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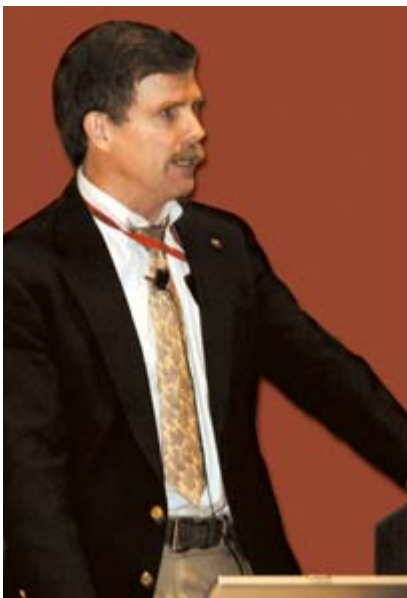
BREAK IT DOWN Mentor's Rhines

For Designers, BETTER TIMES

Spring is here, or so it seems. New tools and plenty of work are the norm – can we sustain it? **by ANDY SHAUGHNESSY and MIKE BUETOW**

What a difference a year makes.

PCB Design Conference West 2003 took place against a backdrop of the pending invasion of Iraq and a very shaky economy. But this year the industry's leading event for designers exuded a much healthier vibe; even the normally chilly weather was absent. With highs in the low 80s, the show



KEEP 'EM SEPARATED Fjelstad

emanated the feeling of spring after an exceptionally tough winter.

Among the nearly 1,500 attendees who found their way to San Jose the talk was much more positive than in recent years. Designers and engineers saw no end in sight to their workloads. Vendors rolled out new design tools – even an autorouter – and board shops spoke of near-capacity levels. Even travel budgets, long on the endangered species list, seemed to be making a comeback.

But winter's effects could still be felt. Attendees spoke of their still-unemployed former coworkers while mulling the possible movement of their jobs to the opposite side of the globe. The EDA vendors said designers still aren't upgrading design tools as fast as in years past.

And one consultant said he had so much work lined up he can hardly find time to go sailing.

Past the Breaking Point

In his keynote address to a packed room, Mentor Graphics' chief executive Wally Rhines discussed the issues that are likely to "break" the design

process – from HDI and embedded passives to library management and globalization. With some irony, Rhines noted that EDA tools tend not to work long before breaking, yet that doesn't seem to slow the pilfering of software in some Asian countries. He added that the fact that a tool is better than its competition doesn't ensure its success: PCB designers won't switch, even to a better tool, until their current tools are no longer useful.

He pointed out that Mentor believes in investing in "total solutions" and not just R&D in new areas, as is the norm among EDA companies. Rhines noted that attention must be paid to the increasing ratio of passives to actives in some newer technologies (e.g., 31:1 in videocams), and he stressed that for product containing embedded components synthesis must be performed concurrently with design.

At the PCB Technology Forum and Welcome Luncheon, Joe Fjelstad, founder of the Silicon Valley startup SiliconPipe, presented his new I/C packaging ideas for partitioning high-speed I/O separately from the low-speed. With the high-speed I/O

launched from the top of the package, signal strength and signal integrity can be improved, and crosstalk can be reduced or eliminated. Asked why so many electronics companies resist change, Fjelstad quipped: "Everyone wants to go to heaven, but no one wants to die."

The panel session "Improving the Data Flow Between Design and Fabrication" focused on communication, but evolved into a comparison of data formats and standards. A quick poll found the audience to be a nearly even mix of RS-274D, RS-274X and ODB++ users. The 274D users said they liked that format just fine, despite having to deal with separate aperture files and other issues, because they're used to it and it works. Some designers in the audience weren't interested in the so-called "intelligent" data formats like ODB++ or IPC-2581, the standard resulting from the convergence of ODB++ and GenCAM; their managers wouldn't listen to their suggestions anyway, they said.

The consensus of the "Will My Surface Finish Work?" panel was that

fall. The company also released CADSTAR SI Verify, which includes a 2D field solver that will be merged into CADSTAR over time.

On the manufacturing front, Ken Bahl, president of Sierra Proto Express (sierraprototoexpress.com), said his shop has been very busy. Streamline Circuits (streamlinecircuits.com), a "new" shop whose top staff includes several former DDi managers, was also doing well. Eagle Circuits' (eagle-circuits.com) director Nilesh Naik echoed the thoughts of many shops in reporting longer material lead times – some laminate vendors have pushed lead times to 14 to 18 days, which in turn makes five- to seven-day turns on PCBs tricky – and as a result shops are increasing inventory of some materials. Endicott Interconnect (eitny.com) is also at nearly full capacity. Elizabeth Nolan of Ireland's Beta Layout (pcb-pool.com), and Burhan Casper, director of sales and marketing for Speedy/Metro Circuits (speedycircuits.com), both said business has been very good.

Belgium-based ConnectEDA (connecteda.com) raised a few eye-

Who was president the last time A TOTALLY NEW AUTOROUTER was released?

most board shops currently offer almost every type of available finish. But Bellcore (telecom standards) might restrict the use of silver, a move that could have repercussions in other product areas as well.

On the show floor, Dave Wiens, director of PADS marketing for Mentor Graphics (mentor.com), said a design survey found that 96% of users are doing both FPGA and board design, with only 4% outsourcing, and an average of one to five FPGAs per board. Jamie Metcalfe, vice president of marketing for the PCB division of Cadence Design Systems (cadence.com), said silicon package co-design is currently one of the top five issues on the chip side. Zuken (zuken.com) announced the release of Hot-Stage 4.2 virtual prototyping tool, and said CADSTAR 7 is due this

year. The company also released Electra, its recently introduced (and low cost) autorouter. (Who was president the last time a totally new router was released?) The gridless, shape-based router reads in DNS and DO files.

Overall, the exhibitors were pleased with the quantity and quality of the leads, and the aisles stayed busy, especially on opening day. There was none of the heaviness that had permeated trade shows the past few years. Attendees and exhibitors alike made plans for 2005, knowing that they'd be around next year. **PCD&M**

Next year, PCB West moves back to its long-time home in the Santa Clara Convention Center, March 7-11.

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