Protecting Your Data From Computer Failures (backing up your data)

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Motivation to backup

- Data becomes inaccessible
  - Computer won’t startup
  - Virus
  - Hard drive can fail
  - Lost files / accidentally deleted

- Backing up can prevent loss of files
What to backup

- Documents
- Pictures
- Music
- Videos
- Internet bookmarks
- (Email)
External Drives

- External Hard Drive
- USB thumb drive
- CD/DVD
Strategies

• Backing up just what you need
  ◦ Requires – much - less space and time
  ◦ USB thumb drive

• Backing up your entire system
  ◦ Can restore your computer to exactly how it was at a certain date
  ◦ External hard drive
Strategies

- Manually backing up
  - Better control and knowledge over what is being backed up.

- Automatically backing up
  - Lets the computer back up at preset intervals.
  - Can be done when not at the computer, or while you are working on something else.
Strategies

- Name your files to be recognizable!
  - Try not to have files with ‘similar’ names
    - Eg: presentation.ppt and presentation1.ppt
  - If you have multiple backups, make sure you can identify them by date
Strategies

• Saving all your files onto an external drive
  ◦ Generally safe from viruses
  ◦ Much less prone to disk failure than the internal drive
  ◦ Portable
Software (Included)

- Windows XP
  - Built in backup feature

- Windows 7
  - Built in backup feature

- Macintosh
  - Time Machine
Windows 7 built in backup
Windows 7 built in backup

Select where you want to save your backup

We recommend that you save your backup on an external hard drive. [Guidelines for choosing a backup destination]

Save backup on:

<table>
<thead>
<tr>
<th>Backup Destination</th>
<th>Free Space</th>
<th>Total Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD RW Drive (D:)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RANDALL_USB (F:)</td>
<td>2.35 GB</td>
<td>3.73 GB</td>
</tr>
</tbody>
</table>

Other people might be able to access your backup on this location type. [More information]
Windows 7 built in backup

What do you want to back up?

- Let Windows choose (recommended)
  Windows will back up data files saved in libraries, on the desktop, and in default Windows folders. These items will be backed up on a regular schedule. [How does Windows choose what files to back up?](#)

- Let me choose
  You can select libraries and folders and whether to include a system image in the backup. The items you choose will be backed up on a regular schedule.
Windows 7 built in backup

What do you want to back up?

Select the check box of the items that you want to include in the backup. What files are excluded by default from the backup?

- Data Files
  - Back up data for newly created users
  - Randall's Libraries
- Computer
  - Randall (C:)

Include a system image of drives: System Reserved, Randall (C:)

The selected backup location does not support the creation of system images.
Windows 7 built in backup

Review your backup settings

Backup Location: RANDALL_USB (F:)
Backup Summary:

<table>
<thead>
<tr>
<th>Items</th>
<th>Included in backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>All users</td>
<td>Default Windows folders and lo...</td>
</tr>
</tbody>
</table>

Schedule: Every Sunday at 7:00 PM

Change schedule

Save settings and run backup
Cancel
Mac Time Machine

Do you want to use “My Backup” to back up with Time Machine?

Time Machine keeps an up-to-date copy of everything on your Mac. It not only keeps a spare copy of every file, it remembers how your system looked, so you can revisit your Mac as it appeared in the past.

- Decide Later
- Don't Use
- Use as Backup Disk

Time Machine

- Name: Vortex
- Available: --
- Oldest Backup: December 22, 2008
- Latest Backup: Today, 1:52 PM
- Next Backup: Today, 3:35 PM

- Change Disk...
- Options...

Time Machine keeps:
- Hourly backups for the past 24 hours
- Daily backups for the past month
- Weekly backups until your backup disk is full

Show Time Machine status in the menu bar

Click the lock to prevent further changes.
Mac Time Machine
Software (Windows)

- **Norton Ghost**
  - Creates a ‘disk image’ of your computer.
  - The image can be restored onto your computer, reverting your computer to that point in time.
  - Can also create backup schedules.
Software (Mac)

- Carbon Copy Cloner
  - Very simple to use.
  - Can creates images like Norton Ghost, and can selectively backup individual files.
  - Can also create backup schedules.
Software (All platforms)

- Dropbox
  - Syncs your files online across multiple computers
  - Any changes made to ‘Dropbox’ folder will be automatically uploaded online.
  - Other computers will then download any changes.
Operating System failure (Windows/Mac failure)

1) Backed up just what you need
   • Reinstall Windows / Mac (will erase everything on the hard drive)
   • Reinstall all your software
   • Copy over the backed up files onto the computer.

2) Backed up entire system
   • Run the recovery software, and your computer will be back to normal
Hard drive failure

1) Backed up just what you need
   - Install a new hard drive and throw away old one (everything on it will be unrecoverable)
   - Install Windows/Mac
   - Install all your software
   - Copy over the backed up files onto the computer.

2) Backed up entire system
   - Install a new hard drive and throw away old one (everything on it will be unrecoverable)
   - Run the recovery software, and your computer will be back to normal