

Invisor Analysis: Semico Summit 2004

March 24, 2004

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Scottsdale Meets Sunnyvale: Finding the Next Killer App at the Semico Summit

I wasn't sure what the tone would be at this year's Semico Summit. About 150 chip industry executives hoist their clubs aboard a Southwest Airlines 737 every year to get some R&R and find out which way the chip winds are blowing. I'm one of the rare breed of chip-industry executives who doesn't play golf. You see, before I commit to an activity, I like to know if I'm doing it for business, exercise, sport or perhaps to satisfy some latent masochistic tendency. And since nobody has ever been able to tell me which of those buckets golf fits into, I've never tried it. So, rather than playing a few rounds of golf, I prefer to hoist a few rounds of beers, while I'm "taking the industry's temperature," so to speak.

Since the recovery appears to be indisputably in full swing, I wasn't sure what the tone of the conference would be – cautious optimism or irrational exuberance. To be honest, the seemingly endless dialog about the rising cost of chip development and the impact of 300mm fabs and its fraternal twin, 90nm technology, is getting really old. On the other hand, I was more-than-mildly curious to hear which applications the Silicon Valley elite thought would drive the next wave of chip industry growth, among other things. So, here are my thoughts and insights from the conference ... but first, **Tobak's Speaker Awards:**

Best Quote: Bob Bailey, head honcho at PMC-Sierra, hit home with this one, "Our industry is made up of geniuses that act collectively like idiots." Bob failed to mention that we occasionally act individually like idiots, as well. Just ask my wife.

Most Abstract: Atiq Raza – who I've typically seen as a "visionary" sort of panelist, gave a technically poignant, if somewhat abstract, speech on the inefficiencies of our IT infrastructure and a proposed overhaul he calls the virtualization of IT. I think he was dead on, but I am a geek.

Oddest Behavior: I can't remember who started it – it may have been Steve Appleton – but somebody on the panel stood up to answer a moderator question, and from then on, everyone on that panel stood to answer questions. The other panelists were John Baruch of Amkor and Ed Ross of TSMC. It was a little odd.

Most Unusual Concept: Infineon actually has orders for a jacket with in-fabric wiring for an MP3 player. You have to remove the power-pack for washing. Bob LeFort, North American president, demo'd it, although E.C.'s guitar wasn't audible. Who would actually buy something like that?

Best Attempt at Changing Perception: James Northrup, COO of DuPont Photomasks, provided an extremely coherent and articulate explanation for why photomask costs aren't really rising as a percentage of total design costs. He's absolutely right, but I think folks will go right on complaining about mask costs.

Most Fun Facts: Levy Gerzberg of Zoran provided an interesting perspective on the CE market. But would somebody please tell me what 803 million albums per year, 80 billion analog prints per year and 500 billion photocopies per year have to do with the Digital Media Explosion, which was the title of the slide with these fun facts? I must have missed something ...

And finally, the **Best Presentation** was the first day keynote by Dr. Tsugio Makimoto of Sony. In addition to providing a most insightful perspective on the state of the chip industry, including new technology and market drivers, Makimoto-san showed an extremely cool video on a little robot named QRIO. Here's an image of the "cute-bot," courtesy of Sony's website, but you really have to see/hear him and his friends dance and sing karaoke sometime:



http://news.sel.sony.com/digitalimages/album?album_id=155072

Great 2004, Not-So-Great 2005

Semico Research is predicting a strong '04 for the chip industry – 27.5% growth – with significant growth across all relevant vertical markets. However, they're predicting a small – relative to the one we just lived through – cyclical downturn in '05 based on slowing PC and wireless growth, coupled with both 300 mm capacity coming on-line plus additional 200 mm capacity in China. Semico bases this prediction on their IPI (Inflection Point Indicator) index. You can imagine how well received this news was.

More IP Companies?

There seems to be some consensus that – as a result of ever-rising chip development costs – chip companies need about \$1B in annual revenue just to break even. If that's the case, it seems to me that a large and growing number of companies will transition from fabless to chipless – or IP – business models, to avoid continued margin erosion and eventual extinction. Demand for outsourced IP is definitely on the rise and there's no end in sight. So there is growing market demand to support this transition.

