

New technology and innovation in 'fat client' computing

It's OK to be 'Fat'.

8 reasons why there's still life in fat client computing



With the arrival of virtual desktop infrastructure, the re-emergence of thin client computing and the omnipotence of the cloud, one could be forgiven for thinking 'fat' client computing is dead. Not so.

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Local Processing Power Is Here To Stay

Notebook shipments in particular show no signs of slowing down and with only 28% of the world connected to the internet, local processing power i.e. in the client, is here to stay. Even in developed economies businesses still cite bandwidth issues as one of the major obstacles to completely virtualising desktops and applications and accepting the cloud as a completely credible alternative.

Let's be clear Client Virtualisation has its place, but for many the sea change required to fully embrace this technology today is at best impractical at worst cost prohibitive (certainly in respect of initial capital outlay). This paper is not about rubbishising Client Virtualisation (it would be foolish to do so as there are many compelling benefits and it is suitable for a great many organisation), rather putting forward the case that there's still life in a traditional approach to client computing, hopefully enabling us to see that for some of us it's ok to be fat!

This document will reveal the trends paving the way for fat client computing and how new technology innovation from the likes of Lenovo and Intel®, is ensuring fat client is not the poor relation to its Client Virtualisation cousin, breathing new life into a traditional client computing model.

But first let's look at the landscape and forces driving endpoint computing models. In 2014 Microsoft will officially de-support XP. Most people skipped Vista so for anyone not currently contemplating a move to Windows®7 (or possibly Windows®8) this is going to become an increasingly critical concern over the next 12-18 months. This trigger event is forcing businesses to evaluate the alternative computing models. The popularity of virtualisation in the datacentre is rightfully helping to evolve thinking and focus attention on the desktop. Equally users of Windows® Terminal Services or Citrix XenApp are familiar with the concepts of virtualisation so a step further to fully virtualised desktops is a natural progression. We should also throw into the mix the pervasiveness of mobile devices – client computing is no longer just a PC, its netbooks, smartphones and tablets. Users and businesses alike demand more than one device – often two or three to keep staff as productive as possible.

So do you stick with a fat client PC architecture or make the switch to Client Virtualisation and deliver your desktops through some kind of cloud infrastructure – be that your own or someone else's? The market hype for Client Virtualisation is deafening but there is still a strong case for pc-client models.

Here's 8 points for consideration if you're weighing up the future of your fat client environment...



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What's Changed?

1. Servers not clients

What's really changed? The reality is that the change in the computing world has not been at the client end, rather the host. Servers now live in the cloud and apps are increasingly being accessed over the internet via web applications in a web browser as well as via native apps. The servers don't even need to be in your own data centre. Fat clients still have a valuable role to play. Here's why:

2. Consumption of rich media

Our consumption of rich media – videos, photos, music – continues unabated in both our private and work lives. Whether we like it or not bandwidth still plays a big role in delivering this content and has its drawbacks. As such for the foreseeable future we can't compensate for this at the datacentre end, instead we will continue to rely on client based compute and storage resources to optimise delivery and in doing so improve the end-user experience. In fact the big virtualisation vendors have realised this and for one of the major players at least a collaboration alliance has been established to integrate high definition graphics acceleration into dedicated silicon within the thin client device.

Sounds a bit like a fat client!



In the pc-client world new processor level innovation from Intel® helps meet the challenge of rich media consumption - delivering a stunning high definition experience for users. Plus new innovations from Lenovo including notebook technology optimised for key collaboration tools like Office Communicator and VOIP delivers amazing video and audio conferencing experiences.



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Fast Experience

3. Fast User Experience

The increasingly powerful trend toward consumerisation means that users expect the same experience at work that they have at home. They demand highly interactive and most importantly fast user experience when using internet based tools. Anything delivered through the cloud needs to be quick and responsive. For most it's more practical to rely on broadband connectivity for shuffling and moving content rather than downloading applications. Equally, it doesn't make sense to download an app every time we need it, especially if it's easy to access and install locally on a device. In fact that's why we're seeing such a rise in apps installed to mobile devices like iPhones and Blackberrys. Also the risk of downloading and infecting devices with malicious code decreases if it is just content and not applications that is downloaded.



The capacity of the Internet and broadband connections, especially mobile have a hard time keeping up with ever increasing traffic volumes, which in the thin client world puts at risk the ability to work and interact with apps effectively from any location. As flash videos and websites become increasingly complex, you need the extra power afforded by a local processor.

Conversely fat clients offer the ability to quickly access locally stored apps and data plus interact with the web if it's available. This is now even faster and optimized for business demands thanks to new advancements. Lenovo Enhanced Experience 2.0 for Windows®7 uses RapidBoot technology to start your PC on average 57% faster than a typical Windows® 7 computer meaning you're up, running and working fast regardless of connectivity.



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Be Ready To Work

4. Mobility

We are becoming more and more mobile, devices such as smartphones and tablets are commonplace - all of which are essentially fat clients. Enabling client side execution for compute intensive or bandwidth constrained applications will generally deliver a better user experience. What's more new on chip technology from Intel® helps achieve up to 8x better performance from the same bandwidth further enhancing the user experience even where limited connectivity exists.

