
Large and Small Windows Deployment Using an Open Source Imaging Solution

— Brainstorm 2017 - Sandusky —

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Talking Points

Windows 10 tips and tricks

Differences in imaging Windows 10 vs. Windows 7

Redo Backup and Recovery

Windows 10 Tips

Windows 10 personalization

More options and features than previous versions

Start Menu

Notifications

Cortana

Action Center

Start Menu

More confusing at first than Windows 7 Start Menu

Users stay away from scrollable applications list

If it's not easily found, users assume it's not installed

Important that common programs are visible on Start Menu and Desktop

Grouping tiles in the Start Menu looks sharp and lets users easily access apps



Most used

- Tips
- Control Panel
- Command Prompt
- Windows PowerShell
- Computer Management
- Feedback Hub

#

- 3D Builder

A

- Access 2016
- Acrobat Reader DC
- Alarms & Clock

B

- Button Manager for EPSON D... ▾

C

Web Browsers

 Google Chrome	 Mozilla Firefox	 Microsoft Edge
 Internet Explorer		

Microsoft Office 2016

 Word 2016	 Excel 2016	 PowerPoint 2016
 Access 2016	 Publisher 2016	 OneNote 2016

My PC

 This PC	 Documents	 Downloads
-------------	---------------	---------------

Google Drive

 Google Docs	 Google Sheets	 Google Slides
-----------------	-------------------	-------------------

Tools

 Microsoft Calculator Plus	 Paint	 Notepad
 Math Input Panel	 Steps Recorder	 Snipping Tool

Notifications

Notifications slide in at the bottom right, and can be bothersome to users

Turn off unnecessary notifications like Edge and Cortana ads


Settings > System > Notifications & actions

You can customize what programs get to send notifications

Some notifications are helpful

Incoming email in the browser, calendar events, finished downloads



 Home


Find a setting 

System


 Display


 **Notifications & actions**

 Power & sleep


 Battery

 Storage

 Tablet mode

 Multitasking

 Projecting to this PC

 Shared experiences

 About

Notifications & actions



Connect



Network



Mobile
hotspot



Night light

[Add or remove quick actions](#)

Notifications

Get notifications from apps and other senders

On

Show notifications on the lock screen

On

Show reminders and incoming VoIP calls on the lock screen

On

Hide notifications when I'm duplicating my screen

Off

Get tips, tricks, and suggestions as you use Windows

Off

Show me the Windows welcome experience after updates and occasionally when I sign in to highlight what's new and suggested

Off

Cortana

Cortana is a feature that requires a Microsoft account to use

Great at home, not so much in the classroom of a Google district

Disable Cortana and remove the taskbar icon

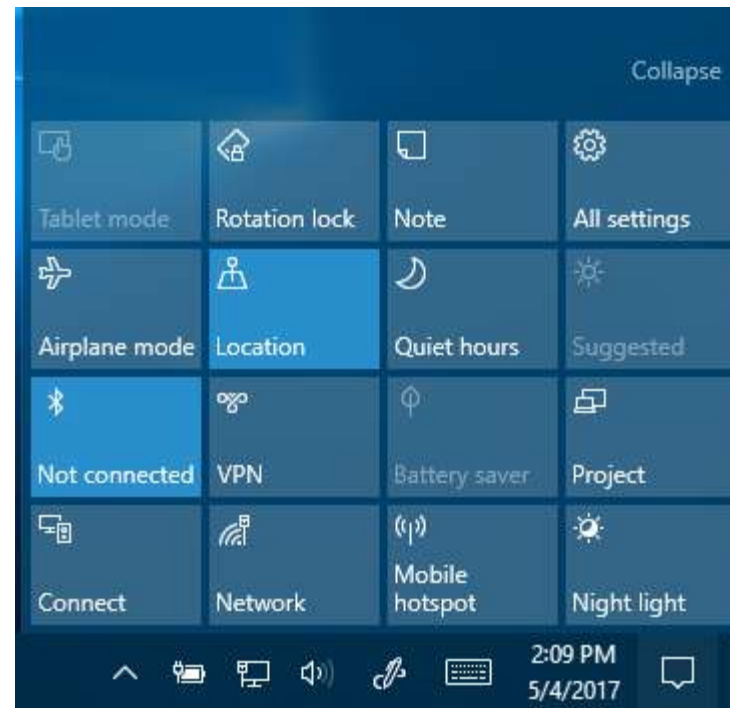
Right click taskbar > Cortana > Hidden

Action Center

A place for quick actions and notifications

To customize quick actions

Settings > System > Notifications & actions



Removing Windows 10 Apps

You may want to remove the built in Windows 10 Apps

In PowerShell logged in as the user you will use to Sysprep

This removes all apps from all users:

```
Get-AppxPackage -AllUsers | Remove-AppxPackage
```

This removes provisioning apps for new users created:

```
Get-AppxProvisionedPackage -online | Remove-AppxProvisionedPackage -online
```

User Accounts

Two user accounts to use:

Install user

Used to install all programs

Sysprep user

Customize this account and use to sysprep the PC

This keeps stray temp files from enlarging the default profile size

Sysprep

What is Sysprep and why do we use it?

