



**Thin Desktop® - The business case for using a PC or Thin Client as the user access device in a virtualization deployment**

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## **Executive Summary**

The most common desktop device in Corporate America today is the Personal Computer. It does everything. It may be running local applications, it may be connecting to remote applications and it may be providing access to the outside world.

When connecting to remote based applications, the PC often uses Citrix's ICA (Independent Computing Architecture), Microsoft's RDP (Remote Desktop Protocol), or HTML (connecting to applications via a browser) - or possibly some sort of virtual desktop connection client. In most business cases today, the PC runs local applications and also connects to remote applications which reside on a server in the data center.

The explosive rate of the deployment of virtualization capabilities has revolutionized the role of the hardware server. These technologies motivate managers of Information Technology to take drastic measures in hardware server consolidation. Some have gone so far as to move - much as in the mainframe era - all applications back to the data center and to implement server virtualization strategies.

The introduction of another family of Microsoft Operating Systems (and beta versions of several more) has shifted dynamics at both the client side and the server side. The complexities and costs associated with the implementation of these latest generations of Operating Systems options have yet to be fully calculated. It appears that implementation costs will again far outweigh acquisition costs. The full extent of these costs is a hot topic of discussion among IT management worldwide.

In many scenarios, companies are exploring avenues for more efficient utilization of their servers, centralizing their applications, and reducing desktop complexity. Locking down a Personal Computer with Group Policies is one such solution. Using Thin Clients is another possibility.

Thin Clients are solid state devices capable of fewer functions in contrast with the many capabilities found on a Personal Computer. The typical Thin Client may be limited to running ICA or RDP or HTML, and accessing applications and data from servers in the Data Center. The Thin Client attempts to replace the PC with a (sometimes) lower cost model for deployment, management and maintenance.

The subject of this White Paper is to discuss the potential value of turning a Personal Computer or a Thin Client device into a locked down user access device. It will discuss the value of redeploying existing assets rather than upgrading the desktop itself. It will also indicate an alternate use case for existing thin client hardware devices.

For the length of this paper, the term PC (Personal Computer) is synonymous with access device and also with a Thin Client running the XPE operating system. There are other thin clients (CE, Linux, etc.) but only XPE devices are being considered here.

## **The Enterprise Desktop Access Device**

Whether you deploy a desktop PC, a laptop PC or a Thin Client, your System Administrators will certainly have a list of items they like and do not like about these environments. The net result is a variety of accommodations to deal with the negative aspects of having a computer in the hands of an end user. A variety of strategies have been adopted in an attempt to protect the users from themselves and protect the enterprise from the many things users may do or attempt to do on their own. A balance between protection and usability must be found to ensure complete access for the enterprise's users.

Issues may include security, internet usage, access to data on the hard drive, CD/DVD readers and burners, USB ports, infrared ports, the ability to print – whatever capabilities may exist on an individual PC or Thin Client. These various issues become potential threats to the enterprise as a whole. In many cases, these capabilities do not directly correlate to completion of the mission of the enterprise. In fact, these capabilities can provide various levels of distraction to the user and lead away from the task required by the enterprise.

Running your business requires that the Information Technology department provide users with applications or a set of functions. Yet, most of the time the user has far more capability available at the PC or Thin Client than is required to complete their tasks.

This gap between the capability of the PC and what the user actually needs to do his or her job requires an inordinate amount of attention and time from System Administrators. The next section discusses an alternative.

## **A New Role for the PC**

Thin Desktop® is an application that installs and runs locally on a PC. It turns a PC into a Thin Client like device. Alternately, it can also lock down an XPE Thin Client device. It turns the PC or Thin Client into a locked down user device. The traditional windows shell/ user interface is hidden from the user and replaced by the user interface provided by a single application. In the case of a virtual desktop in the data center, Thin Desktop is used to lock down the client device to the connection used to access the virtual desktop or terminal services session. The user would only see the sign-on dialog box, not the typical windows shell. Once the user credentials are verified the virtual desktop or terminal session is presented to the user.

Thin Desktop gives the enterprise the ability to lock down the functionality of a PC to a single 32 bit executable. Using an architecture and methodology which adheres to industry standards, Thin Desktop changes the user experience while leaving the underlying local operating system intact and unchanged. There are no server-side changes, either.

