TRANSITIONING BETWEEN "WINDOWS XP", "WINDOWS 7", "WINDOWS 8", "WINDOWS 8.1", AND "WINDOWS 10"

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Web location for this presentation:
http://aztcs.org
Click on “Meeting Notes”
SUMMARY

Here is a comparison between "Windows 7", "Windows 8", "Windows 8.1", and "Windows 10" to help you select between them.
TOPICS

- Distinguishing Between Various Versions of "Windows.."
- Beyond "Windows XP"
- Hardware Requirements
- "Start Button" Issues
TOPICS (continued)

- Running Old Software Applications That Only Run In "Windows XP"
- Changing Location of the Startup Folders
TOPICS (continued)

- "Windows Media Center"
- "Extended Support" End Dates
- "Windows 8" and "Windows 8.1" Have "File History"
- The "Pro" and "Enterprise" Editions of "Windows 8" And "Windows 8.1" Have "Hyper-V"
TOPICS (continued)

- "Windows 8" And "Windows 8.1" Have "Storage Spaces"
- Hardware Driver Improvements In "Windows 8" And "Windows 8.1"
- "Spot Verifier" Service For Hard Drives in "Windows 8" and "Windows 8.1"
TOPICS (continued)

- Appendix 1: Windows Product Time Line
- Appendix 2: Confusion Between "Update To 8.1" and "Update for 8.1"
DISTINGUISHING BETWEEN THE VARIOUS VERSIONS OF "WINDOWS.."
"DISTINGUISHING BETWEEN THE VARIOUS VERSIONS OF "WINDOWS..."

- "Windows XP" -- Oct. 25, 2001
- "Windows 7" -- Oct. 22, 2009
- "Windows 8" -- Oct. 26, 2012
- "Windows 8.1" -- Oct. 18, 2013
- "Windows 10" -- July 29, 2015
"DISTINGUISHING BETWEEN THE VARIOUS VERSIONS OF "WINDOWS.."

• For "Windows XP", "Windows Vista", and "Windows 7", the product name is displayed on a "splash screen" during the boot up process.

• No so for "Windows 8" and "Windows 8.1".
THE STARTUP OF "WINDOWS XP" LOOKS LIKE THIS:
System:
Microsoft Windows XP Professional x64 Edition (Debug)
Version 2003

Registered to:
testuser

76588-372-0251373-51282

Computer:
Intel(R) Core(TM) i7-3770K
CPU @ 3.50GHz
3.50 GHz, 4.28 GB of RAM
System:
Microsoft Windows XP
Professional x64 Edition
(Debug)
Version 2003

Registered to:
testuser
THE STARTUP OF "WINDOWS VISTA" LOOKS LIKE THIS:
View basic information about your computer

Windows edition

Windows Vista™ Business

Copyright © 2006 Microsoft Corporation. All rights reserved.

Upgrade Windows Vista

System

Rating: 1.0 Windows Experience Index: Unrated

Processor: Intel(R) Core(TM) i7-3770K CPU @ 3.50GHz 3.50 GHz

Memory (RAM): 999 MB

System type: 32-bit Operating System

See also

Windows Update
Security Center
Performance
Windows edition

Windows Vista™ Business

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Upgrade Windows Vista
THE STARTUP OF "WINDOWS 7" LOOKS LIKE THIS:
Starting Windows
Starting Windows
View basic information about your computer

Windows edition

Windows 7 Enterprise

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Service Pack 1
The graphical windows symbol for "Windows Vista" and "Windows 7" are the same:
Starting with "Windows 8", your computer will not tell you when version of "Windows.." is running when you power up your computer!
THE STARTUP OF "WINDOWS 8" LOOKS LIKE THIS:
If you see a slanty blue window when you power up your computer, you are running either "Windows 8" or "Windows 8.1".
To see if you are running "Windows 8" or "Windows 8.1", you can go to "System" in the "Control Panel".
View basic information about your computer

Windows edition

Windows 8 Pro with Media Center
© 2012 Microsoft Corporation. All rights reserved.

System

Rating: 6.8 Your Windows Experience Index needs to be refreshed
Processor: Intel(R) Core(TM) i7-3770K CPU @ 3.50GHz 3.50 GHz
Installed memory (RAM): 7.46 GB
System type: 64-bit Operating System, x64-based processor
Pen and Touch: Limited Touch Support with 8 Touch Points

Computer name, domain, and workgroup settings

Computer name: Win8Pro64bit
Full computer name: Win8Pro64bit
Computer description: Win8Pro64bit
Workgroup: WORKGROUP

Windows activation

Windows is activated View details in Windows Activation
Product ID: 00181-00011-20127-AB836
THE STARTUP OF "WINDOWS 8.1" LOOKS LIKE THIS:
In "Windows 8.1", there are three icons in the upper right-hand corner of the "Start Screen":
View basic information about your computer

Windows edition

Windows 8.1 Enterprise Evaluation
© 2013 Microsoft Corporation. All rights reserved.

