

> Configuration is replicated to all View Connection Servers in a group

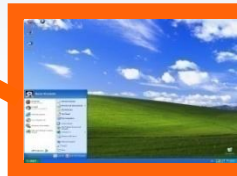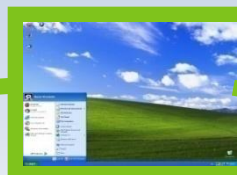> Users (and Groups) can be entitled to Individual Desktops and Pools

Users and Groups **Desktops** **Pool of Virtual Machines**

Entitle Group to Desktop

Assign Pool

Entitle User to Desktop

Assign Individual

Template

VMware View Administrator - Events

VMware View Connection Server

Tunneled Connections to the Desktop

> View Manager Client connection request is made

> Tunnel is established between View Manager Client and Connection Server

> View Connection Server responds with a desktop allocation

> View Manager Client connects with the virtual desktop using RDP

> Sessions are encrypted using SSL

> If a View Connection Server fails users are connected with their existing virtual desktop session after reconnecting

SSL Tunnel

RDP Connection Without SSL

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VMware View Connection Server

Direct Connect to Desktop

> View Manager Client connection request is established

> View Connection Server responds with a desktop allocation

> View Manager Client connects directly with the virtual desktop using RDP

> If a View Connection Server fails, sessions are not interrupted

RDP Session

Connection Request

Desktop Allocation

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View Manager: Integration with Existing Infrastructure

Active Directory (AD):

> User credentials authenticated against Active Directory

> View Connection Server maintains authenticated session for each user

> 'Single sign-on' (SSO) to virtual desktops

Benefits of AD Integration:

> Integrated with multiple domain environments and trust relationships (out the box)

> No user data-replication required

RSA SecurID:

> Optional integration with SecurID for two-factor authentication

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VMware View Connection Server

ADAM – Active Directory Application Mode

> View Manager 3 Connection Servers Store configuration data in (ADAM):
> Free and re-distributable from Microsoft (bundled with VMware View Manager);
> Flexible LDAP directory, based on Active Directory (AD) technologies;
> ADAM instances are configured in multi-master mode

Replication

View Manager Data

Active Directory

Replication

ADAM

Reference

Replication   Replication

Replication   Replication
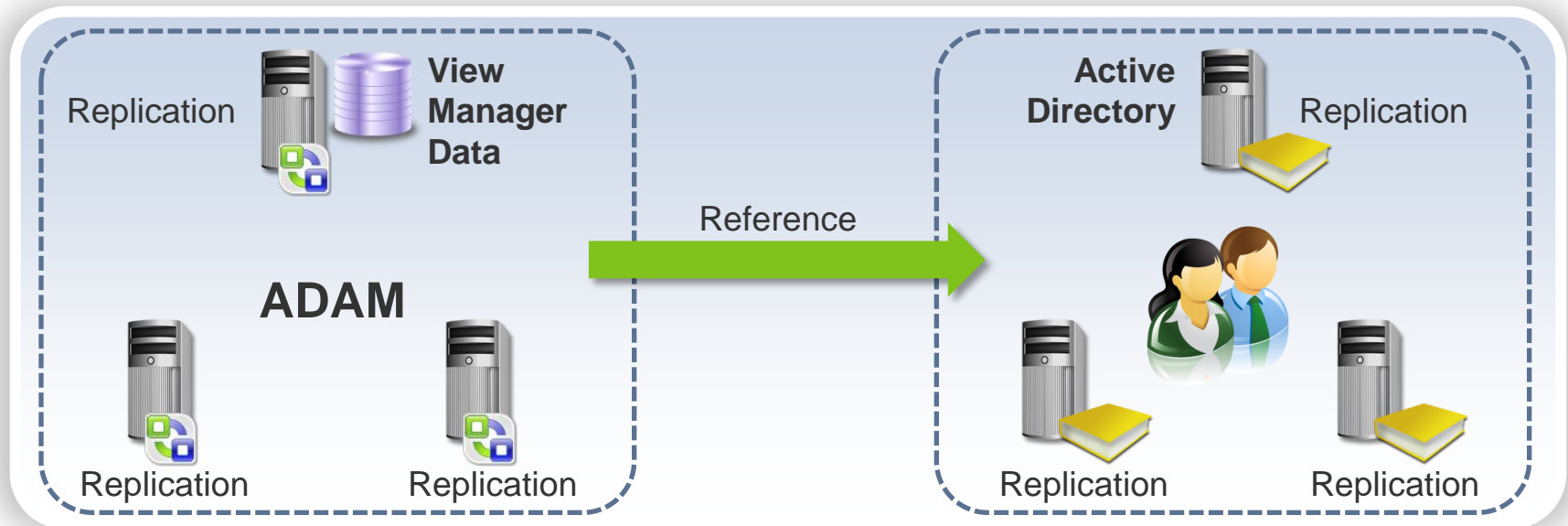
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USB and Multimedia Redirection

VMware View Manager Components

USB Device Redirection – Architecture

Messaging over RDP Virtual Channels alongside Screen/Mouse/Keyboard traffic

Local (Client) Machine

View Client

Orchestrator

WSWC_USB | WSWC_RDP

Kernel Mode

WSUSBVMAN

USB Hub Driver

RCP Client Object

Remote (VM Hosted) Machine

View Agent

Orchestrator

Virtual Channel Driver | WSSM_USB

Terminal Services

Kernel Mode

Device Specific Driver

WSUSBVMAN
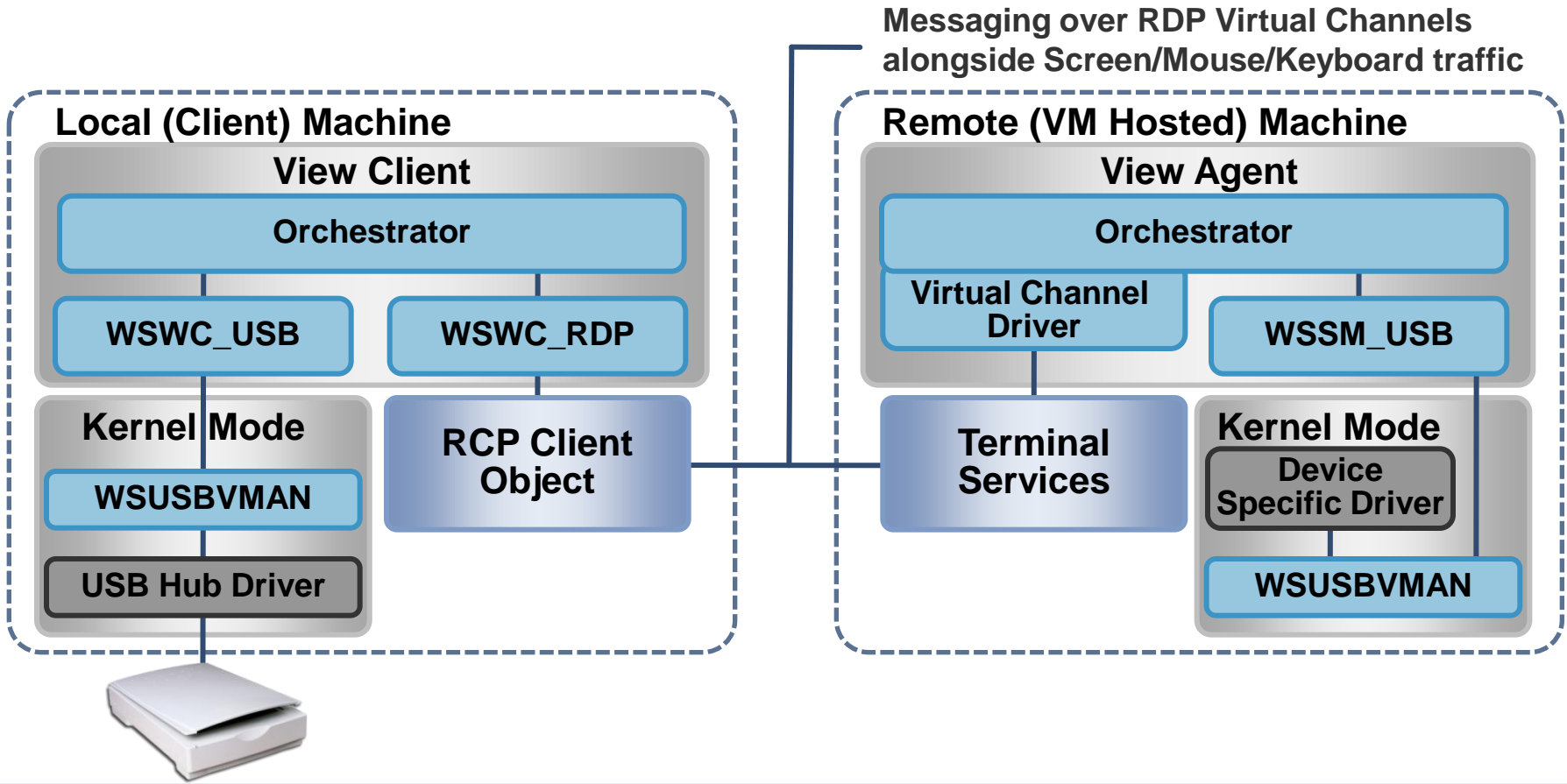
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VMware View Manager Features

USB Device Redirection – Requirements

> VMware View Manager Agent
- Installs USB redirection driver in the VM

> VMware View Manager Client
- Used to establish connection with virtual desktop
- Installs the USB redirection driver on the client

> Requires user have admin privileges to install

> User does not need admin privileges to run

> Supports standard USB devices
- Mass Storage
- Printers
- Scanners
- Smart Card Readers (Gemalco, ActiveIdentity only)
- Most PDA devices e.g. Blackberry, Palm, Windows Embedded

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VMware View Manager Components

Multimedia Redirection (MMR)

> Multimedia Redirection:

- ■ Multimedia stream decoded at client
  - ❑ Better user experience
  - ❑ Min impact on servers, bandwidth consumed
- ■ Win XP, Win XPe clients supported

> Windows XP Client support only

> Recommend Windows Media Player 10 or Higher on both Client and Virtual Machine

> Supported Media Formats – MPEG-1, MPEG-2, MPEG-4-part2,

> WMV 7/8/9, WMA, AC3, MP3

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**View Manager
Group Policy Objects**

VMware View Manager Components

View Manager Group Policy Objects

View Manager Group Policy objects allow an administrator to centrally control common View Manager Agent, Client, Server and User settings using Microsoft Active Directory

Agent Settings

> Log Configuration
> Allow Direct RDP
> Allow single sign-on
> View Manager Connection Ticket Timeout
> Connect Using DNS Name
> Enable Extended Logging
> Disk threshold

Client Settings

> Log Configuration
> View Manager Server URL
> View Manager logon User Name
> View Manager Logon Domain Name
> View Manager Logon Password
> Desktop Layout
> Desktop Name to select
> Suppress Error messages
> Security Settings
> Enable Extended Logging
> Disk Threshold for log events

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VMware View Manager Components

View Manager Group Policy Objects

View Manager Group Policy objects allow an administrator to centrally control common View Manager Agent, Client, Server and User settings using Microsoft Active Directory

User Settings

> View Manager Server URL

> View Manager logon User Name

> View Manager Logon Domain Name

> View Manager Logon Password

> Desktop Name to Select

> Desktop Layout

> Suppress Error Messages

User RDP Settings

> All of the common and advanced RDP client settings can be configured using the View Manager Group Policy Objects

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VMware View Manager Components

View Manager Group Policy Objects

View Manager Group Policy objects allow an administrator to centrally control common View Manager Agent, Client, Server and User settings using Microsoft Active Directory

