



Lenovo Secure Managed Client Solution: Delivering True Windows Fidelity in a Centrally Managed Environment

Lenovo's SMC solution delivers the manageability benefits of a thin client model without sacrificing PC functionality

Executive Summary

BACKGROUND

To gain a full understanding of Lenovo's SMC platform and the benefits it provides to customers as outlined in this whitepaper, TBR undertook a two-pronged approach.

First, we visited Lenovo operations in Raleigh, N.C., to view SMC in person as part of an in-depth briefing on the design and creation as well as the functionality and expected benefits of the platform.

TBR's evaluation of SMC included a live demonstration of the platform, including the process of centrally managing items such as SMC user accounts.

Second, TBR spoke with SMC beta testers who have implemented the platform within their computing environments in order to better evaluate the potential benefits and cost savings made possible by the SMC platform versus well-managed desktop PCs.

SMC beta customers shared real world experiences in how SMC changed their computing environment, the cost savings including IT management and energy related costs, how easy customers found the deployment and management of SMC systems to be as well as any other benefits or challenges experienced when implementing the SMC platform.

INTRODUCTION

Businesses are being forced to do more with less when it comes to their information technology. IT staff, ranging from the CIO to IT assistants, are faced with the need to reduce the cost of managing their business PCs. Lenovo Group has risen to the challenge. The computer maker, which has a heritage of innovation, has responded with the Secure Managed Client (SMC), a centrally-managed client computing platform that provides a less-costly alternative to the business desktop.

Many desktop alternatives force businesses to compromise in one way or another, either by purchasing desktop streaming software and/or additional back-end hardware, which increases the load on the datacenter. The SMC does not require costly software or large numbers of additional back-end servers. Additionally, the platform does not force end users to give up the performance or application compatibility of Windows desktop PCs.

Lenovo's SMC platform works to centralize and simplify the administration of desktop clients. To that end, it combines a number of cost saving opportunities to present a lower overall cost of management than stand-alone desktop PCs. The platform delivers on cost savings by centralizing management tasks, including administering individual user accounts, troubleshooting and updating software. The keys to the SMC platform's centralization are a straightforward management console, inexpensive PC-based client hardware and centralized user image and data storage on a low-cost SMC Storage Array. The SMC's centralized approach simplifies the management of desktop clients, therefore lowering costs, while better protecting sensitive data. It does so without sacrificing performance or compromising the user experience of a Windows-based desktop and has the added benefit of low power consumption.

As SMC does not require expensive software or significant additions to the datacenter, it allows businesses to regain control of managing their client infrastructures, while reducing monthly desktop client manageability costs to about \$70 per client per month, versus the \$120 or more the majority of businesses spend to manage their desktop PCs on a monthly basis.

SMC offers a combination of lower-cost hardware, centralized management and simple, easy administration which eliminates the necessity for most deskside visits by IT. The bottom line is that SMC is simple and simplicity breeds cost savings.

EXAMPLE: A Large Network Equipment Provider

One of Lenovo's first SMC beta customers is a leading provider of network equipment, including packet, optical, wireless and voice technologies. With 150 locations around the globe, this customer understands the challenges of efficiently managing a complex IT environment.

With an initiative to investigate new platforms and technologies that provide an opportunity for reduced total cost of ownership, the network equipment provider agreed to participate as a beta customer for Lenovo's new SMC platform. The beta program included running the SMC system through the customer's Engineering Performance Lab to assess any issues with network utilization as well as rolling the SMC platform within one of its departments to run normal day-to-day operations and programs. The customer has previously investigated other server-based alternative desktop platforms, but found none behaved as a true PC, with issues such as the inability to leverage Windows-devices including scanners and card readers and lack of support for users requiring high-end graphics capabilities.

The customer has found that the SMC deployment process was simple and with a little initial work (2-3 hours total) to set up the image, new users only needed to log into their new systems and were ready to go.

While the customer will likely not implement a wide-scale deployment of the SMC system due to the high percentage of mobile users in its user population, it did find that the SMC solution would be highly beneficial in co-located communities of desktop users, such as its network operations centers. Based on its initial experience with the SMC solution, this customer believes that "Lenovo has captured the essence of what is really needed in the thin client environment - full, real PC experience for end users in a managed environment."

What is SMC?

When Lenovo set out to cut the cost of managing client computing infrastructure with its SMC platform, the company did not intend to reinvent the desktop. Instead, the company sought to retain the best parts of the Windows desktop, including its familiarity, its performance and its broad compatibility, while improving data security and reducing its management costs.

Thus Lenovo arrived at a model which leverages a Windows-based PC and a centralized storage environment to provide an overall lower total cost of ownership (TCO). Through the SMC model, customers are able to maintain

a true Windows operating environment, while generating significant power and management cost savings.