System

Processor: Intel(R) Core(TM) i7-3770K CPU @ 3.50GHz 3.50 GHz
Installed memory (RAM): 4.00 GB
System type: 64-bit Operating System, x64-based processor
Pen and Touch: Limited Touch Support with 8 Touch Points

Computer name, domain, and workgroup settings

Computer name: Win8pt1EE06-02
Full computer name: Win8pt1EE06-02
Computer description: WORKGROUP

Windows activation

Windows is activated Read the Microsoft Software License Terms

See also

Action Center
Windows Update
Windows edition

Windows 8.1 Enterprise Evaluation

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Windows edition

Windows 8.1 Enterprise Evaluation

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"DISTINGUISHING BETWEEN THE VARIOUS VERSIONS OF "WINDOWS.."

- "Windows 8" and "Windows 8.1" both use the same slanted blue windows "splash screen" and the same "Windows 8.1" logo.
BEYOND "WINDOWS XP"--
THE BIG CHANGES FOR THE COMPUTER USER
BEYOND "WINDOWS XP"

- Microsoft made five big changes to the configuration of "Windows.." when they moved from "..XP" to "..Vista". Afterwards, they kept these five changes for "Windows 7", "Windows 8", and "Windows 8.1": 

"Printers and Faxes" in the "Control Panel" Became "Devices and Printers":
Printers and Faxes
Devices and Printers
• "Scanners and Cameras" Has Been Merged Into "Devices and Printers":

BEYOND "WINDOWS XP" (continued)
Scanners and Cameras
Devices and Printers
• The "Documents and Settings" Folder Became the "Users" folder:
Documents and Settings
BEYOND "WINDOWS XP" (continued)

• "Add or Remove Programs" in the "Control Panel" Became "Programs and Features":

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Add or Remove Programs
Programs and Features
• "Add Hardware" in the "Control Panel" No Longer Exists:
Add Hardware
• These changes are explained in more detail at http://aztcs.org/meeting_notes/winhardsig/win8.1/beyondWinXP.pdf
HARDWARE REQUIREMENTS
# HARDWARE REQUIREMENTS

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Windows 7</strong></td>
<td>Requires at least a 1+ GigaHertz processor with at least 1 GB of RAM</td>
</tr>
<tr>
<td><strong>Windows 8</strong></td>
<td>+ Requires processor with PAE, NX, and SSE2</td>
</tr>
<tr>
<td><strong>Windows 8.1</strong></td>
<td>+ Requires processor with PAE, NX, SSE2, and, if you have a 64-bit processor: CMPXCHG16b, PrefetchW, and LAHF/SAHF</td>
</tr>
</tbody>
</table>
HARDWARE REQUIREMENTS (continued)

- Computers with Intel "Pentium 4" processors have had exceptionally durable life spans. They were sold from 2000 to 2008 and many of them are still alive and well. Most of them were sold with "Windows XP" installed.
HARDWARE REQUIREMENTS FOR OLD "PENTIUM 4" COMPUTERS

<table>
<thead>
<tr>
<th>WINDOWS 7</th>
<th>REQUIRES A &quot;PENTIUM 4&quot; (OR HIGHER) PROCESSOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINDOWS 8</td>
<td>RUNS ON 30 PERCENT OF &quot;PENTIUM 4&quot; COMPUTERS</td>
</tr>
<tr>
<td>WINDOWS 8.1</td>
<td>RUNS ON VERY FEW &quot;PENTIUM 4&quot; COMPUTERS</td>
</tr>
</tbody>
</table>
HARDWARE REQUIREMENTS (continued)

- Two ways to determine if your old "Pentium 4" computer can run "Windows 8" or "Windows 8.1:
  Method 1: Run "coreinfo.exe" 
  Method 2: Attempt to install the free "Windows 8 Enterprise Evaluation" or the free "Windows 8.1 Enterprise Evaluation"
HARDWARE REQUIREMENTS (continued)

- Method 1: Run Microsoft's free "coreinfo" to determine if your old "Pentium 4" Computer can run "Windows 8" or "Windows 8.1":

See http://aztcs.org/meeting_notes/winhardsig/win8/old-computer-Win8.pdf
HARDWARE REQUIREMENTS (continued)

- Method 2: Attempt to install the free "Windows 8.1 Enterprise Evaluation" or the free "Windows 8.1 Enterprise Evaluation".
HARDWARE REQUIREMENTS (continued)

• Method 2 (continued):
  To download and attempt to install the free "Windows 8 Enterprise Evaluation", see
  or
  http://aztcs.org/meeting_notes/winhardsig/win8/win8enteval.pdf
HARDWARE REQUIREMENTS (continued)

Method 2 (continued):
To download and attempt to install the free "Windows 8.1 Enterprise Evaluation", see
or
http://aztcs.org/meeting_notes/winhardwaresig/win8.1/win8.1enteval.pdf
"START BUTTON"

ISSUES
"START BUTTON" ISSUES

• The "Start Button" and its associated "Start Menu" was introduced on August, 24, 1995 when "Windows 95" was released to the public.
<table>
<thead>
<tr>
<th>操作系统</th>
<th>&quot;START BUTTON&quot; 问题</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 7</td>
<td>&quot;START BUTTON&quot; 可用</td>
</tr>
<tr>
<td>Windows 8</td>
<td>&quot;START BUTTON&quot; 失踪，但...</td>
</tr>
<tr>
<td>Windows 8.1</td>
<td>白色 &quot;START BUTTON&quot; 但...它会将你带到&quot;START SCREEN&quot;</td>
</tr>
</tbody>
</table>
"Windows XP" has a "Start Button" and a "Start Menu" that looks like this:
"Windows 7" has a "Start Button" and a "Start Menu" that looks like this:
"START BUTTON" ISSUES (continued)