Server Settings

> Log Configuration

> Enable Extended Logging

> Disk threshold

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Virtual Printing

Virtual Printing

Provides **driver-free** printing

.print Engine ← → **.print Agent**   **Printer**

CENTRALIZED VIRTUAL DESKTOPS

Network

Host System
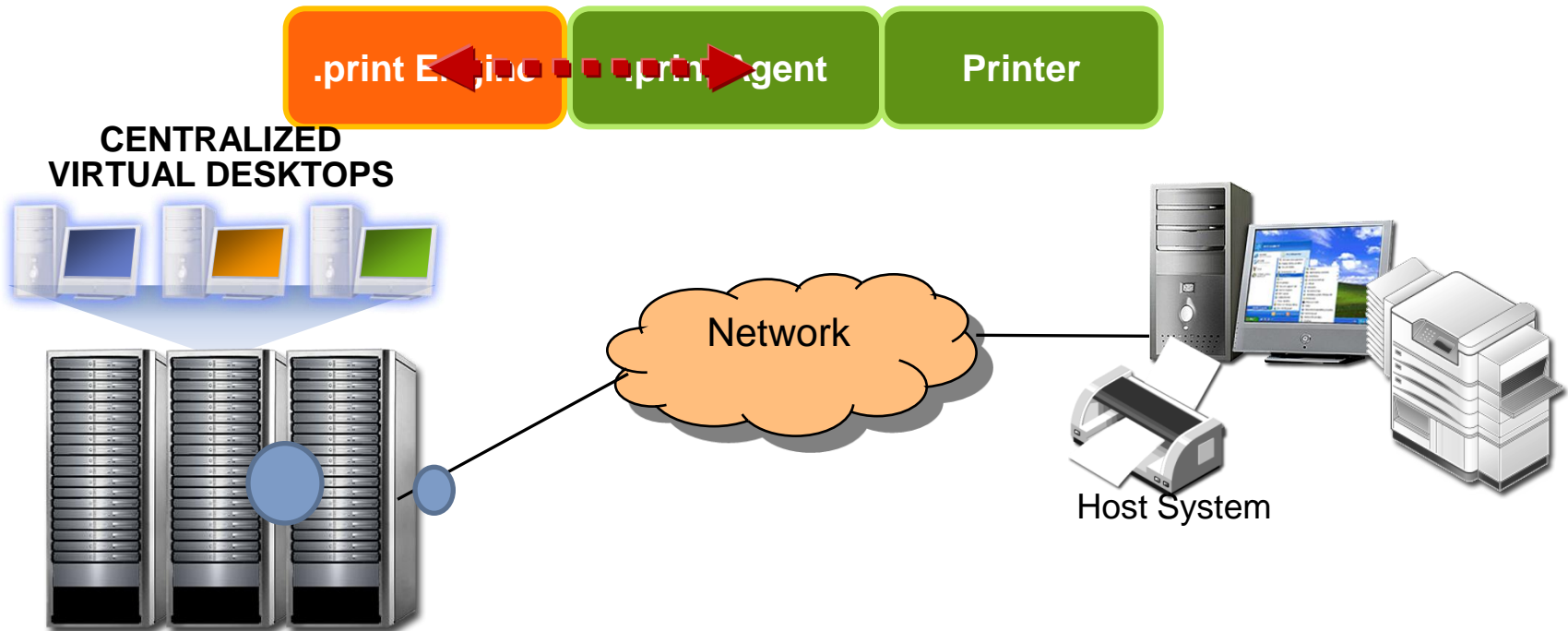
What is Virtual Printing

> Installed on client (host) via VMware view client

> On the client (host), .print is responsible for:
- Receiving print data
- Decompressing and decrypting it
- Converts the common data format into printer-specific formats
- Sending it to the print device

Virtual Printing

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Virtual Printing Engine

> Server Component is installed on desktop VM

- VMware Tools
- VMware Agent

> The .print Engine on the client performs the following main functions:

- Converts the print data to a "common" data format print data
- Compression and Encryption for print data

Virtual Printing

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Virtual Printing—Summary

> Driver Free Printing: No Installation and Maintenance of printer drivers on Virtual Desktops

> All necessary printers automatically available

> Minimize network utilization up to 98% with advanced print stream compression

- High quality printing even over WAN connections

RDP

RDP

View Client

View Client

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Unified Access

Challenge: Unified Access

> Customers want to leverage existing Terminal Services and physical desktops

> End user access mechanisms differ based on the backend platform leading to end user training issues

> Blade PC deployments are a niche use case of high end graphics applications and security requirements

Unified Access

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Unified Access

> Leverage View Manager's secure connection brokering capability for other platforms accessible by RDP

  ■ Terminal Servers

  ■ Blade PCs

  ■ Physical PCs

> Load Balancing of multiple Terminal Servers

> Monitoring and auditing within View Manager

Blade PCs

Physical PCs

Terminal Servers

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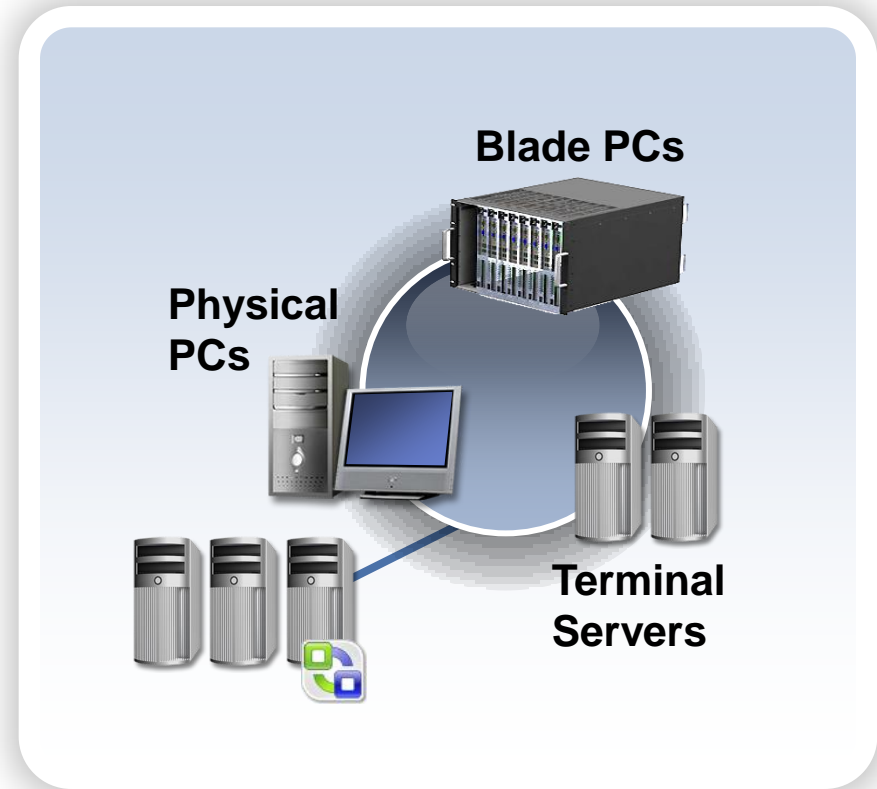
Prerequisites

Backend System must …

> Be reachable by View Manager and agent installed

- Agent prompts the user for its View Manager connection server

> Have RDP enabled on the server and user settings

> OS supported by View Manager 3.0

> Be in same or a trusted domain as View Manager to enable single sign-on

Note:

> USB redirection is supported on physical PCs but not on TS

> MMR redirection is not supported although it may work fine

Unified Access

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View Composer

What is View Composer

> New software product that:

- Provides desktop image management

- Enables significant storage savings using linked clone technology

View Composer

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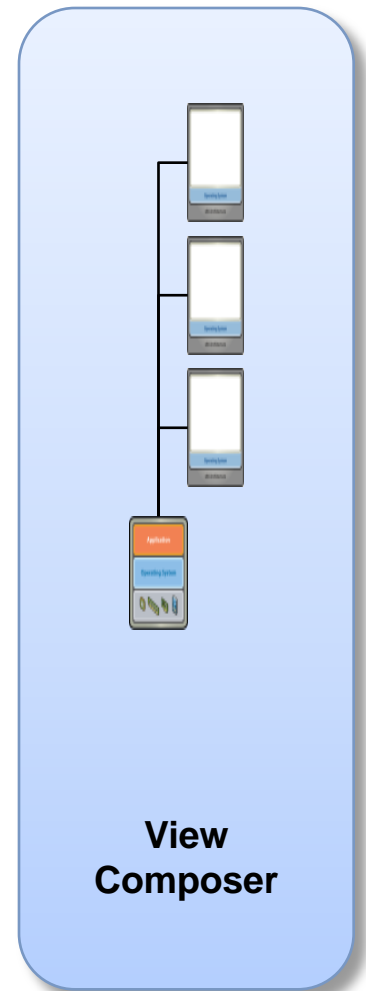
View Composer- Benefits

> Provides a storage-efficient alternative to full clone VMs

■ Efficiency can vary from 50% to 90% depending on various factors

> Provides the admin ability to redirect folders to a separate user disk

■ OS disk could be C: while all "user data: could be available on D: …. Also known as the "User Data Disk"

> Allows rapid provisioning/deployment of desktops

■ Cloning a VM could take anywhere between 5–10 min compared to a few seconds with View Composer

View Composer

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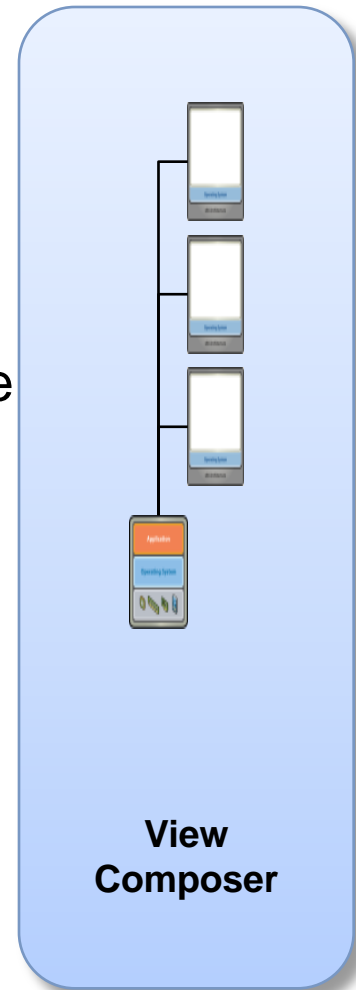
View Composer: Linked Clone Technology

> A linked clone is a thin copy of the original virtual machine that **shares** the virtual disk with the base virtual machine in an ongoing manner

- Base virtual disk is called replica

> Linked clones are given separate identity created with **QuickPrep**

- Clones can be powered on, suspended, snapshot, reconfigured independent of the parent

> Optionally, clones can have additional private disks called **user data disk**

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Building Desktops with Linked Clones

V1

Replica

View Composer will create a replica of your source VM to use as a master per LUN

V1

Parent

Virtual Infrastructure

Storage   Network   Network   Servers   Storage

Servers   Servers

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Building Desktops with Linked Clones

V1
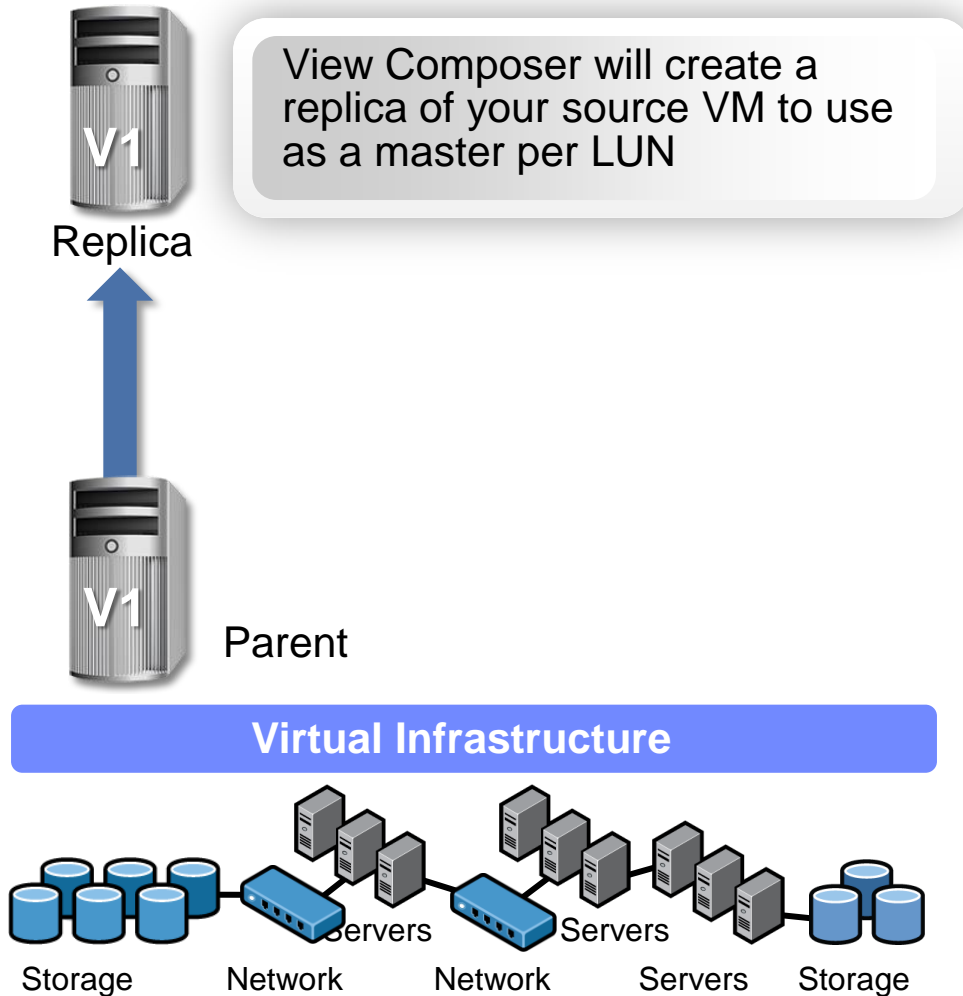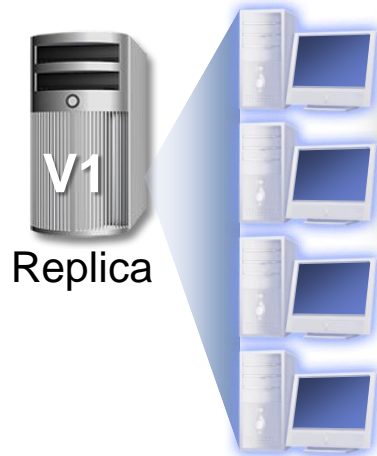
Replica

