

News and Information for Real-Time Computing Technology and Business Professionals

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5.1 Now Available!



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ImaGen visual server selected for tank simulator program

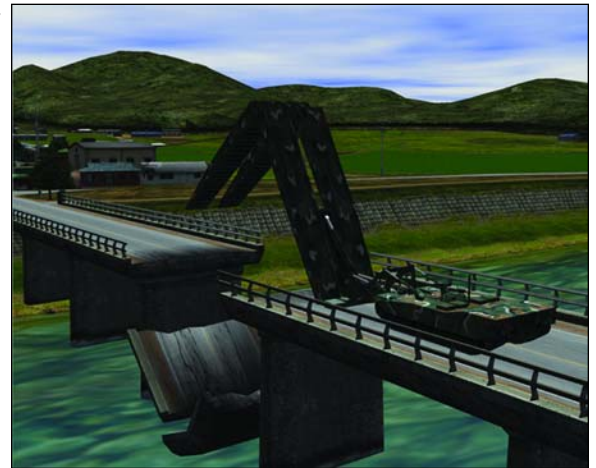
In a win demonstrating performance, value and teamwork, KCEI, Concurrent's value-added reseller in South Korea, will be supplying ImaGen™ visual servers powered by RedHawk™ Linux® for South Korea's newest tank simulator training program.

ImaGen The initial order is for 32 ImaGen visual servers to serve as the image generation engines for the program.

Each tank simulator's ImaGen configuration will include eight channels running Vega Prime™, the award-winning COTS visualization software from Presagis. The Concurrent RedHawk real-time Linux and Vega Prime integrated solution offer a best-of-class high-fidelity, COTS-based PC image generation system.

As main contractor of the KTPS Program, Hyundai Rotem plays a

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Hyundai Rotem K-Series Tank Platoon Simulation

SIMulation Workbench with FlexRay and FIBEX debuts



Concurrent has added FlexRay® support to SIMulation Workbench™, a complete software environment for developing and executing real-time hardware-in-the-loop (HIL) and man-in-the-loop (MIL) simulations. FlexRay is an advanced automotive network standard for deterministic, fault-tolerant, high-speed data communication specified by the FlexRay Consortium.

“ Automotive engineers can now quickly and effectively build COTS-based prototyping systems supporting a wide range of I/O for real-time model simulation in FlexRay networks. ”

Ken Jackson
Vice-President, Special Systems
Concurrent

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Executive Message



Dan Mondor

President and
Chief Executive
Officer

Recently appointed as CEO at Concurrent, I wanted to take this opportunity to share a little about myself, my thoughts about the company and its future.

Although writing or talking from the first-person "I" viewpoint is not my typical writing style, it is appropriate to share a little about my background. Great companies are about "we" – and we are going to accomplish some great things for our customers and investors. But sometimes the "I" viewpoint is unavoidable, like when a new CEO steps up to the plate, so here goes.

I've been in technology in the telecommunications industry for over 28 years. I'm an engineer by trade, with sales and marketing in my DNA as well. I held a number of senior executive positions with Mitel Networks, Inc., Nortel Networks, Inc. and Siemens Corporation. I have been fortunate to have been given the opportunity to build and run substantial global businesses in my career. Which brings me to Concurrent.

There are so many reasons to be excited about Concurrent. First, former CEO Gary Trimm and the entire Concurrent team have built a great foundation for the company. I am pleased to say that Gary will stay with Concurrent supporting me in a consulting role. This company has a long history of innovation, of being able to recognize market needs and delivering on them. I've met Concurrent's employees. Concurrent has winning in its DNA, most importantly putting the customer at the center of everything we do – it's in our corporate culture.

Our Q3 results were very solid across the board. Company-wide revenue increased 10% over the second quarter of fiscal 2008 – and 20% over the third quarter of fiscal 2007. In addition, our Real-Time Business Unit has achieved its goals three quarters in a row. We've broadened our market reach via direct and indirect sales channels which will help provide better sales support worldwide.

And now? Now it's time to take the company to the next level. We will continue to innovate in everything we do, continue communicating consistently and clearly, and continue delivering for our customers, partners and investors – in other words, every stakeholder in the company. Our employees are talented and energized, our products are leading the industry and our innovation capability is nothing short of amazing. The future is bright. Onward and Upward!