- "Windows 8" has an invisible "zero pixel Start Button" in the lower left-hand corner of both the "Desktop" and the "Start Screen":
"START BUTTON" ISSUES (continued)

• In the Desktop of "Windows 8", when you hover the mouse cursor over this invisible "zero pixel Start Button", a thumbnail of the "Start Screen" will pop up:
"START BUTTON" ISSUES (continued)

• In the "Start Screen" of "Windows 8", when you hover the mouse cursor over this invisible "zero pixel Start Button", a thumbnail of the "Desktop" will pop up, if you have already been to the "Desktop" at least once:
"START BUTTON" ISSUES (continued)

- "Windows 8.1" has a white "Start Button" in the lower-left corner of the "Desktop":

"START BUTTON" ISSUES (continued)

• "Windows 8.1" has a auto-hiding white "Start Button" that pops up when you hover the mouse cursor in the lower-left corner of the "Start Screen":

"START BUTTON" ISSUES (continued)

• If you are in the "Desktop" of "Windows 8" or "Windows 8.1" and you (left) click on the invisible "Start Button" of "Windows 8" or the white "Start Button of "Windows 8.1", it takes you to the "Start Screen":
In other words, for both "Windows 8" and "Windows 8.1", the "Start Button" in the Desktop takes you to the new-fangled "Start Screen" (instead of to a "Start Menu" like it did in "Windows 95" through "Windows 7").
"START BUTTON" ISSUES (continued)

• If you use your RIGHT mouse button to click on the "zero pixel Start Button" of "Windows 8" or the "Start Button" of "Windows 8.1", you get a "Windows Key + x" pop-up menu = "Power User Menu" which is useful but it only contains a fraction of what used to be in the "Start Menu" in "Windows 7":
"START BUTTON" ISSUES (continued)

• If you are in the "Start Screen" and you have never been to the "Desktop" and you click on the "zero pixel Start Button" of "Windows 8" or auto-hidden "Start Button" of "Windows 8.1", it takes you back to whatever screen of "Metro" app you were in earlier.
"START BUTTON" ISSUES (continued)

• If you are in the "Start Screen" and you (left) click on the "zero pixel Start Button" of "Windows 8" or the auto-hidden "Start Button" of "Windows 8.1", it takes you back to the "Desktop", if you have already been to both the "Desktop" AND the "Start Screen" at least once.
"START BUTTON" ISSUES (continued)

- Having an old-fashioned (Windows 7-style or Windows XP-style) "Start button" and an old-fashioned "Start Menu" is important because many "Windows.." applets and many third-party software programs depend on the "Start Menu" as a key menu interface for you.
"START BUTTON" ISSUES (continued)

- Two workarounds for the loss of the "Start Button" in "Windows 8" and "Windows 8.1"
  - Third-party programs to put back a "Start Button"
  - You can make three toolbars that pop-up from the "Taskbar" to replace the "Start Button"
"START BUTTON" ISSUES (continued)

• Many third-party, utility software programs bring back the "Start button" for "Windows 8" and "Windows 8.1". Some are free and some are not free.
"START BUTTON" ISSUES (continued)

• Jim Evans of APCUG recommends the not-free "Start8" program by "Stardock Corporation". See http://www.stardock.com/products/start8/
"START BUTTON" ISSUES (continued)

• For a list of free and not-free programs that bring back a "Start Button" and a "Start Menu" for "Windows 8" and "Windows 8.1", see http://en.wikipedia.org/wiki/List_of_Start_Menu_replacements_for_Windows_8
"START BUTTON" ISSUES (continued)

• However, all of these software programs run "memory resident" in the background. Like all "memory resident" programs and they use up RAM and CPU cycles that affect the speed and reliability of your computer.
"START BUTTON" ISSUES (continued)

- To get back the functionality of the "Start Button" with minimal "overhead" utilization of RAM and CPU cycles, you can right-click on the "Taskbar" of the "Desktop" to make yourself three pop-up toolbars that replace the original start button.
"START BUTTON" ISSUES (continued)

• This workaround replacement for the "Start Button" makes use of three pop-up toolbars on the "Taskbar":
  One is called "Start Menu".
  One is called "Program Files (x86)".
  One is called "Program Files".
Windows 8 Enterprise Evaluation
Windows License valid for 56 days
Build 9200

Start Menu » Program Files (x86) » Program Files

6:24 PM
1/27/2013
"START BUTTON" ISSUES (continued)

• For step-by-step pictorial instructions on how to create the three replacement "toolbars", see

http://aztcs.org/meeting_notes/winhardsig/win8/TaskbarToolbars-StartButton.pdf
RUNNING OLD SOFTWARE PROGRAMS THAT ONLY RUN IN "WINDOWS XP"
RUNNING OLD SOFTWARE PROGRAMS THAT ONLY RUN IN "WINDOWS XP"

