Virtualization
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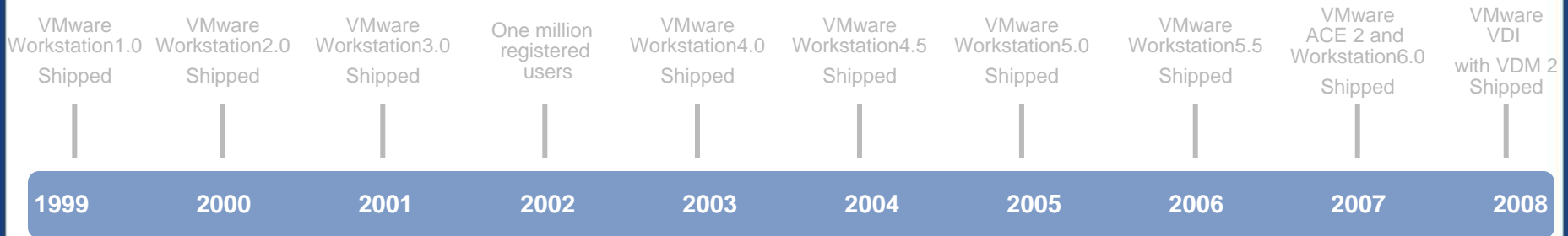# Transforming the Enterprise Desktop

David Wakeman
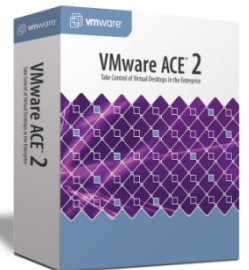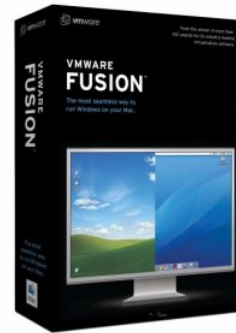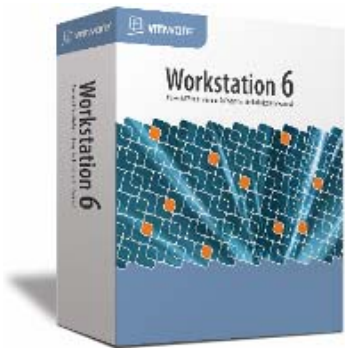
Product Marketing Manager

Enterprise Desktop - ANZ

July 2008

VMware Desktop Market Leadership
A History of Success

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
VMware Workstation1.0 Shipped	VMware Workstation2.0 Shipped	VMware Workstation3.0 Shipped	One million registered users	VMware Workstation4.0 Shipped	VMware Workstation4.5 Shipped	VMware Workstation5.0 Shipped	VMware Workstation5.5 Shipped	VMware ACE 2 and Workstation6.0 Shipped	VMware VDI with VDM 2 Shipped

Millions of registered users; winner of dozens of awards

VMware Virtual Desktop Infrastructure (VDI)

Evolution of VDI

VDI Solution

VDI Use Cases

Next Steps, Questions & Answers

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Rise and Rise of the PC

> Some familiar history…

- From the beginning of the humble XT in business PC's drove new flexibility to users

- Early PC's allowed access to applications with a flexibility and agility never experienced

- Reduced cost of PC's allowed adoption and innovation in all sizes of enterprise.

- These same reasons will see the rise of the PC virtualization revolution

Birth of the PC DOS/Apple

PC's dominate corporate market

Desktop Virtualization revolution

Adoption of the business PC

Windows the dominant PC OS in all sectors

| 1986 | 1989 | 1992 | 1995 | 1998 | 2001 | 2004 | 2007 | 2010 |

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The Corporate Digital Divide

> IT admin today faces tradeoff between end user flexibility and control

> Let users choose own hardware, OS, applications increase productivity but is a management and compliance nightmare

> Greater need for governance of IT systems
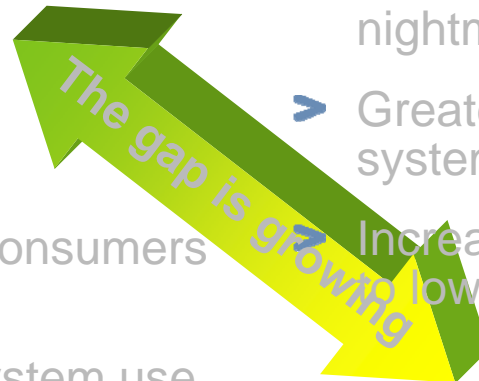
> Increased emphases from the business to lower operational spending

Knowledge Workers

The gap is growing

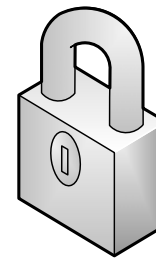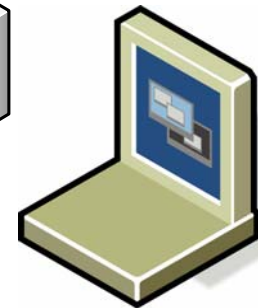**IT Desktop Systems**

> Today's generation of IT consumers are digital natives

> They often are adept at system use and are most productive in flexible computing environment