Computing on the move like this requires reliable, robust technology. Lenovo notebooks have passed eight military robustness tests so every device is put through its paces. All devices are optimised for the longest battery life in the market thanks to clever advancements in power management so batteries adapt to recharging styles and charge slower when connected to the mains. Plus numerous small features whether design based like tough steel hinges, spill resistant keyboards or unrivalled boot times or software based including helpful connection managers, client security solutions or simplified powerful VOIP control, all help keep you connected on the move and mean you'll have a device ready to work whenever and wherever you are.



8x better performance

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Next Generation Technologies

5. The promises of Client Virtualisation

Client Virtualisation is heralded as the Promised Land. A land where key IT challenges are swiftly overcome and relegated to the past:

Cost reduction – dramatically decrease the cost of managing your PC estate by moving the processing capacity into the datacentre and run dumb terminals at the end point. What's more conventional wisdom says it's cheaper to run a thin client than a PC.

Management – centralising systems means patch management, application updates and a host of other tasks can be managed from the data centre.

Energy consumption – fewer pc's and notebooks generally means less energy used than your average PC estate.

Security – systems can be secured centrally and data managed in the data centre.

In reality all of these challenges can be satisfied to a degree far beyond anything seen previously in a traditional desktop estate with the latest generation of fat client technologies:

Cost reduction – today's notebook technologies are optimised for business. Only one fifth of the TCO of running a notebook is tied up in the acquisition cost. The other 80% cost comes during the Deploy, Connect, Protect, Support and Dispose stages. Thanks to built-in technology innovation and unique services like custom imaging and factory pre-configuration a Lenovo PC is up to 50% cheaper to run and maintain than a typical 3 year old device.

Management – Lenovo Thinkvantage technologies, Intel® Core™ i7 vPro™ processor and LANdesk (remote diagnosis and repair) mean that PC assets can easily and simply be managed in the office or in remote locations even when devices are not powered up.

Energy consumption – IT powered energy reduction whether processor advancements from Intel® or unique innovations from Lenovo means that the latest generation of notebook technology is 17 x more energy efficient than a comparable system of 3 years ago. Plus Lenovo power management tools can save up to 69% energy consumption over rival technology.



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5. The promises of Client Virtualisation (Cont...)

Security – state-of-the-art security features mean you can be assured your data's safe. Self-encrypting drives, hardware password manager for remote management of security settings even finger print recognition all play a vital role in the latest generation of technology. Thanks to security innovations from Lenovo, Intel®, and Absolute Software a formidable array of anti-theft solutions make it almost impossible to use or sell a Lenovo notebook if lost or stolen. "Poison Pill," PC Disable can even deactivate a stolen or missing notebook remotely or via intelligence policies. Once deactivated, thieves can't reactivate the PC even if the operating system is reinstalled or the hard disk replaced. If a Lenovo notebook is stolen, IT managers can also track, react to, or control the lost unit and remotely delete data.

The V.I.P's

6. Don't forget your users.....or your IT team

There's no escaping that adoption of new technology is critical to unlocking its benefits. Your users will be familiar with locally stored apps and data, dramatically changing this world brings new challenges. Also be aware that on a psychological level, having a traditional PC or notebook generally fixes us to a desk or comfortable workspace — typically the office or home office. Surprisingly, it allows us to be productive and "in the zone", whilst equally healthily detached and away from work when we are not within the proximity of productivity.

You've probably also operated a reliable fat client architecture for years. Likelihood is your IT team also has all the necessary skills to continue maintaining an environment of this kind. So changing to or incrementally adding Client Virtualisation to an existing environment will require deployment of additional management systems and training of personnel.

Thanks to new on-board technologies from Lenovo, device management gets even easier helping your team deliver improved service efficiency and service levels including 60% reduction in time to resolve hardware repair issues, 50% reduction in time to resolve software issues and 36% reduction in system downtime. Maintaining the same delivery model just with more efficient technology will help you optimise the IT personnel at your disposal without the need to re-skill.