- Tool that is built into Windows

- Prepares system for imaging to multiple computers

 - Clears the SID (Security Identifier)

 - Option to enable Out-of-box-experience after Sysprep

- Activate with command prompt : `cd c:\windows\system32\sysprep\sysprep.exe`

Imaging with Windows 10

Setting profile to use as a default profile

Configure a local user profile how you wish. Don't use domain profile

Use an unattend.xml answer file with CopyProfile=true

Copies current profile as sets as default. Used during Sysprep stage

Easily found online or make your own in Windows SIM

Getting Started with Redo

Getting Started - Download Redo ISO

Download: www.redobackup.org

Burn to CD

InfraRecorder - www.infrarecorder.org

You may also want to create a bootable USB drive

Linux Live USB Creator - www.linuxliveusb.com

Why Redo?

Open Source = Free

Easy to use GUI

4 inexperienced summer workers imaged and deployed 560 computers in under 2 months

Easy to setup

No additional equipment needed

Why Redo?

Redo really shines in small deployments of a few PCs

But scalable for hundreds of PCs

Image over wired and wireless networks!

Redo already includes many drivers for your devices

Prepare Image Storage

Use storage option that is connected to your network

This can be a simple PC box or a Windows Server or NAS drive

Ensure you have enough space

Average image size of 15GB

Create a shared folder

Ensure security settings are set properly

Limit who can access and modify your image files

Gathering an Image with Redo

Pop in the CD/USB in your master image PC and turn on the PC

Ensure that your master PC is connected to the network

Boot to the CD or USB drive



Start Redo Backup

Safe Mode

Check CD for defects

Memory test

Press F1 for help

If boot fails, reboot and try
selecting Safe Mode instead

Backup Made Simple.



Welcome

Select an Option

Easily create a backup image of your computer, or completely restore from one. Click an option to begin:





Welcome

Select an Option

Easily create a backup image of your computer, or completely restore from one. Click an option to begin:



Backup



Restore

- Redo Backup & Recovery
- Accessories
 - File Manager
 - Image Viewer
 - Terminal
 - Text Editor
 - Web Browser
- Disk Tools
- Settings

Backup

Step 1: Select Source Drive

Click on the box below to select the source drive that you would like to create a backup image from.

Drive 1 (8.00GB): VBOX HARDDISK

Cancel

Next >

Done.



5:07 PM
Thu, May 04



Backup

Step 3: Select Destination Drive

Where is the destination drive?

- Connected directly to my computer
 Shared over a network

Select network-shared storage destination:

Shared folder specified below

Search network

Server or share location: //10.20.120.5/images

Username (Optional): tech

Password (Optional): ●●●●●●●●

Domain (Optional): madisonschools.net

Cancel

Next >

Done.



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Thu, May 04



Important to Note

When entering server or share location, you MUST use IP address

Redo does not talk to DNS

Forward slashes are used here instead of backslashes

Backup

Step 4: Select Destination Folder

Click **Browse** to select or create a folder on the destination drive where your new backup image will be saved.

The folder a backup is saved in is usually a description of the computer, e.g. **office 1** or **zack-laptop**.


Done.



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Thu, May 04



Backup and Restore Utility

Redo 

Select a Folder

mnt backup Create Folder

Places

- Search
- Recently Used
- root
- File System

Name	Size	Modified
Brainstorm Demo Image		15:55
Dell Latitude E6400 - nonsysprep - October 5 2016		10/05/2016
Dell Latitude E6400 - sysprep - October 6 2016		10/06/2016
Dell Optiplex 780 - sysprep - Jan 2017 - MR		01/17/2017
Dell Optiplex 780 - sysprep - July 12 2016		07/26/2016
HP Compaq dc7900 - sysprep - July 29 2016		07/29/2016
Surface Pro 4 - sysprep - Jan 2017 - MR		01/20/2017
tonypc28mar2017		03/28/2017

Cancel Save Here

Done.

5:09 PM Thu, May 04

Backup

Step 4: Select Destination Folder

Click **Browse** to select or create a folder on the destination drive where your new backup image will be saved.

The folder a backup is saved in is usually a description of the computer, e.g. **office 1** or **zack-laptop**.

Done.



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Thu, May 04



Backup

Step 5: Name Your Backup

Provide a unique name for this backup image, such as the date. Today's date is automatically entered for you below.

You may only use letters, numbers, and dashes in your backup name.

Done.



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Thu, May 04



Post Gathering

After Redo completes gathering the image, you are free to shut off the PC

That's it!

You now have a saved image that you may cast onto other devices

Casting an Image with Redo

Similar process as gathering an image

Make sure you're on the network

Start up the device(s) that you want to image

Boot into Redo

Welcome

Select an Option

Easily create a backup image of your computer, or completely restore from one. Click an option to begin:



Backup



Restore



Restore

Step 1: Select Source Drive

Where is the source drive?