> Greater demand on computing device choice

> Demand on flexibility of work location

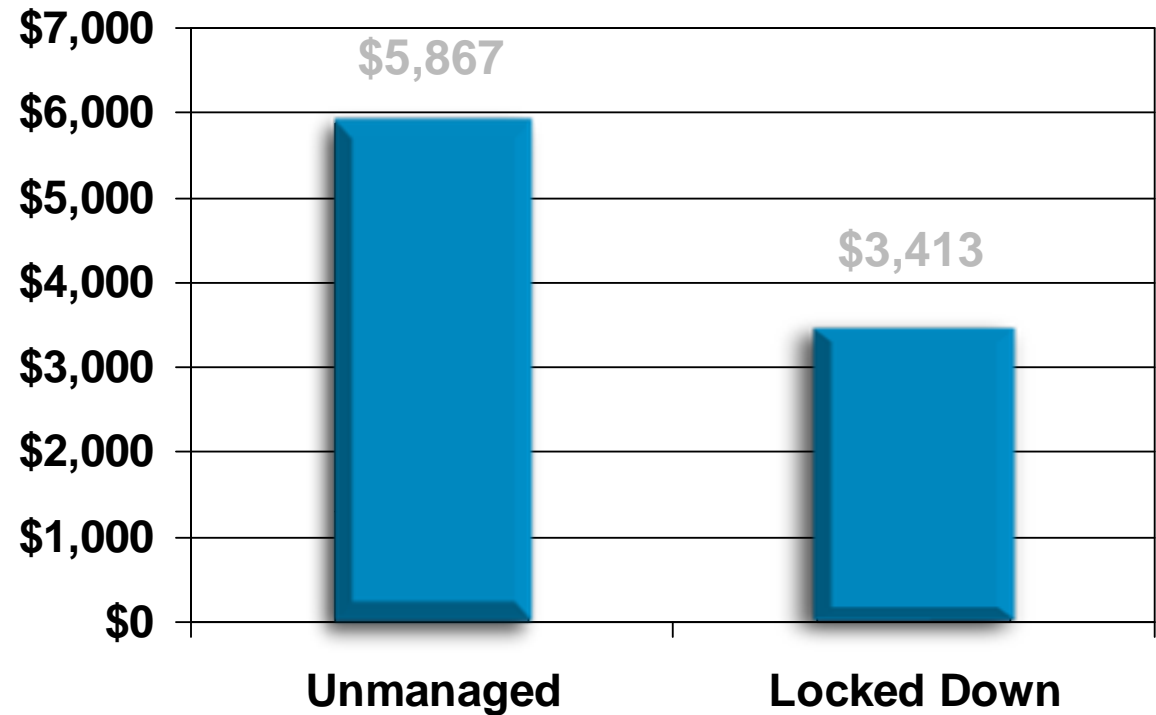> Use of personal applications and data

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PC Management Today

> HW and SW costs only 20% of PC total cost of ownership

> Locked down PC can be 40% cheaper to manage but at the cost of end user flexibility

4 yr PC Total Cost of Ownership

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PC Architecture Change

> **Traditional PC Stack with "one fails, all fails" design. Standard vendor response of product based fix (systems/app management) inadequate for current business requirements**

> OS virtualization breaks the bonds of software to hardware

> Desktop virtualization separates all the layers

> Allows IT to manage each layer separately

> Allows users the flexibility to be fully productive

User Data and Personalisation

Application

Operating System

x86 Architecture
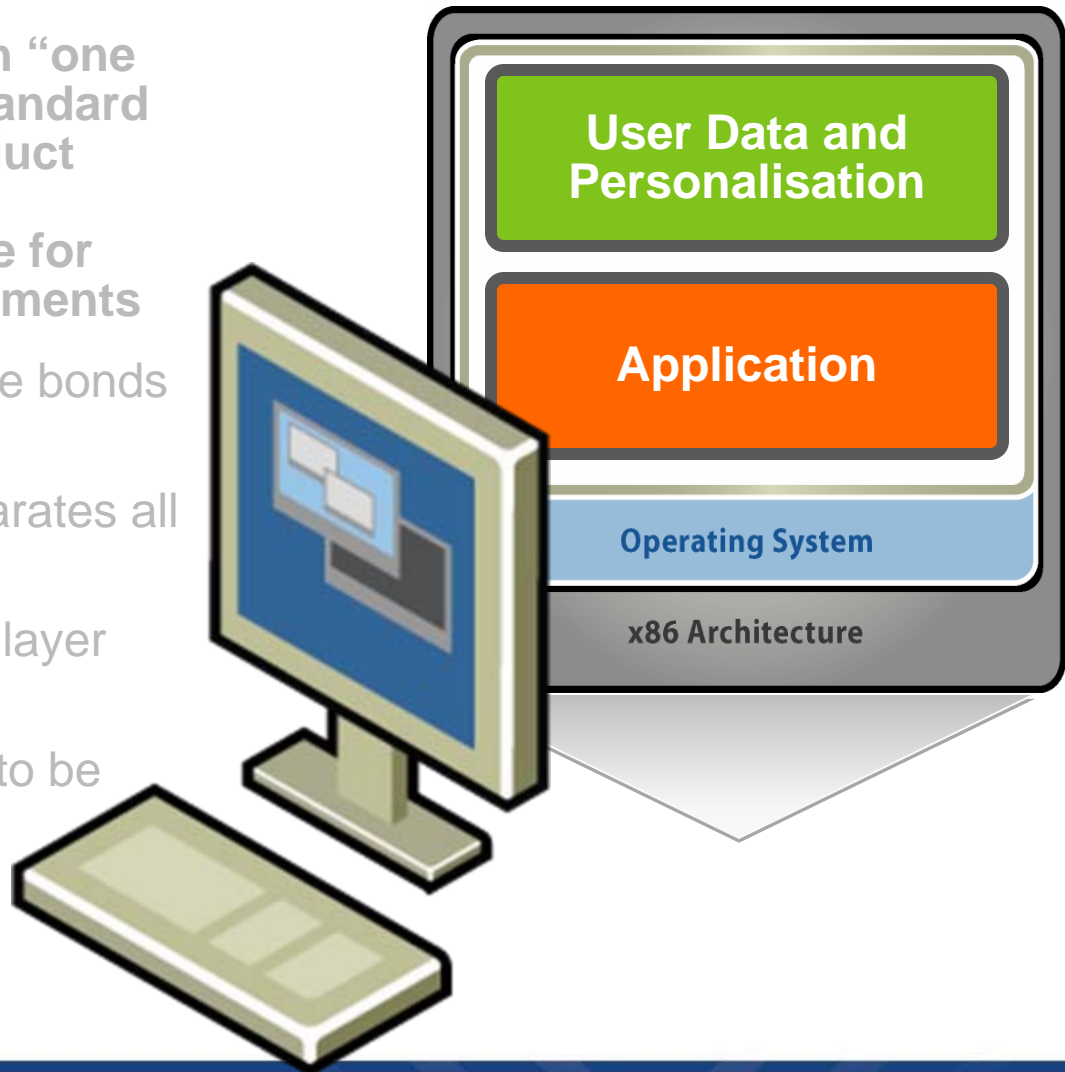
Virtualization: Transformed IT in the Datacenter

