

# STAR Watch

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## Looking to the Future: Microsoft's Vista Operating System

Instead of continuing their futile attempts to create a new computer operating system by simply fixing the flaws in the currently available products, Microsoft is completing work on a new operating system that, from the ground up, is completely redesigned.

Instead of trying to modify an existing operating system to look like a new operating system, they started from scratch. Major portions of the new operating system were completely redone based on how computers are used today. The operating system will exploit the use of 3D graphical interfaces wherever possible, security has been rethought, and there is a laundry list of improvements to help users. Unnecessary legacy components were removed. Other legacy components that are needed in the short term have been compartmentalized for easier removal later.

Originally scheduled for release in late 2007, Vista (previously code named "Longhorn") is now scheduled for release in early 2007.

Good things take time. We are delighted to hear that the folks at Microsoft are working hard to deliver a bug-free, stable product. Take all the time you need to do it right, folks. We don't want to do your debugging for you.

Recently Microsoft released the Beta 2 version of Vista for evaluation by software developers. This version was not intended to be installed on end-user computers. Instead, it was created to allow developers to try it out and learn how to use it to the advantage of the applications being developed. (It's also a great opportunity for Microsoft to allow others to debug its product)



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There is no guarantee that the public release of Vista will look exactly like the Beta 2 version, but on the whole, it probably won't change much. There are hundreds of features in Vista that have the potential to make a computer user's life better. We have chosen to mention only a few that we feel are most important.

### 3D User Interface

For the last 20 years, operating systems built by Microsoft have used a 2D GDI-based system. In terms of computer development, it's beyond ancient. The new system, called Aero Glass, completely abandons the old way of doing things. The result is a graphic user interface that does things that many application systems have been able to do for several years, along with improved stability, and efficiency.

There are several fundamental changes:

- Everything displayed on the monitor will be treated as a 3D image. The 2D screens of the current operating systems are no more. Video cards won't be required to "switch gears" between 2D and 3D (which is the cause of significant loss of performance) because they will only operate in 3D mode.
- In current Microsoft operating systems, the use of the graphics processor on the video card (GPU) is an all-or-nothing operation. Multiple applications (along with the operating system) must take turns using the GPU exclusively. With Vista, the mechanism for sharing the GPU among applications has finally been implemented. The end-result is improved graphics performance.
- If an application causes a video driver to crash, it will not be necessary to reboot the operating system as is the case with

current operating systems. Vista will be able to reinitialize all of the video driver software and continue on.

So, what will users see?

- The heart of this newest Vista version is Windows Aero, an entirely reworked user interface with semi-transparent windows that employ a "milk glass" effect. Windows Aero uses semi-transparent windows to let users see part of what's behind them on the desktop
- Everything displayed on the monitor will scale up or down in size without any jagged edges.
- Windows can be rotated on all 3 axes.
- Instead of icons, Vista can display a thumbnail image of any document (Word documents, photos, PDFs, HTML files, video files, etc.). Unlike icons, the thumbnail will look exactly like the document it represents—because it was actually created from the document.

### Search

According to Microsoft, you no longer need to remember where you stored a file on your workstation or on your office file server. "Instead, to find a file, you need to only remember something about it, such as a word contained within a document, the artist of a song, or the date a picture was taken." So far, we are not impressed, but Microsoft has taken the process three steps further:

- Users will be able to add keywords to a file's attributes to make it easier to locate.
- The search function is directly accessible from the Start menu.
- The results of a search can be saved as a "Search Folder". The term "Search



Folder” is quite misleading, since the results of the search aren’t saved—the query is. When a user accesses a Search Folder, the search query is automatically re-run and the results are displayed.

Now, we are favorably impressed. Within any organization with more than 1 employee, there will always be differences of opinion about document storage strategies. This new search feature makes the precise location of the document/file less important, since it can always be located by the keywords assigned to it—If the search keywords get assigned to it.

In addition to all of this, Vista’s process to index the contents/keywords of files is supposed to be quite intelligent. Vista will consider CPU utilization by applications and services running on the computer before it will begin indexing. According to Microsoft, this means that users won’t notice any slowdowns when file contents are being indexed.

### Security

Microsoft has been severely criticized for security flaws in every operating system that it ever produced. It seems as if every IT professional on planet Earth is demanding that Microsoft take dramatic action to correct every security issue and take serious steps to make sure that this is never an issue again. Be careful what you wish for, because you might get it. The new security system, dubbed User Account Control (UAC), has significant philosophical differences with current operating systems. The amount of scrutiny provided by UAC can be scaled up to the point where all but the most paranoid computer users would feel secure. But a full lock-down of the computer subjects the computer user to an unending

series of “Are you sure?” messages that must be answered. Many organizations will be forced to decide between heightened security or hordes of complaining users.

One simple change that we really like: The “C:\Program Files” folder (where applications are typically installed) gets special security status. No program can be installed in it or run from it without explicit permission. In current operating systems malware, such as viruses, worms, spyware, and other potentially unwanted software and viruses can use the current user’s rights/privileges to surreptitiously install themselves and begin their questionable activities.

Even if the user has Administrator privileges, Vista will require him/her to verify that it is okay to install the software in the Program Files folder. Once an application is successfully installed, the folder into which the application was installed must be given the appropriate permissions before it will be allowed to run.

The end-result of all of this is a computer system where malware can only exist within a user’s profile. If Vista is configured correctly, it cannot spread. In a worst-case situation, creating a new user account and deleting the old account should remove the infestation.

So how will Vista handle the current generation of computer applications that attempt to store data in the folders under Program Files? Any file that the application tries to write into C:\Program Files will be redirected (through some sort of Microsoft magic) into a folder in the user’s profile. It will behave as if the file is in a folder under C:\Program Files, but it’s not.