This replica creates linked clones and joins them to the domain using QuickPrep

V1

Parent

Virtual Infrastructure

Storage   Network   Servers   Network   Servers   Servers   Storage

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Building Desktops with Linked Clones

V1
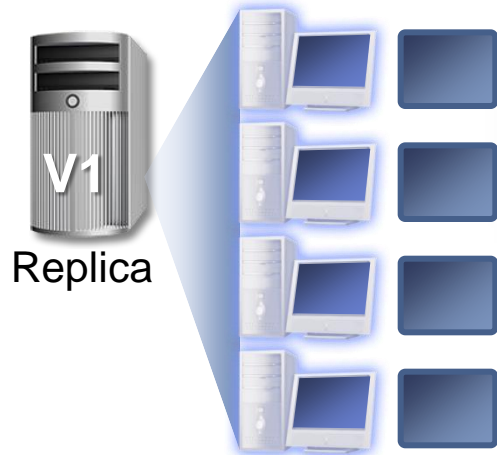
Replica

Profiles are stored as user personality disks, created on first logon if necessary

V1
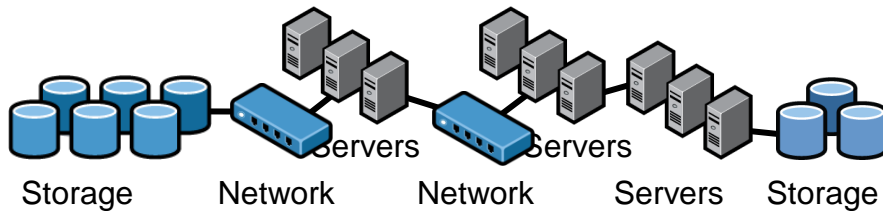
Parent

Virtual Infrastructure

Storage   Network   Network   Servers   Storage
Servers   Servers

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Building Desktops with Linked Clones

V1

Replica

V1

Parent

User data is stored on virtualized file servers

Virtual Infrastructure

Storage   Network   Network   Servers   Storage

Servers   Servers

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Building Desktops with Linked Clones

Replica

Parent

V1

V1

ThinApp

The user's desktop
is the result

Virtual Infrastructure

Storage   Network   Network   Servers   Storage

Servers   Servers

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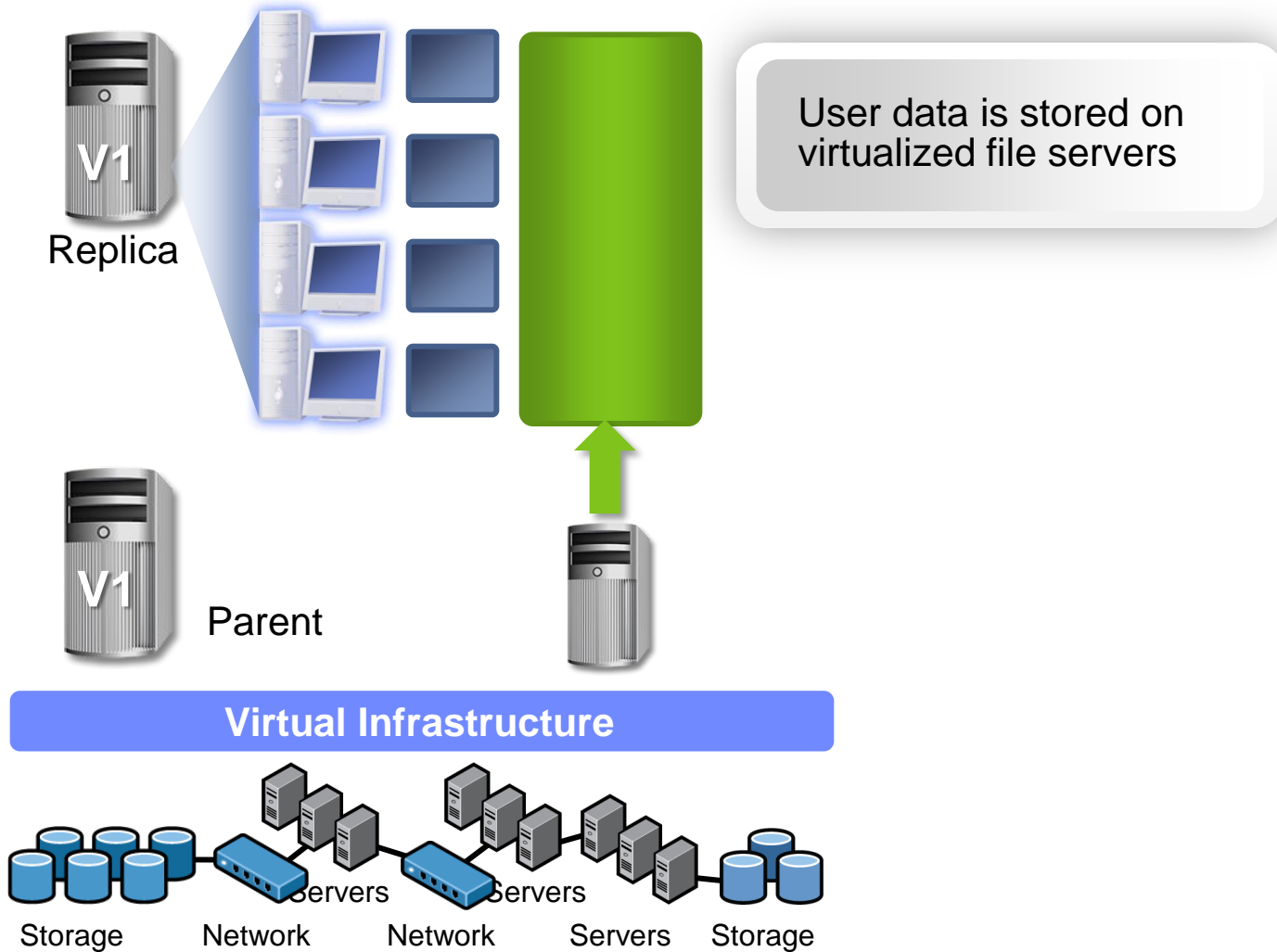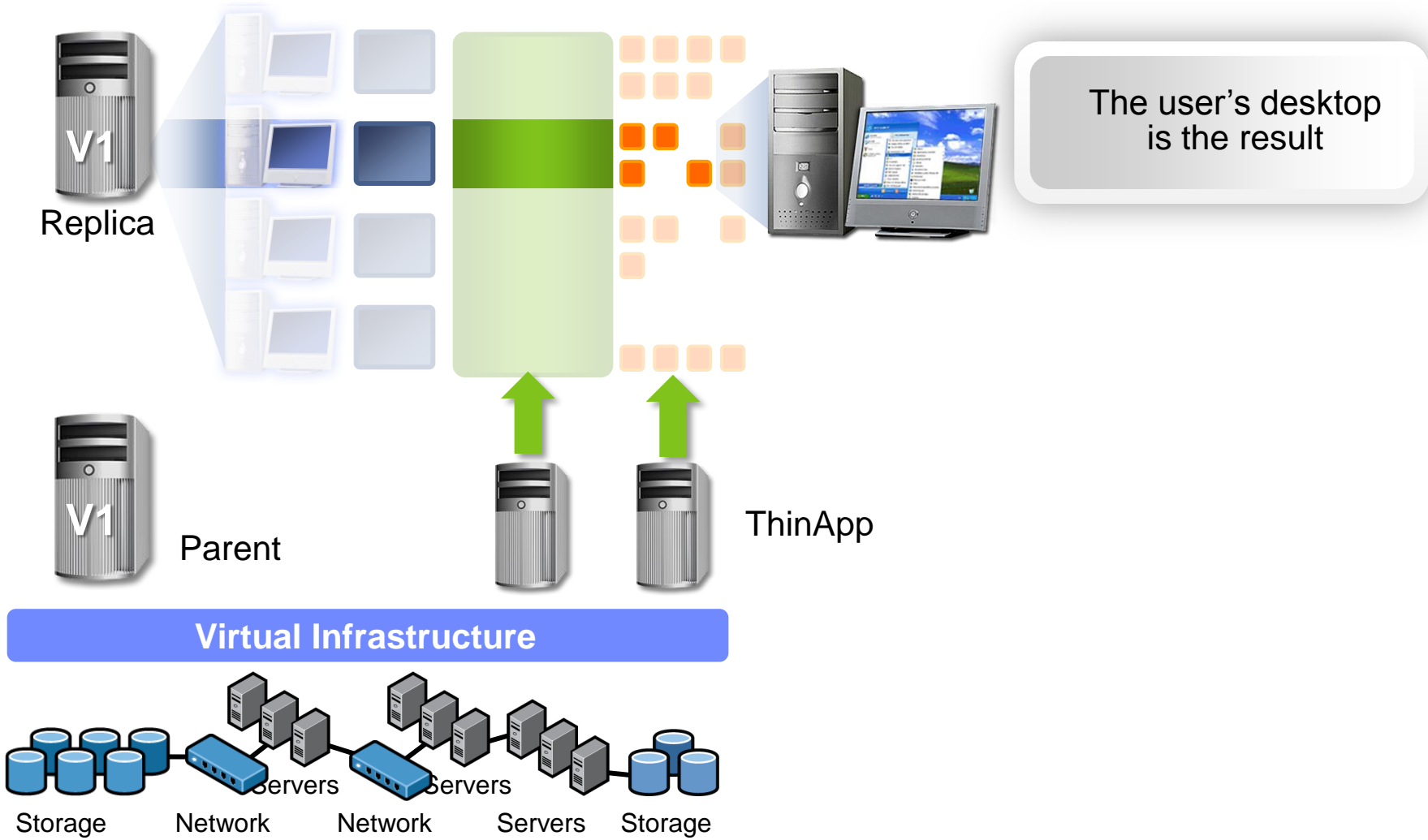
View Composer: Parent and Replica

Master VM can be on a different datastore

Base Image + Snapshot

Clone 1

Replica

Clone 2

OS Data Disk   User Data Disk   OS Data Disk   User Data Disk
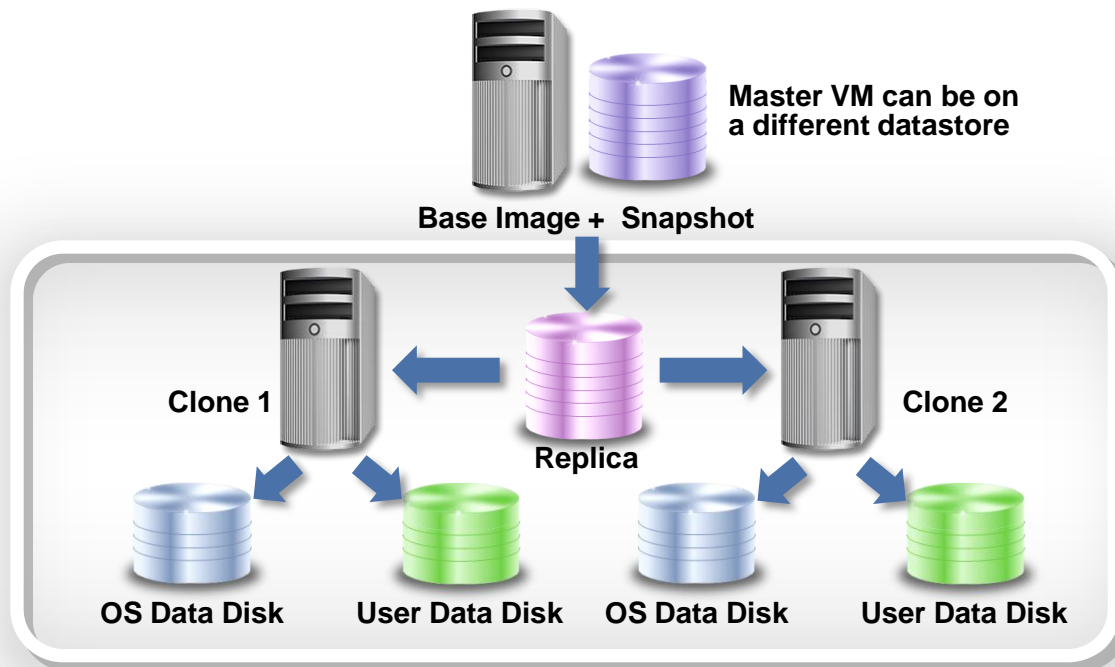
> Replica is a full clone created from the parent (Master VM) image

> The Master VM can be updated or replaced without affecting the replica

> The replica is a protected entity within VirtualCenter

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View Composer: Image Management

> Provides three main techniques

- Refresh – Clean desktop back to default

- Recompose – Migrate existing desktops from one system version to the other

- Re-Balance – Re-locate desktops to enable efficient usage of the storage available

Examples :

