

## Comment

### Project looks at embedded sector

F.A.S.T. and the Technical University of Munich are working on a joint study on worldwide trends and programmes for the European Commission. They are currently analysing future tendencies and trends over a five year time frame and comparing similar programmes in other regions and countries to the 'Technology Platform' planned by the Commission. The Platform is one of a number that aim to bring together research organisations, industry, regulators, user groups and other stake holders to devise and implement a common strategic agenda for the research, development and use of technologies in Europe. The goals of the study are to analyse the 'state of the art' in the area of embedded systems and to identify the most used and most promising technologies in different sectors. It will also assess the impact of embedded technologies on market developments of different industries and services. The study will also identify R&D programmes and initiatives outside Europe to compare public funding on an international basis as well as analysing initiatives similar to the Technology Platform to identify best practice of operation, coordination and transfer of results. Initially the researchers are to conduct interviews with experts and the develop a questionnaire to give quantitative results for the developments of embedded technologies and their applications.

Colin Holland

## SOFTWARE

### Wind River confirms commitment

In reaffirming its commitment to the shift toward open standards in software development, Wind River Systems has proposed the Device Software Development Platform project with the Eclipse Foundation to accelerate device design development, introduced a project at SourceForge around the open source cluster communication protocol TIPC, and announced continued work with key open source projects.

John Bruggeman, chief marketing officer for Wind River, said, "In just nine months, we have gone from zero to sixty in our efforts to embrace openness. By enabling device manufacturers across all industries to benefit from industry standards and accelerate innovation, Wind River is enabling our customers to develop highly sophisticated devices better, faster, more reliably and at a lower cost with all the benefits of open source."

By contributing to Eclipse

an open framework for device development and offering updates to the TIPC protocol that provides the portability of code between Linux and Wind River's VxWorks operating systems, the company is seeking to increasingly foster a collaborative environment to best support the needs of the open source community.

Wind River is also an active sponsor in key open source initiatives such as the Eclipse Foundation, kernel.org, GNU, OSDL Carrier Grade Linux Working Group (CGL) and Consumer Electronics Linux Forum (CELF).

Wind River has elevated its membership status with the Eclipse Foundation from being an add-in provider to Strategic Developer and will further incorporate Eclipse-based technology into Wind River products.

With the Device Software Development Project, Wind

River is bringing its expertise in device software development and run-time solutions to the Eclipse community to foster industry standardization and innovation to help companies develop and run device software better, faster, more reliably and at a lower cost.

Mike Milinkovich, executive director, Eclipse Foundation, said, "The goal of Eclipse is to create a universal development platform to enable global enterprises to develop software more efficiently. Wind River has deep experience in device software and will provide the vision, technology and resources to enhance the Eclipse platform specifically for embedded software development. The addition of the Device Software Development Platform project will help expand Eclipse's presence in embedded computing, a key focus area for the foundation as outlined in the recently unveiled Eclipse Roadmap."

## MARKET

### Consumer drives storage growth

Digital consumer electronics will drive the disk drive industry over the next several years, an industry analyst told the International Disk Drive Equipment and Materials Association. Harry Blount of Lehman Brothers said cable companies like Comcast want to equip set-top boxes with media storage devices. With their experience using storage devices, Apple, Dell and Hewlett-Packard will begin superseding companies like Sony as suppliers of home entertainment equipment, he added.

What's more, said Blount, consumer disk drives will not be immediately subject to the price erosion affecting other applications. For the first time in years, the storage industry can anticipate a 38-percent increase in drive shipments – from 305 million in 2004 to over 400 million

in 2005 – along with an 18-percent increase in revenues.

"The cable companies want to put PVRs [personal video recorders like TiVo] into your home," Blount said. "A half-terabyte on your home network is not out of the question." In terms of an immediate growth opportunity for the disk drive industry, he added, "This is it."

HDD volumes in the enterprise hardware market are likely to grow only 5-6 percent over the next three years, he explained. Notebook computers will likely grow 12-13 percent, while the addressable market for digital home appliances will likely double to \$160 billion in the same time frame.

Microdrives in cellular handsets, seen by many as a large growth area, have been plagued by reliability issues. But the digital home represents a clear

growth path, Blount maintained.

While the disk drive industry relied on IT vendors, the use of HDDs was contingent on capital spending for computers and operating systems. The IT industry in turmoil, said Blount, giving rise to the era of "liquid data" in which cellphones and PDAs have replaced PCs as users plug into distributed data sources.

"It's a network, not a box, and you've got to be thinking about building your drives differently." Consumers will demand different head-track data access capabilities, a greater degree of interoperability and simplicity, Blount said.

"Where data is stored will be the trump card in determining whether the digital home network will be PC-centric or consumer-centric," he said.