Run several operating systems on a single machine.

Create shared pools of resources to optimize your infrastructure.
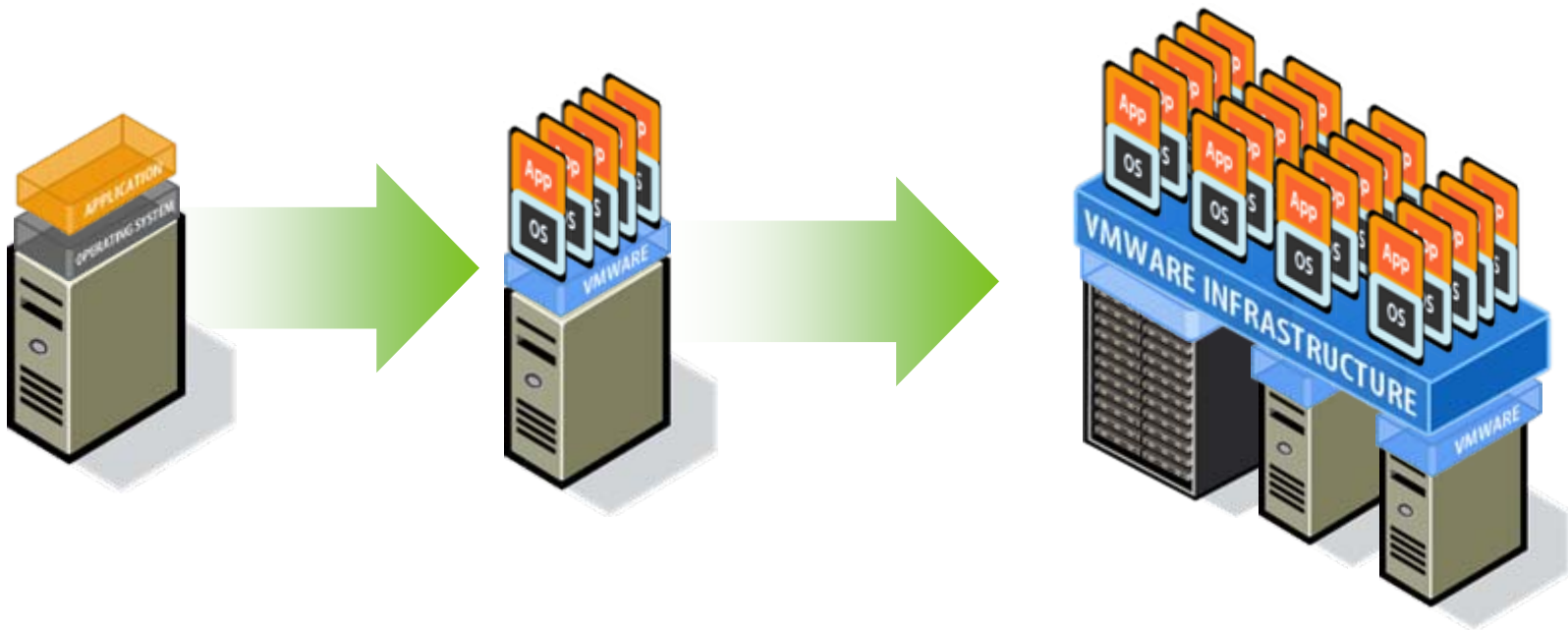
Apply Virtualization to the Desktop

