

## ComputerWeekly – Thin client computing smartens up

By Clive Longbottom, Service Director, Quocirca Ltd

Thin client computing has been around for many years - predating the PC, if you include standard green screen terminals. However, the real push with thin client devices was during the late 1990s, when the likes of NCD, Wyse and IGEL pushed their devices as being the antidote to the high price, low stability and variable management costs of the standard PC.

For companies such as Citrix and Microsoft, thin client computing became an approach that was all to do with where code was run - on servers, with just the visual side being presented to the end device. However, this device could be a thin client - or it could be a PC. This made more sense to many, where an existing body of PCs were in place, but greater control could be applied through the use of server-based computing.

However, such devices and approaches are at the mercy of the network. If the network is busy, then users will rapidly begin to notice this if they have to wait for character, field or screen round tripping on their end devices. In many cases, this has been the downfall of a server-based computing approach - if everything is centralised, then it is all or nothing. If the users feel that 80% of the applications run fine, but that, for example, Microsoft Office is not responding fast enough, then the whole basis for the approach becomes flawed.

You could, however, run a hybrid system. Applications that need fast response could be run at the desktop, with other applications being run from the server. This is fine, except that it used to mean that you still needed that expensive/complex/maintenance and power-hungry PC as the end-user device, and as such, savings were minimal.

But, let us assume that a small device could be put together that addresses the main issues cited above. What if we took a generally available operating system and got rid of everything that is not needed, re-architecting it to be faster, to be highly compressed and to not need a lot of the various legacy functions that

the original operating system had grown to be dependent on.

What if we then made sure that because this operating system was well supported by third parties, pretty much any USB device would work with it. Oh - and because there is a standard operating system, the vast majority of enterprise client applications will work on it, without modification.

What if we created a motherboard that used a different approach to the CPU, supported chipsets, graphics and other components, such that the resulting system ran at around 10W of power requirement? What if this end product, complete with hard drive and memory for storing and running local applications then weighed in at 700g and was the size of a small hardback book? Let us keep moving parts down to a minimum - no fans allowed. Throw in a bit of management software to provide remote support and security around desktop lock-down and so on, and I think we would be getting towards a more modern design for a new client device.

A tall order, but something that Cranberry seems to have managed to do. Its SmartClient SC20 device consists of a heavily modified version of Windows XP Embedded, stripped down to provide what is needed and no more, and running on an extremely low-power CPU. The motherboard, chipsets and graphics have also all been designed to be low power. For speed, the OS is loaded straight into memory, rather than a mix of memory, swap file and disk, and as much as possible happens here.

A third-party CD/DVD drive can be attached to it to enable Windows applications to be locally installed - but it is advised that the management software be used to provision remotely through an administrator function, keeping users at a more controlled access level. Similarly, local printers and other devices can all be attached (there are four USB 2.0 ports). Sound is supported locally as well - there is a built in speaker (not exactly hi-fi), along with jacks for external speakers, headphones and microphone.

The system currently supports 10/100MB Ethernet.

As a cost-effective approach to hybrid computing, this device seems to tick a lot of boxes. Even when looking at the nominal competition of server-based computing, virtual desktops and streaming apps from Citrix, Microsoft and VMWare, this looks like a synergistic, rather than competitive solution. Quocirca believes that if brought in alongside InstallFree's means of creating and provisioning virtual desktops, businesses could provide end-users with a degree of freedom, combined with control to ensure that the organisation cannot be easily compromised through the end-users' actions.

Finally, if you want something that is "ruggedised" without the need for a special version, the SmartClient seems to fit the bill - the only moving part in the whole device is the disk drive, and this can be factory fitted as a solid state device if required. Indeed, one of Cranberry's customers uses its device in mobile libraries in the Caribbean.

Are there any downsides? In many markets 10/100MB Ethernet is not good enough, but there is a 10/100/1000MB Ethernet version coming along. There is no off-the-shelf support for Vista as yet - but again, it can be done. Anti-virus could use up much of the processing power if it were to be installed separately - again, there is a different approach to this, built around Cranberry's FreshBoot software.

The biggest downside at the moment is that Cranberry is not a known name, and that channel partner agreements are still not numerous and widespread. As a UK company, Cranberry will have to crack the US for long-term success, and there are many who have tried and failed in this.

But - if you have 1000 PCs, each running at around 150W, and you replaced 20% of them with a Cranberry running at 10W, you would be saving a lot of energy. With little to go wrong, you will save on maintenance. If you use the management software to give centralised control, you will save on support costs.

So, as a refreshing change, can Quocirca suggest you try a Cranberry?

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