During an evaluation of Thin Desktop, the application is easily installed and managed at the individual PC or Thin Client. However, in a more typical deployment, existing methodologies will be used to distribute, install and manage the Thin Desktop application. Because Thin Desktop uses industry standard .msi installer capabilities, the distribution and installation can be achieved using industry standard installer tools to manage broader installations. Installation of Thin Desktop becomes a matter of administrator preference.

Once installed, the chosen application is configured to define the executable path for the access device. This path now becomes the one and only function allowed for this client device. If the path is an ICA or RDP session, only those functions defined at the server are allowed at the client device.

It is important to note that the administrator may continue to use the existing image, or, may choose to create and deploy a “new” image for existing PC and Thin Client devices. Existing or new images can give the administrator much more control of the user device. For example, if the session requires printing at the local client device, printing can be achieved using locally installed print drivers. The underlying OS remains intact so the administrator continues to have access to any services, drivers and other capabilities of the PC or Thin Client. Network tools for software distribution, patch installation, etc. are unaffected by Thin Desktop.

Only the network administrator with appropriate credentials and access can alter the path or return the client device to its original state.

### **Business Benefits of Thin Desktop®**

The benefits of using Thin Desktop include improved security, deferred capital expenditure, simplified manageability, increased reliability and lower total cost of ownership.

#### *Benefit 1*

A significant reduction in both hardware and operational expenditures can be realized by deploying Thin Desktop in user access device implementations coupled with centralized virtualization of the PC.

#### *Benefit 2*

Since Thin Desktop can be deployed and maintained using existing network tools, visits to desktops, laptops and Thin Clients are virtually eliminated. Thin Desktop locks down the individual client device, and the user no longer has access to the underlying Windows operating system. Network administrators can focus on other tasks.

### *Benefit 3*

By deploying Thin Desktop, the productivity of the end user is enhanced by eliminating capabilities that typically are a distraction. Internet access, access to external e-mail, games and other areas can be locked out with no effect on the user's mission for the enterprise. Access is controlled by what the Administrator allows at the server, the virtual desktop or in the specific application.

### **TCO Considerations of Thin Desktop**

Enterprises are continually refreshing technology. The redeployment of existing desktop assets can be accomplished using Thin Desktop. Existing PC and Thin Client devices can now be redeployed as locked down client devices. Savings may come from the following areas:

- Redeploy existing assets in a virtualization environment. If a move to server consolidation and/or server virtualization is under consideration, the user access device can now easily be a Thin Desktop enabled device. The return on investment of consolidation and/or virtualization is enhanced by redeploying existing equipment.
- Include Thin Desktop in Microsoft OS deployment strategy. As the enterprise ramps up for the testing, certification, distribution and migration on the server side, Thin Desktop can be used to quickly give access to a an instance in the data center from an existing desktop via the RDP protocol.
- Multiple use devices can be created using Thin Desktop. A client device can quickly become a device with varying functions. By simply changing the locked down Thin Desktop path, the functionality, application connection, server session, etc. can be changed in minutes. How a PC or Thin Client is used from day to day, shift to shift, hour by hour can be changed by the administrator as demands of the enterprise change.
- Standardize on a single user infrastructure. Using Thin Desktop, the hardware device becomes interchangeable and ubiquitous, completely eliminating the need for maintaining a variety of PC images based on different Operating System versions or hardware differences.
- Eliminate server side footprints. Thin Desktop has no footprint, image or presence of any kind at the server. This eliminates the need for any software installation, management tools or updates at the server.
- Separate the user from the physical device. In a virtualized desktop environment, users are no longer tied to a physical device. With the virtual desktop residing in the data center, existing client devices can now become locked down access points available to any authorized users.
- Thin Desktop can also be deployed in remote user environments, telecommuter implementations and other user access strategies.

## Summary

As virtualization strategies mature, companies will look for ways to extend their investment in current desktop devices. Desktop virtualization options are becoming more robust and financially sound each day. As budgets continue to tighten, companies will look for ways to leverage their existing IT skill set. Companies do not wish to add new management tools, proprietary protocols, infrastructure complexities or additional overall complexity to their IT environments. Thin Desktop turns a client hardware device into a locked down user device, where access, security and applications are centrally managed and controlled.

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