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Cheers To 40 Years !



Concurrent is 40 years young this year. It's a very happy anniversary.

From our roots in 1966 as a computer hardware and software manufacturer, we've grown to become a leading provider of high-performance, real-time technology solutions for government and for companies that include Boeing, British Petroleum, Comcast, Cox Communications, DaimlerChrysler, Ford Motor Company, Lockheed Martin, Saab, Time Warner Cable and many others.

For four decades, our best-of-breed products have enabled a range of time-critical solutions including modeling and simulation, high-speed data acquisition, visual imaging, low-latency transaction processing and on-demand television. Today, we actively contribute to the open source community, and offer real-time Linux operating systems compatible with the two leading Linux distributions under the brand names of RedHawk™ Linux® and SUSE® Linux Enterprise Real Time from Novell®.

One of our proudest achievements is to have received the 2006 Lockheed Martin STAR Supplier Award for meeting stringent quality and delivery criteria.

A few of our many milestones:

- The first 32-bit minicomputer in 1974
- The first real-time UNIX® operating system (RTU) in 1984
- The first single-board supermini (MicroFive) in 1988
- The first commercial Video-On-Demand (VOD) deployment in 1999
- The first NDVR (Network-based Digital Video Recorder) time-shifted VOD event in October 2001
- The first single-kernel, real-time Linux distribution (RedHawk) in 2002
- The first commercial VOD deployment in China in 2006
- The first VOD solutions vendor to successfully integrate and deploy with Time Warner's Start Over product in 2006
- The first real-time SUSE Linux Enterprise Server distribution – SUSE Linux Enterprise Real Time in 2006
- Plus many more

To our customers, our sincere gratitude for your business. And to those of you who are considering Concurrent, we look forward to serving you soon!



Executive Messages



Striking a balance... between thriving real-time business and evolving opportunities

Scott Stroh
Vice President, Real-Time Sales & Marketing

With 40 years of innovation and customer support under our belt, we know how to balance traditional technology requirements while evolving to continually offer industry-leading innovations. For some companies it's a tricky balance. For Concurrent it's business as usual.

Our traditional real-time business in the simulation and training market segment remains strong. For example, we've been chosen to support major new defense programs. The U.S. Navy is increasingly looking to standardize its real-time computing systems, and we're really well positioned in that area. In fact, with our work on the the U.S. Navy's Aegis Open Architecture (AOA) CR2 program, it's not a stretch to say we're becoming the de facto real-time operating system provider for the U. S. Navy. And our Special Systems group continues to offer the most innovative custom real-time computing solutions, resulting in some recent key customer endorsements of our ImaGen visual server.

On the new business development front, we have new product and key partner relationships with industry leading software and hardware technology providers, including Novell, Dell, IBM and HP. We anticipate our key partnerships will fortify our ability to reach new markets that require predictable, real-time COTS-based solutions in the data center.

We also anticipate that the open source movement will continue to build. It's no real surprise that Microsoft has further embraced open source by teaming with Novell. Companies must respond to market demand and logic. Such relationships are good for Concurrent and our customers because we are a key player in real-time and the open source community.



Bridging the traditional with what's next

Gary Trimm
President and
Chief Executive Officer

It's an interesting world, and for Concurrent it gets more interesting every day. For example:

- Microsoft is embracing Novell SUSE Linux.
- Oracle announced enterprise-level support for Red Hat® Linux.
- Novell is integrating our real-time technology in SUSE Linux Enterprise Server.
- Our VOD technology's contribution to Time Warner's Start Over product earned us an Emmy nomination again.
- We launched our MediaHawk 4500 high-density server powered by our RedHawk real-time Linux for video-on-demand (VOD) applications, setting new standards for quality, reliability and performance.
- Our Everstream acquisition continues to add value – for our customers and our shareholders.

