

# Cutting-edge computer topics

Some Things to think about for  
2007/2008

*Kenneth B. Weidig*

## Some Things to think about for 2007/2008

- In 2007, we expect internet access to be instant, music collections to fit into our pockets, and communication as a constant. Technology is so tightly woven into our lives that at times we scarcely notice it. And yet, there are innovators, hackers, and thinkers plotting revolutions—often by simply reexamining underlying assumptions we already take for granted. What will happen next?

## Some Things to think about for 2007/2008

- Vista
- Office 2007
- VOIP
- Wireless Communications
- XML
- Virtual Applications
- What else is going on

## Vista Editions

Vista Edition	Vista Home Basic	Vista Home Premium	Vista Business	Vista Enterprise	Vista Ultimate
Full Price	\$199	\$239	\$299	License only	\$399
Upgrade Price	\$99	\$159	\$199	License only	\$259
Fancy Aero "Glass" UI	No	Yes	Yes	Yes	Yes
User Account Control (UAC)	Yes	Yes	Yes	Yes	Yes
Windows Firewall/Defender	Yes	Yes	Yes	Yes	Yes
IE7 with phishing filter, protected mode	Yes	Yes	Yes	Yes	Yes
Instant Search	Yes	Yes	Yes	Yes	Yes
Maximum supported RAM (32-bit version)	4GB	4GB	4GB	4GB	4GB
Maximum supported RAM (64-bit version)	8GB	16GB	128GB	128GB	128GB
Number of logical CPUs (cores) supported	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Number of physical CPUs supported	1	2	2	2	2
Backup and recover	Yes	Yes	Yes	Yes	Yes
Scheduled backup	No	Yes	Yes	Yes	Yes
Volume Shadow Copy	No	No	Yes	Yes	Yes
BitLocker (drive encryption)	No	No	No	Yes	Yes
SuperFetch	Yes	Yes	Yes	Yes	Yes
"Premium" Games	No	Yes	Yes	Yes	Yes
Media Player 11	Yes	Yes	Yes	Yes	Yes
Photo Gallery	Yes	Yes	Yes	Yes	Yes
Media Center (with HDTV/cablecard support)	No	Yes	No	No	Yes
Windows Movie Maker (with HD support)	No	Yes	No	No	Yes
Windows DVD Maker	No	Yes	No	No	Yes
Remote Desktop	Limited	Limited	Yes	Yes	Yes
Offline Files/Folders	No	No	Yes	Yes	Yes
IS Web Server	No	No	Yes	Yes	Yes
Meeting Space Interaction	Limited	Yes	Yes	Yes	Yes
Rights Management Services	No	No	Yes	Yes	Yes
Tablet PC Functionality	No	Yes	Yes	Yes	Yes
SideShow	No	Yes	Yes	Yes	Yes
Speech Recognition	Yes	Yes	Yes	Yes	Yes
Fax and Scan	No	No	Yes	Yes	Yes
Ultimate Extras	No	No	No	No	Yes

# What do I think

- Buy Vista Ultimate if you can
  - Best for remote computer access
- Adoption Phase 1 month
- I Like:
  - Ready Boost
  - Aero Interface
  - New search integration and file management
  - New sidebar and gadgets
  - Improved speech
  - Improved security requires many more responses to what you are doing.