Transform the desktop

> Easier to manage

> Faster to deploy

> Less costly to maintain

> Always current

> Radically more secure

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VMware VDI Solution

Application of VMware desktop virtualization

> Break the bonds of Application to OS on existing desktops or VDI images

> Break the bond of OS to hardware with centralised VDI desktops

> Deploy the same virtual desktop anywhere, any device

Application Virtualization

OS, Provisioning & Update

Off-line - Mobile desktop

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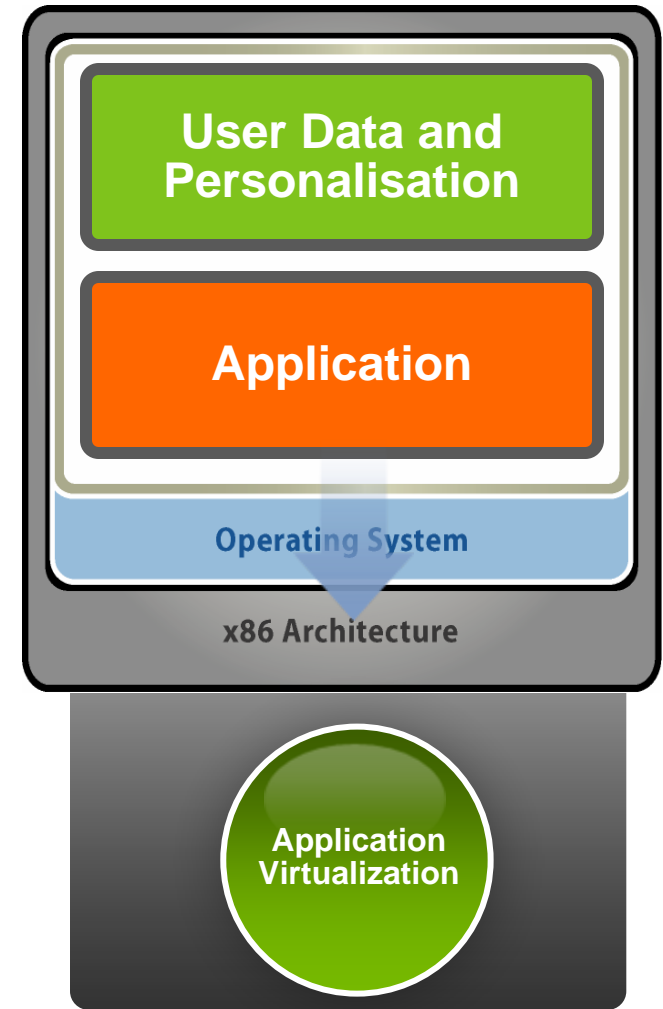
VMware VDI Solution - Application

VMware ThinApp agent-less application virtualization decouples applications and data from the OS

> Reduce Storage

■ Reuse templates

■ Install VM without apps

> Simplify Software Delivery (no agents/infrastructure)

■ **Multiple versions of same app installed on VDI image**

■ Many ways to deliver shortcut

■ Plugs into existing App Mgmt tools w/o infrastructure

> Streamline Patch Updates

■ Modify 1 app for whole environment

■ In place upgrades

User Data and Personalisation

Application

Operating System

x86 Architecture

Application Virtualization

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VMware VDI Solution - Desktop

User Data and Personalisation

Application

Operating System

x86 Architecture

OS, Provisioning & Update

CENTRALIZED VIRTUAL DESKTOPS

VMWARE INFRASTRUCTURE 3

VMWARE VIRTUAL DESKTOP MANAGER

CLIENTS

VMWARE VIRTUALCENTER

MICROSOFT ACTIVE DIRECTORY

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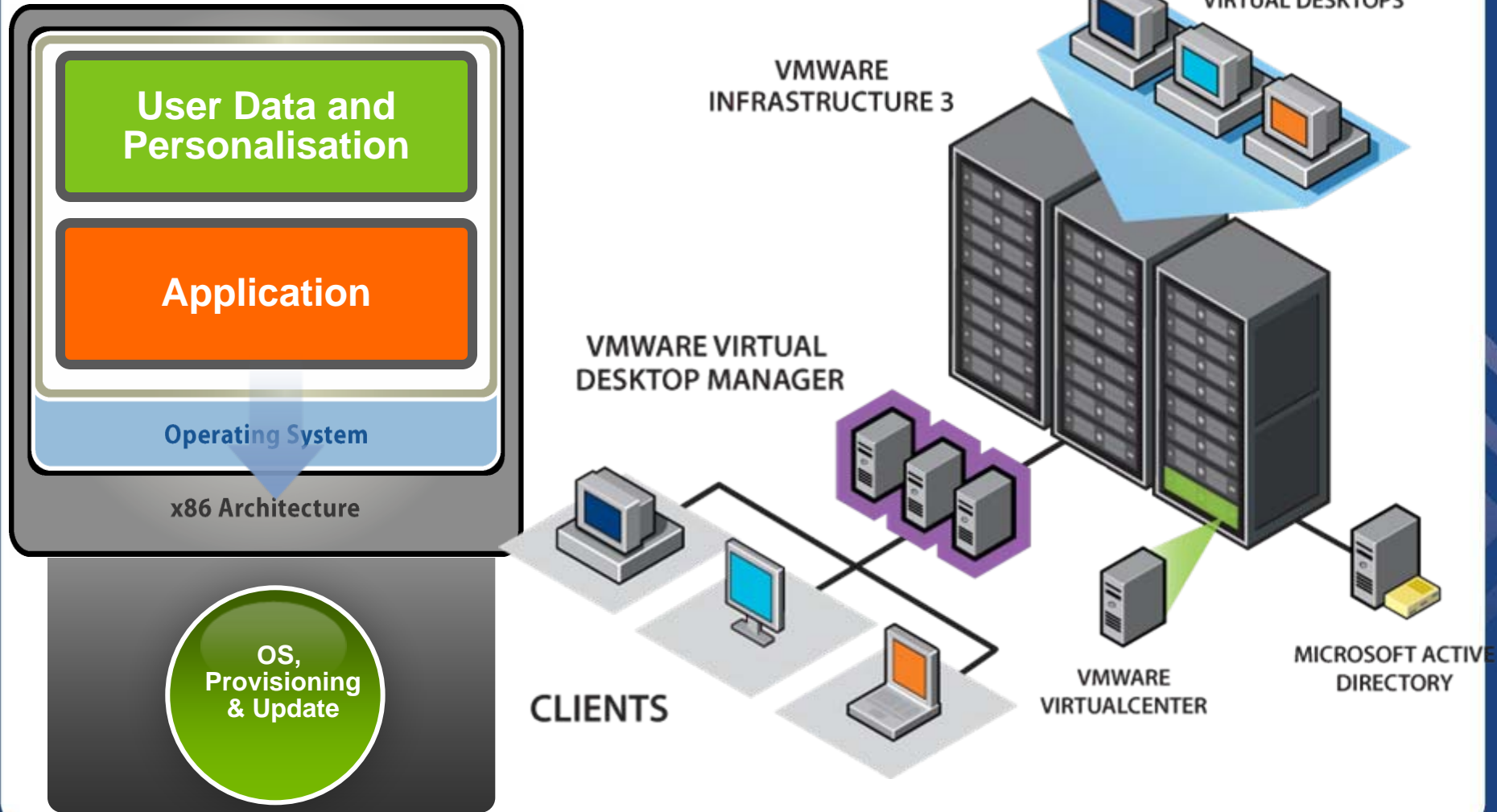
Built on VI3: A Proven Platform

