Every now and then its fun and interesting to try to theorize where personal computing is, and where its going. Its also important strategically for anyone in the digital content business as I am.

I thought I would put some things out there and see what people think.

The first step is to look to see how most people use their PCs. Email. The Web. Basic business applications. Personal Finance. Few of which even begin to use much of the processing power, whether CPU or ASIC of todays cheapest PCs.

Thats not to say that there aren't applications that can be processor hogs. Anything rich media related, particularly as it relates to personal modification can be heavy resources users. Whether its capture, storage and editing of pictures, graphics or video, they all can and will use all the resources available on a PC.

Then there is gaming, which also consumes all it can.

I believe that this bifurcation of personal/home computing into light and heavy resource consuming applications, will lead to a dramatic change in the technology industry.

We are starting to see the manifestations of this split today. The release of new gaming consoles has easily eclipsed the release of the new generations of new CPUs or PCs as a major consumer event.

Remember the days of Pentium releases being a big event ? The excitement of a new line of Dell or Compaq or IBM computers ? It seems to ancient to think that the release of a new PC even mattered. Today its the release of a new XBox or PS3 that gets the attention and people waiting in line for stores to open. Even the release of Vista didnt generate much consumer excitement.

Gaming consoles are already serving as hosts for DVD , HD DVD and Blu Ray players, along with hard drive and USB support for video and pictures. Which leads to the question. Will gaming consoles replace PCs in the home, not just for gaming as they have done already, but also as the primary home device for all things graphical ?

Will people stop putting their pictures on their PCs and buy gaming consoles for this purpose instead ?

If the gaming consoles get real keyboards and better web browsers they will.

Which is exactly what could make the future of home computing very, very interesting and upset the MicroSoft and Applecart :), and give a huge edge to Google and maybe Yahoo and even Sony.

Think of it this way. If for whatever reason the majority of consumers moved any and all applications that involved heavy graphics and CPU use to gaming consoles, what would be left to do on a PC that couldn't be done online ? Are there any ?

Spreadsheets, Word Processors, Powerpoint, Email, Personal Database, Personal Finance ? They are all so limited in their resource utilization, a very strong case could be made that its smarter to do these things online from a gaming console or any inexpensive PC. The inherit benefits of distributed computing could outway some of the limits of not having the biggest box on the block. Things like less power consumption, lower software costs, full backups and much more.

It all comes down to platforms. Why can't a small console, much like today's gaming consoles handle local multimedia and gaming and have a browser , keyboard and broadband connection to do everything else online ?

If this happens, what happens to windows ? MicroSoft ? Apple ?

Its hard to say, but the big winner could be Google.

In looking at Google's public technology discussions, it appears that a thin client, distributed computing future is exactly what they are expecting.

Google has created and continues to expand huge datacenters around the world. From whats been written, they contain tens, if not hundreds of thousands of processors all clustered and networked together. They are connected to each other via fiber, and are in turn connected by dark and lit fiber to every and any internet peering point they possibly can.

Its a critical distinction that they only have fiber to peering points rather than having direct access to homes. First, in a world with net neutrality, it means Google has the fastest access to common points connecting to the last mile than anyone else. More importantly, it throttles how much bandwidth they can deliver to the home. You can lead a 10mbs stream to a peering point, but you can't make the ISP drink it. Sure it will pass through, but there are no quality of service requirements at that peering point. Google can put some beautiful HD content out on their servers, and it will be perfect.. until it gets to the peering points, at which point it loses all its priority and becomes just another packet. Which is the downside of net neutrality. Google can't buy their way to having their packets given priority, so those who expect big bandwidth video to the home from Google Video… as both Google and I mentioned in this post, it aint gonna happen the way things stand today.

That said, Google is in a unique position with their datacenters and infrastructure to dominate thin client computing and everything they are doing seems to point in that direction.

If you arent famliar with Virtual Machines, you need to be.

Virtual Machines are exactly what they seem to be. The ability to create a virtual computer on which any and all personal computer applications (as well as higher end apps) can reside. VMs are more ideally suited for applications that dont chew up alot of bandwidth, which is why the seperation of multimedia applications to consoles is critical to VMs becoming popular.

If the heavy bandwidth apps are on gaming consoles, then why wouldnt consumers just connect to the net and use Google Office apps, or MicroSoft Live Office Apps, or any other provider of online apps ?

Which is exactly what I think Google is trying to accomplish in the future. Huge datacenters of clustered computers running an unlimited number of Virtual Machines for an unlimited number of users with unlimited bandwidth out, all free to consumers in exchange for seeing ads in limited areas could turn the consumer world upside down.

Which is a better development platform for app developers of the future, Vista or a Google Virtual Machine ?
Which is a better consumer platform , using any low end PC to run all your non multimedia apps, or worrying about upgrading to VIsta ? Buying the latest Office apps or running them for free online ?

Which puts Sony and MicroSoft in a strange position. The more successful and powerful their Xbox and PS/X consoles are, and the more diverse their applications applications are, the more successful Google or another online provider of Virtual Machines and applications can and should be.

And I havent even begun to discuss the role of HDTVs to replace personal computers.

Its going to be an interesting next 5 to 7 years

Virtual Machines
TV as the PC ?