

## **Ghosting & Recovery**

### **Disaster Recovery**

*What constitutes a disaster?*

- ❖ Loss, corruption to business critical data.
- ❖ Loss of access to business critical resources i.e. a domain controller.
- ❖ Loss of data due to vandalism or criminal activity.

### **Management**

Three assessments of the situation for when a disaster occurs:

- ❖ How much money would it take to fix the primary system?
- ❖ How much time and money would it take to implement a contingency plan?
- ❖ How much does down-time cost per hour?
- ❖ Then make your decision.

### **Contingency Planning**

This plan includes pre-emptive measures that should be performed to enable a company to recover from a disaster:

- ❖ Regular data back-ups of all critical data (Godfather, Father, Son method).
- ❖ Ghost images of the servers.
- ❖ In-built redundancy.
- ❖ Alternative emergency internet access i.e. through an ISDN or ADSL link.
- ❖ Alternative site locations – Hot, warm and cold.

### **Back-ups**

- ❖ There should be a company back-up routine in place which dictates when and by whom the daily backup of data should be taken.
- ❖ The backup media i.e. tapes and DVD's, hard drives should be stored in fire proof safes off site.

### **Ghost Images**

- ❖ Ghost images backup the operating system, applications, programs and drivers installed on a system this includes data.
- ❖ Ghost images can dramatically restore work very quickly.

### **Hot, Warm and Cold Sites**

Sites are categorised by the time it takes to make them fully operational:

- ❖ A hot site is a mirror site which is ready to use and is up to date.
- ❖ A warm site has the required equipment, but is currently not up to date and would require some additional work before it would be operational.
- ❖ A cold site would hold really basic facilities i.e. working telephone and internet connection. Where backup data would need to be manually restored.

## **Symantec Ghost**

Ghost is a hard disc duplication product now owned by Symantec (previously Norton) that enables the creation and restoration of images. It is the mostly widely used imaging product used in the commercial environment.



### **What is an Image?**

It is a replica of the data stored on the hard drive and/or partition thus they include the OS, any installed drivers, any installed applications and any personal data (however the personal data can be removed).

### **Why create an Image?**

Images are used in commercial environment to roll out new operating systems on a large scale. At home they can be used to recover a system which has been infected with a virus.

### **Advantages of Imaging**

- 1. Complete systems (O/S and applications) can be deployed to a multiple systems quickly and efficiently.
- 2. Easier to adopt a 'corporate identity'.
- 3. Catastrophic corruption (re-image).
- 4. Data can be migrated to larger hard disks quickly and painlessly.

### **Disadvantages of imaging**




- 1. Source and destination systems to have the base hardware.
- 2. Any mistakes made on the source system will be duplicated to all destination systems.
- 3. If deploying over network can slow down network performance. The impact of this could be reduced by staging roll outs.
- 4. It's a third party product that will need to be purchased and licensed.

### **The rollout process**



The process has three distinct steps:

- 1. The creation of the reference machine:  
*Installing everything that you want to duplicated on to the image file.*
- 2. The creation of the image disc:  
*Using Ghost to copy the relevant hard disc(s) or partitions to a ghost image file (.GHO) saved on a network drive or optical device.*
- 3. Deployment of an Image file:  
*From its stored location onto the blank system(s) or hard disc(s).*




### **The creation of the reference machine**

-  Install the operating system.
-  Install any of the required drivers and applications that the user of the system would need access to.
-  In order to remove any personal

### **The 2 types of deployment**





-  Unicasting – One computer
-  Multicasting – To many (normally via a server)

### **The types of multiplexing**

-  Single Duplex - One way transmission
-  Half Duplex – One person talk at a time (walkie talkie)
-  Full Duplex – Two way talking (telephone)

### **Ghost Boot Disk Creation**

The ghost boot disk creation wizard can be used to make a boot disk from any media:

-  CD/DVD
-  USB
-  Floppy Disk (Ghost 11 onwards will not fit)
-  Network Card

The boot disk will include drivers for the relevant devices. Specific drivers can be important if the generic drivers are incompatible.