Powerful , Mature and Proven

> Deployed in 100% of Fortune 100

> Over 100,000 customers worldwide

> Extend powerful data center capabilities to the desktop:
- Business Continuity (HA & DRS)
- Simplify backups and disaster recovery
- Automatic Load Balancing
- Scalable

> Complete solution from one vendor

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VMware Virtual Desktop Manager (VDM) 2.1

Enterprise-Class Desktop Management Server

> Intuitive Web-based interface

> Integrates with existing infrastructure

> Rapidly provision and deploy desktops

> Built in security

> Scalable for any size organization

> Connect using thick or thin clients

VMware VDM 2: Deploying Desktops
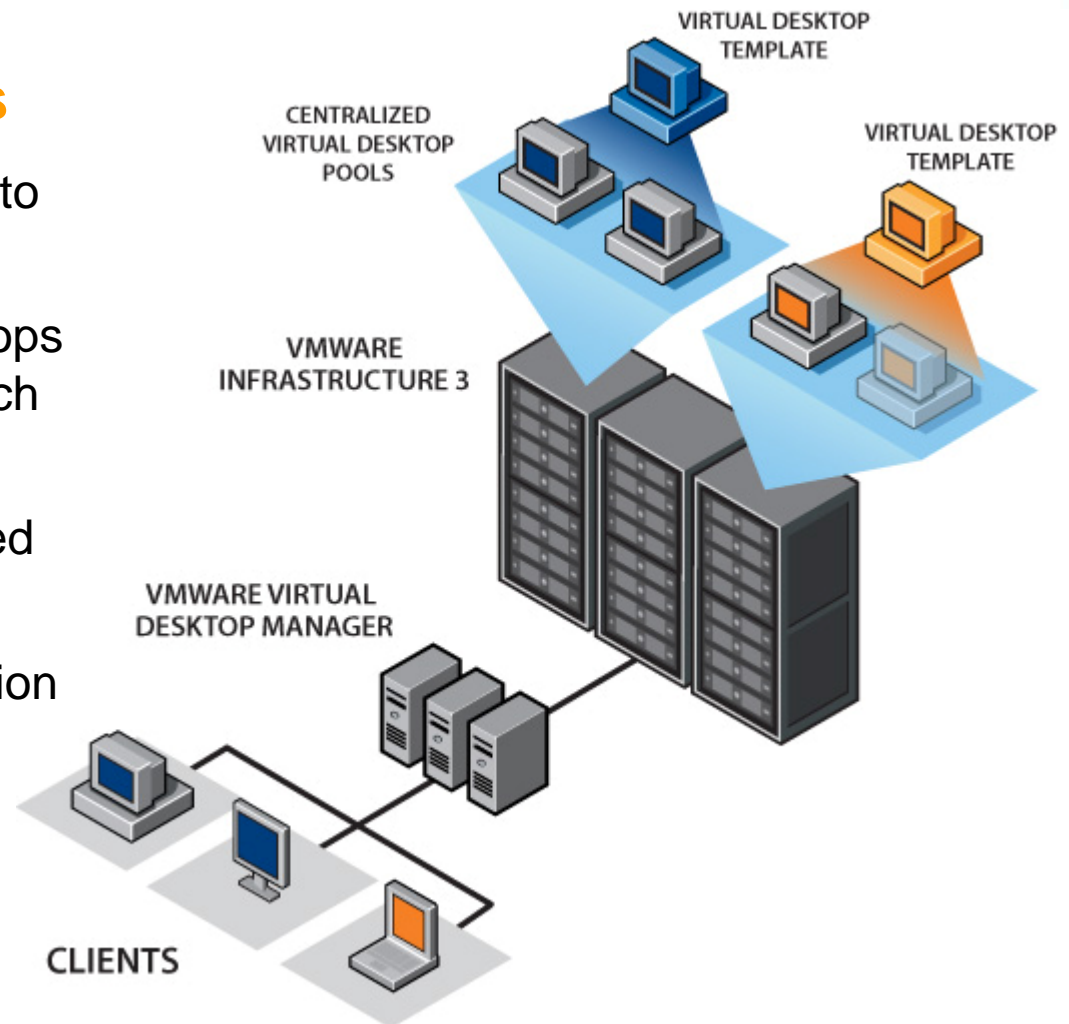
Individual Desktops

