ITEON CONSULTING, LLC

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In this issue…

Vista/XP/Windows7

Key Point: Skip Vista, go to Windows7 shortly after it comes out.

Vista is now unofficially the new WindowsME. Microsoft has moved up the release of Windows7. It looks to be a much better version of Vista than Vista. Windows7 will include some new features, but the biggest thing that it will do is fix major problems with Vista. It is an incremental step from Vista (which was based on XP, which was based on Windows 2000), but from early alpha releases it appears to that this is really just a fixed version of Vista (the alpha releases are already as stable and faster than Vista).

Microsoft has said that Windows7 will be out in Q3 2009, which could be July 1 or Oct 1...watch this newsletter…we'll be testing and tell you when it is safe to get into the water.

Cell Phones

Note: All prices assume that a new 2-year contract.

There have been a flurry of new devices out over the past few months. Some are good, most--not so much (especially not for email). Also, activesync (as an alternative to Good and Blackberry) has really become stable and now has most of the key features that the others have (the most significant feature that is missing is remote wipe--the next issue will address Blackberry vs. Good vs. ActiveSync).

The HTC Touch Pro is the device that our engineers really like. They are turning in their Centros as fast as they can, and paying for the devices out of their pockets ($300). It is solid and runs WinMobile (the 1st WinMobile device that we can really get behind). While Win Mobile isn't perfect, it is good enough for us to recommend this device ahead of just about everything else out there right now.

There are a handful of heavily-marketed iPhone also-rans out now. Blackberry has the new Storm ($200). LG has the Dare, and Samsung and Motorola both have competing devices as well (tend to be about $149 with a new plan). We don't recommend any of them because they don't have keyboards, which make them all virtually useless for sending email. If you are determined to get a device with no keyboard, get a 3G Apple iPhone for $300-$400--it is a quality device, and worth the additional cost.

Blackberry's new lineup ranges from the Curve (good slightly smaller device, AT&T $150), the WorldEdition 8830 (excellent device, works on Sprint/Verizon, but also has GSM for China and Europe, $200), the Bold (solid device, but not sure who would pay $600 for it), and the Pearl (should be avoided at all costs).

Other devices that have raised lots of attention recently include the Android G1 (also called the "Google Phone", $150), but it is not ready yet. There is no activesync (POP only), and it is hobbled by only being available with T-Mobile. Iteon is not considering the device an option yet (it is truly a "1.0" device)--but we're still hopeful that it will be in 3-4 months as it improves. If you want a cool device that is POP only, LG has a little flip-phone called the Lotus (Sprint) that is nice ($79)--this device will appeal to many non-corporate email users.

At the higher end, Nokia introduced the E71 and the N96 ($600-$700). The hardware on each is good, but the Symbian operating system really limits them. For the same reason, we're not really recommending the Palm Treo Pro--it is a great device with lots of features (including activesync), but for $500, like the high-end Nokia's, they just don't seem worth it to us.

Iteon doesn't recommend any of these phones for business users: Blitz (absolutely no--the devices fall apart when you pick them up), LG Rumor (terrible reviews, Sprint $49), LG Voyager (weak reviews, Verizon $149), LG enV2 (this is an old model, missing some important features, Verizon $79), Samsung Instinct (no keyboard, Sprint $129), Pantech Slate (for kids--cool device, but for texting not business, AT&T $49), Samsung Glide (not corp quality, $79), MotoQ (any) and Samsung Ace (both break easily and fail often, $99).

Palm Centro, like the Blackberry Curve, is a small, inexpensive, excellent device. It works with Good (POP also, but not well with activesync, though). The only limitations are a small battery (about 16 hours max), and weak sound--especially with wired and wireless connections (all carriers, $50).

The Mystery of Lighting Revealed

Key Point: Mix and match for the best results. You want the most full-spectrum light from the least wattage to be green and have warm rooms that make you feel relaxed.

There are three types of lights--incandescent, fluorescent, and LEDs. Incandescent bulbs include any bulbs that heat a filament to produce light ("regular" light bulbs, halogen, xenon, and mercury vapor are all incandescent). The main differences between the types of incandescent bulbs is what is in the bulb (vacuum, halogen/xenon or mercury vapor), although halogen and xenon bulbs also tend to be more focused (and are more efficient than traditional incandescent bulbs), and mercury bulbs are much brighter (and more expensive as they are also a bit more complex). Fluorescents, in contrast, excite the gas in a tube, then send electricity through it to keep the gas excited, producing light.

The lightbulbs we all grew up with are 60-100W (Watts), they don't last very long, and they are not very efficient (a lot of electricity goes to heating the room). Halogen bulbs produce much more light, are usually 50W or 60W, and are a bit more efficient.

