



## Think once, think twice, re-think VDI

**Virtual Desktop Infrastructure (VDI) is the latest buzz word in the IT world, with major players such as IBM, HP and Microsoft plugging the virtues of VDI and its long term cost saving benefits. But is VDI really the right choice for small to medium sized enterprises in the current cash constrained market?**

Well the likes of VMware, Parallels and IBM are all promoting strong arguments for why VDI does fit the bill – but are they painting the full picture? We don't think so.

Replacing your current PC infrastructure or even installing a new virtual desktop environment is a costly affair requiring new servers, virtualization software, connection brokers and thin client management software to convert your old PCs or manage new thin clients.

So why are these big companies using their massive marketing resources to get everyone in a frenzy over VDI?

Well they all have their reasons, IBM wants to sell its blade servers having sold off its desktop business, HP can benefit both in server hardware sales and a boost to its new thin client division (developed after its acquisition of Neoware). VMware are the virtualization kings and having the majority share of the server market they now need a new income stream and the massive desktop market is a natural move for the company.

In these times of tight or nonexistent IT budgets, many IT decision makers are being forced to retain current systems beyond their usual three year replacement window. Reacting to this environment the crafty marketers in the big IT houses are plugging the long-



term cost savings of VDI which appear to deliver a solution to the joint problems of replacing 'outdated' stock while reducing costs.

However, when faced with a potential bill of \$109,000\* for implementation of a new VDI solution or \$40,000 for replacement PC's, it's easy to see which solution they will go for. But is there another option that could provide both the benefits of the long-term cash savings of VDI and the increased performance of new PCs on a smaller budget?

Yes, there is but first let's take a closer look at the pros and cons of both VDI and the PC environment.

Virtual Desktop Infrastructure.

**Pros:**

- **Management:** In a typical corporate infrastructure, you may have 100 PCs all of which at one stage may have been installed manually or via a technology such as ghost to ensure standard installs. However, once out in the corporate world administrators are constantly battling with antivirus, Windows, spyware and other updates. Not to mention physical failures and replacement. With VDI all the desktops are centralized and therefore easy for an administrator to work on, replace with a new image, or even quickly deploy new clients when a new member of staff joins.
- **Security:** Security is an important factor in rolling out VDI. With VDI, you have greater control of how you secure your desktop. You can lock down the image from external devices or prevent copying data from the image to your local machine or thin client. This also means easier control over security for remote users.
- **OS Migrations:** In the past whenever Microsoft released a new OS, the collective sighs of IT managers around the world actually contributed to global warming. So since we are all trying to do our bit for the environment and "go green" VDI helps considerably in this aspect as thin client hardware uses



fewer resources in its manufacturing. The end user hardware is of no concern to the IT manager, he has a standard virtual desktop platform on which he can install the OSs he desires and dish them out from one location.

- **VDI Image:** You can create a library of VDI images to meet all of your company's needs. Sales, Marketing, Admin departments can all have specific software on their image, and in some cases they may be forced to use a specific OS to run the departmental software efficiently.
- **Snapshot Technology:** With VDI, you have the ability to roll back desktops to different states this allows testing of software for user acceptance and stability before creating and distributing an image, making deployments much less time consuming and reducing the testing phases.
- **Go green:** We started talking about the 'green' benefits of VDI back in "OS Migrations". We all want to go green and as governments start to place taxes on carbon spewing companies, it makes sense to switch to a thin client environment, where the electricity savings alone will pay for the device investment in around 12 months.
- **Independence:** With VDI, all connectivity is normally provided by a connection broker, and all that is needed on the end user side is a device which can use Remote Desktop Protocol (RDP) or Independent Computing Architecture (ICA). Now there are even companies providing clients for thin clients, PC's, Apple Mac and even the fabulous iPhone all have clients that allow users to access their desktop images from their devices.

So on the face of it, Virtual Desktop Infrastructure seems to do everything an IT manager would want; he will have a more secure and easier to manage infrastructure while saving the planet, give the man a gold star.

You knew this was coming **BUT**, what about the Cons

- **Price:** Virtual Desktop Infrastructure is expensive to

implement. Blade servers, Virtualization Software, connection broker, thin client management software, extra OS licenses if continuing to use current PC desktops.

- **Support:** Virtual software has been around a while, however most administrators have barely scratched the surface. This means that one, most likely two members, of an IT team will require training on the virtualization technology they will be using.
- **Multimedia:** Full traditional PC desktops are capable of delivering full multimedia capabilities, sound, music, video all flawlessly provided to the user, and do not forget we are not just talking YouTube surfers here, but in these days of reduced budgets, lots of companies now use full multimedia CBT (Computer Based Training) over the network for training staff on a wide range of subjects. Until now RDP and ICA cannot provide the same experience as a full desktop. Though as virtualization becomes more popular more companies such as HP and Microsoft are improving RDP and providing extensions, which they are promising, will fix this.
- **Intensive Apps:** In much the same vein, intensive apps such as AutoCAD, Photoshop are not good candidates to run on virtualised machines and will most likely remain the mainstay for the PC market.
- **Updates:** These in reality are still full PC desktops and still have to have antivirus, spyware and windows updates applied on a regular basis, to maintain security.

