

Use what you already own to lower the TCO of your desktop virtualization project.

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Executive Summary- Why Would Anybody Take a PC and Turn It into a Thin Client?

That's a fair question. Why would anybody take a flexible, fully functioning Personal Computer (PC) and "dumb it down"? There are a lot of reasons, many of them coming from the cost of managing Personal Computers. Industry pundits estimate the annual cost of supporting a Desktop or Laptop PC in the \$500.00 to \$900.00 range- higher than the capital cost of the PC. Many estimates say over 50% of the Total Cost of Ownership (TCO) of a personal computer is related to managing the PC.

Managing desktops, keeping productivity high, and ensuring data and applications are secure are key items executives and IT personnel worry about daily. Many corporate executives see the PC as a necessary tool to achieve a competitive advantage, especially as related to new applications they build or buy and then deploy. The PC is the most common point of entry to the IT infrastructure.

Systems administrators care about locking the users to the appropriate level, not too restricted so they can't do their jobs and not too open so they can muddle with the PC. Every desktop needs to be secured with patches and virus protection and connected to the resources the company wants. Ensuring each individual has access to just what he/she needs is a huge task. Much of the task is related to limiting the user's access to the local PC resources.

Managing PCs takes a lot of time. While sophisticated desktop management tools work well, occasional physical visits to the PC to upgrade or repair their PC are costly. Many companies have a policy of simply re-imaging the machine after a set amount of time or effort. In addition, having data and applications on the desktop has huge security risks and compliance issues. Hence the strong industry move underway to centralize and virtualize as many of the desktop components as possible (applications, data, profiles, and so on).

Virtualization and Terminal Services have pointed the way toward the same level of security, data protection, and manageability for the PC and its applications as the data center provides to its servers.

Virtualization separates the physical hardware from the applications and the Operating System (OS). Once separated, the applications, data, OS and related individual profiles are more effectively managed in the data center, greatly reducing the cost of managing and upgrading the desktop.

An access point is still required. It might be a PC, Thin Client, Net Book, Tablet, or even a phone. Most access points in corporations are Desktop or Laptop PC's. It is much cheaper to re-use the existing PC asset than replacing it with a Thin Client.

This paper looks at those issues and offers a simple, secure way to address the executive's concerns and the administrator's needs.

The Value Proposition of a Personal Computer (PC)

What a beautifully named device! Users come to think of the Corporate PC as their own Personal Computer. They have their favorite background pictures on the device, some personal data, applications, and links to favorite web sites. The user does his job with the tool called a PC. It “can do” anything; burn a movie, run applications, enter data, access local and remote resources, and so on. For many users, this was perfect. The PC can run applications locally, store data locally, be picked up and moved (laptop), work wirelessly and even support different users on the same machine. It is the ultimate computer and access device. However, not all companies want their users to have access to all of that functionality.

The Downside of a Personal Computer

In general, the flexibility of the Personal Computer (see above) is not a blessing to the Information Technology (IT) department. To them the PC is a virus gathering, update needing, user breaking device. Applications residing on the PC may require a visit and/or a re-imaging if there are upgrades or support issues. The IT department often tries to control access to its capabilities via Group Policies; then the end user wrestles to find ways around these roadblocks to installing applications, surfing the web or making the PC more “personal”. In other words, PC’s (some might say PC Users) can be a nuisance.

The Value Proposition of a Thin Client

Looking at the websites of the major players in the Thin Client market creates in the mind of the reader many compelling advantages to the Thin Client: they are seemingly affordable, secure, reliable, efficient, space-saving, power-saving, and have lower IT support costs. Aside from the fact that most of IT expertise has been with PC’s, TC’s have a certain appeal.

The Downside of a Thin Client

Thin Clients come in several OS varieties: CE, Linux, XP-Embedded or WES 7 (Windows Embedded Standard 7), and those with a proprietary OS. There are also devices called “Zero Clients”. Each OS has strengths and limitations. Unlike the PC, challenges include not having full driver support for attached devices, wireless cards, and so on. It is also typically quite difficult to add local applications. Their very definition means they are limited devices. If Citrix/Microsoft/VMware comes up with a new, faster protocol, often the Thin Client has no upgrade path or must wait for the Thin Client vendor to add support, while every vendor’s initial software update or release runs as a PC application. Another big downside is that most Thin Client vendors have proprietary software for managing and deploying the devices. In other words deploying and

managing a Thin Client is different than deploying and managing a PC, where every company already has knowledge and experience.

