# WHY VDI?

A look into the benefits of deploying a Virtual Desktop Infrastructure

Executive Summary

Virtualized Desktop Infrastructure (VDI) is a centralized computing method that enables multiple desktop environments to be hosted in the data center instead of individually at each desktop. The operating system is hosted through a virtual machine (VM), and users interact with it the same way they would with a conventional desktop.

The main benefits of VDI include reducing total cost of ownership (TCO) and easing desktop support and manageability, allowing IT administrators' time and budget to be spent on more valuable and revenue-generating tasks. This paper will discuss precisely how TCO is reduced, as well as additional benefits of VDI deployment such as increased security and performance.
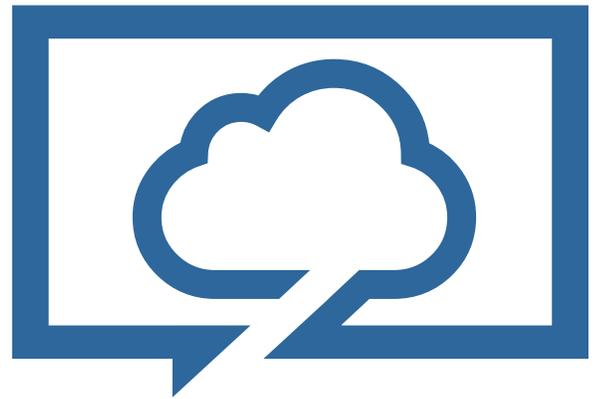
Longevity

Thin clients are used in a VDI environment to communicate with the central server, providing users with a desktop environment nearly identical to a conventional PC. However, the benefits of the VDI solution compared to other computing methods are distinguishable.

Thin clients have much longer life cycles, typically lasting twice as long as conventional PCs. According to Gartner, the average time between failures for thin clients is 175,000 hours compared to 25,000 for the average PC. The conventional desktop's life span is typically 3-5 years, but the thin client will last 5-7 years. This difference saves an organization a full lifetime per user by deploying a VDI solution versus individual desktop environments.[1]

The large number of moving parts in a conventional PC means a high chance of mechanical failure. Without any moving parts, the failure rate of thin clients decreases dramatically. Basic maintenance costs of replacing hard drives or other parts are eliminated with the implementation of thin clients.

Centralized Management

IT administrators looking to simplify management would do well to consider implementing VDI. Deploying a VDI solution saves IT administrators from dealing with desktops on an individual basis. Because VDI enables centralized computing, administrators can manage all the clients from a central, remote location.

OS provisioning, software installation, and patching can be administered to all the virtual machines from a remote location. The basic maintenance pains the IT staff faces on a daily basis are eliminated because everything is run out of the data center.

Users are able to keep up with innovations while avoiding the complexity of installations, upgrades and refreshes. VDI provides administrators with centralized control over all the virtual machines, but also can allow users administrative rights to perform any task they would on a conventional desktop computer.

Security

In a VDI environment, all user data is stored in the data center instead of locally on a thin client. Mouse and keyboard actions are returned to the server over a secure channel, which are all encrypted. Additionally, all processing and storage takes place in the data center. With VDI, the entirety of an organization's data resides in a secure environment on highly redundant systems.

In contrast, with a traditional desktop environment, if a computer or laptop is stolen or misplaced, all of its stored information is lost. This is not only an expensive loss of equipment, but could result in confidential information being leaked to the public.

Not only does VDI create a private cloud for an organization, but individual user error will not affect the entire environment. Unlike terminal services or server-based computing (SBC), VDI implements a single, dedicated desktop instance per user which secures the virtual environment from corruption.

Because a VDI environment is so secure, implementing such a solution enables organizations to comply with HIPAA, Sarbanes-Oxley and other industry-specific laws, standards and best practices.

Performance

Thin clients now have the ability to provide a seamless desktop experience, and VDI performance is indistinguishable from that of a conventional PC. Additionally, VDI environments run nearly every application available for the desktop, where many applications will not function in SBC environments.

A Graphical Processor Unit (GPU) added to the VDI solution provides each virtual machine with substantial graphical performance, allowing users to run and work with multimedia. Adding GPU functionality reduces the load on the server, while modern protocols reduce bandwidth use and boost performance.

Energy Efficiency

Implementing a VDI solution enables organizations to adopt green computing, which is of note considering the increased pressure to run an environmentally sustainable data center.

Computing environments based on VDI deployments use significantly less power than traditional ones. According to analysts at Info-Tech, a 5-10 Watt thin client can cut electricity by 75% compared to a traditional desktop computer.[2]

Not only are power costs considerably reduced, the impact a VDI solution has on the environment is lower as well. The traditional desktop computer requires approximately 10 times its weight in chemicals and fossil fuels to produce.[3] The lack of moving parts inside a thin client means that there are less hazardous materials entering the landfills at their end of life. Innovations in recycling enable more than 90% of thin client components to be recovered for secondary materials at the time of their disposal.[4]

Connectivity and Mobility

Desktops can be hosted from the private or public cloud, providing employees the ability to access their desktops on the go. This flexibility and mobility allows employees to be productive even away from the office.

Better Backup & Disaster Recovery Plan for Enterprises

IT enterprises can now easily deploy a state-of-the-art disaster recovery plan within their organization. VDI infrastructure enables companies to achieve this goal with greater confidence. The centralization of the desktop clients also incorporates a centralized storage deployment plan for these clients within the organization, which can be backed up without any loss of productivity and can be completely transparent to all users.

A Perfect BYOD Solution

With the growing number of mobile devices, more enterprises are joining hands with the BYOD or "Bring Your Own Device" movement. Employees are now encouraged to bring their own devices and work on the enterprise network. VDI is a very suitable solution for that.

Summary

There are many advantages to adopting a VDI environment within your organization. Compared to a traditional desktop environment, the savings are substantial. Maintenance and replacement costs are greatly reduced, due in part to the lack of moving parts in a thin client.

VDI deployment results in fewer failures and less time spent on desktop support. Additionally, centralized management allows IT administrators to control the entire VDI environment from a remote location. All data is stored in the data center, along with storage and processing, which prevents confidential information being leaked while also complying with industry security standards.

Users will find that VDI performance is identical to that of a traditional PC, however much more environmentally friendly and energy efficient. Users can access their desktops from any device, and backup and disaster recovery is easily deployed.

Interested in building a virtual infrastructure, but not sure how or where to begin? MegaRAC from American Megatrends, Inc. has a team of experts waiting to assist you with any questions. We are happy to show you the proper steps to implement VDI without unnecessary costs or wasted time.

Partner with AMI to deploy a simple, scalable, and secure VDI solution. To get started, call a MegaRAC expert at **1-800-U-BUY-AMI**.

For more information on MegaRAC from American Megatrends, Inc., please visit www.megarac.com

[1]"Thinking Thin," *Processor 28* (3), 2006

[2] "Thin Clients: Worth Another Look?," *Processor 30* (16), 2008

[3] "Crucial Role of Green IT" *Kearny,* 2008

[4] "Environmental Benefits of Thin Computing," *CanyonSnow Consulting*, 2009

American Megatrends

5555 Oakbrook Parkway
Building 200
Norcross, GA 30093
www.ami.com