- Add more storage as you run out of the existing space

- Retire existing storage array

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View Manager: Refresh

Parent Image

Replica

Bloated
System Disk

System
Disk

Data
Disk

Refresh

Refreshed
System Disk

LUN – A

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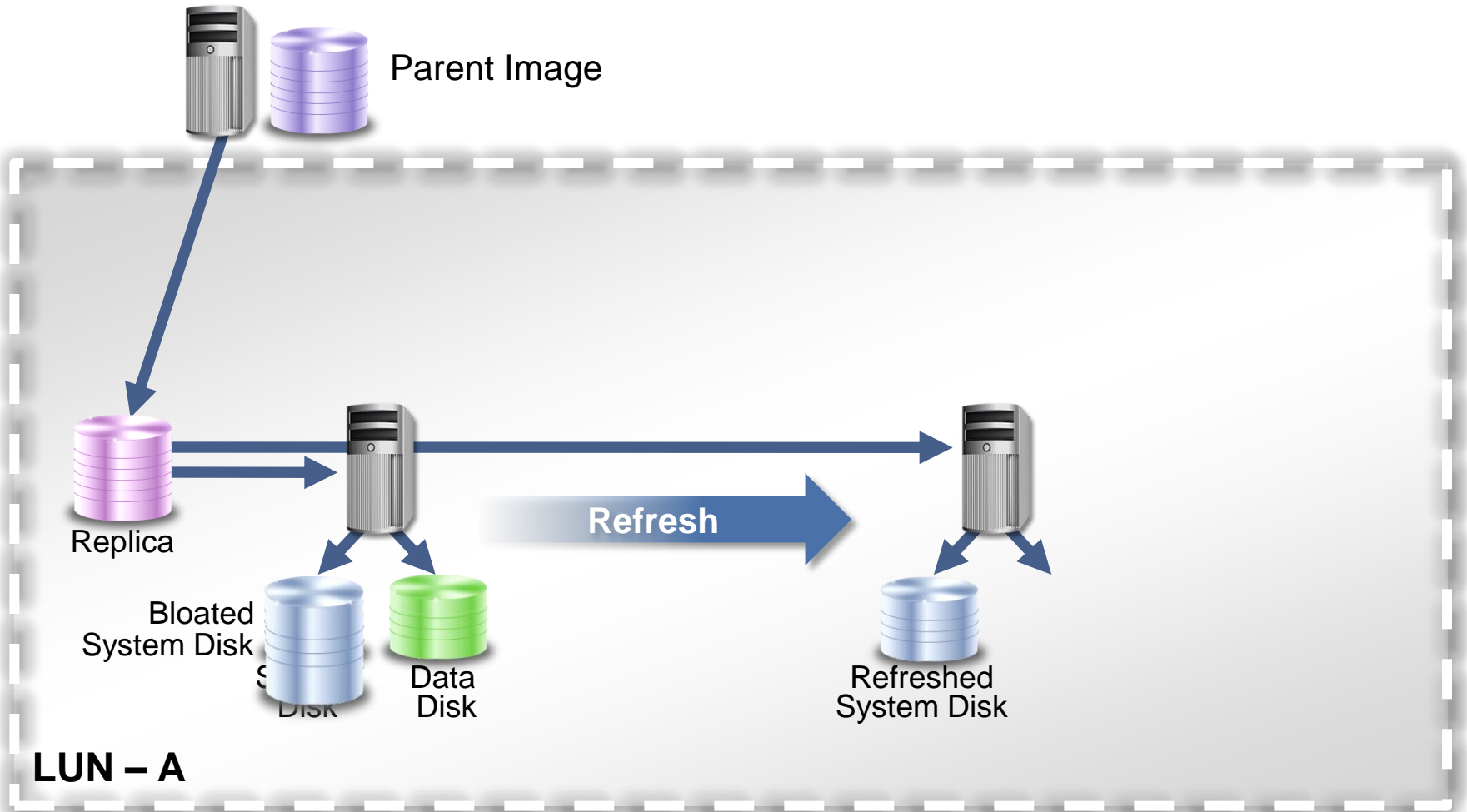
View Composer: Re-Compose

Parent Image
e.g. XP SP2

New Parent Image
e.g. XP SP3

Replica 1

Re-Compose

Replica 2

System
Disk

Data
Disk

New OS
System
Disk

LUN – A

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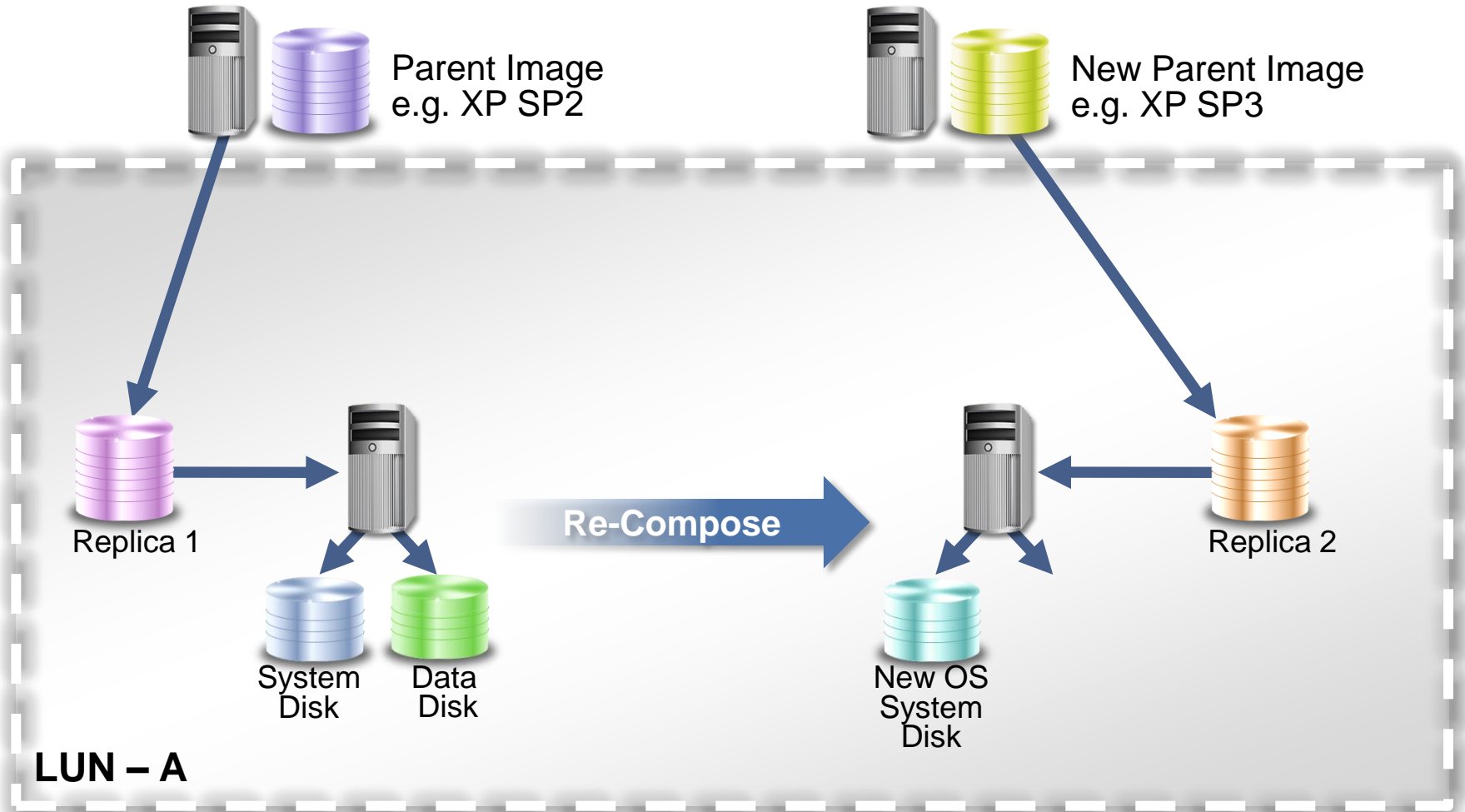
Image management: Rebalance

Parent Image

Replica 1

Free Space

LUN – A

System Disk   Data Disk

Replica 2

Bloated System Disk

LUN – B   Disk   Data Disk

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After Rebalance

Parent Image

Replica 1

LUN – A   System Disk   Data Disk

Replica 2

Bloated System Disk

LUN – B   Data Disk

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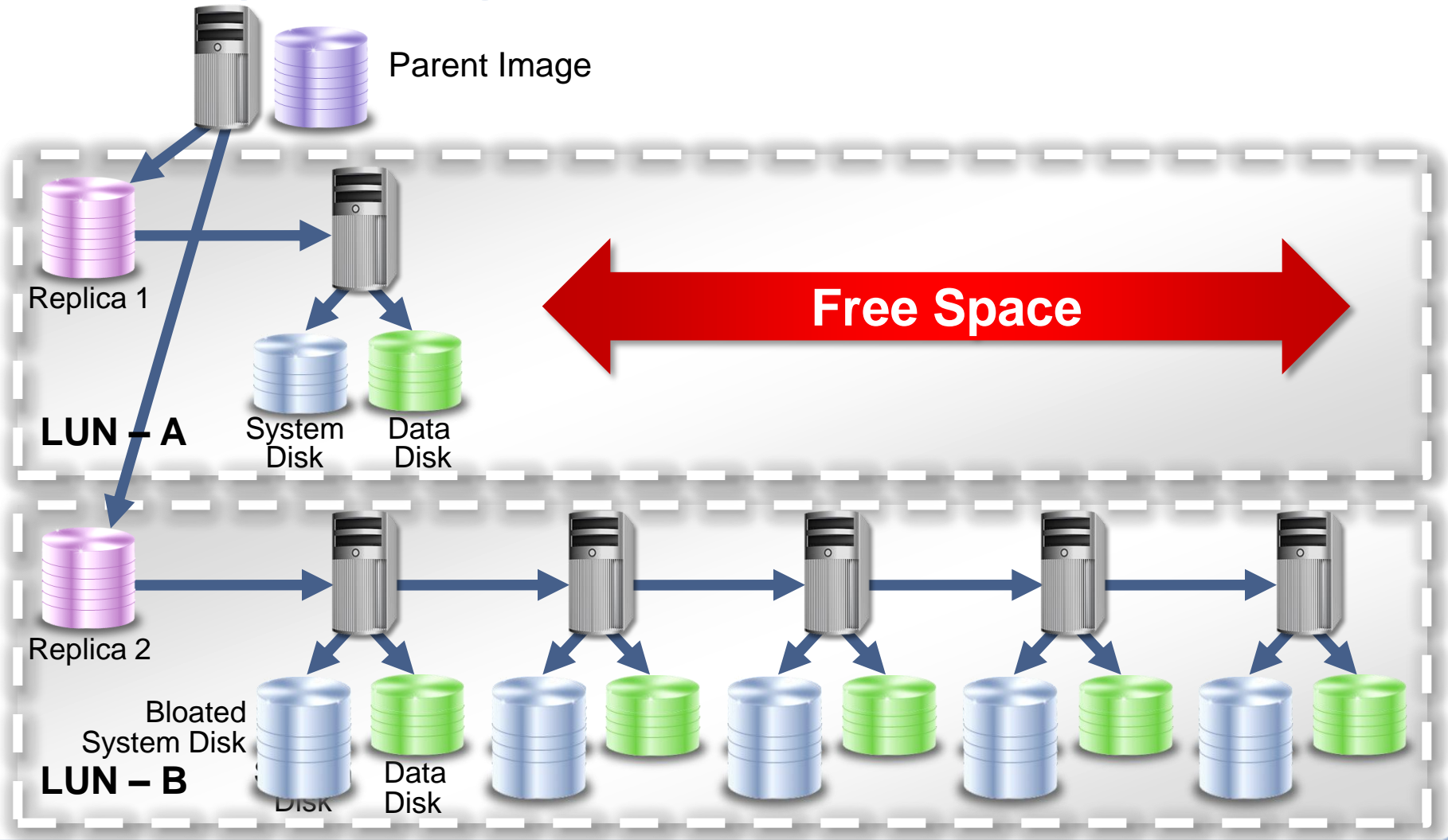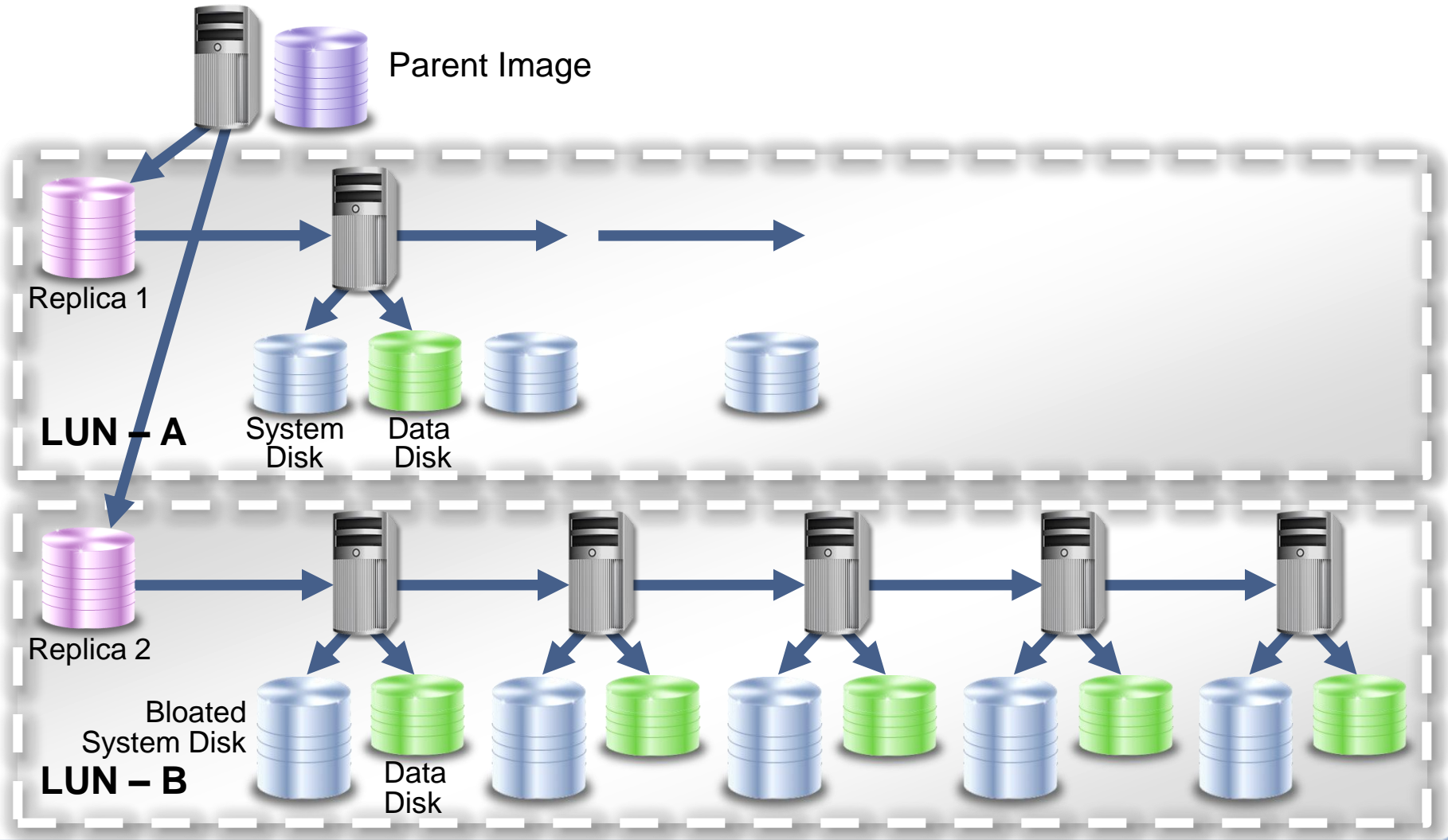
Deployment Considerations

