Rip Van Winkle Awakens at DAC 2009

Frank A. Nemec, Jr.
August 6, 2009

My Background

DAC 2003 is the last DAC I attended, before I left IBM, and the EDA industry, for medical reasons in 2004. My participation in DAC 2009 offered me a unique opportunity to observe the evolution of the conference, and to notice things one misses if attending every year. I had attended as an EDA tool developer within IBM, perhaps 20 times over the course of my 36 year career. The last 25+ years of that career have been in EDA. As IBM transitioned from (of necessity) writing all its own internal tools, toward an increased usage of vendor tools, my role at DAC added the dimension of reviewing the industry's commercial offerings to influence IBM's tool purchase decisions, and therefore the IC development methodologies of diverse product teams across the corporation. DAC, and the weeks in preparation for it, provided by far the best opportunity of the year to do this. The most consuming thought of every industry player is, "What will we show at DAC?" It drives their development schedules. The key vendors which whom IBM already had a relationship would meet with the IBM team before and/or during DAC to present what they thought we should know about their upcoming announcements and deliveries, based on their current understandings of IBM's needs. The IBM team included key decision makers from IBM EDA and all the major product development groups. Each could express their own unique concerns and needs, and update each vendor's understanding of the various IBM design environments. It was a very efficient exchange of information. It was especially valuable to have this exchange with all vendors at the same season each year. It's harder to get a balanced perspective when comparing what Cadence said last week with what Mentor said 6 months ago and what Synopsys might say next month.

General Observations

The most obvious change is the scale of attendance and of exhibitor participation. Gary Smith didn't seem to have his usual enthusiasm and optimism. The only growth areas he particularly noted were RTOS's and software tools for embedded systems. Bemoaning the industry's 'pathetic' price discipline, he thought IC CAD could grow 12-15% if we quit price-cutting. Gary suggested embedded software is growing because of the availability of much greater parallelism in the hardware. **He cites multicore software as the "major problem of the decade."**, then urges treating this problem as an opportunity. The market is disintegrating because the processor guys are buying up the (software) tool companies, and the customer wants a commercial (independent) solution. This is a make-or-break item. Gary's industry overview is definitely a valuable part of the conference.

On the parallel/multicore subject, Charles Leiserson's talk on Cilk was a very good choice, and very timely. This is especially true of the William Dally (nVidia) keynote. We need to get EDA developers thinking in new paradigms, thinking parallel, thinking GPU/Cuda as an EDA tool. *I propose a tutorial-like session covering these areas for the next DAC*, targeted to the EDA

developers attending the technical program, including the students. An actual tutorial might be appropriate, if the price and extra day don't put it out of reach, even at the student price. To make this knowledge, which this year's DAC clearly views as important, available to more people and sooner, how much would DAC or its sponsors (ACM, EDAC, IEEE) need to charge for a PDF or PowerPoint tutorial with voice? Or just a video? Can the price be considered a function of the importance of this kind of education to the industry, not just to the student?

In the Monday keynote, Wally Rhines of Mentor Graphics noted that in a downturn, companies still design. But I think they are more selective in the products they attempt. There are fewer marginal or "me too" products.

It's heartening to see the continued participation in DAC by industry pioneers I've known for decades. It helps bring a unity and identity to the industry.

It was good to have multiple venues available for less formal presentations, such as the Exhibitor Forum, Pavilion Panels, Partner Pavilion, and the PhD posters. A lot of good ideas showed up at these, and I trust the posters were of value to the students. I suggest promoting the poster sessions by letting people vote on the best poster, best project etc., with one or more ballots randomly drawn for a prize. It seemed an interesting choice for these to be held on the exhibit floor. I'm sure this was done in part to allow the exhibits-only attenders to participate. Which brings up the idea of whether the exhibits-only vs the full conference is the best price distinction. The exhibits-only now seems to get you nearly everything except the technical sessions and the DAC party.

It is good to have a consistent structure for the conference, so people know what to expect, and can switch rooms at the end of any paper. The embedded multicore presentation scheduled for room 128 Tuesday at 3:30pm had moved to 1pm, so I missed it.

The conference still succeeds at building excitement for the future, especially with the thoughtful keynotes and the well-organized and well-run panels, with qualified and thoughtful panelists.

Exhibits

The nature of participation in DAC by the larger players has shifted dramatically. Some is simply a consequence of facing reality. These players were spending huge sums of money on their DAC presence, but were not seeing a commensurate increase in revenues to justify participation at that level. The overall energy level of the exhibits is much lower. There were practically no demos anywhere, either on the floor itself, in a separate vendor suite area of the conference facility, or in the separate hotel suites of many years ago. Gone are the vendor-hosted social activities, where the customers could mingle with vendor representatives and with each other, swapping questions and informal vignettes on what working with this vendor is like. Gone are most of the vendor-sponsored lavish parties with name celebrities like Ray Charles, Siegfried and Roy, etc. Did they artificially inflate DAC attendance? The remaining bright light here was the top-notch party (with EDA celebrity vocal competition!) hosted by Denali. Gone are most of the vendor sessions customized to IBM, with only IBMers attending, and with suitable nondisclosure agreements in place. Gone are the more general vendor presentations of a particular tool set, open to anyone,

where I could see what other companies wanted, liked, and didn't like. And of course, gone are the days of returning home with suitcases full of literature, trinkets, and T-shirts given to entice you to actually hear a presentation.

To a lesser degree, the same is true of the smaller, newer players. It's still true that, for a minimal investment, a startup can rent a small space on the floor and man it with a knowledgeable representative. But if the IBM team, and others like them, no longer attend, their audience is reduced significantly. To help balance that shift, we increasingly have the voices of people like John Cooley and Gary Smith, keeping an eye on the pulse of the industry and what people are saying, and making readily available their suggestions on what to look for at DAC. I consider that of great value. It's a great way for a new work of significance to get noticed.

Technical Program

The content and scale of the technical program has stayed fairly consistent, though attendance has decreased. Very good technical work is still being done and reported. It seems that acceptance of a work for DAC still carries its historic respect and prestige. It currently represents more university academic work than industry work by a wide margin. I see a fair amount from IBM and Intel, but precious little from EDA vendors or other professional EDA developers. Peer review is still choosing good content.

EDA in Flux had lower attendance than I expected. Session 26, Post-Turing Computation, had more attendees than fit in the room.

Logistics

Gone are the six bus routes streaming in and out of the convention center area, carrying DAC participants from their hotels to the convention center, vendor suites, and offsite events. Pat and Marie Pistilli (via MP Associates) continue their long tradition of superb management of local arrangements. DACNet and WiFi are things we now take for granted, along with everything else you expect from the manager of a major technical/trade conference. Audio/video technology, along with the widespread adoption of common presentation software tools, have removed nearly all of the earlier hindrances to understanding a technical presentation. Climate, lighting, and sound were always well balanced, and consistent among the rooms. (Room 102 was too live, with too much echo, but still adequate.) It is really, really nice to have clean air without cigarette smoke! Audio has improved enough for a listener to even understand a speaker in a low monotone. In all but the largest assemblies, even slides with too much content in small fonts with poor color choices were still readable. The one luncheon I attended was very good, with good and efficient service.

The Future

Yes, the times and the industry have changed, as has some of the character of DAC. What functions are most appropriate for DAC to perform in the future? How much of that continues to be best served by the immersive, interactive experience of the conference? What parts should be done electronically, without the costs in facilities and travel/housing?