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Mercury vapor bulbs are 200W-600W+ Watts, and although they are very efficient, they are used where lots of light is needed (flood and street lights, stadiums, etc.).

Fluorescent bulbs are 6W, 13W, or 26W, and although they last years and are highly efficient and produce a lot of light at any given wattage, they also tend to deaden color (too much blue makes everything seem grey and tired to our eyes), and because they don't just burn out, many people tend to let the bulbs go long after they should have been replaced, which is why they often flicker. Also, the initial electricity required to charge the light is provided by a ballast (an electric part that makes up the bulk of the cost of most fluorescent fixtures); the ballast will eventually wear out (which means replacing the fixture).

LEDs will last virtually forever, are efficient, produce clean full-spectrum light, and are cheap. LED light is produced by very small "light emitting diodes" (little beams coming from really tiny computer chips--one per LED 'bulb'). Although they are extremely inexpensive and incredibly efficient, they have two drawbacks: 1) they are very focused (meaning you'll need lots of tiny lights to illuminate a given number of square feet), and 2) they are so efficient that they can't be used in construction.

If this seems strange--it is. LED lights are usually a bunch of very small bulbs that total up to 1W-3W. Three 3W LEDs are brighter than (from least light bright to most bright): a 26W fluorescent bulb, a 100W old-fashioned bulb, or a 60W Halogen bulb. Also they produce almost no heat, so they can really be put anywhere (especially in or under cabinets, bedside as ceiling reading lights, in closets, above sinks, etc.). The problem is that 50% of the *Wattage* in a new or remodeled bathroom or kitchen must be high efficiency. If you even have one Halogen light in a new kitchen or bathroom, you won't be able to put enough LED lights in to make your remodel pass the inspection.

So, what do you do? Mix and match. Start with a couple of "full spectrum" fluorescent light bulbs to get through the permitting process (same fixtures, but the bulbs cost about 5x the price, in line with halogen bulbs). Get a couple of halogen lights to put brightness where you need it, and use the LEDs the throw focused light in specific places.

Cobalt and Neodymium

Cars, cell phones, laptops, and many other devices are starting to require more, cleaner power and the answer seems to be Lithium Ion. Lead batteries have the obvious disadvantage of weight, and other alternatives are proving less viable as well.

Lithium ion has the disadvantage of the tendency to explode if not cooled properly (especially when there are lots of batteries). While this purely mechanical problem (cooling) will likely be soon worked out by those making cars, the production of lithium ion batteries will likely be dominated by those who are able to dynamically ramp production as new improvements and form factors are designed. Most of these vendors will likely be in China, if the recent past has been an indication.

Perhaps more interesting, though, is looking from an investment perspective at those providing raw materials or creating the parts components for use in devices that use lithium ion. Cobalt and neodymium are the two elements that will likely be the most in demand. Cobalt-based lithium ion batteries are used in high power applications (like creating torque). These applications will likely increase demand significantly for the batteries in the coming years.

Neodymium is used for magnetism, in light filtering applications, and in certain heat absorption applications; think headphones, the parts in a cell phone that convert electricity to sound, electronic parts that move or spin, and devices that measure things. Also, neodymium is used as a doping agent for coloring glass (think both visual light, high-power lasers, and fiber optics).

Food for thought.

Price Watch

With the hits the economy have been taking lately, there are huge bargains to be had. Laptops are up to 40% cheaper than they were in July, and servers are trending toward 50% lower than they were 4 months ago. Lead times are up a bit, but are not especially long because the price drops have not resulted in the sales that were hoped for.

Consumer device prices (for cell phones, TVs, etc.) are a bit lower, but the sales of new devices planned for the holidays have kept sales from falling off too much. I would expect to see 5-25% discounts at Best Buy and with others who sell computer electronics.

Dell is the place to buy Servers and Laptops right now. Desktop prices have remained surprising stable (only down about 10%). Waiting for a bigger fall on desktop prices (early January) might be prudent, but at the same time, it would be wise to make purchases before February, when there will likely be price volatility in the upward direction.

Prices on infrastructure products (network, wiring, etc.), and on software has been largely stable and will likely continue to be so. Expect new, higher prices for software around mid-year, in anticipation of the Windows7 release.

We expect that consumer, server, and laptop prices will stay at these levels until Obama takes office. I would expect an uptick in prices in February.

Iteon News

As always, thanks for all of your recent references. Business has been very good lately, even during the banking crisis. We greatly appreciate all the patience you have shown—we're sure many of you have noticed how busy we've been the past few months.

We have recently hired 4 new people: Ken Greenlaw, Michael Tadewald, Dos Fityan, and Sabrina Pryce. They are very welcome additions, and we're sure you'll like them as much as we do.

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