> User gets dedicated desktop

> User is manually associated with a virtual desktop through VDM Administrator

> User is connected to same desktop on subsequent connections

> Ideal power users or specific configs

CENTRALIZED
VIRTUAL DESKTOPS

VMWARE
INFRASTRUCTURE 3

VMWARE VIRTUAL
DESKTOP MANAGER

CLIENTS

Virtualization
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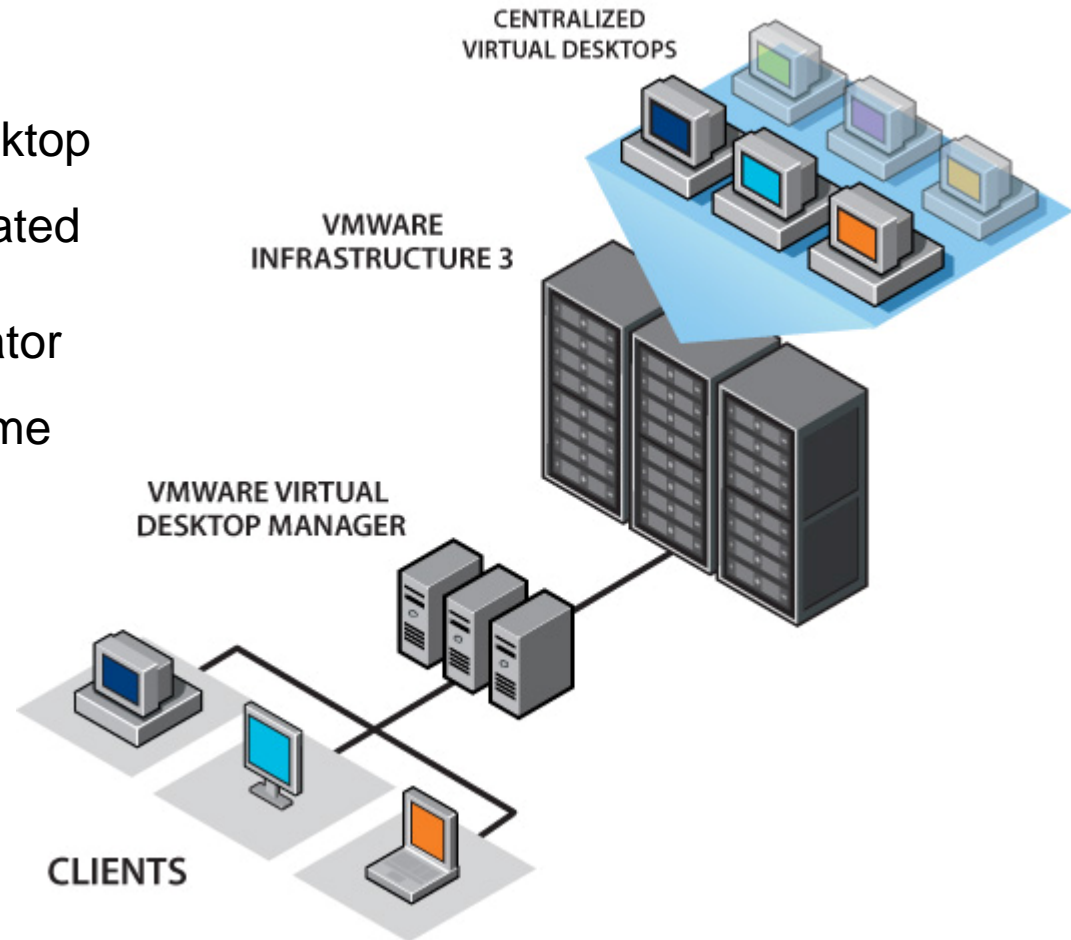
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VMware VDM 2: Deploying Desktops