> Keep # of VMs per LUN under 64 for best performance
  - VI 3.5 U3 is a minimum requirement

> Each desktop can only have one user data disk
  - No option to add another if the one assigned gets full

> Keep the system disk from growing too big
  - Updates directly to linked clone system disk can potentially grow them to a large size, causing inefficiency

> View Composer supports max of 8 hosts in a cluster
  - SAN is needed to supported View composer in a ESX cluster, it will not work on local disk

vmware

Deployment Considerations (2)

> Available storage needs to be managed regularly by storage administrator

■ 95% + storage can result in loss of performance and desktops

> Can use either View Composer for storage reduction or use similar technologies such as EMC snap or Netapp Flexclones

■ Manual process to register them in View Manager

■ Cannot leverage automatic pool sizing

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ThinApp

ThinApp: Application Management through 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

Operating System

Application — App Files

Application — App Files

Application — sandbox — VOS

Application — sandbox — VOS

Operating System

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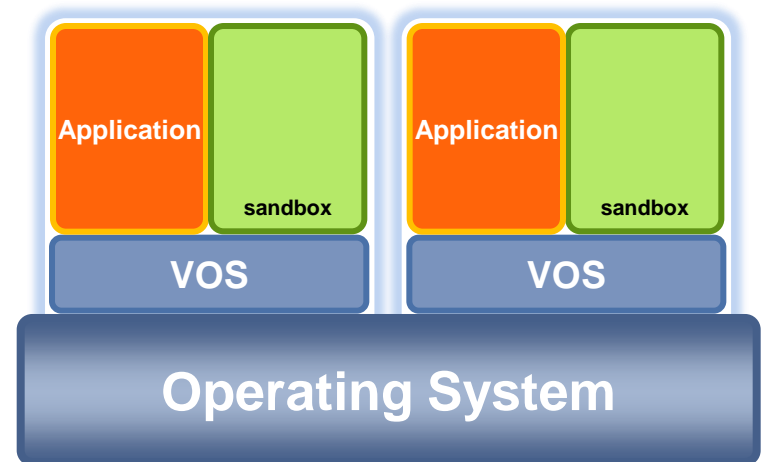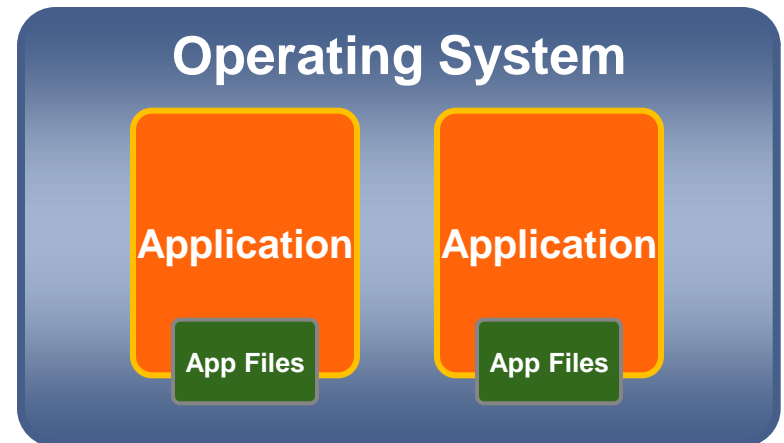
Many Applications Write to the "System"

Applications get installed because they need to write to the "system".

Applications

Files   Registry

System

Files   Registry

User Space

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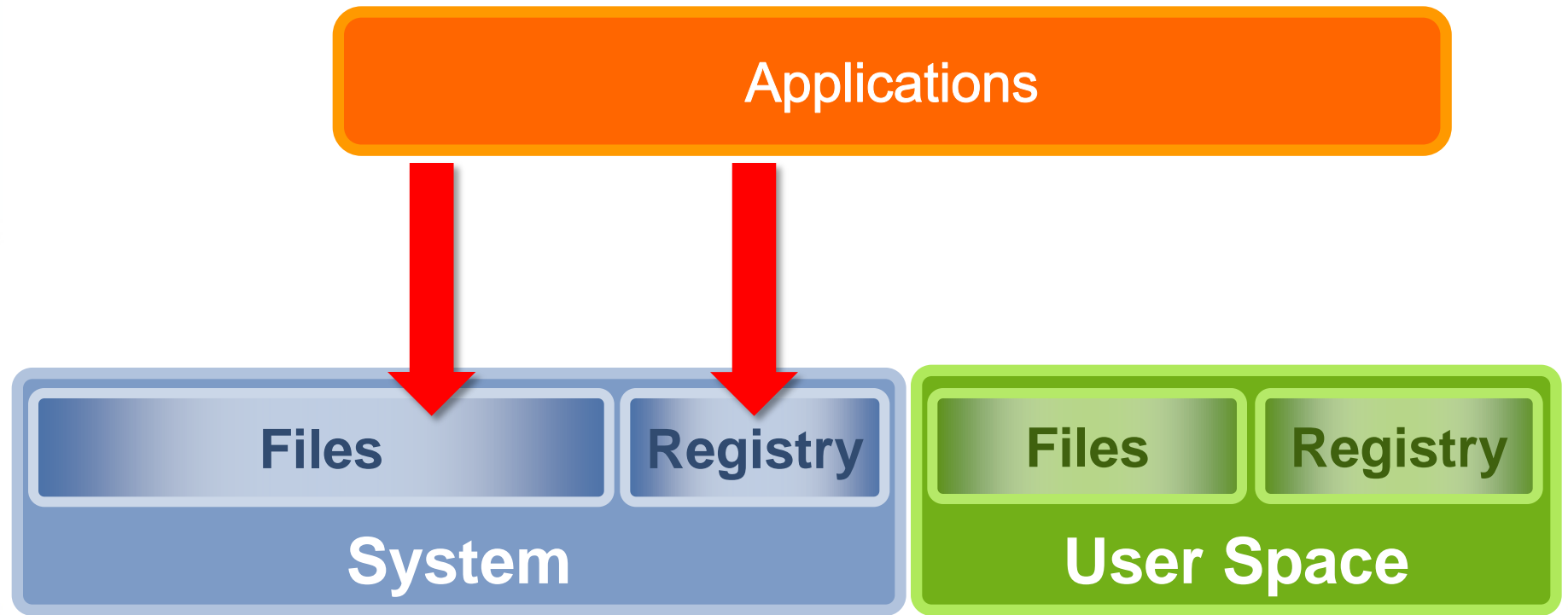
User Space Content

User Space changes can follow the user through profiles.
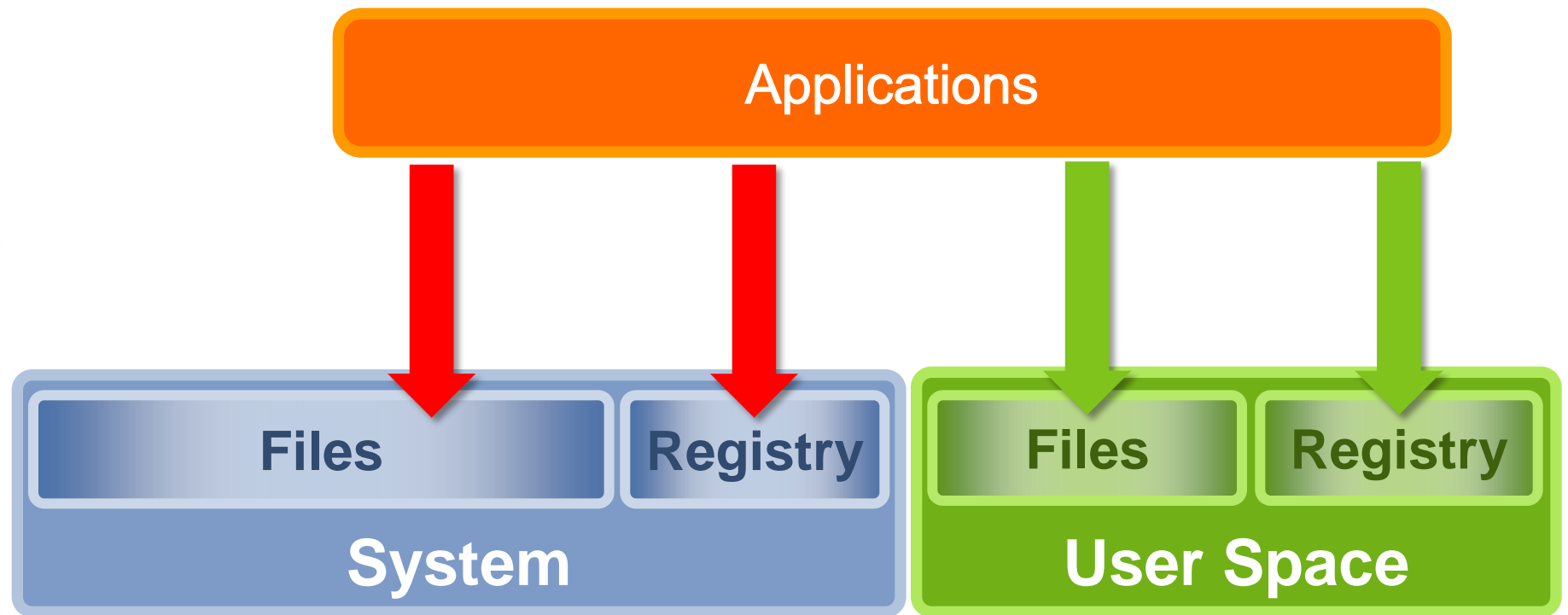
ThinApp Packages Include Dependencies

A ThinApp package contains all of the System content that it needs.