The common thread here? We have a way of bridging the traditional with what's next. For example, with the world continuing to recognize the advantages of Linux, we've established a strong and mutually beneficial relationship with Novell. We're very optimistic about this – in terms of revenues, customer benefits and our ability to lead the industry.

Our experience with supplying real-time Linux COTS technologies to the military has positioned us well to take our field-proven real-time open source operating system to the next level of time-critical business applications, including video-on-demand, financial services trading and data messaging... and that's just the beginning.

On the VOD side, we're very gratified to have been nominated for an Emmy for our technical contributions to Time Warner's Start Over product. We believe it's further evidence that we're helping to shape the future of television. And our MediaHawk 4500 delivers unprecedented reliability, elevating our VOD server capabilities as well. But don't take our word for it. Ask Time Warner Cable's labs in Charlotte, who are now using our Media Hawk 4500.

I also want to spotlight our Special Systems Group, which integrates our real-time Linux software with commercial hardware and third-party software. This group has seen good growth quarter-to-quarter, particularly for imaging systems used in advanced training and simulation applications.

So, what's next? I think it's a safe bet that we'll see an increased real-time Linux footprint in data centers worldwide. It's an on-demand world, now more than ever. And Concurrent will be there to provide real-time solutions with an eye on maximized value to our customers, as we have for the past 40 years.

Customer Solutions

RedHawk and iHawk selected for new Japanese helicopter simulator

Nagoya Aerospace Systems Works division of **Mitsubishi Heavy Industry (MHI)** has selected Concurrent's COTS-based iHawk™ platform, powered by RedHawk Linux, for the host system in the new SH-60K Patrol Helicopter Team Trainer (PHTT) systems. The SH-60K is being developed for the Japanese Maritime Self-Defense Force.



"Concurrent's open-source Linux computing platform provides the ideal, real-time environment necessary for simulation training for Japan's naval aircraft. Concurrent's customer-driven focus is reflected in their ability to exceed technical requirements under demanding timelines."

*Kiyoshi Fujii
Simulator Design Section Manager
Mitsubishi Heavy Industry*

The PHTT simulators will serve as training platforms for the new SH-60K variant of the Seahawk helicopter, which will be carried on destroyers to carry out versatile missions such as anti-submarine warfare, anti-surface warfare, surveillance, transport and rescue operations. MHI's demanding requirement to capture RGB graphics at extremely high rates led it to choose Concurrent technology,

which offered real-time processing capabilities as well as its open architecture design and reliability in meeting tight deployment schedules.

Concurrent's Real-Time Linux drives testing of electric systems for hybrid autos

Austrian-based **arsenal research** has selected Concurrent's real-time Linux software and NightStar™ development tools for use in its hardware-in-the-loop simulation (HILS) for the automotive industry.



In order to provide the proper environment for modeling and simulation of electric systems for automotive applications, arsenal utilizes different Modelica libraries, taking into account mechanical, electrical and thermal components and systems. (Modelica is a language for modeling, simulation and programming of physical and technical systems and processes.) The testing infrastructure

is complemented by a new, highly dynamic HILS drive test bed, suitable for testing electric drives and powertrains of hybrid electric vehicles.

By swapping out Microsoft's Windows® operating system for Concurrent's real-time software (RedHawk Linux and SUSE Linux Enterprise Real Time), arsenal will provide dramatically improved processing speed.

"Concurrent's real-time Linux systems offer the deterministic response we need. We were looking for a system that will allow us to reach a simulation cycle of at least 500 microseconds, ideally even faster, and Concurrent was able to meet our speed requirements."

Arno Ebner, Project Manager, arsenal research

SUSE Linux Enterprise Real Time to enhance resolution of Siemens' ultra-high-field MRI products

Siemens Medical Solutions, the world leader in MRI technology and applications development, has selected SUSE Linux Enterprise Real Time from Novell and NightStar application development tools to improve processing performance of its ultra-high-field MAGNETOM magnetic resolution imaging (MRI) products.