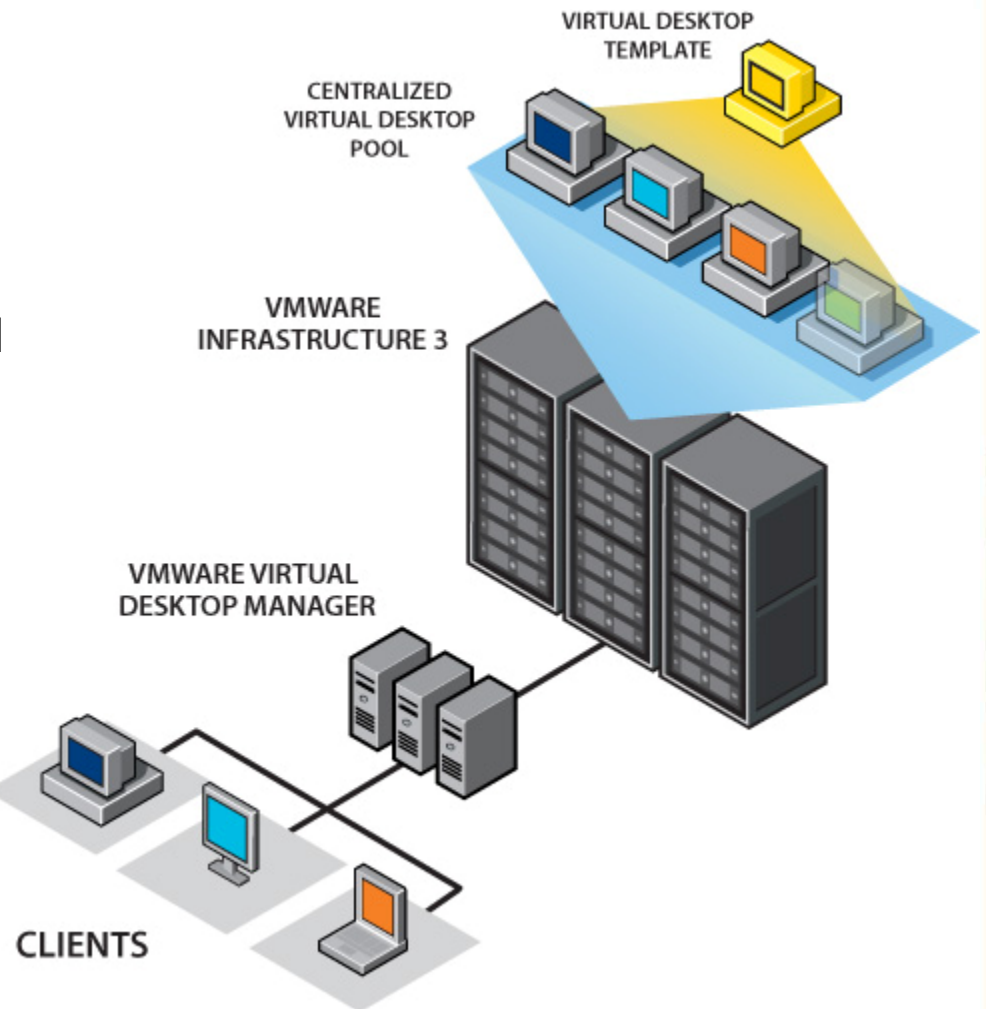## Non-Persistent Pools

> Common template used to create all desktops

> Individual isolated desktops returned to pool after each use

> Reverts to pre-determined state for future use

> Ideal for kiosks, transaction workers or hoteling

VIRTUAL DESKTOP TEMPLATE

CENTRALIZED VIRTUAL DESKTOP POOLS

VIRTUAL DESKTOP TEMPLATE

VMWARE INFRASTRUCTURE 3

VMWARE VIRTUAL DESKTOP MANAGER

CLIENTS

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VMware VDM 2: Deploying Desktops
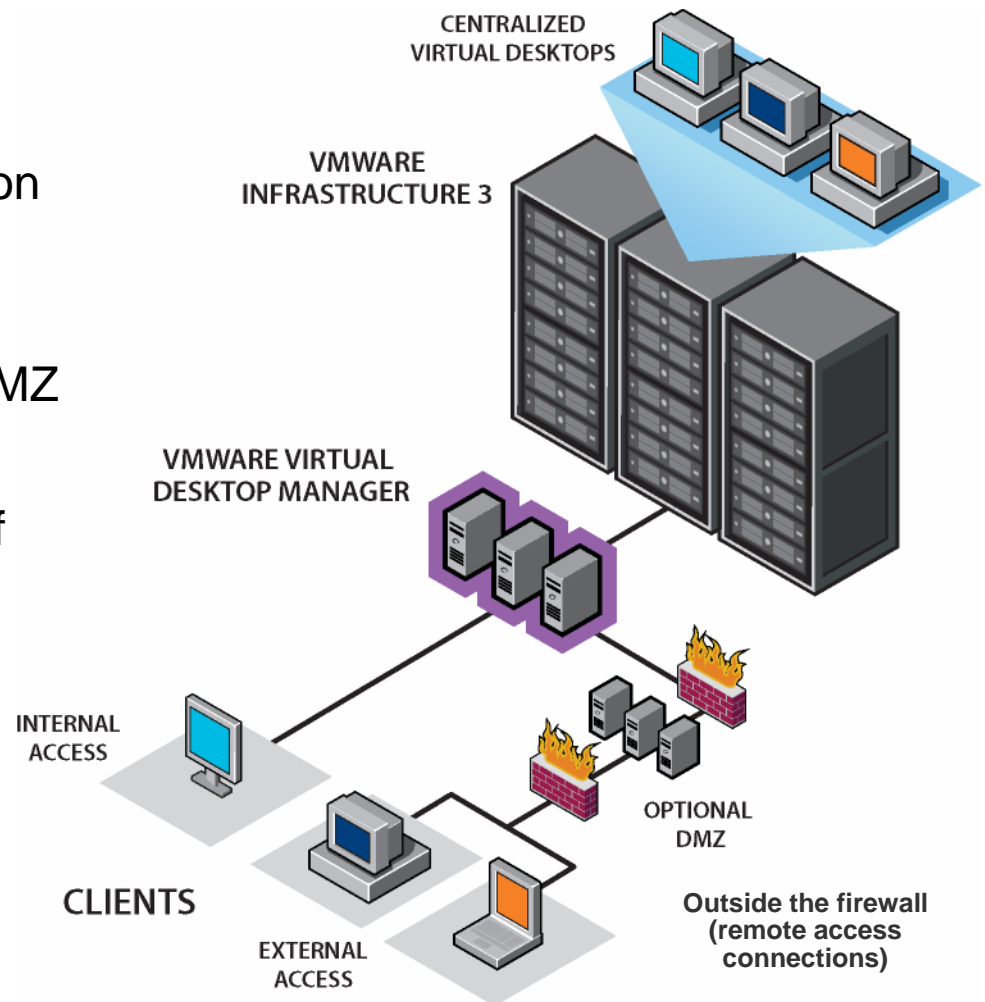
Persistent Pools