• Let's compare the native, bundled capabilities of "Windows 7", "Windows 8", and "Windows 8.1" for running old software programs that only run in "Windows XP":
RUNNING OLD SOFTWARE PROGRAMS THAT ONLY RUN IN "WINDOWS XP"

| "WINDOWS 7 PROFESSIONAL", "WINDOWS 7 ENTERPRISE", OR "WINDOWS 7 ULTIMATE" | "WINDOWS XP MODE" CAN BE DOWNLOADED FOR FREE (="WINDOWS XP PROFESSIONAL") |
RUNNING OLD SOFTWARE PROGRAMS THAT ONLY RUN IN "WINDOWS XP" (continued)

| "WINDOWS 8 PRO" OR "WINDOWS 8 ENTERPRISE") | TURN ON "HYPER-V" TO RUN YOUR COPY OF "WINDOWS XP" |
| "WINDOWS 8.1 PRO" OR "WINDOWS 8 ENTERPRISE") | TURN ON "HYPER-V" TO RUN YOUR COPY OF "WINDOWS XP" |
RUNNING OLD SOFTWARE PROGRAMS THAT ONLY RUN IN "WINDOWS XP"
(continued)

- "Windows 7 Professional", "Windows 7 Enterprise", and "Windows 7 Ultimate" all have the ability to download and run a free copy of "Windows XP called "Windows XP Mode" at no additional cost.
RUNNING OLD SOFTWARE PROGRAMS THAT ONLY RUN IN "WINDOWS XP"
(continued)

• "Windows 7 Starter", "Windows 7 Home Basic", and "Windows 7 Home" premium do not allow you to download "Windows XP Mode".
System:
   Microsoft Windows XP
   Professional
   Version 2002
   Service Pack 3

Registered to:
   Windows XP Mode

76487-OEM-0011903-04006

Computer:
   Intel(R) Core(TM)
   i7-3770K CPU @ 3.50GHz
   3.27 GHz, 512 MB of RAM
   Physical Address Extension
System:
Microsoft Windows XP Professional
Version 2002
Service Pack 3

Registered to:
Windows XP Mode
THE CHANGING LOCATIONS OF THE "STARTUP" FOLDERS
CHANGING LOCATIONS OF THE "STARTUP" FOLDERS

• The "Startup" folders are where you or your software programs put shortcuts so that a software program will automatically start up when "Windows.." starts up.
CHANGING LOCATIONS OF THE "STARTUP" FOLDERS (continued)

- For "Windows XP", the "Startup" folder for your "user account" is located at
  C:\Documents and Settings\<name of your user account>\Start Menu\Programs\
CHANGING LOCATIONS OF THE "STARTUP" FOLDERS (continued)

• For "Windows XP", the "Startup" folder for your software programs is located at C:\Documents and Settings\All Users\Start Menu\Programs\
CHANGING LOCATIONS OF THE "STARTUP" FOLDERS (continued)

• For "Windows Vista", "Windows 7", "Windows 8", and "Windows 8.1", the "Startup" folder for your user account is located at
  C:\Users\\
  <name of your user account>\\
  AppData\\
  Roaming\\
  Microsoft\\
  Windows\\
  Start Menu\\
  Programs\"
CHANGING LOCATIONS OF THE "STARTUP" FOLDERS (continued)

• For "Windows Vista", "Windows 7", "Windows 8", and "Windows 8.1", the "Startup" folder for your software programs is located at
  C:\ProgramData\Microsoft\Windows\Start Menu\Programs\
CHANGING LOCATIONS OF THE "STARTUP" FOLDERS (continued)

• Microsoft's trick for finding your user account's "Startup" folder for any version of "Windows.." from "Windows 2000" to "Windows 8.1" can be found at http://support.microsoft.com/kb/2806079
"WINDOWS MEDIA CENTER"
| WINDOWS 7 | "WMC" IS BUNDLED IN WITH THE "WINDOWS 7 HOME PREMIUM", "WINDOWS 7 PROFESSIONAL", AND "WINDOWS 7 ENTERPRISE" |
"WMC" can be purchased online for "Windows 8 Pro" edition of "Windows 8"
"WMC" CAN BE PURCHASED ONLINE FOR "WINDOWS 8.1 PRO" EDITION OF "WINDOWS 8.1"

| WINDOWS 8.1 | "WMC" CAN BE PURCHASED ONLINE FOR "WINDOWS 8.1 PRO" EDITION OF "WINDOWS 8.1" |
If you have a copy of any edition "Windows 7" (that is not "Windows 7 Starter"), then it will have a "Windows Media Center" bundled in it.
Add features to Windows 8.1 *

If your PC is running Windows 8.1, you can get Windows 8.1 Pro Pack and enjoy all the features of Windows 8.1 Pro as well as Windows Media Center for $99.99 USD ERP. To buy Windows 8.1 Pro Pack, follow the instructions on this page.
• If your PC is running Windows 8.1, you can get Windows 8.1 Pro Pack and enjoy all the features of Windows 8.1 Pro as well as Windows Media Center for $99.99 USD ERP.
Add features to Windows 8.1 Pro *
If your PC is running Windows 8.1 Pro and you'd like to watch and record TV with Windows Media Center, you can get Windows 8.1 Media Center Pack for $9.99 USD ERP. To buy Windows 8.1 Media Center Pack, follow the instructions on this page.
If your PC is running "Windows 8.1 Pro" and you'd like to watch and record TV with "Windows Media Center", you can get "Windows 8.1 Media Center Pack" for $9.99 USD ERP.
If you have a copy of "Windows 8.1", it will probably be a copy of the "Windows 8.1" ("core") edition of "Windows 8.1". Any ad for a computer that says "and Windows 8" or "with Windows 8" implies that the "core" "Windows 8" edition of the "Windows 8" product present.
To get "Windows Media Center" for a "Windows 8" core computer, you first have to purchase and install upgrade to "Windows 8.1 Pro" edition with the "Windows 8.1 Pro Pack". Then you have to purchase and install "Windows Media Center".
“Windows 8.1” core edition of “Windows 8.1”

