

# Maricopa Association of Governments Technology Assessment Group

## Review and Summary of the VMWare VDI Desktop Virtualization Assessment

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**Chandler ♦ Arizona**

*Where Values Make The Difference*

# Recap of VDI terms

- VMWare Virtual Desktop Infrastructure
  - Persistent Pool – single machine per customer
    - Uses
      - Static IP Addressing
      - Application licensing
  - Non Persistent Pool
    - Uses
      - Specialized Application distribution
      - Overbooking – a pool of generic machines that are created as a customer requests one
  - Terminal
    - Solid-state device to replace traditional PC or Desktop

# In February 2009

- VDI Proof of concept with 10 customers was successful
- Set up a 100 customer Pilot with these parameters:
  - High speed fiber network connection to datacenter
  - 100 mbps to desktop/terminal
    - HP & Wyse demo terminals
    - Converted desktop computers to act as terminals
  - VMWare's View v3.5
  - VDI Persistent pool
    - Customer would have same vDesktop each time
    - View version 3
  - Server specs & density
    - IBM 3650, dual quad core Xeon, 48 GB memory

# What did we learn technically?

- Test your LAN's physical layer to the switch
- Pick the two “toughest” customers to go first
- Printers & Scanners functioned with some tweaks
- Dual monitor support
- 1 GB to the Terminal/Desktop
- Dedicated terminal out performed converted computer
  - Terminals – both HP & Wyse performed equally well

# Lessons learned p.2

- A server can handle 80 customers; this exceeded expectations of 60/server
- Any building with a high-speed Fiber or DS3 connectivity to the datacenter can utilize VDI
- Techs are able to access a customers VDI session to efficiently support them without deskside service calls

# Customer Feedback

## The Good

- Networked & USB Printers and Scanners functioned normally
- Server based applications performed faster
- Terminals freed up desk space
- All reported technical issues were resolved

## The Other

- Optical disk (CD –DVD) playback was not available
- LANDesk Launch pad
- Launching attachments from Lotus and Internet Explorer
- Re-connecting peripherals every morning
- Network Connectivity

# Application Deployment

- LANDesk with Thinstall was used to deliver thick client and web based application links to the virtual machines
- Server based applications ran faster due the exchange of data with in the datacenter
- VDI Portal to an overbooked pool of - 75:200 customers
  - Traditional Win2k desktop/laptop
    - Deliver ICON to customers desktop to connect them to a non – persistent pool of XP machines for specialized application

# Achilles Heel

## Operating System Licensing

- MS Virtual Enterprise Centralized Desktop (VECD)  
<http://www.microsoft.com/windows/enterprise/solutions/virtualization/licensing.aspx>
- **Note:** the following is from MS's website
  - It is important to know that VECD is mandatory for any virtual desktop infrastructure (VDI) deployment that uses virtual copies of Windows, regardless of the underlying infrastructure provider.
  - For example, a company with 10 thin clients and 10 laptops (not covered under SA) accessing a VDI environment requires a total of 20 Windows VECD licenses (20 x \$110/year). However, if the same company has 10 thin clients and 10 laptops covered under SA, it will require 10 VECD licenses (10 x \$110/year) and 10 VECD for SA licenses (10 x \$23/year)
  - **MDOP**

# Our plans now

- Physically migrate to XP
- Postpone Technology Replacement for desktops
  - Upgrade older hardware with memory (2GB) and new SATA hard drive prior to imaging
- Test VMware View v4
- Keep an eye on MS Licensing schema

# Conclusion

- ROI
  - Excluding MS VECD the cost of ownership to implement VDI is equal to replacing your current computers
  - Savings are on the “Soft” side not in hardware or application licensing
- VMWare's VDI is a viable technology with multiple potential uses

**Question & Answer**

**Session**

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