> Common template used to create all desktops

> Individual desktops assigned to user on first log-in

> Desktop remains associated with the user on subsequent logins

> Ideal for new deployments, new employees, or to re-standardize desktop images

VIRTUAL DESKTOP TEMPLATE

CENTRALIZED VIRTUAL DESKTOP POOL

VMWARE INFRASTRUCTURE 3

VMWARE VIRTUAL DESKTOP MANAGER

CLIENTS

VMware VDM 2: Security

Built In Security

> Secure, encrypted connection between clients and virtual desktop

> Optionally runs within the DMZ for remote access users

> Scalable – no single point of failure

CENTRALIZED VIRTUAL DESKTOPS

VMWARE INFRASTRUCTURE 3

VMWARE VIRTUAL DESKTOP MANAGER

INTERNAL ACCESS

OPTIONAL DMZ

CLIENTS

EXTERNAL ACCESS

Outside the firewall (remote access connections)

VMware VDM 2: Client Access

Native Windows Client

> Provides extended capabilities
  to access local printers and storage etc.
  (e.g. USB device support on
  Windows XP & Vista)

Thin-Client Support

> Thin clients based on XPe, Linux and WTOS

> Broad multi-vendor support
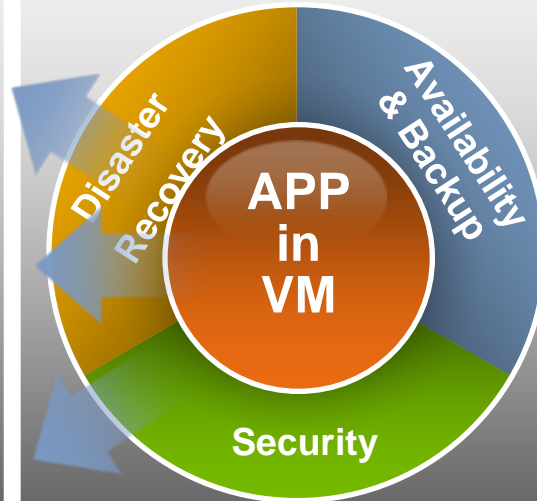
Browser Access

> Windows, Linux & Mac

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Desktop Delivery

User Experience	Virtual Desktop	OS, Data, Apps

User Experience

Thin Client

Desktop

Laptop

Virtual Desktop

– 3 Steps to desktop

Disaster Recovery

Availability & Backup

APP in VM

Security

OS, Data, Apps

OS, Provisioning & Update

User Data & Personalization

Application Virtualization

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How Customers Use VMware VDI

Desktop PC Replacement

Replace traditional PCs with centralized virtual desktops for better control and efficient management. End users have flexibility

Disaster Recovery & Business Continuity

Provide continuous availability of desktops to end users by making high availability and disaster recovery solutions more cost-effective, simpler, and more reliable.

Transactional Office Workers

Remove sensitive data and intellectual property running on laptops or PCs and host in central data center.

Desktop Replacement & Centralization

Business challenges

- Protracted time of provisioning new desktops to staff
- Staged desktop refreshes takes committed IT resource

Technical solution

- VMware VDI deployment using thin clients to access virtual desktops

Why VMware VDI?

- Simple provisioning of desktops from a central location
- Reduced time to add new computer to <10 minutes – Plug and Play
- Operational & hardware savings – extended desktop lifecycle
- Simplicity, desktops become quickly replaceable
- Streamline OS upgrades
- Roaming user login

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Disaster Recovery & Business Continuity

Business challenges

- Desktops often do not fit into business continuance
- Critical user data not always maintained

Technical solution

- VMware VDI deployment leveraging industry leading VMware Virtual Infrastructure 3

Why VMware VDI?

- Drastically reduce the cost of DR "Hot" or "Warm" site creation
- Reduced time for recovery of user desktops
- Maintain the user original desktop – not simply provision a new one

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Transactional Office Workers

Business challenges

- Providing access to full enterprise applications of remote office
- Providing flexible desktop environments to developers
- Ensuring security of desktops and data both on and off-line

Technical solution

- VMware VDI deployment using VDM security Server
- VMware ACE for mobility and secure access

Why VMware VDI?

- VDI allows full access to remote office and remote workers to all applications
- Developers may access may desktops from one physical device
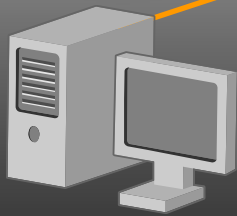- VMware ACE allows secure off-line access to desktop

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Offline - Mobile Access

Clients	Virtual Desktop Manager	VMware Infrastructure

- **End-users can check in and out of their Virtual Desktops**

- **Administrators can extend security policies to the local PC**
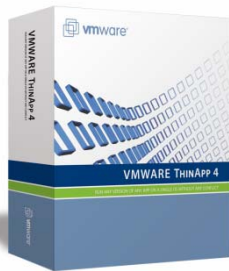
- **Provides full user experience**
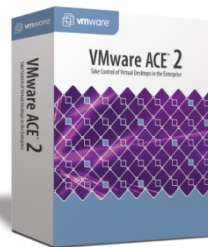
VDM

OS

VirtualCenter

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VMware Desktop Product Line

Managed Desktops

Application Virtualization for Desktops
ThinApp

Secure, Managed Desktop Virtualization
ACE

Server-Based Desktop Virtualization
VDI

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Next Steps VMware VDI

More Information on VMware VDI:
http://www.vmware.com/products/vdi/

Download and Evaluate Solution:
www.vmware.com/download/vdi/

Use the VMware VDI TCO calculator:
http://www.vmware.com/products/vi/calculator.html

VMware Professional Services Offerings

> Jumpstart workshops providing onsite proof-of-concept and knowledge transfer for VDM

> Custom service engagements to plan, design, and implement virtual desktop deployments