“Windows 8.1 Pro Pack”

“Windows 8.1 Pro”

“Windows 8.1 Media Center” (add-on purchased via download)

“Windows 8.1 Pro with Media Center”
• Start with "Windows 8.1" ("core") edition of "Windows 8.1"
  Upgrade it with "Windows 8.1 Pro Pack" ($100) so that it becomes "Windows 8.1 Pro" edition of "Windows 8.1"
  Then install "Windows Media Center" ($10) by buying it in the online "Windows Store".
"WINDOWS MEDIA CENTER" (continued)

• For most "Windows 8.." computer users, the cost of installing "Windows Media Center" is $110.

• Most "Windows 8.." computer users are better off using the free "VLC Video Player" which can be safely downloaded only from http://www.videolan.org/vlc/index.html
A detailed description of most of the features of the free "VLC Media Player" can be found at http://www.videolan.org/vlc/features.html
To play Blu-Ray Discs in "VLC Media Player", you have to add a few drivers as described in great detail at http://forum.notebookreview.com/windows-os-software/699817-playing-blu-ray-discs-windows-8-using-vlc-media-player.html
• The only feature that the free "VLC Media Player" is missing is the ability to provide "Television Inside PC" with a USB, PCI, or PCIe television tuner.
Hauppauge's "WinTV", which is bundled in with their USB, PCI, or PCIe television tuners, is a better choice for "Television inside PC" relative to paying $100 + $10 for "Windows Media Center".
"EXTENDED SUPPORT" END DATES
<table>
<thead>
<tr>
<th>操作系统</th>
<th>延长支持结束日期</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 7</td>
<td>延长支持结束日期于2020年1月14日</td>
</tr>
</tbody>
</table>
| Windows 8  | 2016年1月12日
（“升级到Windows 8.1 for Windows 8”从“Windows Store”成为强制性日期） |
| Windows 8.1| 延长支持结束日期于2023年1月10日                        |
"EXTENDED SUPPORT" END DATES (continued)

- "Windows 8.1" will have a longer period of "extended support" into the future relative to "Windows 7".
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "FILE HISTORY"
<table>
<thead>
<tr>
<th>WINDOWS 7</th>
<th>DOES NOT HAVE &quot;FILE HISTORY&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINDOWS 8</td>
<td>HAS &quot;FILE HISTORY&quot; APPLET IN THE &quot;CONTROL PANEL&quot;</td>
</tr>
<tr>
<td>WINDOWS 8.1</td>
<td>HAS THE &quot;FILE HISTORY&quot; APPLET IN THE &quot;CONTROL PANEL&quot;</td>
</tr>
</tbody>
</table>
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "FILE HISTORY"

• The "File History" feature of "Windows 8" and "Windows 8.1" automatically stores "frozen" copies of changed data files at designated intervals of time.
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "FILE HISTORY" (continued)

- The frozen-in-time backups of a data file or photo are stored in an external hard disk drive in a folder called "FileHistory".
- You can specify the hard drive where the "File History" applet stores its frozen-in-time backups.
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "FILE HISTORY" (continued)

- Two ways for you to access the frozen-in-time backups of your data files and photos:
  Using "File Explorer" and
  using the "File History" applet in the Windows "Control Panel".
File History
File History

Keep a history of your files
File History saves copies of your files so you can get them back if they're lost or damaged.

File History is on

Copy files from: Libraries, Desktop, Contacts, and Favorites
Copy files to: ExternalHDDforFileHistory (F:)
58.9 GB free of 59.8 GB
Files last copied on 3/10/2014 5:48 PM.
Run now

Turn off
Keep a history of your files

File History saves copies of your files so you can get them back if they're lost or damaged.

File History is on

Copy files from: Libraries, Desktop, Contacts, and Favorites
Copy files to: ExternalHDDforFileHistory (F:)
58.9 GB free of 59.8 GB

Files last copied on 3/10/2014 5:48 PM.
Run now

Turn off
File History is on

Copy files from: Libraries, Desktop, Contacts, and Favorites
Copy files to: ExternalHDDforFileHistory (F:)
Files last copied on 3/10/2014 5:48 PM.
Run now
ExternalHDDforFileHistory (F:)
58.9 GB free of 59.8 GB

Files last copied on 3/10/2014 5:48 PM.
Run now
Control Panel Home

*Restore personal files*

Select drive

Exclude folders

Advanced settings
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "FILE HISTORY" (continued)

- Left button to move to earlier backups
- Right button to move to a more recent backup
- Green "Restore" button to put a copy of the backed up file somewhere on your computer.
THE "PRO" AND "ENTERPRISE" EDITIONS OF "WINDOWS 8" AND "WINDOWS 8.1" HAVE "HYPER-V"
THE "PRO" AND "ENTERPRISE" EDITIONS OF "WINDOWS 8" AND "WINDOWS 8.1" HAVE "HYPER-V"

- "Hyper-V" is a virtual machine program that is bundled with the "Pro" and "Enterprise" editions of "Windows 8" and "Windows 8.1".
The "Pro" and "Enterprise" editions of "Windows 8" and "Windows 8.1" have "Hyper-V".