SUSE Linux Enterprise Real Time adds real-time technology from Concurrent to the flexible and scalable SUSE Linux Enterprise 10 platform.

Siemens selected SUSE Linux Enterprise Real Time because its processor shielding and real-time features are the only way to ensure proper deterministic real-time behavior on SUSE Linux while not having to use a separate real-time API. In addition, Concurrent's NightStar toolset facilitates diagnosing and tuning of the complex software developed by Siemens.

"Higher resolution, ultra-high-field MRI technology is the future of healthcare, enabling safer and clearer pictures of life functions that empower medical professionals to make better-informed decisions on patient care. SUSE Linux Enterprise Real Time and Concurrent's NightStar tools enable Siemens to dramatically expand the processing capabilities of our measurement operating systems, without a costly overhaul of the technology."

*Jürgen Gut
Siemens Medical Solutions*

New iHawk VME platform to debut

Concurrent's popular family of iHawk real-time Linux multiprocessors will soon have a new member – an iHawk VME system based on the Intel® Core™ Duo processor.

The new solution is targeted at applications that require the performance of real-time Linux and the ruggedness of VME packaging.

iHawk for VME will feature 2.0+ GHz Core Duo processors now available in premium mobile platforms. The Core Duo's low-power technology is an excellent fit for VME applications with challenging

cooling requirements. The iHawk VME processor board supports up to 4 GB of memory and includes comprehensive on-board I/O including multiple SATA ports, Gigabit Ethernet, graphics, USB, serial, P/S 2, GPIO, on-board disks and user Flash.

iHawk VME is powered by Concurrent's RedHawk Linux, the same fully-deterministic real-time operating system used extensively in iHawk PCI platform solutions worldwide. RedHawk Linux is fully compatible with the Red Hat Linux distribution. Concurrent's NightStar debugging and analysis tools and FORTRAN 77 and MAXAda 95 compilers will also be available. Multiple iHawk VME processor boards in a single chassis can be network linked via RedHawk Cluster Manager software.

iHawk VME is the ideal solution for the most demanding of simulation, data acquisition and process control applications. A wide range of VME I/O options are offered including D/A, A/D, DIO, MIL-STD-1553, ARINC 429, GPIB and reflective memory. Packaging choices include 12-slot and 21-slot VME chassis with optional expansion. iHawk VME solutions come fully integrated and supported by Concurrent. All selected I/O cards, Linux drivers, peripherals and special packaging are fully integrated and tested in Concurrent's factory.



SUSE Linux Enterprise Real Time brings predictable performance to data centers

SUSE Linux Enterprise Real Time from Novell adds real-time technology from Concurrent to the flexible and scalable SUSE Linux Enterprise 10 platform. As a result, customers are seeing lower costs with predictable performance in time-critical environments. Real-time Linux is a game-changing move that's starting to have real impact in the business world.

Novell.

By eliminating latency spikes (i.e. the period of time between the occurrence of an event and system response), SUSE Linux Enterprise Real Time enables consistent and ultra-dependable performance and stability. That's why the software is already being used in trading floor and market data servers in financial applications, advanced imaging in patient healthcare and enterprise data centers.

For organizations that depend on computing speed and dependability, SUSE Linux Enterprise Real Time provides a competitive advantage where microseconds count. SUSE Linux Enterprise Real Time ensures that user-level applications can respond to external events in less than 30 microseconds. In the financial services industry, making a trade in a fixed amount of time can make the difference.