The SMC platform consists of three main components:

The SMC Client: The SMC Client uses Lenovo's ThinkCentre M57P desktop PC with Intel's vPro technology. Future desktop versions will be rolled out including the ThinkCentre M58P. The client's "hard drive," in this case each user's image including applications and data is resident on the SMC Storage Array with Lenovo's SMC Management Console connecting the client hardware to the user's image on the storage array.

However, Lenovo is offering significant investment protection by offering the M57P with a hard drive as well. Customers can buy systems today for roll out into a traditional PC

computing environment and convert them to the SMC model in the future using a BIOS update. By utilizing ThinkCentre desktop hardware for its SMC client, Lenovo also offers the flexibility to shift SMC clients back into a traditional desktop computing environment if the customer desires.

The SMC Storage Array: The Storage Array functions as an iSCSI SAN storage appliance, playing host to the hard drives of up to 100

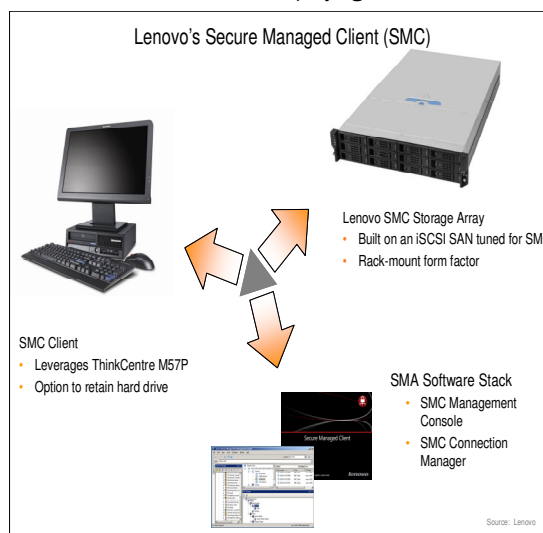
SMC users. The Storage Array is based on an Intel SAN and customized software from AMI. The Storage Array can be located in a wiring closet or other convenient space, placing it closer to users and eliminating the need to take up

expensive datacenter floor space.

The SMC Software Stack: The SMC Software Stack serves as the backbone for the platform. It includes several interlocking applications, which provide account set up and authentication for each end user, handle each user image and connect the SMC client to the SMC Storage array, in addition to providing for provisioning and simplified management of the SMC Storage Array and each SMC client. The software stack was developed in cooperation with Lenovo's management partner, LANDesk Software.

The SMC Ecosystem: Lenovo is also providing tools for its SMC customers to enhance the way they use the platform by partnering with a network of hardware and software suppliers.

At the same time, Lenovo has created partnerships with leading systems management, diagnostics and security companies, including PC Doctor, Serden,



“We believe the evolution of desktop computing will migrate to a secure managed client solution,” said Steve Bandrowczak, CIO, Nortel. “We’ve tested Lenovo’s solution on our desktops in North America, and both users and our IT organization were extremely pleased. Our IT staff experienced a reduction in ongoing maintenance costs, which could significantly add up over time. Our goal at Nortel is to provide an equal or better desktop experience while significantly cutting our IT costs. We believe SMC has that potential.”

LANDesk and Utimaco. SMC customers are granted access to additional capabilities through these partnerships.

Key Customer Benefits

Windows PC Fidelity: The SMC solution offers true Windows PC fidelity because it is a Windows PC with remote storage. Users do not notice a difference in performance and do not have to learn a new operating environment as the platform supports off-the-shelf Windows applications and accessories.

High End User Satisfaction: Change within IT environments is often an area that reduces satisfaction among end users, even when those changes represent an improvement with regard to IT or overall business needs. This is because when forcing end users to change the way they operate on a daily basis, emotions and resulting resistance often come into play.

The SMC platform avoids these issues by offering users a true Windows experience with the same look, feel and functionality as their traditional PC.

Lenovo also ensures that IT managers can track and analyze their operating environment to ensure maximum performance and end user satisfaction. The Lenovo Analytics Manager, offered through Lenovo’s partnership with Serden, is provided at no-cost with the SMC license and provides access to a set of business performance summary reports.

No Additional IT Staff Needed: Because the SMC solution is essentially a fully-functional Windows PC with remote storage the traditional Windows management processes that IT leverages for issues such as patches, drivers and application loading do not need to change.

Customers can leverage their own deployment processes or use the SMC deployment methodology, allowing for a quick transition to the SMC system for customers.

Lastly, the SMC’s centralized management structure is designed to eliminate desk-side

visits by managing hardware and software remotely. Eliminating desk-side visits serves to reduce the cost of management versus traditional PCs, while also eliminating a critical pain point for PC end users who lose time and productivity when waiting for technical support.