<table>
<thead>
<tr>
<th>Operating System</th>
<th>&quot;Hyper-V&quot; Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 7</td>
<td>&quot;Hyper-V&quot; is not available</td>
</tr>
</tbody>
</table>
| "Windows 8 Pro" and "Windows 8
  Enterprise")                         | "Hyper-V" is available at no additional cost |
| "Windows 8.1 Pro" and "Windows 8.1
  Enterprise"                          | "Hyper-V" is available at no additional cost |
THE "PRO" AND "ENTERPRISE" EDITIONS OF "WINDOWS 8" AND "WINDOWS 8.1" HAVE "HYPER-V"

• The Microsoft-proprietary "VMbus" technology of "Hyper-V" lets you create faster virtual machines relative to any third-party virtual machine program.
THE "PRO" AND "ENTERPRISE" EDITIONS OF "WINDOWS 8" AND "WINDOWS 8.1" HAVE "HYPER-V" (continued)

• Instead of "Hyper-V", "Windows 7 Professional", "Windows 7 Enterprise", and "Windows 7 Ultimate" all have the ability to run the older "Windows Virtual PC" virtual machine program instead.
THE "PRO" AND "ENTERPRISE" EDITIONS OF "WINDOWS 8" AND "WINDOWS 8.1" HAVE "HYPER-V" (continued)

• Unlike the free third-party "virtual machine programs", Hyper-V has no direct "USB support" and difficult sound card support. In comparison the free "VMware Player" excels at these two features.
The selected virtual machine has no checkpoints.
<table>
<thead>
<tr>
<th>Name</th>
<th>State</th>
<th>CPU Usage</th>
<th>Assigned Mem</th>
<th>Uptime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ubuntu 13.10 64-bit</td>
<td>Off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows XP Home ...</td>
<td>Running</td>
<td>2%</td>
<td>3512 MB</td>
<td>00:08:05</td>
</tr>
<tr>
<td>System Restore</td>
<td>Automatic Updates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Computer Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hardware</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

System:
- Microsoft Windows XP
- Home Edition
- Version 2002
- Service Pack 2

Registered to:
- testuser
THE "PRO" AND "ENTERPRISE" EDITIONS OF "WINDOWS 8" AND "WINDOWS 8.1" HAVE "HYPER-V"
(continued)

- For details about using the "Hyper-V" virtual machine program in "Windows 8" or "Windows 8.1", see http://aztcs.org/meeting_notes/winhardsig/virtualmachines/Hyper-V/Hyper-V.pdf
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "STORAGE SPACES"
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "STORAGE SPACES"

<table>
<thead>
<tr>
<th>Windows</th>
<th>&quot;Storage Spaces&quot; is available from inside the &quot;Control Panel&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 7</td>
<td>&quot;Storage Spaces&quot; is not available.</td>
</tr>
<tr>
<td>Windows 8</td>
<td>&quot;Storage Spaces&quot; is available from inside the &quot;Control Panel&quot;</td>
</tr>
<tr>
<td>Windows 8.1</td>
<td>&quot;Storage Spaces&quot; is available from inside the &quot;Control Panel&quot;</td>
</tr>
</tbody>
</table>
"Windows 8" and "Windows 8.1" have "Storage Spaces" (continued).

- The "Storage Spaces" feature of "Windows 8" and "Windows 8.1" lets you mirror two hard drives for redundancy (= "software RAID 1").
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "STORAGE SPACES" (continued)

- A failure of a single hard drive in a "two-way mirror" pair of hard drives will not cause you to lose data files because the data files also reside in the other hard drive.
Manage Storage Spaces

Use Storage Spaces to save files to two or more drives to help protect you from a drive failure. Storage Spaces also lets you easily add more drives if you run low on capacity. If you don't see task links, click Change settings.

L Storage pool

Using 3.58 TB of 5.45 TB pool capacity

Storage spaces

L Storage space (L:\)  OK
Two-way mirror
2.71 TB
Using 3.58 TB pool capacity

Physical drives

Create a storage space
Add drives
Rename pool

See also
File History
BitLocker Drive Encryption

View files
Change
Delete
Control Panel Home

Create a new pool and storage space
Protect you from a disaster if you run low on...
L Storage pool

Using 3.58 TB of 5.45 TB pool capacity

Storage spaces

L Storage space (L:)
Two-way mirror
2.71 TB
Using 3.58 TB pool capacity

Physical drives
Physical drives

ST3000DM 001-9YN166 USB Attached via USB
65.7% used
Providing 2.72 TB pool capacity

WDC WD30 EZRX-00MM USB Attached via USB
65.7% used
Providing 2.72 TB pool capacity
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "STORAGE SPACES"

• Using "Storage Spaces in "Windows 8.." for Real-Time Automatic Backup of Data Files and Folders":
  http://aztcs.org/meeting_notes/winhardsig/win8/StorageSpaces-howto.pdf
"WINDOWS 8" AND "WINDOWS 8.1" HAVE "STORAGE SPACES" (continued)

