

Opinion piece: Virtualising the desktop - save space, save money, save the environment

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'Virtualisation' and 'cloud computing' have become IT buzzwords of late, and are often used interchangeably. This is a misconception - cloud computing is in fact only one form of virtualisation, one that uses the Internet as a platform for dissemination of resources and applications, among others.

Other forms of virtualisation, some of which could be of enormous benefit, bear investigation.

Virtualisation is, very basically, the sharing of resources and software on a single machine with multiple terminals. Cloud computing creates a virtual environment where the Internet becomes a platform for the sharing of resources, software, Web services and so on. It is therefore simply one of the various ways of harnessing virtualisation.

There are in fact several different levels or flavours of virtualisation besides cloud computing, including platform, application, resource and database virtualisation. Desktop virtualisation, however, has perhaps the most far reaching implications and benefits.

Desktop virtualisation is about remote manipulation of a computer desktop.

It is usually an in-house solution consisting of dumb terminals connected via a wired or wireless network to a server room. Here, a single server will run multiple dumb terminals. On a smaller scale, one desktop computer may run more than one terminal, enabling far more efficient use of resources for low end users.

Desktop virtualisation has applications in a variety of sectors and industries. For factories, using dumb terminals on the factory floor means that expensive equipment (e.g., hard drive) is not exposed to dust and sparks from machinery. In large corporations or organisations with many users, such as banks, virtualising desktops means that many people can rely on a single machine for access to desktop applications. This saves space as well as lowers the energy requirements needed to run multiple machines.

Universities and Internet cafes can also realise many benefits from running a virtualised desktop environment. Computer rooms at tertiary institutions and public Internet spots experience a large amount of traffic with the potential for security breaches. In a virtualised environment, many terminals can be run off a few servers, which can be placed in a secured room. This will lower the threat of theft as components such as hard drives, CD-ROMS and CPUs, which are very easy to conceal, will not get stolen. And, of course, the dumb terminals are useless without the correct back end.

Minimal installation is required for such a set up, thus also reducing maintenance costs. .

Using a virtualised desktop environment has many benefits, but because of the expense in setting up such an infrastructure, it is better suited to large corporates - it becomes more cost effective as numbers increase. It provides a solid foundation that scales easily and quickly to accommodate more users. This means that new users can be added with minimum fuss.

Other benefits include lower maintenance costs because there are fewer boxes to maintain. And fewer upgrades are needed as only the server machines - not all the terminals -- need to be upgraded. This can save massive amounts of bandwidth, and therefore cost, in large organisations with many users.

A virtual environment saves space, as terminals take up less room than fully functional boxes do. It also reduces power consumption dramatically. Because the power requirements are lower using dumb terminals, virtualisation is a greener way of computing. Having fewer towers also reduces cooling requirements, so further reduces power consumption since air conditioners do not have to work as hard or as long. In addition, noise pollution is reduced, since fewer machines with fewer fans generate less noise.

Virtualisation can also assist mobility, as users can connect remotely to the office computer from another location. Even if the entire desktop is not virtualised, certain applications, such as Outlook, can be, allowing users to easily access mail from anywhere.

With all of these benefits, it is however necessary to bear in mind that desktop virtualisation may not be suitable for every application or organisation. Virtualised desktops are slightly slower in terms of response times, and do not provide the full experience of a real desktop. For this reason a virtualised environment is not viable for organisations with users that need to access resource intensive applications.

Not all applications are compatible with virtualisation either, so organisations need to take care when virtualising environments. However, as the popularity of this model grows, more and more applications are becoming compatible with the virtualisation model.

Virtualisation is without doubt a fast emerging market in South Africa.

Previously such technology was very expensive, requiring a very specialised setup and skills to implement. These all presented enormous barriers to entry and made virtualisation of anything other than high-end applications very difficult.

However, looking into the future, simpler solutions are emerging that are far easier to implement, which makes the virtualisation model more attractive to the mass market. Virtualisation could have a

lot of application locally, and the market can expect to see a surge in the uptake of this model in the near future.

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