Investment Protection: Lenovo is providing customers with a no-risk platform for implementation of the SMC solution. The purchase price of the complete SMC solution including the client, storage array and software will be the same or less than traditional desktops according to Lenovo.

A supported M57p can also be purchased with an internal hard drive and leveraged as a traditional PC until the customer is ready to move forward with the SMC solution. This also allows it to be easily transitioned back from an SMC device to a traditional PC. Additionally, clients will be able to utilize their SMC Storage Arrays for other requirements.

True Green - Lowest Total Power consumption: Rising electricity prices, caused by higher demand and increased fuel costs, along with a focus on reducing carbon emissions among governments around the world, have brought energy efficiency to the forefront. For businesses, managing energy costs has now become a necessity, both at an operational level and in order to meet corporate goals and supplier requirements.

The SMC solution helps customers meet their energy reduction objectives as the SMC client typically consumes less power than a desktop PC, thanks largely to its lack of an internal hard drive.

Additionally, the Storage Array, requiring as little as 6-7 watts per user, has much lower power and cooling requirements than traditional server-based computing models.

According to Lenovo estimates, the overall SMC solution is usually less than 60 watts per client, including the Storage Array. A comparable Server-based computing solution could exceed 130W-140W per client, including the backend server.

The SMC's lower electricity consumption leads to direct cost savings, while allowing a business to reduce its overall carbon emissions.

Lenovo is also providing their customers with a powerful tool for managing their PC's power consumption. The Lenovo Power Analyzer (LPA) provides customers with corporate and individual power consumption and savings reports and provides advice on potential actions to reduce power consumption. Lenovo provides LPA free of charge for SMC and PC devices.

Flexibility: As the work force becomes less traditional with policies such as telecommuting and job sharing, the need for flexible office environments has risen.

The SMC solution provides companies with a flexible working model where the SMC can be used as a standard dedicated PC with a single primary user or can be used in an open seating environment with users logging on and accessing their personal data and hard drive from any SMC within the SAN subnet.

Enhanced Security: Lenovo has included several key security features in the design of the SMC solution.

First, each user's hard drive data is stored in a secure section of the Storage Array, making unauthorized access to the data stored on the drive far less likely.

Because the SMC functions as a standard Windows PC, security can also be upgraded through standard Windows-based products such as Utimaco full hard drive encryption.

Lenovo also provides tools, such as its SMC Security Advisor, a software add-on which allows central management of security policies for both SMC desktops and standard Windows PCs.

Central Management and Maintenance:

IT managers understand that a significant portion of the total cost of ownership (TCO) associated with PCs is the time spent managing and maintaining systems. SMC simplifies this process and reduces the time

associated with PC management by providing the SMC Management Console, an application that allows for centralized management of the SMC platform. The console provides a means of centrally and remotely managing users and their images, allowing the IT department to avoid desk-side visits and refocus their resources on higher value activities.

Serviceability and Low TCO: The combined benefits of SMC's lower power consumption, centralized maintenance and management and a much lower upfront investment deliver a leading TCO value proposition in the industry.

According to Lenovo calculations, overall implementation costs including deployment and ongoing management for 3 years is approximately 30-40% or less than a standard desktop and 10-15% or less compared to other alternative desktop solutions such as streaming technologies.

Based on potential savings estimates, a customer investing in the purchase of SMC client hardware, an SMC Storage Array and a year's SMC software license can generate savings of up to approximately \$1,200 per user in the first year and savings of as much as up to \$3,600 per user over three years.

A single, fully-populated Lenovo SMC platform with 100 users could deliver cost savings of nearly \$360,000 over three years, compared to a similar number of well-managed desktop PCs.

CONCLUSION

TBR believes that SMC is an important step forward in simplifying the management of desktop PCs. It meets the needs of corporate IT managers, who are faced with the task of simultaneously reducing the cost of managing business PCs, increasing the security of their data, due to reporting regulations such as Sarbanes-Oxley and reducing energy consumption.

The platform does so by centralizing the management of all of the elements

associated with a desktop, including the software, user image, data and the hardware itself. It's SMC's ability to do so without penalizing the business, its IT department or end users with additional costs, additional support needs, additional user training or reduced functionality that makes the platform effective.

While various alternative desktop solutions have sought to address these requirements, none have gained significant traction in the market due to major trade-offs in functionality and usability as well as costs.

Thus SMC delivers on cost savings and IT simplification without disrupting the day-to-day activities of the business that it supports.

Lenovo's SMC solution is able to deliver what corporate IT managers want and need: The benefits of a centrally-managed desktop solution, which delivers true Windows PC fidelity, with simplified administration and lower costs. This creates the opportunity for Lenovo to lead the way in expanding the alternative desktop market.

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