- "Storage Spaces" Successes and Failures

See

http://aztcs.org/meeting_notes/winhardsig/win8/StorageSpaces-successesand.pdf
HARDWARE DRIVER IMPROVEMENTS IN "WINDOWS 8" AND "WINDOWS 8.1"
HARDWARE DRIVER IMPROVEMENTS IN "WINDOWS 8" AND "WINDOWS 8.1"

• Faster, sharper graphics and video rendering in both the "Windows Store apps" and legacy desktop application, with a greater improvement in "Windows Store apps" relative to legacy desktop applications.
HARDWARE DRIVER IMPROVEMENTS IN "WINDOWS 8" AND "WINDOWS 8.1" (continued)

- Native USB 3 support instead of vendor-supplied drivers for "USB 3" adapters/controllers.
- V4 Printer Drivers—faster, smaller, fewer printer drivers
"SPOT VERIFIER" SERVICE FOR HARD DRIVES
In "Windows 8" and "Windows 8.1":
"SPOT VERIFIER" SERVICE FOR HARD DRIVES

• "Windows 8" and "Windows 8.1" have a "Spot Verifier" service that keeps a real-time list of possible bad spots on your hard drives:
<table>
<thead>
<tr>
<th>Windows Version</th>
<th>Feature Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 7</td>
<td>Does not have &quot;Spot Verifier&quot; service</td>
</tr>
<tr>
<td>Windows 8</td>
<td>Has &quot;Spot Verifier&quot; service</td>
</tr>
<tr>
<td>Windows 8.1</td>
<td>Has &quot;Spot Verifier&quot; service</td>
</tr>
</tbody>
</table>
Error Checking (Local Disk (C:))

You don't need to scan this drive

We haven't found any errors on this drive. You can still scan the drive for errors if you want.

Scan drive
You can keep using the drive during the scan. If errors are found, you can decide if you want to fix them.
Scan this drive for errors

We found potential errors on this drive.

- **Scan drive (recommended)**
  You can keep using the drive during the scan. If errors are found, you can decide if you want to fix them.

- **Scan and repair drive**
  You won't be able to use the drive while Windows finds and repairs any errors. This might take a while, and you might need to restart your computer.
"SPOT VERIFIER" SERVICE FOR HARD DRIVES (continued)

• When you start "Error Checking" in a "Windows 8" or "Windows 8.1" computer, you get a notification that either says "We haven't found any errors on this drive." OR "We found potential errors on this drive."
"SPOT VERIFIER" SERVICE FOR HARD DRIVES (continued)

• This is because Windows 8's new "Spot Verifier" service keeps a real time, constantly-updated record of the locations of any hard drive errors.
"SPOT VERIFIER" SERVICE FOR HARD DRIVES (continued)

• The "Spot Verifier" dramatically reduces the time that it takes to do the "Error Checking" maintenance procedure on a hard drive.
"SPOT VERIFIER" SERVICE FOR HARD DRIVES (continued)

• The "Spot Verifier" service is implemented as C:\Windows\System32\svsvc.dll
svsvc.dll Properties

General  Security  Details

Type of file: Application extension (.dll)
Opens with: Unknown application  Change...

Location: C:\Windows\System32
Size: 13.0 KB (13,312 bytes)
Size on disk: 16.0 KB (16,384 bytes)

Created: Thursday, August 22, 2013, 4:21:24 AM
Modified: Thursday, August 22, 2013, 4:21:15 AM
Accessed: Thursday, August 22, 2013, 4:21:24 AM

Attributes:  Read-only  Hidden  Advanced...
svsvc.dll Properties

Type of file: Application extension (.dll)
Opens with: Unknown application
Location: C:\Windows\System32
Size: 13.0 KB (13,312 bytes)
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Status</th>
<th>Startup Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNMP Trap</td>
<td>Receives trap messages generated by local or remote devices.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>Software Protection</td>
<td>Enables the download, installation and enforcement of software.</td>
<td>Manual</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>Storage Service</td>
<td>Enforces group policy for storage devices.</td>
<td>Manual</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>Superfetch</td>
<td>Maintains and improves system performance of background work.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>System Event Notify</td>
<td>Monitors system events and notifies subscribers.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>System Events Broker</td>
<td>Coordinates execution of background work for system events.</td>
<td>Running</td>
<td>Automatic (Trigger Start)</td>
</tr>
<tr>
<td>Task Scheduler</td>
<td>Enables a user to configure and schedule auto-pilot tasks.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>TCP/IP NetBIOS Helper</td>
<td>Provides support for the NetBIOS over TCP/IP protocol.</td>
<td>Running</td>
<td>Automatic (Trigger Start)</td>
</tr>
<tr>
<td>Telephony</td>
<td>Provides Telephony API (TAPI) support for processing voice data.</td>
<td>Manual</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>Themes</td>
<td>Provides user experience theme management.</td>
<td>Disabled</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>Thread Ordering Server</td>
<td>Provides ordered execution for a group of threads</td>
<td>Manual</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>Time Broker</td>
<td>Coordinates execution of background work for time-related tasks.</td>
<td>Running</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>UPnP Device Host</td>
<td>Allows UPnP devices to be hosted on this computer.</td>
<td>Disabled</td>
<td>Manual (Trigger Start)</td>
</tr>
<tr>
<td>User Profile Service</td>
<td>This service is responsible for loading and unloading user profiles.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>Virtual Disk</td>
<td>Provides management services for disks, volumes and files.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>VMware DHCP Service</td>
<td>DHCP service for virtual networks.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>VMware NAT Service</td>
<td>Network address translation for virtual networks.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>VMware USB Arbitration</td>
<td>Arbitration and enumeration of USB devices for virtual machines.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
<tr>
<td>Volume Shadow Copy</td>
<td>Manages and implements Volume Shadow Copy service.</td>
<td>Running</td>
<td>Automatic</td>
</tr>
</tbody>
</table>
Spot Verifier