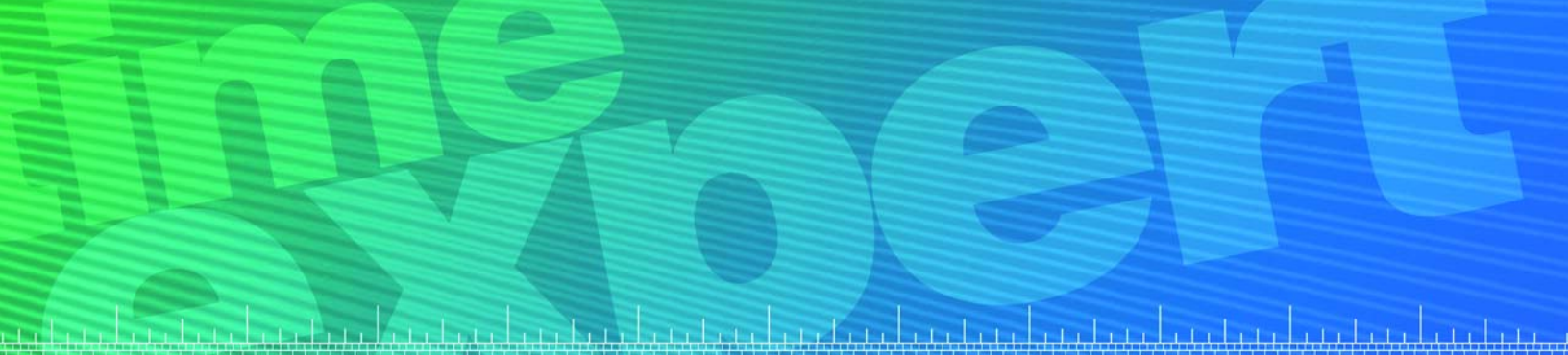
Backed by Novell's vast ecosystem of services and support, an overall real-time solution from Novell is sure to be a winner. Customers can also choose to take advantage of Novell's global, around-the-clock service.



It's no surprise SUSE Linux Enterprise Real Time has set several new performance benchmarks. In tests with Wombat Financial Software, customers were able to achieve aggregate simultaneous publishing rates of 200,000 messages per second from the feed handler, roughly twice the rates generated by any other data feed product in the market today.

Novell's real-time Linux solution will be further strengthened by its offering of Concurrent's popular NightStar tools for advanced, non-intrusive debugging and analysis of applications in real-time. NightStar GUI-based tools reduce test time, increase productivity and lower development costs. Time-critical applications require debugging tools that can handle the complexities of multiple processors and cores, multitask interaction and multithreading. NightStar's advanced features enable system builders to solve difficult problems quickly.

The bottom line? Linux is ready for prime time in the data center – because it's backed by two experts in their respective industries: Novell and Concurrent.

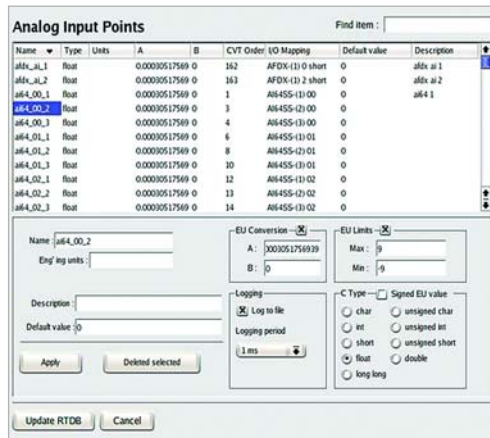


Concurrent's Real Time Data Base empowers simulation

Looking for fingertip control of your complex simulation environment? Need to get fast access to data? Need to easily remap your I/O without changing your Simulink model? Concurrent's Real Time Data Base (RTDB) tool is the answer.

RTDB's powerful GUI allows users to conveniently configure, start, stop and record simulation runs. RTDB also provides fast, memory-resident application access to all parameters and signals needed in your simulation. RTDB's in-memory design maximizes performance and data conversion speed. RTDB holds all the information needed to read, convert, write and store the simulation variables.

For hardware data points, RTDB maintains the information necessary to map points to physical hardware channels. RTDB contains the engineering unit conversions for analog values, override flags, values, alternate values as well as raw unit values. If I/O points need to be reassigned, GUI panels provide convenient, Simulink® independent remapping.