The End Of The Computing Era

There also seems to be a general consensus that the “PC era” – or the 1st Digital Wave, as Sony calls it – is over. What this means is that computers are no longer the leading market or technology driver. The new era will be dominated by digital consumer and networking – both wired and wireless – applications. Sony calls this, you guessed it, the 2nd Digital Wave. Clearly consumer and communications markets, at least in aggregate, have overtaken computing in semiconductor content, and this trend will continue. In addition, there appears to be a growing case for many killer apps, as opposed to just one. They include wireless phones, various digital home applications like DVR, DVD-RW and DTV, as well as CE away from home, like digital cameras and MP3 players. And automotive is steadily growing as a consumer of chips. There will definitely be lots of reasons for consumers to help shrink the CE replacement cycle.

SOC, SIP & Programmability

Hand-in-hand with this new trend is the replacement of microprocessors, memories and ASICs with SOC, SIP and field programmability as the most critical core chip technologies and functions. I wonder what Intel thinks about that? Sony calls the SIP movement Jisso Technologies. How do they come up with these names? I loved Trinitron, Walkman and PlayStation, but then they lost me with Vaio. I still think Sony has great marketing. “Live in your world, play in ours” is a great tagline. Speaking of taglines, don’t let your marketing or ad people sell you on “Done” as a tagline, as in “Nextel, Done.” Done is way overdone.

Where Are The Jobs?

On the topic of “jobs, where are they?” I thought Bob Bailey did a great job of explaining the tradeoffs of outsourcing chip development resources. He pointed out that 1) you can ramp these resources both up and down very rapidly, and 2) the outsourcing companies have specific expertise in most functional areas because they serve a large enough customer base. It’s therefore more an issue of flexibility and leverage than purely cost driven. I also think CEOs were pretty burned by the downturn and are now justifiably reluctant to pull the trigger on major hiring commitments. Most folks believe this situation will work itself out eventually, but I’m sure the jobless folks have a slightly different perspective on that.

Back To The Future

Once we were vertically integrated, then we became horizontally specialized. Although humans do tend to move toward extremes, it does appear that we are going to have to embrace some of the aspects of vertical integration in order to solve the growing “impedance mismatch” between design and manufacturing. Many at the conference believe this, but it does beg the question: “isn’t linking the vertical supply chain, to some extent, divergent with developing broad industry standards?” Put another way, don’t you either have broad industry standards or proprietary, vertical solutions? If you can somehow have both – vertically linked supply chains and horizontal standards – then homogeneity will inevitably be the result, limiting differentiation. An interesting dilemma, to be sure.

The Future of Networking

Dell’s CTO, Kevin Kettler, seems to have a three-pronged approach to the future of networking: 1) curing the PC/CE isolation in the digital home with a single home network; 2) blade servers enabling scalable, efficient enterprise computing; and 3) seamless wireless networking between enterprise, home and public areas, with wireless LANs evolving toward a mesh architecture and wireless devices essentially becoming routers. He also views security – defined as a combination of physical, user, system and network security – as both a critical issue and critical technology to watch.

The Fourth Wave

Brian Halla of National, who provided the day-two keynote, had an interesting perspective on chip industry drivers, as usual. His take is that we are leaving the “man to machine” phase and entering the “man to many machines” phase, soon to be followed by the “machine to machine” phase. I guess these last two phases comprise what he calls the fourth wave. The first three waves were apparently mainframes, PCs and connected PCs, all of which were of the “man to machine” variety. In addition to the current boom in CE and wireless phones, he predicts the fourth wave will ignite unprecedented semiconductor demand in new applications such as RFID tags, wireless sensor networks and proximity signal processors, among others. Sounds great, as long as the “machine to machine” phase doesn’t turn out to be like The Terminator.

Etcetera

Lastly, there was of course a lot of talk on the usual subjects, such as the escalating cost of product development, the growing gap between design and manufacturing, the need for a universal IP interface, the holy grail of content anytime, anywhere on any device, automated platform ASICs, etcetera. And while there was some useful dialog and some creative ideas for solving these complex issues, their solutions will likely evolve over time. Perhaps that’s the greatest benefit of conferences like Semico Summit; in addition to the networking opportunity, when you put a bunch of smart people together, they usually come up with smart ideas.

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