ThinApp   System Content

Files   Registry   Files   Registry

System   User Space

vmware
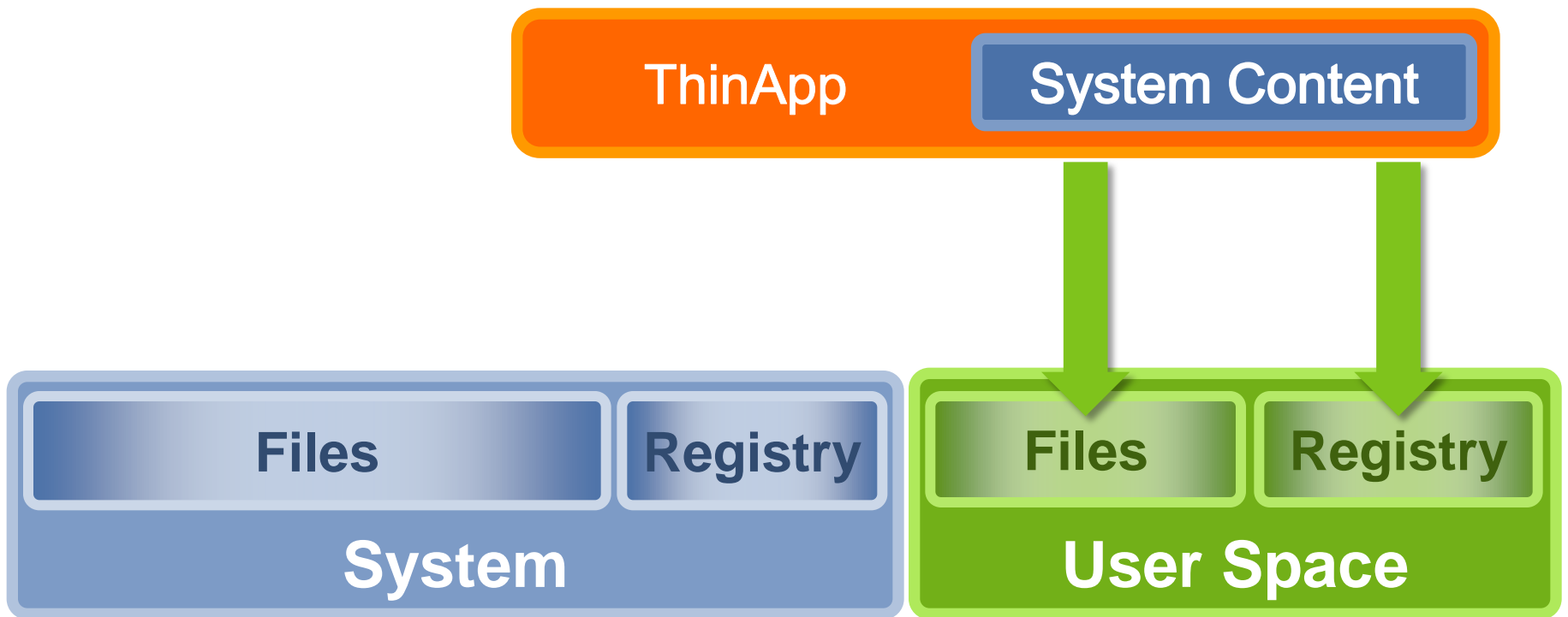
ThinApp Blocks System Changes

If it tries to make system changes, ThinApp captures them into the sandbox..
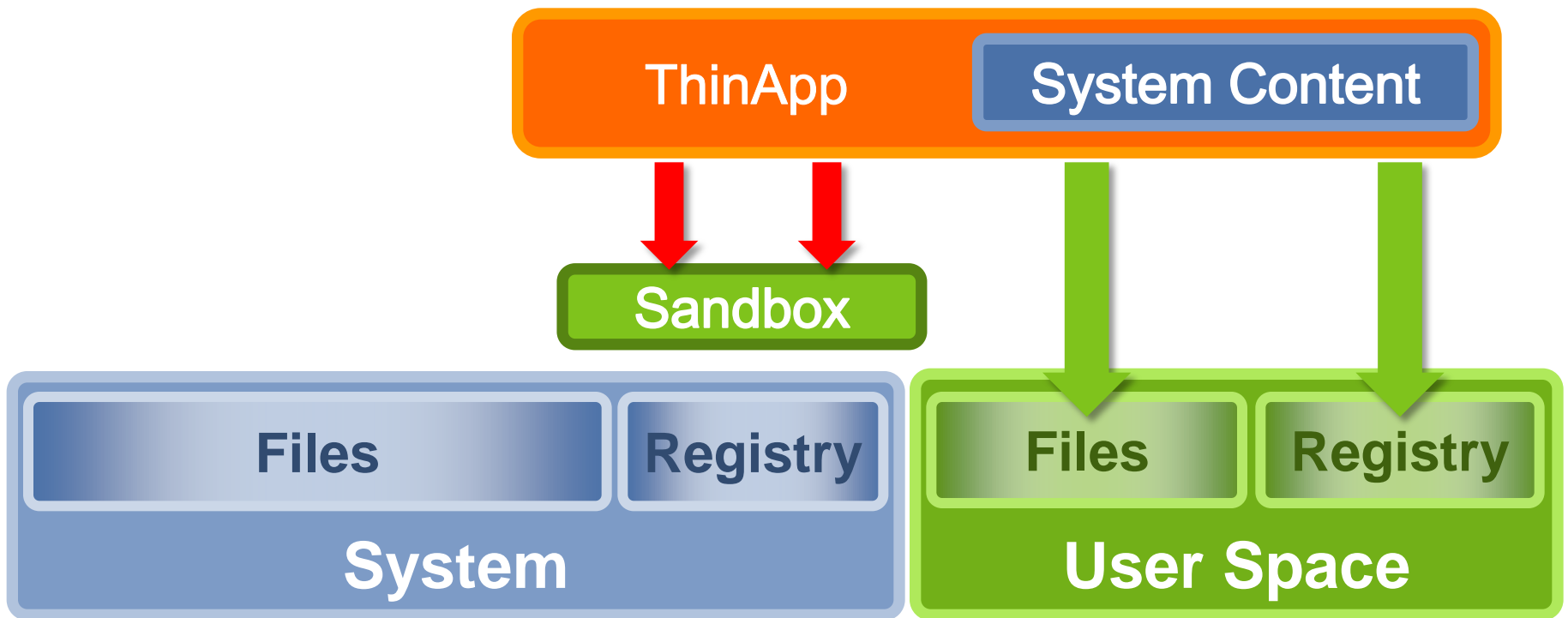
ThinApp Blocks System Changes

And we store the sandbox in the profile where it can follow the user.
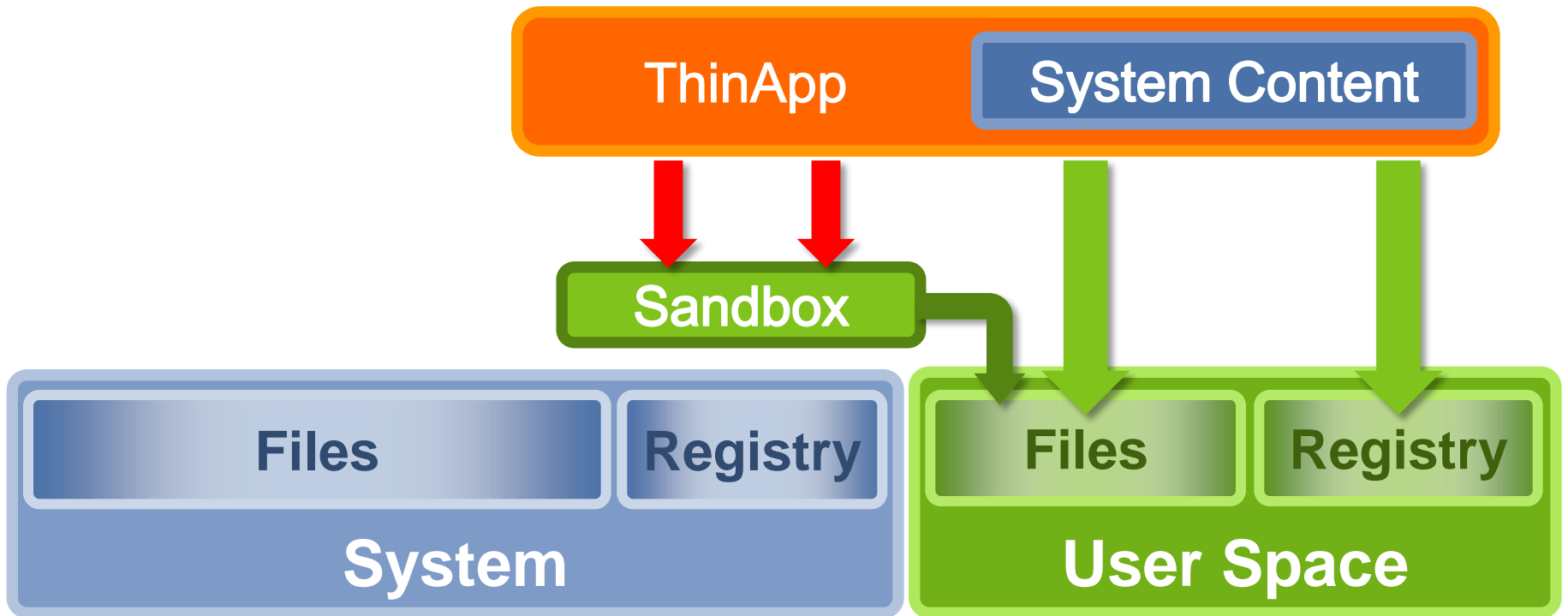
Offline Desktop (Experimental)

Offline Desktop

A segment of VDI end-users require occasional offline access to virtual desktops

> For some users, there is a significant conceptual and practical roadblock to solutions that mandate an "always on" high-speed internet connection to do work.

> Any delivery of data to a physical device should extend the administrator-defined security levels and policies to the physical device.

> For long segment, high latency environments, protocol may never be enough to provide a full user experience.

Offline Desktop

> Offline Desktop enables designated end-users to relocate their View Virtual Machines to a local physical computer – and back.

> Enables administrators to extend the security and encryption policies of the data center to the end-users local computer.

Virtual Desktops

Microsoft Active Directory

Application

Operating System

VMware Infrastructure 3

View Manager

VMware vCenter

vmware
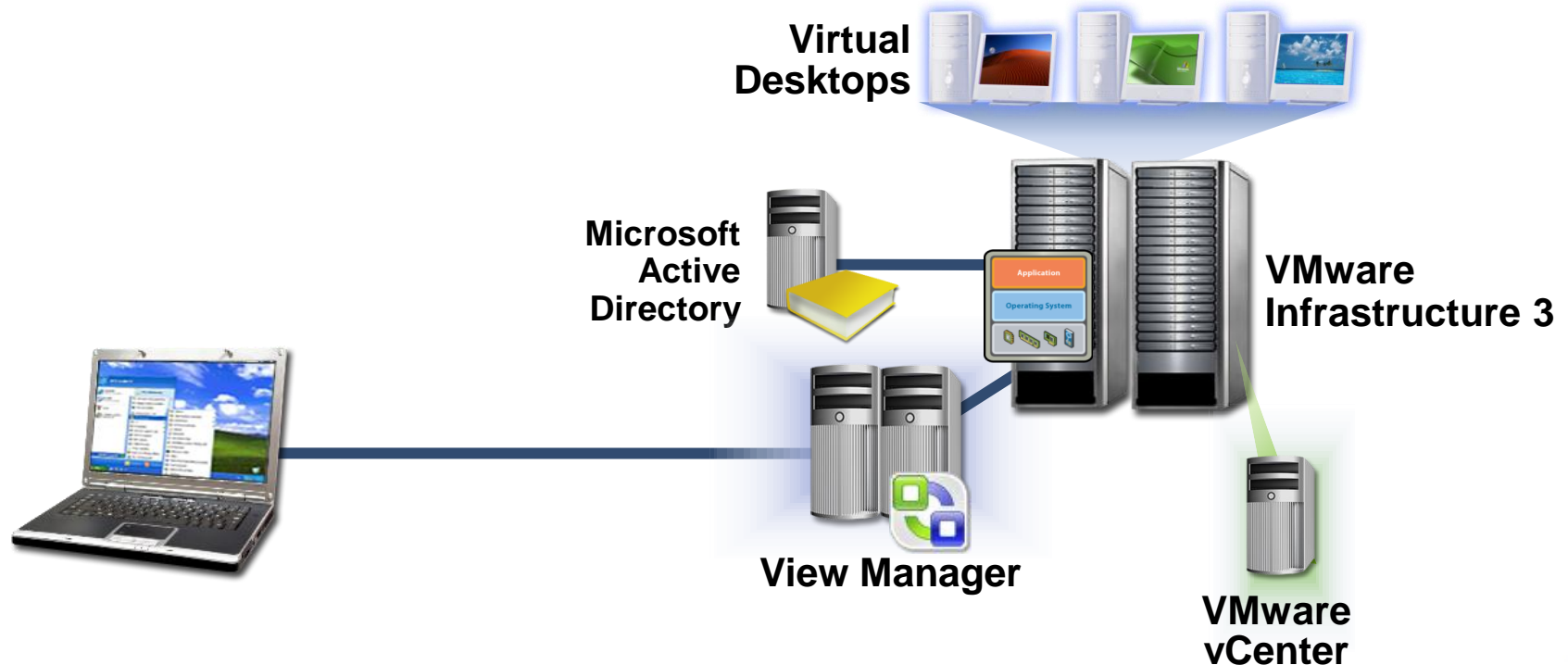
Offline Desktop

> When checked out – the virtual machine has a "heartbeat" back to the datacenter allow administrators to deactivate when necessary.

