Digital Cartography Feb. 12

Ed Hicks will give a presentation on Digital Cartography 7:30 pm Thurs. Feb. 12, 2009 at Mid-Hudson Computer User Group open public meeting at Best Western Inn, 2170 South Rd. (Rte 9) Town of Poughkeepsie, NY. The presentation will follow a computer oriented Q&A session at 6:30 pm and short business meeting with special interest group announcements at 7:00 pm.

When you take a look around you, maps are present everywhere in our lives. Road atlases, weather maps, political maps (changing every week), tax and survey maps, sky maps, maps of the shopping mall, blueprints and floor plans of buildings, stadium and theater layouts, trail maps in parks, corporate flowcharts, assembly instructions that come packaged with products. How often do we MapQuest, give someone directions, or try to follow theirs? Maps are everywhere. And yet strangely, how rarely do we ever teach a child how to read a map, let alone navigate by it. No wonder so many of us grow up "map-challenged."

Maps are magical! If you can make sense of them, you can find your way to a place you've never visited, never seen, never even heard of. You can get from where you are to *wherever* you want to go – whether to a store cross-town or the third moon of Jupiter. But for many people maps remain a mystery, a confusion of direction and features, left and right. Which way is which? What are we facing, what is behind?
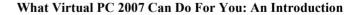
Our modern world has given us MapQuest, Google Maps, Expedia. Mapping GPS units are now mainstream and cheap. Phones have GPS built in.

Knowing where we are in relation to anything and everything else around us is so important that the killer mapping applications and devices cater to that to the extent we no longer think about what goes on behind the technology and the principals by which it works.

In time with the New Year, when we all vow to plot new courses, we are pleased to present Ed Hicks, owner of "Orienteering Unlimited, Inc." as our featured speaker. Topics we will be exploring include: how cartography tools have evolved with technology, navigation techniques, depths of Google Earth and Microsoft Virtual Earth, creating maps from aerial photography, map-making software, and more! OCAD (www.ocad.com) and Global Mapper (http://www.globalmapper.com) are two applications Ed will use to demonstrate different mapping solutions whether using existing data or when needing to create your own map.

Ed is a retired New York State science teacher who pioneered the outdoor education and computer programs for his school district from the 70's through early 90's. Since founding Orienteering Unlimited in 1979, Ed has lead Map Adventure programs with countless schools, camps, youth groups, corporations, and teaches two 3-credit graduate courses on the subject. He has produced over 100 orienteering-quality maps of state parks, camps, and conference centers and educational campuses.

If you're an explorer, adventurer, hiker, cyclist, tourist, spelunker, aviator, or sailor then stop by and learn how to get more detail from mapping technology! Attendees are encouraged to take a preview look at the OCAD and Global Mapper software demos prior to the meeting and bring questions they may have. Admission is free and open to the public. □

What Virtual PC 2007 Can Do For You: An Introduction

by Jeff Dowley

At the November general meeting, Richard Nayman, President of the Westchester PC user's group, gave a talk and demonstration about the concepts and benefits of using virtual machine software. We were very fortunate that Richie took the time and effort to present this subject to our group. Richie has a broad breadth of computing knowledge and took a great effort to try to explain to the members the fundamental concepts of virtual machines (VMs).

 Perhaps the easiest way to start the subject is to borrow the definition from one of the software companies that offer this kind of software, Microsoft. As they say on their website for Virtual PC 2007 (VPC 2007) the key idea is that through the use of virtualization software one physical (host) computer can "run multiple operating systems at the same time on the same physical computer." "Virtual PC lets you create separate virtual machines on your Windows desktop, each of which virtualizes the hardware of a complete physical computer."

The common name for a virtual PC is 'guest,' since the virtual machine can't run without a host computer. Of course a host can run both with or without any guests. Furthermore, all the common and popular VM hosting applications are free software.

Each guest VM is set up just like a new physical computer. Any VM can access files from shared folders, CD's, or even floppy drives. It is this sharing that allows the user to install most any mix of software on the guest. Installation and running of applications on a guest is identical to how they work on host PCs. Licensed software still needs a license for each virtual machine. Applications that need a lot of hard space still use up space on the installed drive of the host.

It is the ability of the one host to run multiple guests at the same time that provides one of the key advantages in using VPC software. The only limit to how many guests you can run at once is the amount of RAM memory your PC has. The next most powerful feature of VM software is that you can have 2 or more different operating systems running simultaneously on just one host operating system. The VM software empowers the user to be able to switch back and forth from the host operating system (OS) to any guest OS with just the click of a mouse in the appropriate window. This eliminates having to have either multiple computers or using a boot loader to multi-boot different OS's one at a time on the host PC.

There are multiple software companies providing VM hosting software. The most popular packages for running PC software are VMware (by VMware), Virtual PC 2007 (by Microsoft), and VirtualBox, an open source package (by Sun). For Mac computers, there is a package named Parallels that allows running Microsoft OS's (XP, Vista, etc) as the guests to host Apple Computer. For the presentation Richie focused on Microsoft's Virtual PC 2007.

