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Desktop Deployment

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The Goal

Getting an OS and software on a PC

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Session Overview

- OS Deployment - 2 Methods
- Software Deployment - 2 Package Types
- Demonstrations

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Components

- Operating System - Image
- Software - Packages
- Imaging Software - Ghost / True Image

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OS Deployment

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Progression of Deployment

- Image Per Model Per OS Per Task
- Image Per Model Per OS
- Image Per OS
- No Image

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Deployment Methods

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Ghost Images

Snapshot of model PC

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Legacy Imaging Process

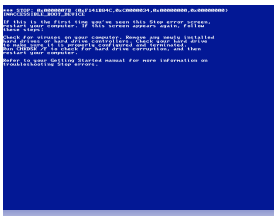
- Grab a PC
- Install OS
- Update OS
- Install applications
- Create image
- Distribute image to similar clients

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Imaging Problems

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Imaging Problems



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Imaging Problems

- Hardware Abstraction Layer (HAL)
- Differences in hardware
- Domain membership
- Duplicate SIDs

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Imaging Solutions

Microsoft System Preparation Tool

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Sysprep

- SID generation
- Hardware detection
- Unique computer name
- Domain membership

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Sysprep.inf

Overview

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Sysprep Limitations

- Mass storage controllers must be the same
- Sysprep does not support different HALs

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Sysprep and Ghost

- Sysprep templates in Ghost
- Running Sysprep manually

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Creating an Image

1. Install Windows XP from CD
2. Update Windows XP
3. Refrain from making customizations!
4. Copy Drivers folder to C:\
5. Run "Create Image" task with Sysprep

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Imaging Procedure

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Imaging Procedure

1. PC Awaiting Task
2. Admin initiates imaging task from console
3. Ghost Console issues command to PC
4. PC starts up Ghost.exe
5. Ghost.exe joins multicast session
6. PC waits for multicast to start

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Imaging Procedure

7. Server waits for all PCs to be ready
8. All PCs ready
9. Server begins multicast session
10. Multicast finishes
11. PC restarts
12. Windows starts up for first time

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Imaging Procedure

13. Sysprep runs
14. PC restarts
15. Ghost Win32 service contacts Console
16. Ghost sets PC name & PC joins domain
17. PC restarts
18. Ghost Win32 service contacts Console

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Imaging Procedure

19. Console directs PC to software package
20. PC installs package (repeat until finish)
21. PC deployment finished

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Unattended Install

Installing Windows from media

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File Server

Hosts Windows Installation Files

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Windows XP Share

Created by SetupMgr.exe in Deploy.cab
\\fileserver1\Images\Windows XP

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Installation Media

Created by SetupMgr.exe in Deploy.cab

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Special Folders

- i386
- \$OEM\$
 - \$\$ - C:\Windows
 - \$I - C:\

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WinNT.SIF

Preconfiguring Windows install

30

TxtSetup.SIF & DosNet.INF

Editing required for supporting mass storage devices

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CmdLines.TXT

Post-install tasks

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Drivers

- Folders added to \$OEM\$\I\Drivers
- Path to drivers added to WinNT.SIF

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Ghost Client

- Patch Ghost Client.msi to install properly
- Add Ghost to share (%oem%\Ghost)
- Configure RunOnceEx to install

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Bart PE Image

Bootstraps Window XP Installation

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Bart PE

- Overview
- Plugins
- Uses

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Hardware Support

Adding Drivers

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Autorun Scripts

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Bart PE Goals

1. Bring up necessary hardware
2. Obtain IP address
3. Map network drive
4. Start Windows install

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Creating Ghost Image

- Build Bart PE with Ghost plugin and scripts
- Skip startup scripts except for network
- Partition & format drive
- Install Bart PE to hard drive
- Start Ghost and send image to server

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Unattended Procedure

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Bart PE Procedure

1. PC awaiting task
2. Console initiates imaging task
3. PC is imaged with Bart PE image
4. Bart PE boots up, initializes network driver
5. Bart PE gets IP address via DHCP
6. Bart PE runs custom add-on

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Bart PE Custom Script

- Map file server share as W:
- If failure, wait 10 seconds and retry
- Run winnt32.exe with proper parameters
- Install exits, mapped drive is disconnected
- Reboot PC

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Bart PE Procedure

7. Custom add-on ends
8. PC restarts
9. Windows installs as scripted in WinNT.SIF
10. PC restarts
11. PC logs on as Administrator 1 time
12. Ghost Client installs

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Bart PE Procedure

13. PC restarts
14. Client contacts Console
15. Console tells PC to rename & join domain
16. PC restarts
17. PC installs software based on OU

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Comparison

Attribute	Winner	Reason
Speed	Images	Multicasting
Bandwidth	Images	Multicasting
Maintenance	Unattended	Slipstreaming
Compatibility	Unattended	HAL Adaptation

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The Driver Folder

Demo

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Software Deployment

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Packaging Formats

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Ghost AI Packages

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AI Advantages

- Free (with Ghost)
- Package source code easier

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AI Disadvantages

- Repackager tool much slower
- Harder to customize packages
- Uninstaller not intelligent or automatic

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Microsoft Installer

MSI Packages

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MSI Advantages

- More features
- Uninstall more complete
- Safer upgrades
- Repackaging tool higher quality

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MSI Disadvantages

- Expensive tools
- Higher learning curve

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Transforms & Patches

MST's and MSP's

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Creating Packages

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Creating AI Packages

Demo

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Creating MSI Packages

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Vendor Supplied

- Microsoft Office Deployment Kit
- Adobe Acrobat Install Tuner
- Macromedia Flash & Shockwave
- Quicktime (with work)

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MSI Repackaging

Demo

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Deployment

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AI Package Deployment

Part of Task

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MSI Deployment

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MSI/AI Package Wrapper

AI package launches MSI package

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Group Policy

- Installation Types
 - Assign to PC
 - Publish to User
 - Assign to User
- Uninstalls
- Upgrades

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Using Ghost

Bringing it all together

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Pitfalls

- IGMP/CGMP & Network configuration
- Server stress
- Ghost DB instability
- Package paths

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Ghost Boot Partition

- What it is
- How it works
- Adding new network cards
- Creating one

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Deploying Boot Partition

- Bootable CD Method
- Classic Method

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Decisions to Make

- Ghost Structures
 - Machine Groups
 - Tasks
 - Templates
- Active Directory
- Computer Names

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Deployment Demo

Using Ghost Image and AI Packages

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Deployment Demo

Using Unattended and MSIs through Group Policy
