

Reducing Costs with Virtualization

- Maximizing utilization of I.T. infrastructure
- Improve reliability, availability, productivity & security
- Simplifying backup and disaster recovery
- Reduce capital and ongoing maintenance costs

By Sean Agostini

| Contents | |
|---------------------|-----|
| Introduction | 1 |
| Existing Scenario | 1 |
| Problem Statement | 1 |
| Solution by Example | 2-3 |
| Summary | 3 |

Introduction

With the introduction of Virtualization, companies big and small can now take full advantage of today's powerful server technology and achieve the following:

- Maximize the utilization of I.T. infrastructure
- Improve reliability, availability, productivity and security
- Simplify backup and disaster recovery
- Reduce capital and ongoing maintenance costs

In this white paper, I will use a real world example to show how this is achieved.

Existing Scenario

Customarily, if one were to follow some level best practices, for every server application (e.g. file server, print server, directory or authentication server, database server, etc.) there would be a separate physical server. At the desktop level, each user would require a computer with its own operating system, applications and user profiles. I.T. personnel would maintain the hardware, keep all operating systems and applications patched and up to date, ensure that locally stored data is backed up and manage user profiles. So in a company with 2 servers and 20 desktop computers that's 22+ hard drives, 40+ fans, 22 operating systems to be patched, **60+ installed applications** to be patched and updated and so on.

Problem Statement

Operating systems (e.g. Windows XP, Windows 7, etc.) and the applications that run on them (e.g. Microsoft Office, accounting applications, etc.) have ever changing requirements. These changing requirements are often hard to keep up with; requiring I.T. personnel to implement regular upgrades and constant maintenance. In order to stay competitive, companies often shorten their usually long I.T. buying cycles, from 5+ years to 3 years or less. This all equates to increased costs, not only in capital investments, but also in the ongoing administration, maintenance and management of these systems. Add to this, concerns about data security and availability and the need to have a sound disaster recovery plan.

Solution by Example

Process Components Limited (ProCom) had an aging I.T. infrastructure, with old PCs, Servers and applications, that could not be updated because of ever growing technical requirements which, in turn, caused performance issues. Basically they had to replace most of their computers and servers. The original core configuration was as follows:

5 Physical Servers

20 Desktops

10 Laptops

Almost all systems had to be replaced. The estimated price to replace the hardware was \$285,000 plus implementation. Using virtualization the hardware cost was \$102,400. Through the effective use of virtualization technology ProCom realized a **64% cost savings** and have set themselves up to continue saving on ongoing management and maintenance. Here's how it was achieved:

1. Rather than purchasing 5 new servers (estimated cost \$35,000 each) they purchased 2 new servers (\$51,000 each) that are more highly configured (more CPUs, RAM, etc.). The five required servers were then setup as virtual servers running on this platform. The advantages include:
 - Higher performance
 - Easier migration
 - Hardware redundancy / ease of disaster recovery (virtual servers can be moved from one physical server to another with very little effort)
 - Lower cost to add servers
2. Existing desktop hardware was converted to Thin Client like systems. Thin Clients are essentially dumb terminals and run only one application that, in turn, runs the client facing operating system off of a server. The advantage of this is everyone is using the same desktop operating system and applications and old computers that were running slow with old software, etc., **run as if they were new with the latest operating system and application software**. Users are also not tied to their desktop, they can move about freely and their login ties them to a single fixed but mobile profile.
3. Ongoing costs are reduced because of the following:
 - I.T. Administrative staff are no longer required to update or patch operating systems on several computers, 25 in ProCom's case. This

Solution by Example (continued)

is now reduced to a total of 6. The same goes for installing and updating application software. Now **to install or upgrade an application on all 20 desktops requires that the application be installed and configured only once**, on the Remote Desktop Server.

- Should one of their desktops now fail, they can be replaced by a Thin Client which is at least **35% less expensive** than a replacement desktop.
- Other advantages include:
 - Centralized storage for easy backup
 - Desktop portability, users access the same desktop no matter where they login from, even if it is from home
 - Simpler disaster recover, only a single file needs to be backed up for complete disaster recovery
 - Faster new user and new desktop deployment
 - **Less I.T. resources required!!**

Summary

Virtualization, in this form, has now been around for over 12 years and as a result is considered a mature product offering. Therefore there should be no question as to whether this technology will work or not but rather, how best can my company leverage this technology to reduce costs, improve efficiency, increase reliability, expand availability, tighten security and give us a competitive advantage.

Call Nubé Networks Limited to find out how to get started!!