One page of the PowerPoint presentation listed all the different possible host Microsoft operating systems. To save space here, let's just say that most any OS since Windows 2000 can be a host machine. Supported guest OS's include not only recent OS's (Windows 2000 and up) but most any Microsoft OS including DOS and Windows 98. One other important supported OS is the Linux family of software. Microsoft won't quite hold your hand to guide you when installing a Linux virtual machine, but they also don't prevent it. The only major category of software left out as a possible VM are the different Apple's OS's. Unfortunately, Mac OS's rely on an entirely different mechanism for the hardware initialization layer(called EFI), so their independence from BIOS means no one's VM software can run a Mac guest.

One limitation that needs to be emphasized is that for all OS's that use product activation keys, all guest machines need their own distinct license or key that is not the host's key.

After his introduction, Richie tried to make sense of all these new ideas and names by showing a few of the VMs

running on his demo computer using Virtual PC 2007. He then explained what the purpose was to some of the different VMs. Getting a little more specific about his guests and their uses he showed the group how to run Windows XP as the host for Virtual PC 2007. Shown were VM for Windows 98SE, Windows 2000 Pro, Linux Xandros, and finally Puppy Linux as a Live CD.

Another area discussed was the advantage of running both XP and Vista at the same time, with either OS running as guest under either of them as host. One new difficulty related to Vista is in dual booting with XP and Vista. While there is a program called VistaBoot-Pro that will resolve dual boot conflicts with Vista, Richie has found just running XP as a virtual machine easier to set up.

Another feature discussed was the separation of guests from the host. While certain hardware of the host is fully accessible to the guest, for example, network ports and CD drives, the host OS hard drive is inaccessible by default for the guest. Another way to describe this is to say that each VM acts like a wholly separate computer that can be part of your network and visible to the Internet, but unless you specifically enable sharing your host computer drives with the guest your host will remain safe from any software running in a virtual machine.

An example of the power to separate the VM from the host is that you can install any software to the guest as if it was a standalone computer. So, if you installed a new piece of software to the guest and found it to be unsatisfactory, or even malware, you could exit and delete the changes to the VM and have your VM back to as safe and secure as when you started it. All without any changes or risky software touching your host PC. This a great way to keep your host safe when trying new programs. harming the host.

In fact, when shutting a VM down, you are presented options about either saving the changes to the guest OS permanently, or simply shutting the VM off and discarding any changes you made in that session.

A common term for this feature is sandboxing, since it is like a having a walled off container for the guest to play in without harming the host.

In fact, when shutting a VM down, you are presented options about either saving the changes to the guest OS permanently, or simply shutting the VM off and discarding any changes you made in that session.

Another benefit Richie covered was that by using a VM, you can install old software that stopped being supported by newer operating systems like Vista. In other words you might run a program written for Windows 98 in a Win 98 VM, all on a Vista host.

This is a great way to retain the value of older software when you prefer it to the latest edition. The only big limitation is that recent hardware might not be visible to the guest OS and there may be no way to make it visible. A key place you might notice this is that VPC 2007 doesn't allow the guest to access USB ports and devices, except the keyboard and mouse.

VM's also share the network connection of the host pc. While it's great that you are on the network by default, it means that any VM has the same need for firewalls and anti-malware software as your host PC. the actual wired connection jack.

VPC uses your physical keyboard and mouse to control the emulated or virtual keyboards and mice. Getting the settings for this correct can take updating the host OS to know about the ability to switch the focus in and out of a guest OS with ordinary mouse clicks. Until the add-on pack is installed, you have to know the special key sequence to do the same thing.

To end his presentation, Richie demonstrated how to create(install) a new VM: You may choose between selecting pre-configured settings that match the OS you are going to install, or customizing them step by step. VPC 2007 makes this a relatively simple couple of steps, and Richie explained the general logic behind each option.

Special Interest Groups

Special Interest Groups are for people with common computer interests—novice through expert. Call group leader to verify schedule.

Upgrade/Repair
Leader: Dan Sullivan
Tel: 229-0241
e-mail: *dansull@optonline.net*
Schedule: 4th Mon. 7:00 PM
Location: Business Development Center Conf. Room B

Technology Workshop
Leader: Dick Kranz
Tel: 297-1813, 896-7376 or 265-4169 or e-mail:
dickkranz@optonline.net
Schedule: 3rd Monday, 7:00 PM
Location: Business Development Center Conf. Room B

Digital Photography
Leaders:
Les Muldorf
Tel: 914-475-0885
e-mail: *lesm1@optonline.net*
Jim Warner
Tel: 297-3175
jhwiii@optonline.net
Schedule: 4th Thurs. 7:00 PM
Location: Business Development Center Conf. Room B

Ulster Computing Workshop
(formerly HVPCC)
Leader: Robert Morales
e-mail:4bobmorales@earthlink.net
Schedule: 3rd Thurs. 7:00 PM
Location: Esopus Library

Interested in starting a Special Interest Group?
contact Jack Marsalla

Coming Events February 2009

First Thursday February 5th MHCUG Board meeting
7:00 p.m. at Guardian Storage Building

Second Thursday February 12th MHCUG General Meeting
6:30 p.m. at Best Western Inn and Conference Center

Third Monday February 16th, Technology Workshop
7:00 p.m. at Guardian Storage Building

Third Thursday February 19th, Ulster Computing Workshop
7:00 p.m. at Esopus Library

Fourth Monday February 23rd, Upgrade and Repair
7:00 p.m. at Guardian Storage Building

Fourth Thursday February 26th Digital Media 7:00 p.m. at Guardian Storage Building

APCUG
Medium Sized Groups
1st Place
2007