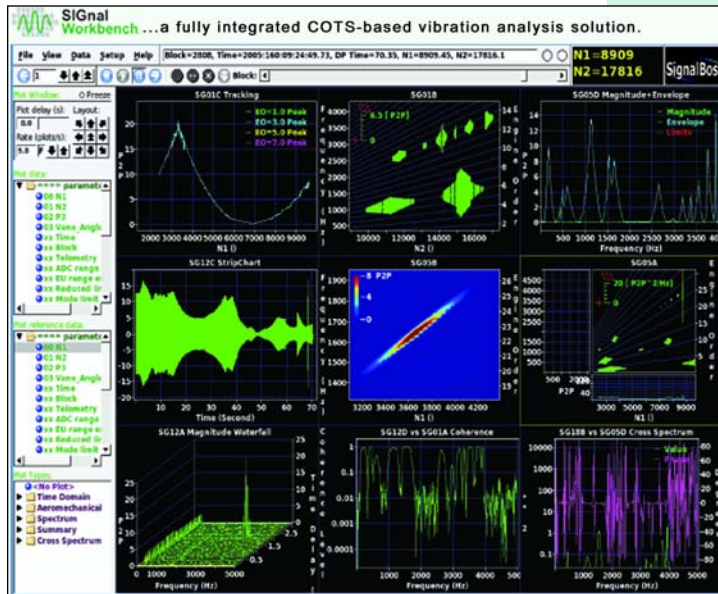
A complete dynamic analysis solution



An ideal vibration test platform for engine, turbomachinery and other applications – that's the essence of SIGnal Workbench™, a high-performance, dynamic data acquisition and monitoring system for rotational machinery, structural and other vibration applications.

SIGnal Workbench provides complete high-cycle fatigue testing, including real-time computing, data acquisition input cards, programmable signal conditioning and powerful graphical test software for data acquisition control, data management, display and post-test analysis.

Specifically aimed at automotive and aerospace engineers who need a fully-integrated, Linux-based dynamic analysis and test environment, SIGnal Workbench reduces the time and costs associated with the vibration analysis and high-cycle fatigue testing process.



Learn more at http://www.ccur.com/products_rt_signalworkbench.aspx

SIMulation Workbench with FlexRay and FIBEX

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Concurrent's initial FlexRay HIL installation is for a major European automotive manufacturer and leading FlexRay implementer. The project included optimization of TZ Mikroelektronik's (TSM) standard Linux driver for its FlexCard PCI board and RedHawk Linux real-time operating system. This HIL simulation configuration contains eight TSM dual A/B FlexRay channels.

Concurrent's implementation allows FlexRay developers to modify I/O without affecting simulation models for added flexibility. FlexRay network and signal configurations can be imported from a FIBEX file to simplify definition of FlexRay-based networks, including their sensors and ECUs. FlexRay offers the networking performance needed by new enhanced automotive applications such as brake-by-wire and steer-by-wire.

The FlexRay Consortium's seven Core Partners include BMW, Bosch, Daimler, Freescale, General Motors, NXP Semiconductors and Volkswagen. Although originating from the automotive industry, other industries are also considering FlexRay for deterministic communication applicability.

Learn more at http://www.ccur.com/products_rt_simulationworkbench.aspx

New software release

RedHawk Linux 5.1 increases real-time functionality, performance

New features in RedHawk Linux 5.1 include:

- Non-uniform memory architecture (NUMA) performance optimization
- 2.6.23 Linux kernel
- Full compatibility with Red Hat® Enterprise Linux 5.1
- Support for the latest Intel® and AMD® quad-core processors and chipsets
- User-level (UIO) device driver support
- The latest NVIDIA® graphics drivers optimized for real-time performance
- New lockless kernel trace feature for enhanced real-time debugging and performance analysis

RedHawk Linux guarantees that user-level applications can respond to an external event in less than 30 microseconds delivering the determinism required for time-critical applications.

Learn more at

http://www.ccur.com/products_rt_redhawklinux.aspx



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

Customer Solutions

SIGnal Workbench solution chosen by premier Japanese jet engine manufacturer



IHI Corporation (IHI), the premier manufacturer of jet engines in Japan, has selected Concurrent's SIGnal Workbench for aircraft engine testing. Concurrent and Experimental Design & Analysis Solutions, Inc. (EDAS) provide IHI the SIGnal Workbench integrated solution to handle multiple-channel FFT and Campbell analysis for vibration test applications.