> When the user returns to the office, only the delta is checked in.

Virtual Desktops

Microsoft Active Directory

VMware Infrastructure 3

View Manager

VMware vCenter

vmware
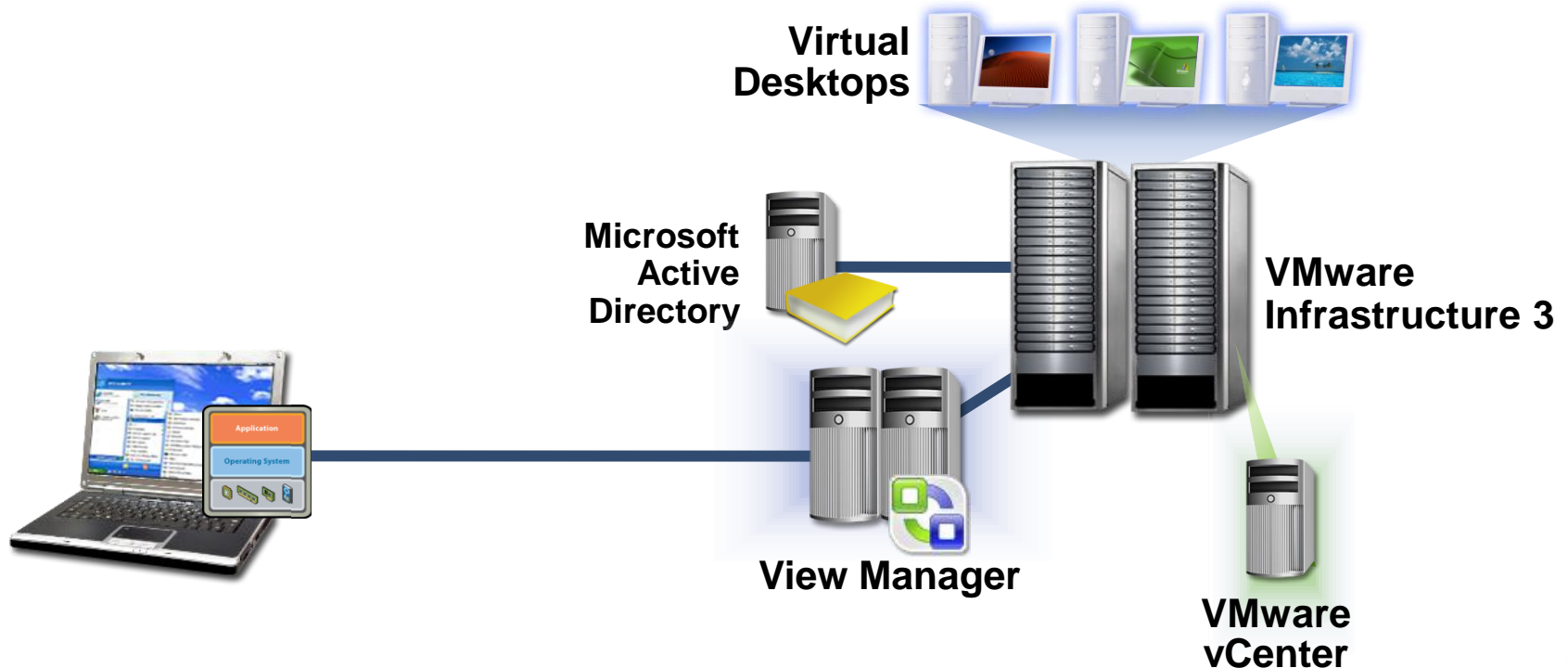
Offline Desktop: Check Out Overview

A check out operation is a client initiated operation that ends with a local copy of a online desktop on the end-user's machine

A user can check out:

> When they are connected and have authenticated to View Manager at least once

> Desktop is allowed for offline access – policy setting

> When that desktop is not currently checked out

Offline Desktop: Check In Overview

A check in operation is a client initiated operation that pushes changes made to a previously checked out desktop up to the datacenter

A user can check in:

> When they are connected and have authenticated to View Manager

> When they have an open offline session on their client device and the desktop remains entitled for offline usage

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Offline Desktop: Supported Desktops

> Online desktop must be managed by vCenter

> Currently View Composer based desktop not a option for checkout

> Must be in an Individual Desktop or be in a persistent desktop pool

> ThinApp applications stored on a shared network drive will not be checked out

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View Client with Offline

> The first time a user downloads an online desktop
  - User specifies location of VM on local disk
    - Location of VM can not be changed on local disk
  - Download progress is indicated by Universal Client
    - Download can be paused or canceled

> Once the Download has finished the online desktop the online desktop is locked

> All user access is through the offline machine until the lock is released

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Offline Desktop Policies

Policy	Values
Check out	**Allow or Deny** **Pool- and user-level policies may** also **Inherit the default setting from their parent**
User Rollback	**Allow or Deny** **Pool- and user-level policies may** also **Inherit their default settings from their parent**
Cache Lifetime	**Inherit or Set.** When **Set is selected you can then enter the lifetime of the cache in Days, Hours, or Minutes in the field provided.** The global cache lifetime policy can be modified in the same way and starts with a default of **7 days**

Note: You can only override the upper level policy if lower level policy is more restrictive

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Deployment Considerations

> First check out will be substantially longer then sub-sequent check-outs

> You can disable tunneling to speed up down/up loads
  - Configuration → Direct connection for Offline Desktop operations

> You can encrypt communication and data transfer between offline desktop and View Connection Server
  - Configuration → Require SSL for Offline Desktop operations

> Data on offline desktop will **ALWAYS** be encrypted

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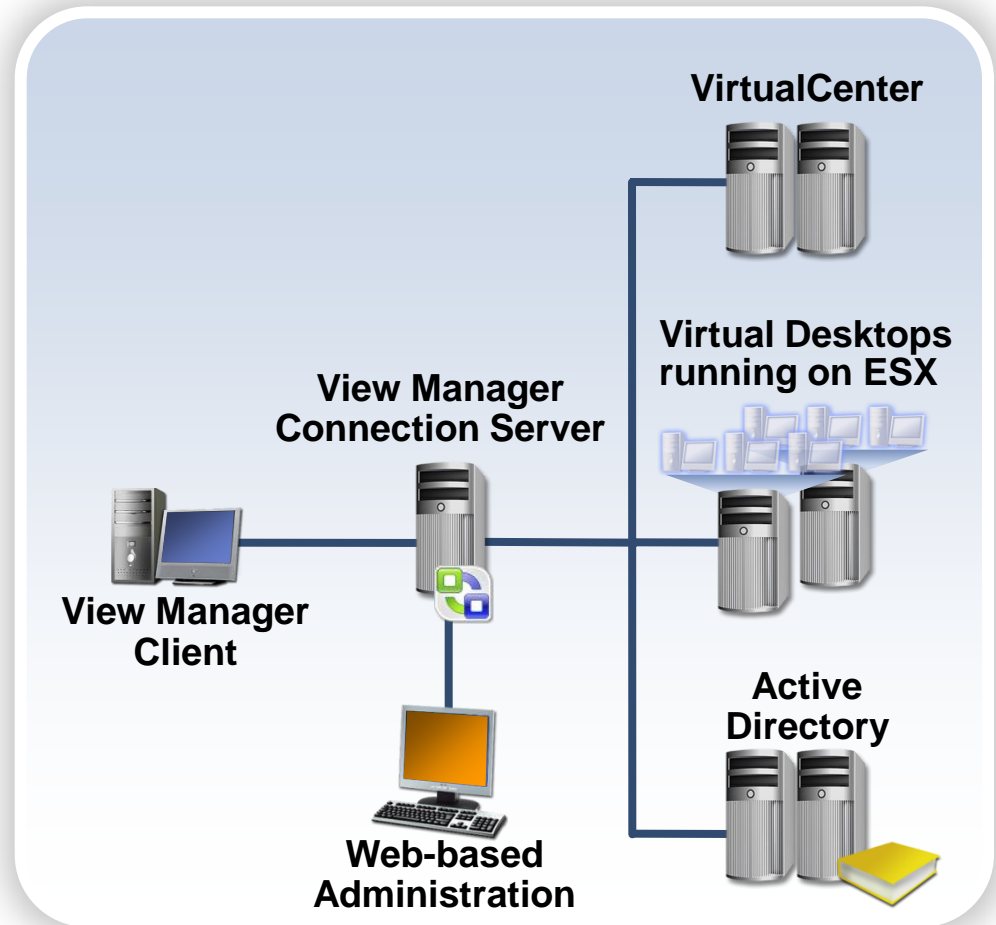
Deployment Scenarios

VMware View Manager Deployment Scenarios

Single View Manager Connection Server Deployment

> Useful for smaller deployments, POCs or testing

> View Connection Server is installed as a Standard

VirtualCenter

Virtual Desktops running on ESX

View Manager Connection Server

View Manager Client

Active Directory

Web-based Administration

VMware View Manager Deployment Scenarios

Multi-Server View Manager Connection Server Deployments

> Avoids single points of failure

> Each View Manager Server can run as a standalone if others in a group fail.

> Horizontally Scales to support large numbers of virtual desktops

> Scaling and load balancing supported using third party solutions

> The group of View Connection Servers work together sharing the same replicated configuration through ADAM directory services

> Changes to data on any server are replicated to all others

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VMware View Manager Deployment Scenarios

Multi-Server View Manager Connection Server Deployments
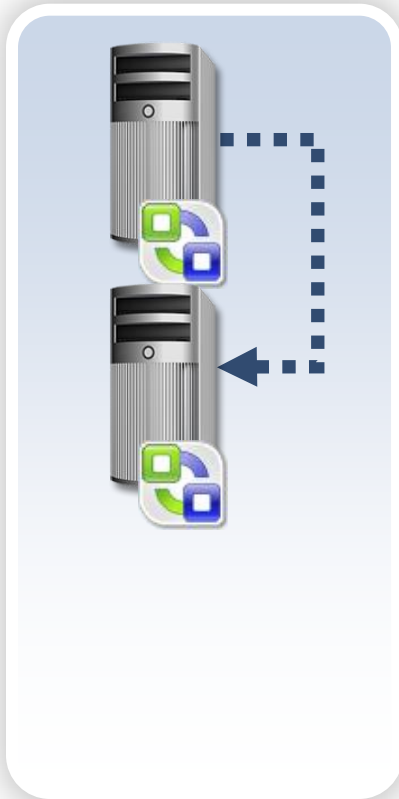
> First View Connection Server is installed as a standard

> Second View Manager   Connection Server is installed as a replica. Datastore from the initial standard is replicated to the replica

> Once operational, both are master servers

> Changes made on any server are automatically replicated to others

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VMware View Manager Deployment Scenarios

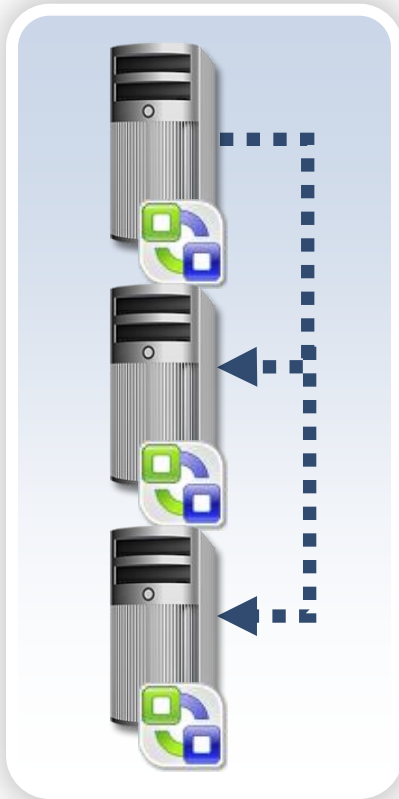## Multi-Server View Manager Connection Server Deployments

> First View Connection Server is installed as a standard

> Second View Connection Server is installed as a replica. Datastore from the initial standard is replicated to the replica

> Once operational, both are master servers

> Changes made on any server are automatically replicated to others

> Subsequent replica servers can be installed for added scalability and redundancy. All servers in a group are masters

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VMware View Manager Deployment Scenarios