## Office 2007 Editions

Retail/Upgrade	N/A	\$149/NA	\$399/\$239	\$449/\$279	\$499/\$329	\$679/\$539	( N/A Vol. License only )	
	Microsoft Office Basic 2007	Microsoft Office Home & Student 2007	Microsoft Office Standard 2007	Microsoft Office Small Business 2007	Microsoft Office Professional 2007	Microsoft Office Ultimate 2007 <i>NEW!</i>	Microsoft Office Professional Plus 2007	Microsoft Office Enterprise 2007 <i>NEW!</i>
Microsoft Office Word 2007	•	•	•	•	•	•	•	•
Microsoft Office Excel 2007	•	•	•	•	•	•	•	•
Microsoft Office PowerPoint 2007	•	•	•	•	•	•	•	•
Microsoft Office Outlook 2007	•		•				•	•
Microsoft Office Outlook 2007 with Business Contact Manager <sup>2</sup>				•	•	•		
Microsoft Office Accounting Express 2007 <sup>2</sup>				•	•	•		
Microsoft Office Publisher 2007				•	•	•	•	•
Microsoft Office Access 2007					•	•	•	•
Microsoft Office InfoPath 2007						•	•	•
Microsoft Office Groove 2007						•		•
Microsoft Office OneNote 2007		•				•		•
Microsoft Office Communicator 2007 <sup>3</sup>							•	•
Integrated Enterprise Content Management <sup>4</sup>						•	•	•
Integrated Electronic Forms <sup>5</sup>						•	•	•
Advanced Information Rights Management and Policy Capabilities <sup>6</sup>						•	•	•

## Office 2007 Notes For Previous Page

- <sup>1</sup> Volume License customers who purchase Office Professional Plus 2007 or Office Enterprise 2007 may download Office Outlook 2007 with Business Contact Manager by visiting the volume licensing services Web site or may request the assistance of their reseller.
- <sup>2</sup> Microsoft Office Accounting Express 2007 is available in the U.S. only.
- <sup>3</sup> Microsoft Office Communicator 2007 is scheduled for release in the second quarter of 2007. International versions of Microsoft Office Communicator 2007 are scheduled for release in the second half of 2007.
- <sup>4</sup> ECM from Microsoft easily extends content management to every information worker in an organization through integration with familiar tools.
- <sup>5</sup> The 2007 Microsoft Office System release provides core form creation and completion capabilities, as well as Forms services to facilitate the distribution and management of your electronic forms.
- <sup>6</sup> The 2007 Microsoft Office system release includes sophisticated IRM capabilities and policy controls designed to help organizations safeguard digital information from unauthorized use.

## Microsoft Office Communicator 2007

Part of the Office system and is closely integrated with other Office programs. This integration helps ensure that communications can occur in the context of the program being used, without having to switch to a different program for communication.

- From an e-mail message received in Office Outlook 2007, users can view presence information about other users and initiate real-time communication from within the message, avoiding the need to switch applications and search for users.
- When working on a document in Office Word 2007, users can see a list of the people associated with the document along with availability information for those users. From this contextual list and based on this availability information, users can initiate a conversation directly with the appropriate people.

## Microsoft Office Groove

- A proprietary peer-to-peer software package aimed at businesses, developed by Groove Networks of Beverly, Massachusetts and later by Microsoft who announced its acquisition of Groove Networks in March 2005. It is included with the Enterprise and Ultimate editions of Microsoft Office 2007.

## What do I think?

- Buy small business, professional or ultimate versions
- Adoption phase 1-3 months of use (Depending how much you use it)
- I Like:
  - Ribbon after I got use to it
  - Outlook 2007 is the most improved application in the suite with significant improvements to tasks, contacts and calendars and tools for personal information management
  - XML file formats up 75% smaller.
  - Charting Engine improved can create gorgeous 3D graphics
  - Improved Collaboration tools
- If you are looking for an alternative to Office try Open Office it provide 95% of the functionality of Office and it is free and has the look and feel of Office.
- Online editions of these products show up in Microsoft Office Live and Google Apps – This may be the future

## VOIP

- Voice Over Internet Protocol, or in more common terms phone service over the Internet.
- If you have a reasonable quality Internet connection you can get phone service delivered through your Internet connection instead of from your local phone company.
- Call can be made:
  - computer to computer
  - Computer to regular phone
  - Regular Phone to computer
- Been around for 3-5 years not new and works well.
- Phone companies are now offering
- I use a service with my computer called **Skype** and for \$25 a year I am able to call anybody in US/Canada as often as I want. [WWW.Skype.com](http://WWW.Skype.com)
- Usually a significant money saver and Increased functionality if you use it
- A web site <http://www.voip-info.org/wiki/view/What+is+VOIP>

