New Approach to Thin Client System
NEC Virtual PC Center

Experience a secure PC environment – without carrying a PC with you

Information Technology organizations are constantly on their guard to tackle the next wave of data security threats. Many tools and solutions for their struggles to detect and catch hackers and potential thefts are, however, not enough to protect remote PCs outside a guarded data center.

To enhance data security in remote desktops storing corporate data, such as customer personal information and corporate e-mails, appropriate management and maintenance play a vital role. But not all PC users can spend a significant amount of time backing up data, installing programs, and fixing virus and application software on their PCs – because these activities often confuse them and even slow down their productivity while driving up the per-user Total Cost of Ownership (TCO).

Large enterprises with sizeable PC populations are examining the following approaches to end-user computing:

- Network Boot PC
A PC without a hard disk (or with a disabled one) is booted up and runs applications off servers managed in the data center. All data resides in the data center and operating system and applications are easier to maintain than with fully featured PCs.

- Blade PC
Only items on the desktop are a monitor, a keyboard and a mouse connected to a dedicated blade PC in the data center. Users cannot remove data from the data center and applications and data backups are reasonably easier to manage.

- Presentation Server Thin Client Solution
This solution puts a thin client on the desktop to run applications in the data center. The display content generated from the application is automatically transferred to the thin client display device.

Not Quite There
While their approaches seem attractive at first glance, these 'alternatives' to PC computing have their own disadvantages and shortfalls. Network boot PCs, for instance, are no cheaper to own and operate than regular PCs and may even cost more when necessary software is factored in. Moreover, while data is held in the data center, it can still be exported by users. Also, work cannot be ported outside their offices. Likewise, a blade PC is more expensive than a desktop PC and there is no work portability. As for the thin client, it can only run applications that are supported by the screen scraper.

These attempts to virtualize the functionality of regular PCs in a server have one thing in common: lack of support for multimedia capabilities. The result: end-users miss out on applications such as Windows Media Player, browser multimedia and VoIP telephony – applications that are gaining in use for facilitating collaborative work, communicating ideas to today's tech-savvy audiences, and making their computing experience an enriching one.

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System Configuration
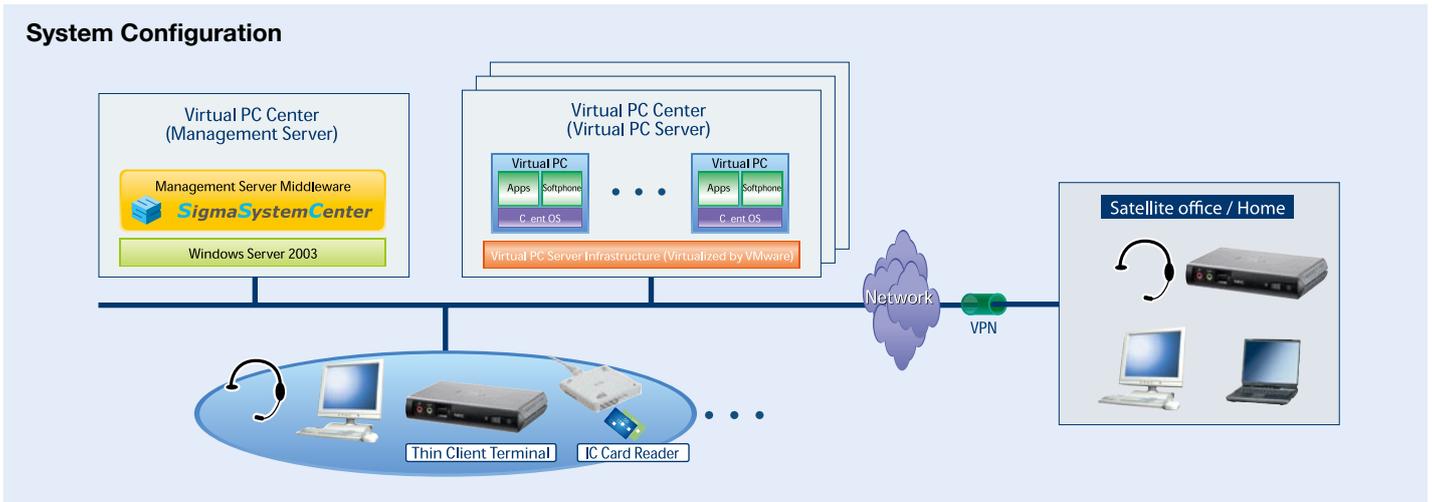
Paradigm Shift

NEC has made all that a thing of the past.

The NEC Virtual PC Center (NEC VPCC) is designed to reduce TCO, enhance PC data security and overcome the disadvantages of the 'alternative' approaches. The solution integrates and centralizes client assets entirely on a server (or servers) in the data center; end-users access their virtual and complete Windows Client OS in the data center via a disk-less thin client device hooked up to a display monitor and a mouse. All data and applications are stored on the server(s) and there is no data on the client devices.

The NEC VPCC leverages two enabling technologies:

1) Thin Client Centralized Management Software

The NEC SIGMASYSTEMCENTER, advanced management software for the VPCC, enables administrators to centrally manage the operation of both physical servers and the virtual PCs. Functions include the creation of new virtual PCs (in about 10 minutes), virtualization of PC sessions, monitoring of each virtual PC, distribution and updating of operating system and application software, and data backups.

Combined with the VMware virtualization technology, the SIGMASYSTEMCENTER can also be used to optimally allocate server resources, such as CPU and memory, across multiple virtual PCs. For example, when a user executes a high-load task, the resources not being used in other virtual PCs on the same server can be redirected automatically to the user PC. Similarly, demanding virtual PCs drawing down on one server can be moved to another server with available capacity, with no adverse effects on those users who are being moved.

The NEC Express5800 server running Windows 2003 Server functions as the administration console for the SIGMASYSTEMCENTER. The software also supports VoIP telephony.

2) Innovative Thin Client Terminal Device

The second innovation leveraged in the NEC VPCC is the NEC US110, a palm-sized client device that delivers a no-compromise high-speed multimedia Windows Client OS experience. This richness is made possible by an embedded chip that receives multimedia content from the server in its encoded format – which is significantly smaller in size than its decoded format – for decoding by hardware decoders in this terminal device. Besides giving end-users the same level of audio/video performance as provided on standard PCs, this offloading of content processing from the server is less demanding on the network, and hundreds of US110 users can together enjoy multimedia content without straining the network.

Weighing less than half a kilogram, the US110 contains no fan – no noise! – has a power rating of 11 watts on average and includes a VoIP softphone module that delivers voice quality on par with that of desktop phones. End-users are not bound to particular US110 units – the client device provides the Virtual Private Network connectivity, allowing users to access company intranet smoothly and securely and retrieve their own desktop environment from any terminal once their identity is verified using a card reader.

US110

Benefits

Reactive, after-the-fact security solutions no longer deliver the level of security necessary for today, or they make corporate PC systems complicated and restrictive for average PC users, adding cost to supporting and servicing them and dragging down their productivity.

The NEC Virtual PC Center enables IT staff to deploy application solutions that boost PC desktop user productivity. This represents a paradigm shift in corporate end-user computing, one that delivers complete data security protection with a lower TCO and realizes a full virtual PC environment now and into the future.

Be part of the change.

NEC Corporation
http://www.nec.com/vpcc/