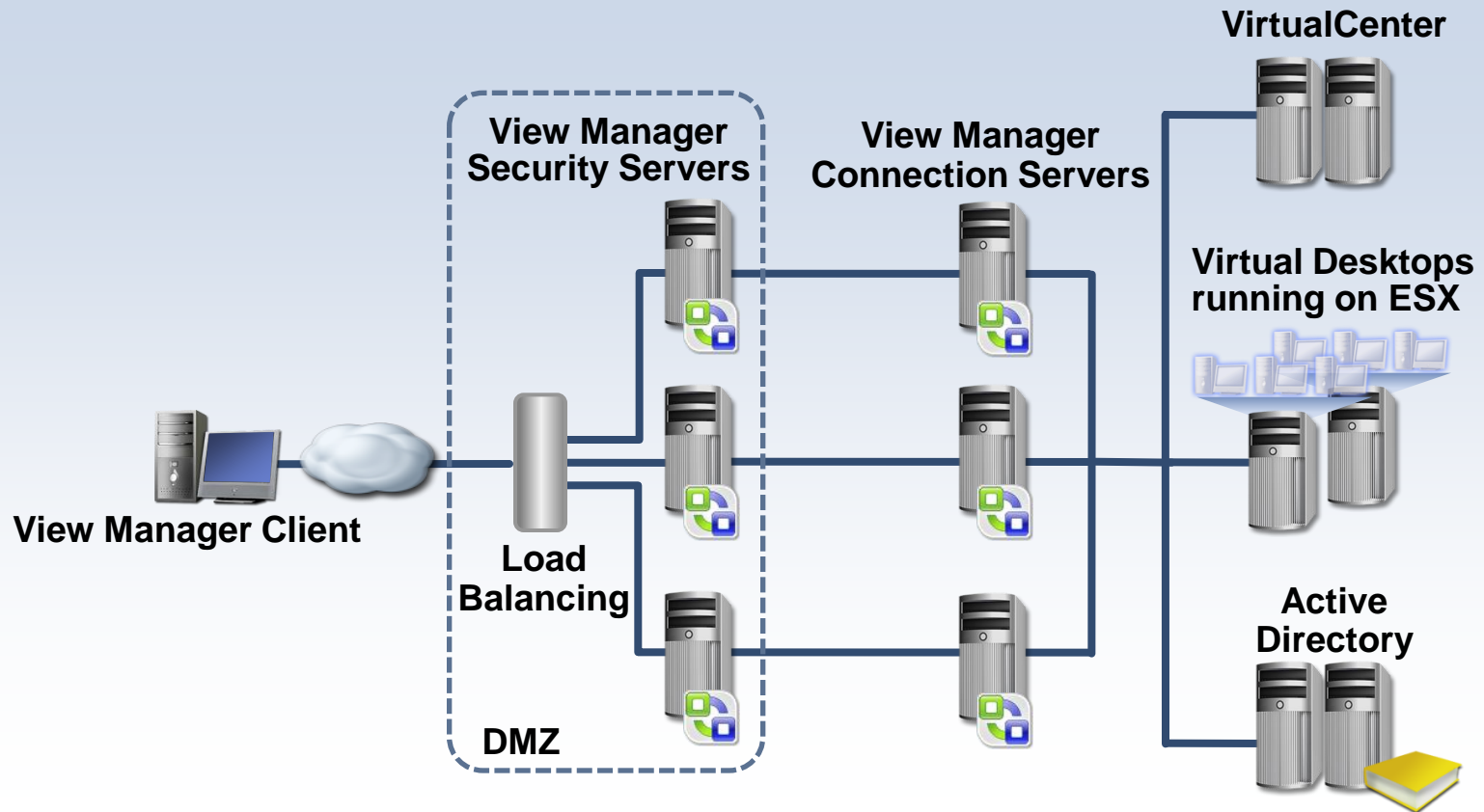## Multi-Server View Connection Server Deployment
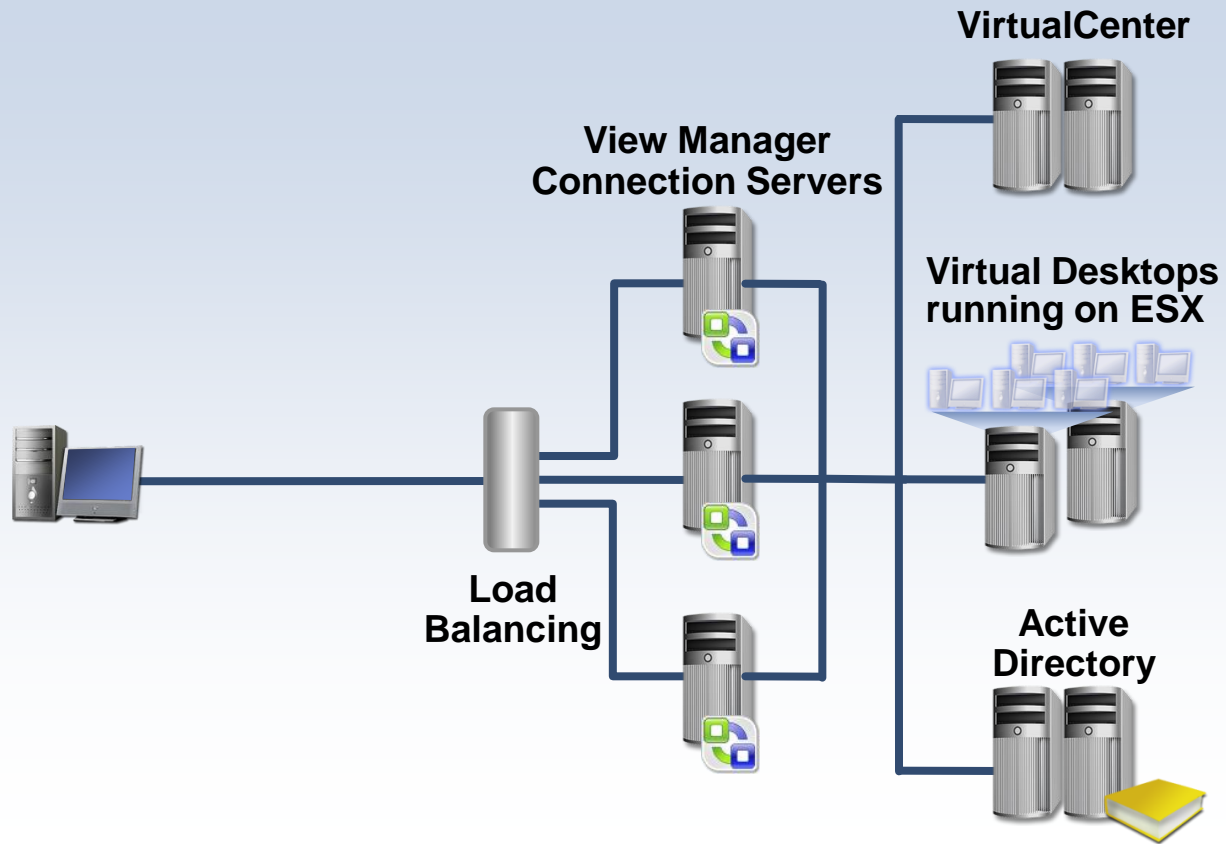
VMware View Manager Deployment Scenarios

View Security Server– Remote Access

> Provides access to corporate VDI desktops from the Internet; View Security Server is deployed inside the DMZ

> Servers installed as a View Security Server. A subset of the full View Connection Server software is deployed inside the DMZ

> Web server and secure (HTTPS) tunnel termination

> Directory data is not installed inside the DMZ

> Security Server operates in a 1:1 relationship with a full View Connection Server instance located inside the trusted network

> In conjunction with DMZ firewall rules, a DMZ deployment ensures that only authenticated users can attempt connections with the desktops operating inside the trusted network

> View Security Servers should be load balanced inside the DMZ

VMware View Manager Deployment Scenarios

View Connection Server – Remote Access

View Manager Client

View Manager Security Servers

Load Balancing

DMZ

View Manager Connection Servers

VirtualCenter

Virtual Desktops running on ESX

Active Directory

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VMware View Manager Deployment Scenarios

View Connection Server – Remote Access

Outer firewall – Rules – Example

Source	Protocol	Port	Destination	Notes
Security Servers	TCP	443 (or 80)	Security Servers	443 (HTTPS) by default, 80 (HTTP) if SSL is disabled

Inner firewall – Rules – Example

| Source	Protocol	Port	Destination	Notes
Security Servers	TCP	8009	Related Connection Server	Forwarded web traffic (AJP)
Security Servers	TCP	4001	Related Connection Server	JMS connection
Security Servers	TCP	3389	Desktop VMs	Forwarded RDP traffic from client to desktop VMs.

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VMware View Manager Deployment Scenarios

View Connection Server – Load Balancing

> Provided by third party hardware and software load balancers

> Ensures load distribution of requests and sessions across View Connection Servers

> Ensures requests are properly routed to servers in the event of a failure

> View Connection Servers should be load balanced inside the LAN

> VMD Security Servers in the DMZ should be load balanced in the DMZ

> Groups of View Connection Servers work together sharing the same replicated configuration through ADAM directory services

> Changes to data on any server are replicated to all others

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VMware View Manager Deployment Scenarios

Multi-Server LAN and DMZ Deployment

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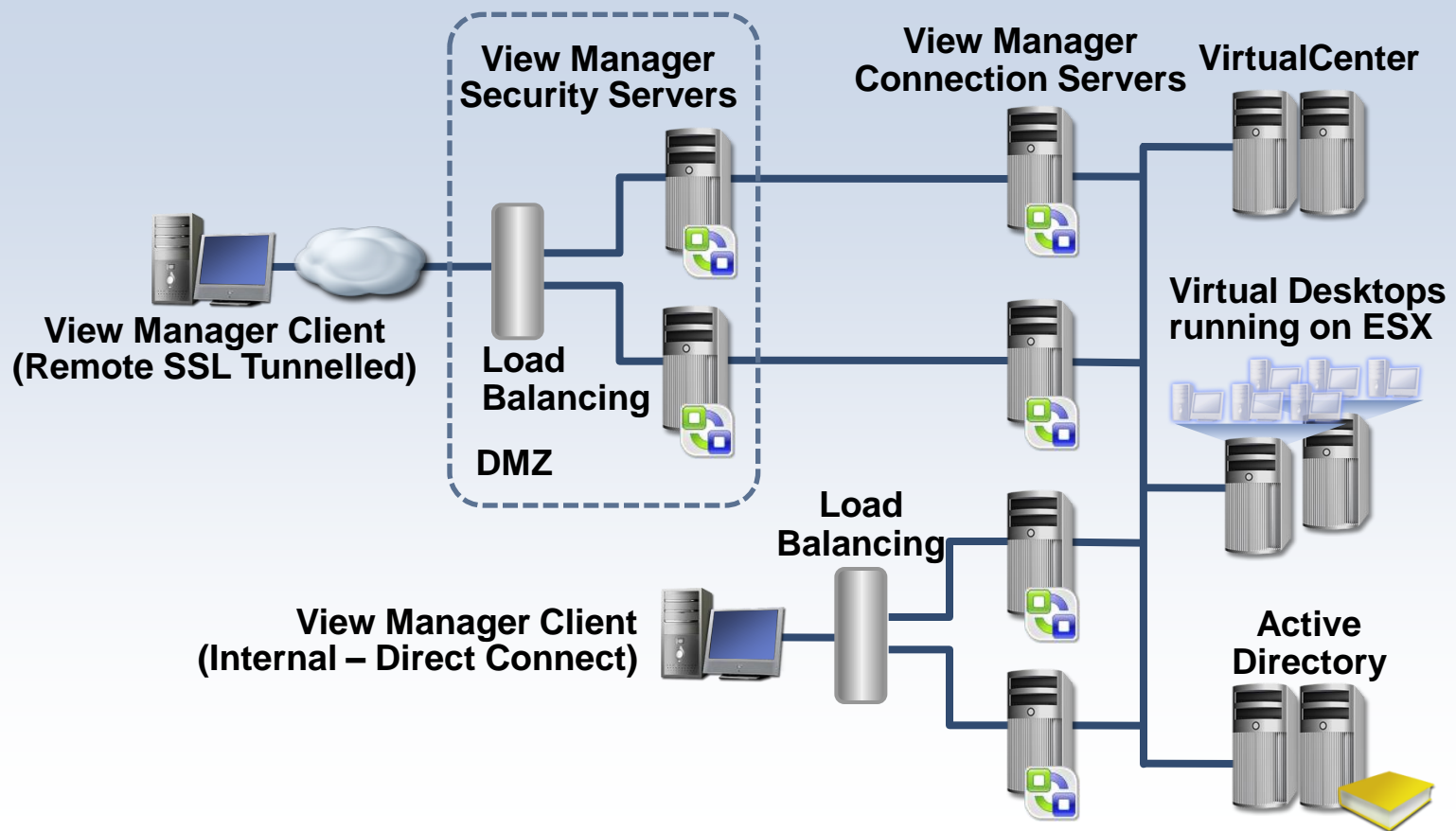
Troubleshooting

Troubleshooting

Logs/Errors:

> View Connection Server Log Files - C:\Documents and Settings\All Users\Application Data\VMware\View Manager\logs

> View Manager Client/Agent Logs - C:\Documents and Settings\All Users\Application Data\VMware\View Manager\logs

> Use the View Connection Server Events to monitor errors

> Check the Windows Event Viewer

Connectivity Issues:

> View Manager Administrator – Make sure you using https: if SSL is enabled

> Make Sure the View Connection Server service is running

> View Manager Client – Make sure DNS and name resolution is working

■ Check the View Manager server to ensure desktops are available and registered

■ Try Connecting using the MSTSC client

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Overview for VMware View

Offline

Clients

Unified Access

View Manager

Linux/Partner Clients

ThinApp Applications

VCenter

View Composer

vmware