A powerful Data Logger is also available with RTDB. All simulation data points can be logged individually and independently of the Simulink environment. Hardware and engineering values, as well as run-time flags and time stamps, can be recorded. Depending on the performance required, data logging can be run on the simulation host or on a separate networked server.

RTDB provides for configuration and access to individual I/O channels

RTDB is organized as a dictionary where a main index – the hash table – points almost instantly to any individual item within the RTDB. Values can be stored as any C language scalar type such as char, unsigned char, short, int, float, double, etc.

RTDB is fully supported on Concurrent iHawk multiprocessor platforms running RedHawk Linux. Complete, integrated simulation solutions including MATLAB®/Simulink® software from The MathWorks, all required I/O devices and Linux drivers are available directly from Concurrent. Simulation playback support will be available in a future release.

Please visit us at the following exhibits:



January 30–February 1, 2007
SolutionsLinux
Paris, France



February 14-15, 2007
LinuxWorld OpenSolutions Summit
New York, NY, USA



March 18-23, 2007
Novell BrainShare®
Salt Lake City, UT, USA



March 27-29, 2007
Aerospace Testing Expo 2007
Bavaria, Germany



April 24-26, 2007
ITEC
Cologne, Germany

For more event information, go to www.ccur.com/isd_events.asp



To receive this publication, Concurrent news and solution information, please visit: www.ccur.com/subscribe

To request removal from our mailing list, email info@ccur.com

On the road again Concurrent and The MathWorks demonstrate the power of their combined simulation strategies

It's one thing to talk about benefits. Concurrent and The MathWorks are actually showing companies how to save money and time in the development and testing of control systems via Hardware-In-the-Loop/Man-In-the-Loop simulation strategies using Simulink® and RedHawk Linux.



model-based design software from The MathWorks, reduces the development time of vehicle and avionics simulation/control applications. Other benefits include lower development costs and improved quality of software application testing and verification.

A number of key customers have already seen the roadshow, including Northrop Grumman in Redondo Beach, CA; Gulfstream in Savannah, GA; and GE Transportation in Erie, PA. Upcoming demonstrations will include Ford Motor Company and others.

The shows include:

- A technology presentation on how The MathWorks Simulink technology can improve software productivity while delivering the real-time performance needed for avionics applications
- A technology presentation on advantages of real-time Linux as the foundation for HIL and MIL applications
- Demonstration of avionics and vehicle simulation solutions

"We've developed an interface to The MathWorks products with modeling and simulation engineers in mind," said Ken Jackson, Concurrent VP of Special Systems. "The upshot is that users of The MathWorks' modeling suite can now enjoy the advantages of our real-time hardware and software products – best of two worlds."

To schedule a presentation at your location, please email us at info@ccur.com.

Visit www.themathworks.com

The message:
Concurrent's real-time technology, combined with

Real-Time Java modernizes mission critical software

Concurrent has entered into a joint marketing agreement with Aonix®, which provides PERC® real-time solutions for embedded Java developers. This solution will prove to be a win for customers as well as the future of both companies.

Aonix and Concurrent are collaborating to support the growing number of customers in the real-time computing market seeking modernization of their mission-critical software with Java technology. How? By delivering Concurrent/Aonix solutions leveraging the power of Aonix's PERC real-time virtual machine and tools on Concurrent's real-time Linux operating systems including SUSE Linux Enterprise Real Time and RedHawk Linux.

PERC is a widely-used real-time Java Virtual Machine available for Java developers, with installations in telecommunications, telematics, avionics, deep space exploration and office automation.

Visit www.aonix.com



Concurrent expands reseller channel in India

Talk about the right place at the right time! Concurrent has partnered with GT Enterprises (GT), one of the largest technology providers in south Asia, to expand the reach of its real-time Linux solutions, including its iHawk high-performance multiprocessor platforms and lmaGen visual servers powered by RedHawk Linux.

