# Virtualization

Server Virtualization provides benefits that can be categorized into three main areas:

## Cost Benefit:

Virtualizing the servers will result in a savings on both power consumption and infrastructure investment. Having the ability to increase our computing power while reducing the cost of achieving that computing power will result in reduced overheads such as electricity, maintenance and repairs. As a result of virtualizing some of the current physical machines can be redeployed in other areas or simply be used as backup machines in the event of failure.

## Recovery Benefit:

Greater business continuity and recovery from disasters are one of the major benefits of the virtual environment. Virtualized systems have a faster recovery time as they can be periodically backed up so that when the moment comes to deploy, it can all be done in a matter minutes or a few hours. In contrast, recovering a physical machine for a critical service may take long hours or days, depending on the configurations.

## Administration Benefit:

Management of virtualized machines is a more efficient and productive task than managing physical machines. Doing more with less is something all business seek in all areas, consolidating the critical servers into a virtual environment means that

# Options

There are three popular solutions for production ready virtualization:

* VMWare
* Citrix XenServer
* Microsoft – Hyper-V

Each solution provides the following:

* Scalability –
* VM Security –
* Multiple guest operating systems support
* Live Migrations – this is moving a VM while it is still running
* Replications – copying VMs to other machines
* Support both desktop and server versions for guest OS

With regards to Hyper-V, there focus has been primarily on supporting Microsoft operating systems, which is evident in the list of supported guest OS. Compared to VMWare and Citrix, Hyper-V pales in comparison. This is not a must have option for our organization as we are only using windows operating systems. Hyper-V is a native windows services and as such has the benefits that come along. VMWare and Citrix are built on top of the Windows operating system and therefore will be more resource intensive. Performance wise VMware is a widely used and trusted tool in the IT world. Compared to Hyper-V and Citrix, VMware is the one to beat. With that said in recent years Microsoft and Citrix have made a lot of improvements in their product and now have solid performance and management capabilities. Lastly the cost of each solution comes into question. Hyper-V is already included in the Windows OS being used on the servers. Citrix now offers their XenServer solution for free and VMware offers one of the most expensive products on the market. For small business operations it Hyper-V and XenServer find them selves having a greater adoption because of the cost factor coupled with the dependable performance of the products.

Taking all into consideration Hyper-V is the choice of virtualization platform going forward.