Start the service

Description:
Verifies potential file system corruptions.
Spot Verifier

Start the service

Description:
Verifies potential file system corruptions.
Spot Verifier Properties (Local Computer)

General

Service name: svsvc
Display name: Spot Verifier
Description: Verifies potential file system corruptions.
Path to executable: C:\WINDOWS\system32\svchost.exe -k LocalSystemNetworkRestricted
Startup type: Manual

Service status: Stopped

Start parameters:

You can specify the start parameters that apply when you start the service from here.

Buttons:
- Start
- Stop
- Pause
- Resume

Buttons at the bottom:
- OK
- Cancel
- Apply
APPENDIX 1: "WINDOWS.." PRODUCT TIME LINE
WINDOWS PRODUCT TIME LINE

• October 22, 2009--General availability release of "Windows 7".

• October 17, 2013--General availability release of "Windows 8.1"
October 17, 2014--Non-mandatory, free upgrade called "Update To Windows 8.1 For Windows 8"

April 8, 2014--End of Extended Support for Windows XP
April 8, 2014--Update for Windows 8.1 (= "Update 1 for Windows 8.1" = KB 2919355) for existing Windows 8.1 computers was released by means of "Windows Update"
August 12, 2014--**Update for Windows 8.1** (= "Update 1 for Windows 8.1" = KB 2919355) became a "mandatory" "important" update for existing Windows 8.1 computers.
• August 12--Problematic "KB 2975719" (originally known as "Update to Windows 8.2" or "Update 2 for Windows 8.1" for existing Windows 8.1 computers was released via "Windows Update".

• September 2--Microsoft re-released "KB 2975719".
• September 30, 2014--Publicly-available preview of "Windows 9" (= "Threshold")
• April 2015—Probable general availability release of "Windows 9" (= "Threshold")
• July 14, 2015--End of updates for "Microsoft Security Essentials" installed into "Windows XP"
January 12, 2016—"Update to Windows 8.1 for Windows 8" via the "Windows Store" becomes a mandatory update for existing "Windows 8" computers. See http://support.microsoft.com/gp/lifecycle-windows81-faq
• April 11, 2017—End of Extended Support For Windows Vista
• January 14, 2020—End of Extended Support For Windows 7
• January 10, 2023—End of Extended Support For Windows 8.1
• There is no super urgency to upgrade existing "Windows Vista" and "Windows 7" computers up to "Windows 8" or "Windows 8.1".
• There is no rush to upgrade existing Windows 8 computers to Windows 8.1 since you can do it for free from October 17, 2013 to January 12, 2016.
APPENDIX 2:
CONFUSION BETWEEN
"UPDATE TO WINDOWS 8.1"
AND
"UPDATE FOR WINDOWS 8.1":

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CONFUSION BETWEEN "UPDATE TO 8.1" AND "UPDATE FOR 8.1"

• Please do not confuse "Update for Windows 8.1" (="Update 1 for Windows 8.1" = KB 2919355) which was released on April 8, 2014 with the "Update to Windows 8.1 from Windows 8" which was released on October 17, 2013:
CONFUSION BETWEEN "UPDATE TO 8.1" AND "UPDATE FOR 8.1" (continued)

- "Update for Windows 8.1" (="Update 1 for Windows 8.1"= KB 2919355) is a free update for "Windows 8.1" which makes cosmetic and usability changes to "Windows 8.1" and which became a "mandatory" "important update" for "Windows 8.1" computers on August 12, 2014 for businesses.
CONFUSION BETWEEN "UPDATE TO 8.1" AND "UPDATE FOR 8.1"
(continued)

• "Update to Windows 8.1 from Windows 8" is a free upgrade for "Windows 8" which takes you from "Windows 8" up to "Windows 8.1" and which becomes a "mandatory" "important" update for "Windows 8" computers on January 12, 2016.
CONFUSION BETWEEN "UPDATE TO 8.1" AND "UPDATE FOR 8.1"
(continued)

• From now until January 12, 2014, whenever you power up a "Windows 8" computer, it will display a prominent message in the "Start Screen" to remind you to go to the "Store" to install "Update to Windows 8.1 from Windows 8":
Get Windows 8.1 for free

Go to the Store to see what's new and get the update. You can keep using your PC while it downloads.

Go to the Store
Get Windows 8.1 for free

Go to the Store to see what’s new and get the update. You can keep using your PC while it downloads.

Go to the Store
REFERENCES

• http://en.wikipedia.org/wiki/List_of_features_removed_in_Windows_8

• http://en.wikipedia.org/wiki/Features_new_to_Windows_8