Through GT, Concurrent provides developers in India with the necessary tools to truly harness the processing power of emerging multi-core computing environments.

"The Indian marketplace needs and wants Concurrent's fully integrated, powerful, real-time Linux-based systems and advanced application development tools," said U. M. Taranath, CEO, G.T. Enterprises. "And naturally we are very happy to be able to offer them. These tools are a key addition to our software product offerings."

Visit www.gte-india.com



Real-time middleware for real-time data distribution

Concurrent and real-time middleware company Real-Time Innovations, Inc. (RTI) are working together to provide a boost to the U.S. Navy's Aegis Open Architecture program.

RTI and Concurrent are providing RTI's standards-based Data Distribution Service middleware with Concurrent's RedHawk Linux for Aegis. Aegis Open Architecture is the foundation for the modernization of the Navy's Aegis-equipped cruisers and destroyers.

This is further proof that demanding performance requirements can be met with standards-based, commercial off-the-shelf software. The combination of RedHawk Linux and RTI Data Distribution Service provides the Navy with an open and scalable platform and distributed processing environment for the Aegis Weapon System's real-time and distributed processing requirements. Visit www.rti.com



News To Keep You Current

It's Emmy time, and once again Concurrent is in the running

Concurrent has been nominated for an Emmy. Again.

This nomination – for an Advanced Media Technology Emmy Award – is part of the National Television Academy's Technology and Engineering Awards. Concurrent is one of five co-nominees in the category for "Outstanding Innovation and Achievement in Advanced Media Technology for the Best Use of 'On Demand' Technology Over Private (Closed) Networks."



Specifically, Concurrent was nominated for its contributions to Time Warner's Start Over product. Start Over was launched in Time Warner's Columbia, South Carolina system in October 2005, and allows Time Warner digital subscribers to jump to the beginning of any show they turn to, in progress,

from 60 networks. Five companies in total are listed on the nomination because they all contributed the technologies needed to develop and deploy the product – the first of its type to be deployed with the blessing of the content providers.

In 2004, Concurrent was awarded an Advanced Media Emmy for the development, productization and commercialization of video server technology leading to large-scale VOD implementations.

Video-on-Demand and Linux A match made in Hollywood



We know video-on-demand is a hot product. But how does Linux play into the emergence of VOD? The short answer is it's playing a big role, not a bit part, and its importance will only increase. The robustness and reliability offered by Linux in general – and specifically Linux with high determinism enhancements – provides an outstanding foundation on which to build highly complex applications like VOD. For an interesting take on the Linux-dependent future of VOD, read an online article by Concurrent Linux Systems Product Manager Bruce Crutcher and Tim Dodge, Director of VOD marketing.

You'll find it here:

<http://linux.sys-con.com/read/193364.htm>

Tech Talk – Quad-Core

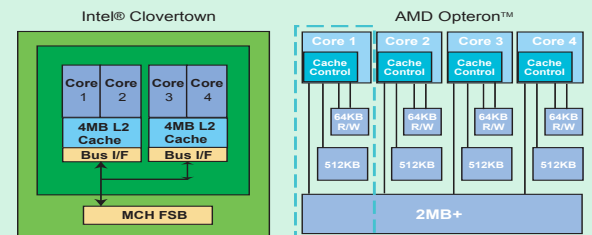
I've seen a lot of press about "quad-core." What exactly is it?



Bruce Crutcher
Linux Systems Product Manager

To understand more about quad-core technology, let's take a quick step back. Standard microprocessors have one complete CPU or core on a physical die (the silicon building block of the processor) complete with cache memory, instruction and execution components, etc.