- Connected directly to my computer
 Shared over a network

Select network-shared storage source:

Shared folder specified below

Search network

Server or share location: //10.20.120.5/images

Username (Optional): tech

Password (Optional): ●●●●●●●●

Domain (Optional): madisonschools.net

Cancel

Next >

Done.



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Thu, May 04





Restore

Step 2: Select Backup Image

Click the box below to select the image file to restore from.

A text input field with a light gray border and a small blue folder icon on the right side. The text "(None)" is displayed inside the field.

Cancel Next->

Done.



Select Backup Image

mnt backup

Places

- Search
- Recently Used
- root
- File System

Name	Size	Modified
Brainstorm Demo Image		15:55
Dell Latitude E6400 - nonsysprep - October 5 2016		10/05/20
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Dell Optiplex 780 - sysprep - July 12 2016		07/26/20
HP Compaq dc7900 - sysprep - July 29 2016		07/29/20
Surface Pro 4 - sysprep - Jan 2017 - MR		01/20/20
tonypc28mar2017		03/28/20

Cancel Open

Done.

5:12 PM
Thu, May 04



Select Backup Image

mnt backup **Brainstorm Demo Image**

Places

- Search
- Recently Used
- root
- File System

Name	Size	Modified
20170504.backup	0 bytes	17:10

Cancel Open

Done.



Restore

Step 3: Select Destination Drive

Select the destination drive you wish to overwrite and restore the selected image to.

Drive 1 (8.00GB): VBOX HARDDISK

Cancel

Next >

Done.




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Thu, May 04





Restore

Restoring From Backup

 Are you sure you want to restore the backup to /dev/sda?
Doing so will permanently overwrite the data on this drive!

Time Elapsed / Remaining:

Cancel

Preparing destination drive...



Post Casting

After Redo completes, you may reboot the PC

Windows will start into the Out-of-Box-Experience

Complete your OOBE steps

- Create local user accounts

- Name PC and join to domain

- Activate software

Using Redo

Average cast time on a 1 gig network: 6-7 minutes for a single PC

On a 10/100 network, casting times averaged about 30 minutes for a single PC

Imaging 30 at a time took a couple hours on a 1 gig network

Wireless imaging over 802.11AC network averaged about 10 minutes

802.11N took about 20-30 minutes

Reimaging can become a faster alternative to troubleshooting software issues

Using Redo

Like Clonezilla, in Redo you must cast to a device that has a equal or larger hard drive than that of your reference PC

You may change the size by modifying a file stored in the image

Modify the SIZE file in your image

File Home Share View

Clipboard: Pin to Quick access, Copy, Paste, Cut, Copy path, Paste shortcut

Organize: Move to, Copy to, Delete, Rename

New: New folder, New item, Easy access

Open: Properties, Open, Edit, History

Select: Select all, Select none, Invert selection

← → ↕ ↑ > Network > 10.20.120.5 > images > Dell Latitude E6400 - sysprep - October 6 2016 Search Dell Latitude E6400 - s...

- Quick access
- Desktop
- Downloads
- Documents
- Pictures
- hpeb8440sysprepsn
- hpeb8440sysprepsn
- pics for brainstorm
- System32
- OneDrive
- This PC
- Network

Name	Date modified	Type	Size
20161006.backup	10/6/2016 9:37 AM	BACKUP File	1 KB
20161006.mbr	10/6/2016 9:37 AM	MBR File	32 KB
20161006.sfdisk	10/6/2016 9:37 AM	SFDISK File	1 KB
<input checked="" type="checkbox"/> 20161006	10/6/2016 9:37 AM	SIZE File	1 KB
20161006_part1.000	10/6/2016 9:37 AM	000 File	11,594 KB
20161006_part2.000	10/6/2016 9:41 AM	000 File	2,097,152 KB
20161006_part2.001	10/6/2016 9:45 AM	001 File	2,097,152 KB
20161006_part2.002	10/6/2016 9:48 AM	002 File	2,097,152 KB
20161006_part2.003	10/6/2016 9:52 AM	003 File	2,097,152 KB
20161006_part2.004	10/6/2016 9:55 AM	004 File	2,097,152 KB
20161006_part2.005	10/6/2016 9:58 AM	005 File	1,636,617 KB

20161006 - Notepad

File Edit Format View Help

160041885696



Downsides of Redo

Unable to make it work with UEFI systems that don't have legacy option

E.g. Microsoft Surfaces

Can get slow on busy networks

Imaging more than 30 computers can take hours

Recap

Windows 10 tips to ease the transition from Windows 7

Customizing the start menu

Eliminating annoyances and turn offs

Hiding features that will go unused

Recap

Differences in imaging process

Unattend.xml and CopyProfile

Removing Windows 10 apps and provisioning

Recap

Redo Backup and Recovery

Why Redo is a good solution

Step by step guide

Downfalls to using Redo

Thank you

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