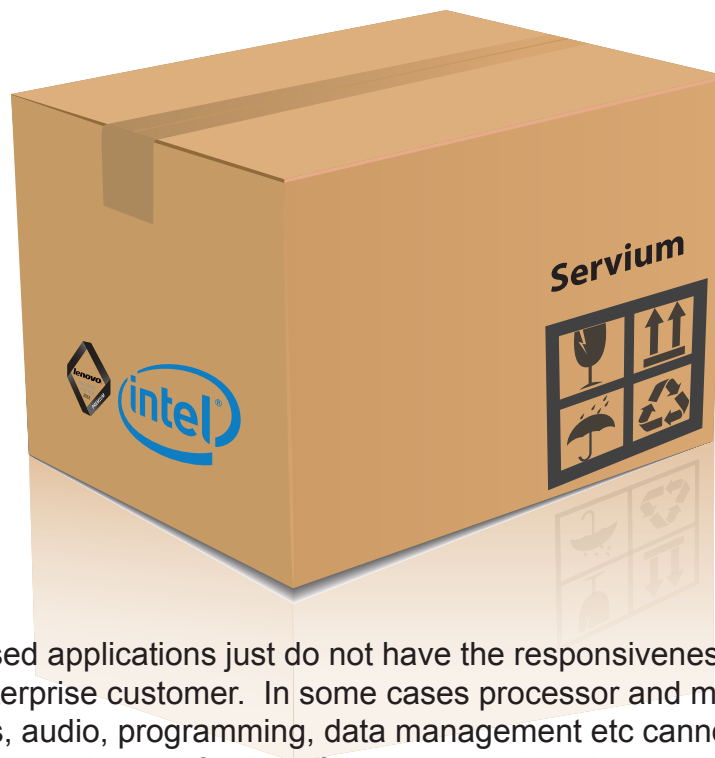


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Packing up the Apps

7. Then there's the apps

Porting your apps to a new virtualised environment might sound like an easy task but it takes considerable time to test, pack and port to ensure they're both compatible with Windows® 7 (or possibly Windows® 8) as well as the new virtual infrastructure. Compared to sticking with a traditional PC client model features such as XP mode on the client OS of Windows® 7 allows legacy applications to be run in the previous OS, making for an attractive solution. Many apps have literally been developed over 100's of man years and simply won't easily port, yet they work in your existing environment and you don't want to jeopardise this.



Often times, Web-based applications just do not have the responsiveness and security of the fat client for some enterprise customer. In some cases processor and memory heavy applications used in graphics, audio, programming, data management etc cannot run effectively over a thin client architecture to the satisfaction of the users and business alike. Latest Lenovo technology built on Intel® processors offer superior boot performance, up to 15hrs of battery life, increasingly powerful processors delivering more punch for your pound, whilst reducing your power costs, all this while producing richer deeper display graphics.



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Bespoke Experience

8. Personalisation

Your users will all have their own unique needs and requirements for their endpoint device, largely focussed around apps but also influenced by the growing trend in consumerisation and 'bring-your-own device'. Allowing users the ability to control the apps (to some degree) on their system in a fat client architecture provides a level of flexibility difficult to achieve with Client Virtualisation unless dedicated images are created for every user. But customisation in a Client Virtualisation environment has its own pitfalls as it can increase storage requirements and therefore increase cost. The alternative is users all access a pooled image in the Client Virtualisation environment and therefore any ability to customise the experience is reduced or eliminated.

Conversely, new tools for the fat client world like Lenovo's System Migration Assistant helps get your end-users up and running quickly and accurately by migrating their individual data and settings to their new systems, which are then familiar and ready to go. It's ideal for a large corporation moving hundreds of users' data over an enterprise network, or a small business with just a few systems in a peer-to-peer environment.

So, What's The Answer?

If you want to stick with a traditional pc client architecture the simple answer is you can. Substantial developments in the technology mean pc clients are getting cheaper to run, simpler to manage, and easier to secure enabling users to be more productive. Simply swapping like for like legacy infrastructure for new will yield dramatic financial savings, management advantages and productivity gains which go some of the way towards remediating the benefits of Client Virtualisation.

So it's ok to be fat.

However, there is a middle way for those who want some of the benefits of application centralisation without wholesale infrastructure change while avoiding the one size fits all approach...



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Intel's Approach: The Client Aware Cloud

Take advantage of what virtualisation and the cloud has to offer without throwing away everything that's good about fat client computing. We favour Intel's ® approach – the Client aware cloud. The client aware cloud identifies the compute, context and capabilities of the endpoint device and then uses the strengths of both cloud and client to deliver optimised cloud services in a way that can be more secure, while enabling a higher quality end-user experience. You'll just need to decide what you are happy for your users to access through the cloud – and which cloud at that – personal, public or private.

Lenovo cloud ready PC's and notebooks are built to support this Client aware approach to the cloud enabling access to apps, data and work from anywhere. Lenovo devices expose key hardware attributes of the client to cloud applications making for a hybrid environment that delivers the best of both client and cloud computing worlds. Called Secure Cloud Access this method provides a more balanced approach to compute capabilities taking advantage of technologies that exist client side rather than solely in the datacentre. For example customers could tie a fingerprint reader on a PC to a cloud application for enhanced authentication.

What's Next?

We hope this paper has been helpful and if nothing else has offered some 'food for thought' if you're weighing up what direction to take your desktop computing environment.

If you'd like to explore any of the considerations outlined in this paper further please get in touch. We have substantial experience advising customers facing the dilemma we have tried to tackle here and would welcome the opportunity to share with you our insights.

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About Servium

Servium provides IT infrastructure services for medium to large enterprises in both the private and public sector. We pride ourselves on delivering innovative solutions inspired by overcoming the day-to-day and strategic IT challenges of our customers. We blend the best emerging technologies with professional customer service to answer these challenges and deliver economies not previously possible.

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