Quad-core CPUs have four complete CPUs on a single die or at least on one socket (the physical mounting connector of a CPU). Intel's new Clovertown CPU is being widely touted as the first commercially available quad-core CPU – but it is technically two dual-core dies mounted on one socket package. AMD's upcoming product is a true quad-core on one die which offers performance benefits, since all cores communicate with each other without having to go outside the die. Intel's next generation CPU will also be a true quad-core device.



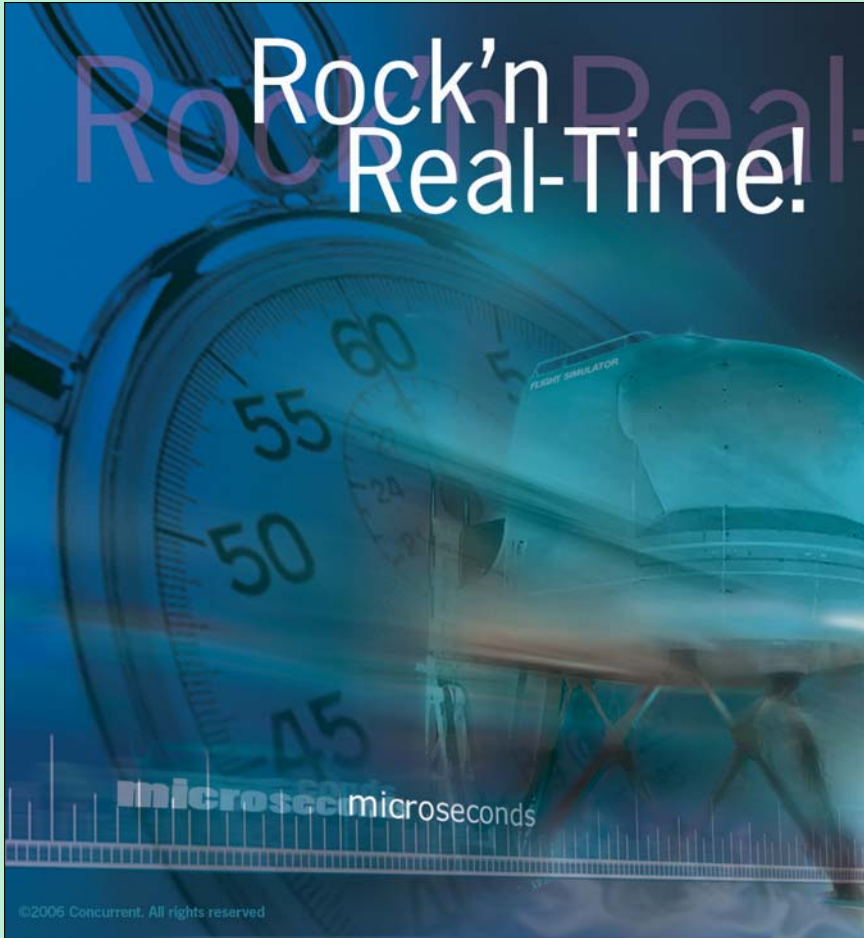
When will this technology be available?

Intel released its desktop and server class quad-core CPUs in November 2006. AMD will release its first quad-core Opteron CPU by the middle of 2007. Intel will follow up with its true quad-core on single die in the same time frame. Concurrent will support quad-core CPUs in its real-time solutions by early 2007.

How does this benefit my business?

These new quad-core CPUs offer much higher total compute horsepower while using much less power and generating less heat than traditional single or dual-core CPUs. An excellent example is that the new Intel quad-core CPUs will only use 80-120 watts of power while not long ago their single-core counterparts easily consumed 130 watts or more per CPU. Four single-core CPUs used more than 4 times the power of a single quad-core CPU! The bottom line is more computing power using less electricity while requiring less cooling translates to lower cost of doing business.

Rock'n Real-Time!



Concurrent delivers accurate, guaranteed response for simulation realism that rocks!

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SUSE® Linux Enterprise Real Time
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Professional Services

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Support

Worldwide & Long Term

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