The cost of a Thin Client is typically \$300.00 to \$500.00; not much less than a PC. If the need for a local application pops up from the line of business, chances are good the Thin Client investment will go to waste. The Thin Client has limitations which must be considered in the light of today's and tomorrow's needs.

The Best of Both Worlds

In the best of both worlds corporations should be able to take an existing PC and easily turn it into a device which has most of the advantages of a Thin Client. Those advantages are:

A PC that becomes a Thin Client has the Thin Client advantages of security, simplicity, affordability, and rapid deployment. The PC advantage is that it is already in place, and uses existing PC management tools to manage the change from a PC into a software based Thin Client.

A PC that becomes a Thin Client has the PC advantages of the most current client functionality, local driver support and centrally managed updates and virus protection with existing tools.

Dramatically lower the ongoing IT support costs of managing the PC as the user does not have access to the PC's local applications or resources. Help desk calls and service calls go down dramatically.

The Elephant in the Room- VDA Licensing Costs

Microsoft customers who have Software Assurance (SA) on their PCs are eligible to connect to virtual machines in the data center. Thin Clients require a VDA subscription. It doesn't matter if the Thin Client has a Linux OS or a Microsoft OS; a VDA subscription is required at the (list price) cost of \$100.00 per user per year. Typically it is a 3 year term, paid annually. This means \$300.00 in additional costs.

Looking at a deployment of 100 Thin Clients where the Thin Clients are expected to run for 5 years, the cost are as follow: \$400.00 for the Thin Client, \$500.00 for the 5 years of subscription times 100 users or \$90,000.00.

Looking at the same deployment with a new Ultra-Mini PC with a full Microsoft OS purchased (Professional/ Business, Enterprise or Ultimate); the cost will be \$500.00, with no additional cost for SA, times 100 users or \$50,000.00.

A way to save even more money is to extend the life of the current PC, and only replace it when it breaks or becomes unreliable. In this case, the cost of Thin Desktop, including 3 years of maintenance, is \$47.00, times 100 users or \$4,700, and the maintenance cost

includes the right to transfer the Thin Desktop license from the old device to the new device. Of course, at some point new hardware will be purchased to replace the old PC, but the capital expenditure is delayed and the operating costs are minimal.

What is Thin Desktop®?

Thin Desktop is an **application** that installs and runs on a PC. It turns a PC into a secure, easily managed Thin Client. It launches and monitors a single executable. It is packaged as an .msi file, so deployment is exactly the same as deploying a new application to a PC.

The application works on any PC running XP, Vista, and Windows 7. It also runs on the embedded OS's XPE and WES 7. A single application of your choosing becomes the interface to the end user. In many cases, the ICA, RDP, or View client is that application. What Thin Desktop does is launch and monitor that executable. So in the case of ICA, the ICA client becomes the shell and the user does not see the desktop at all. This eliminates the ability for the end user to make any local changes or run any applications the System Administrator does not allow. This is done easily; the application is deployed with the same tools the Administrator already uses.

Thin Desktop can also run and monitor one single application such as a browser, a specific mission critical application, or a terminal emulation application which might connect to a virtual server, mainframe or a cloud based solution. That application becomes the shell, the sole interface and access point to the computing infrastructure. Without distractions, users focus on the task at hand.

Thin Desktop extends the life of a PC in an environment where server based computing or virtualized desktops are deployed for their many advantages. This could be a VMware Desktop virtualization environment, a Citrix environment, or a Microsoft Terminal Services environment. It also improves productivity by reducing or eliminating non work related computer usage. The Thin Desktop application is easily deployed to or removed from a PC or Thin Client with existing deployment and management tools.

Conclusion

Thin Desktop is the fastest and least expensive way to bring ICA/RDP/VDI/ to a Personal Computer desktop without the need for expensive hardware and software upgrades.

There are 3 key advantages of Thin Desktop over the purchase of a Thin Client:

1. Decrease upfront cost by 90% over the cost of a Thin Client.
2. Lower Microsoft licensing costs (VDA) compared to a Thin Client or Linux PC.
3. Administrators use existing desktop management tools and skill sets to deploy and manage Thin Desktop; decreasing the time to get project up and running and lowering the cost to deploy the desktop device.