### **Networking**

The networking architecture used in Windows 2000 and Windows XP was originally designed back when a 14.4Kbps dialup modem was state-of-the-art. According to several sources, Vista's networking system is a total redesign and rewrite. Supposedly, everything about networking is new and improved. With a 15% improvement in download speeds and plain-English error messages, we can't say anything bad about it.

### **Speech Recognition**

Speech Recognition is fully integrated into Windows Vista and uses the latest Microsoft speech technologies. It has improved voice recognition accuracy that fine-tunes itself with use as it adapts to your speaking style and vocabulary. Speech Recognition supports multiple languages and includes a new human-sounding speech synthesizer.

Users can get familiar with key concepts and commands through an interactive training, then be guided through the setup dialog. Microsoft claims that the speech recognition in Vista is highly intuitive and will help users by guiding them through the list of possible choices as they use this feature to start up applications, select a word, or correct a sentence, etc.

### **Backup Utility**

The backup utility that comes bundled with Vista, has been rewritten to work with today's assortment of backup devices. The new Windows Backup feature gives you more choices for storing your backed-up information. You can choose to back up to CD-ROM, DVD-ROM, an external hard disk connected to your PC by USB or IEEE 1394, another hard disk on your PC, or to another PC or server connected to your network.

You can use a simple wizard to schedule when and where you want it backed up.

### **Calendar & Email**

Windows Calendar is exactly that: a calendar. It supports iCalendar, a calendar data exchange standard, and has the ability to share out calendars to a Webdav-enabled webserver while supporting subscribing to remote calendars.

Several reviewers have expressed disappointment in the Mail feature. While almost everyone is happy about the Search feature, there isn't much difference between it and Outlook Express. One reviewer described it as "Outlook Express in a new dress".

### **Internet Explorer 7**

The main security feature being hawked by Microsoft is the ability of IE7 for Vista to run in "Protected Mode." This mode allows IE to run in a "vacuum," where the only thing it can touch is its own temporary directories. This will work well for simple Internet surfing, but not for sophisticated users.

The printing function has been improved. Who hasn't been annoyed by output that is truncated on the printed page because the web page is too wide to fit on a single page? The print function in the new version of IE7 scales web pages automatically, and the print preview function offers genuine WYSIWYG display.

### **Performance Monitoring**

It's a common complaint among computer users: When their computer was new, it was really fast. Now, it's really slow. Vista provides users with a means to assess the performance of their computer rig, then find and repair potential problems. The first time



a computer running Vista boots up, Windows System Assessment Tool (WinSAT) is run to measure the capacity/capabilities of the CPU, video card, RAM, and hard drive. Then, it compares the results to the minimum hardware requirements for running Vista. WinSAT tweaks out Vista's features based on the relative performance of the hardware that is actually present. It might even turn off some of the spiffier features of Vista if it determines that the hardware can't handle it.

Throughout the life of the computer, WinSAT will keep track of multiple performance metrics. If WinSAT detects performance degradation, a message will be displayed for the computer user to take action. Supposedly WinSAT will provide diagnostic routines to clarify the problem and a menu of choices to correct the problem. It sounds like a great idea, but we will withhold approval until we see it up close & personal.

### Conclusions

Vista is an extremely ambitious project. There is a lot of potential for Vista to be something special. The changes go deep into the internals of how an operating system works. We are looking forward to the time when Vista will be available to and provide a stable replacement for the current generation of operating systems. But we don't think that Vista will be rock-solid at its debut. Too much has been changed. We expect that it will be as good as a totally new product can be, but the real world of computing will cause unforeseen problems to arise.

It will also force IT people and users to re-think a lot of issues. The new security features can create real-world annoyances for end-users. Decisions will need to be made about the tradeoffs between increased security and decreased productivity.

Vista changes the user interface from 2D to 3D. That has major implications:

- End-users may or may not need formal training, but will definitely need time to adjust to new ways of doing things. In the short term, productivity may suffer.
- When buying new computer systems, the choice of video cards will have a profound affect on Vista performance. According to the articles that we read, Vista cannot overcome the performance limitations of a slow video card. Until now, computers used for business applications didn't need high performance video cards to perform their daily tasks. They will in order to run Vista. According to Microsoft, Vista requires a minimum of 128MB of video memory in order for the up-level 3D interface features to take effect. When purchasing new computers, the IT staff will need to re-think their priorities when it comes to hardware options.

Overall, we applaud the efforts of Microsoft to try to get it right. And while it is difficult for us to contain our enthusiasm for a product that has the potential to make so many positive changes, we understand that these changes will not come without some currently undiscovered problems to be solved. For that reason, we don't want to be the first kid on the block to have a computer running Vista. We do, however, want to watch its progress and be ready to implement it when the time is right.





## WNYLC Web Statistics For May 2006

Total Hits.....366,490  
 Total User Sessions.....73,523  
 Average Hits/Day (Mon-Fri) .....14,172  
 Average user Sessions/Weekday.....2,621  
 Number of Pages Viewed.....148,590  
 Avg Number of Pages /Day.....4,793  
 Number of Documents Viewed.....79,613  
 Accessed Using Internet Explorer.....88%  
 Accessed Using Netscape.....5%

Operating Systems Used:  
 Windows XP.....54%  
 Windows 2000.....13%  
 Windows 98.....5%  
 Windows ME.....<1%  
 Windows 95.....<1%  
 Windows NT.....<1%  
 Macintosh.....<1%  
 Linux/Unix.....<1%



### WHO WE ARE

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