## Wireless Communications

- Cell Phones / Computers merging slowly
- Cell Phone speed improving and note iPhone /Treo/Blackberry functionality
- Computers act as phones (IE. Skype) can make phone calls anywhere computer has a wireless connection.
- Competing wireless technologies across products.
- Pick one - work with it until merger is complete

## XML

- XML stands for EXtensible Markup Language
- It is a simple way to specify a syntax for exchanging information/data between cooperating programs.
- It's been standardized on an Open basis and adopted on a world wide basis.
- Examples:
  - It can be used to exchange data between two systems
  - It can be used to store data in a database
  - It is being used by Microsoft to store all of their files in Office 2007
- Giant step toward a standard for data exchange between systems

## Virtual Applications (VA)

- May have heard about VM now there is VA.
- Windows applications are converted into virtual services that can be centrally managed and deployed on desktops, laptops and terminal servers. Without rewriting, applications are delivered in real time over the network and run locally.
- Applications execute locally with full functionality and performance, without being installed or configured on the target machine's resident operating system. The applications don't install to the local operating system, so you don't have to worry about conflicts. VA keeps the operating system protected because it carries its own parts of the OS--such as system files, registry, fonts and COM objects--but can get data from the local machine.
- Available in Longhorn server this fall from Microsoft and [Softricity](#) which Microsoft bought last fall.

## What else is going on?

- Examples
  - Evolutionary Algorithms
  - The next computer interface? Your Finger?
  - Voice input

## Evolutionary Algorithms

**Evolutionary algorithms** (EAs), mimic the processes of natural selection and random mutation by "breeding", selecting and re-breeding possible designs to produce the fittest ones.

The challenge is that these applications require ultra-fast computers, both to breed the thousands, or even billions, of generations and to simulate the results to select those offspring that are fit for re-breeding.

Examples:

- USB Flash Memory - Joe Sullivan at the University of Limerick in Ireland used an Evolutionary Algorithm to make a USB flash memory stick that lasts far longer than ones on the market today. Typically, memory sticks can be erased and rewritten about 10,000 times. Every time data is erased, residual charge is left on the storage transistors. Eventually, this builds up and prevents the memory being rewritten. Using large voltages to read, write and erase memory, and applying them for longer causes more residual charge. However, applying too little voltage for too little time could make the memory unreliable. To see if he could extend the lifetime without making the device less reliable, Sullivan created a genetic algorithm that varied the voltages and their timings. The result was a combination that meant the memory stick lasted 30 times longer.
- Cochlear Implants - Pierre Legrand and colleagues at the University of Bordeaux, France, developed an evolutionary algorithm to configure the electrodes for cochlear implants. Up to 22 electrodes on the auditory nerve let cochlear implants restore lost hearing, but the voltages and timings of the signals applied to them are highly individual, requiring much adjustment for speech to be audible. Legrand's team took just one-and-a-half days to configure an optimal pattern for one patient whose doctors had not succeeded in 10 years.

## The next computer interface? Your Finger?

- The Finger/Hand Digitizer will [interpret your hand gestures](#) and will translate them for your PC, medical devices or computer games. It can transfer to the virtual world the meaning and intent of common hand gestures, such as pointing, wagging the finger, tapping in the air or other movements that can be used to direct the actions of an electronic device, much like a mouse directs the actions of a personal computer, but with much greater precision.
- The Digitizer can transfer to personal computers very precise information about the physical characteristics of an object — and even can sense the shape and size of a human gland or tumor — when a user taps, scratches, squeezes, strokes or glides a finger over the surface of the object.
- [Play the video](#)

## Voice Input

- Been talked about for 25 years
- Progressing but very slowly
- Embedded in Vista
- Demo current state of the art.