So as we can see, there is a lot to weigh up when deciding whether or not to use a Virtual Desktop Infrastructure. For Enterprise businesses with a big budget and high administration overload, VDI could be the perfect fit, but what about the small and medium size businesses?

Well small and medium businesses have been running successfully on PCs and laptops in a client/ server environment for years and



most likely will continue to do so until the cost of VDI drops dramatically.

So what are the Pros of a PC Environment?

- **Costs:** The cost of PC's has dramatically dropped in the past few years and therefore on an initial purchase the cost is much lower than the VDI solution.
- **Familiar:** There are thousands of trained IT professionals who are familiar with and therefore safe in the knowledge of what they know and trust. "What, a PC which is a file? How can that be safe?"
- **Multimedia:** PCs and the software therein on them are designed to be multimedia servers; they've had years to perfect it. Delivery of Multimedia based training and other messages will not fall foul of poor video management in a PC environment. This is currently a major sticking point for VDI, try and watch a YouTube standard music video over an ICA or RDP session and cringe as Britney really does lip sync, albeit 5 seconds too late.
- **Intensive Apps:** AutoCAD and Photoshop you say. No problem I'm a super fast PC and I process everything locally to ensure your new Mercedes gets round and not square wheels.
- **Users:** They do not like change, if you cannot provide the one-to-one experience of a current PC with a VDI environment it will struggle to achieve user acceptance.

No environment is perfect and there are some major hang-ups when working in a PC Environment:

- **Administration:** PCs require a lot of maintenance and administration
- **Power:** A thin client uses 10% of the power of a PC, multiply that by the number of PCs in your environment and you could be looking at a significantly reduced electricity bill in a VDI environment. A plus point not just for cost saving but for also



achieving environmentally conscientious business targets.

- **Replacement:** PCs are usually replaced every 3 years due to more intensive usage, new OS software or components failing due to movement and heat generated. Most VDI solutions will use thin clients which have no moving parts and generate almost zero heat and therefore can be maintained for easily 5 years as all the OS power is done on the server side

So, PC environments are cheaper to install and have better support for multimedia and intensive graphical applications, **BUT**, hold on a minute, don't throw that newly purchased VDI for Dummies book out the window just yet.

Whereas VDI is expensive to implement compared to the PC environment, the cost dramatically falls over the industry standard three-year replacement period. The cost of administration goes down and in some cases it could be envisaged that the maintenance guy is trained to replace a simple thin client in the same way he replaces a fuse or bulb.

Let's take a more detailed look at the potential cost savings of a VDI environment.

- Thin clients use approx 8 watts to a standard PC's 80 watts.
- Thin clients produce less heat and environmental noise; they have no moving parts and are less likely to fail.
- Thin clients do not need to be upgraded or replaced every three years, as the processing power for the applications and desktops is coming from the server.
- VDI desktops are stored on a central server infrastructure so benefit from uninterrupted power supplies, air conditioning and are securely contained in a server room.
- New machines for new staff can be implemented in minutes rather than hours.
- Thin clients can be replaced like changing a bulb.
- New company standard desktops and software can be rolled out on a large scale centrally.



- Remote or local the user will receive exactly the same desktop and can even “steal” their own desktop session when remote or at another workstation (hot-desking).
- Cost of administration and total cost of ownership is reduced by up to 65%.

If you are looking to move to a VDI system, then be prepared to weigh up fully the initial costs vs. the ongoing cost of a PC environment. In these turbulent times it will be trickier than ever for the IT Administrator to justify such a large investment and this may well mean that VDI doesn't start to see favor until well into 2010/2011.

*So what is the other alternative?*

Convert your existing PCs to thin clients, thus prolonging their life, increasing their performance and reducing capital investment. Install a VDI across your existing business infrastructure and you can, at a minimal investment, meet your company's needs for PC performance while benefitting from the cost saving advantages of VDI from day one.

This sounds like a have your cake and eat it solution – which it is for some companies but not all. Before, deciding to move to a VDI environment – whether a full-blown new system or a solution that extends the life of your existing infrastructure – you must take a considered audit of your current situation and your end users needs and expectations.

### **Is your company ready for VDI?**

Visit our web site and complete our online audit to see if you should take a closer look at VDI or stick with your current infrastructure.

\* Estimated cost based on a company of 130 users

### **PC Environment upgrade**



130 PCs with OS license = \$40,000

*(PC specification and cost of PC and OS licenses)*

## **Virtual Desktop**

130 x \$50 for OS license = \$6500

VMware Infrastructure Standard per server x 10 = \$37,500 *(Why 10?)*

VM Virtual Center (to allow centralization) = \$5,000

HP Servers (allowing 10–15 machines per host) = \$20,000

SAN storage = \$20,000

Training on new technology = \$20,000

Total = \$109,000