SIGnal Workbench features:

- **EDAS SignalBoss™ software**, a comprehensive graphical application suite offering quick, easy, step-by-step instruction through the vibration testing process
- **RedHawk Linux RTOS** for fully-deterministic, guaranteed performance
- **iHawk™** real-time computer platform custom-configured
- **One or more 32-channel Sigma-Delta analog input boards** supporting a rate of 200 kilosamples per second per channel, with other simultaneous sampling analog input cards also available
- **Optional four-channel signal conditioning modules** providing programmable transducer interface circuitry



Image courtesy of IHI Corporation

Successful delivery of A320 high lift system test stand

Concurrent teamed with The FTI Group to deliver a hardware-in-the-loop (HIL) test stand for the Airbus® A320® High Lift System. The system will be used to test the aircraft's high-lift control computers, responsible for controlling the trailing-edge flaps that generate increased lift during takeoff and landing.



The system leverages The MathWorks™ user-friendly MATLAB®/Simulink® interface and Concurrent's SIMulation Workbench modeling environment on powerful RedHawk Linux based iHawk™ real-time computer systems.



SIMulation Workbench provides a complete framework to develop and execute real-time hardware-in-the-loop and man-in-the-loop simulations.

Concurrent and The FTI Group have partnered to deliver simulation systems and services within Europe, most notably to Airbus projects in Germany including the Airbus 400M.

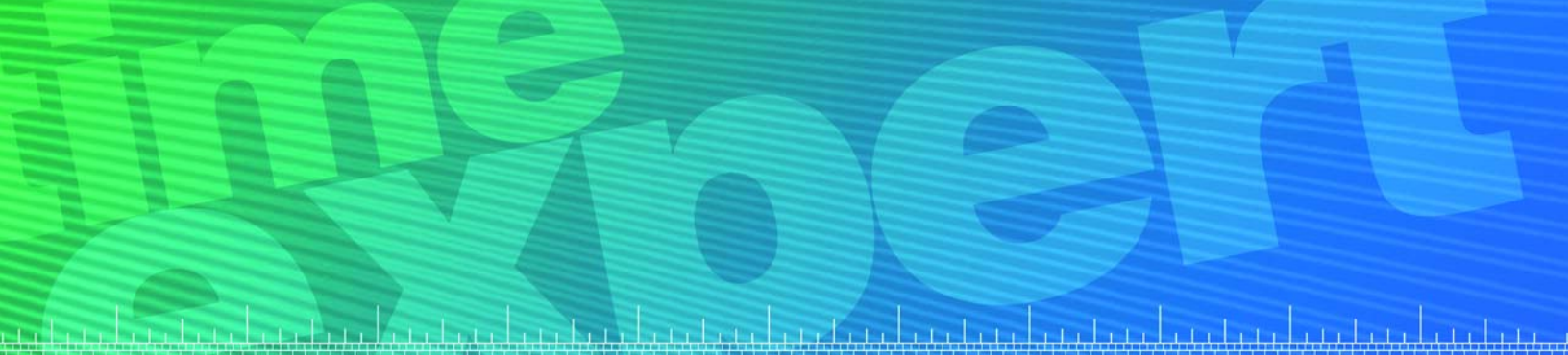
The FTI Group is a member of the AVIATRONICS consortium of three very well-known suppliers in aviation and aerospace industries located in Germany: FuE Future Engineering, FTI Engineering and ExxpertSystems. Visit www.fti-en.com

“ The A320 HLSS test stand system is one of the most advanced test systems deployed today. Engineered to gather and store thousands of I/O points, the seamless integration enabled our team to deliver a seamless HIL system that is easy to use and reconfigurable for multiple tests. ”

**Jochen Venrath
Head Design and Verification
The FTI Group**



Image courtesy of Airbus



Concurrent-Presagis solution selected to upgrade F-16 training systems at Luke AFB

Once again, Concurrent and Presagis are providing a winning solution to Lockheed Martin and Luke Air Force Base.

PRESAGIS Lockheed Martin selected an integrated COTS-based integrated image generation (IG) solution comprised of Presagis' Lyra® 3D software and Concurrent's ImaGen visual server to upgrade two existing training systems for the U.S. Air Force Air Education and Training Command in Arizona. The PC-IG solution offers commercial-off-the-shelf simplicity and value.

The contract calls for replacing existing proprietary hardware and software with COTS products – not a surprise, since this follows the successful installation and acceptance of two new trainer systems at the same facility in 2007.



The latest integrated Presagis/Concurrent solution includes 11 out-the-window (OTW) channels and three sensor channels (night vision goggles (NVG) and infrared (IR)) for each cockpit trainer based on Presagis software solutions. The chosen ImaGen visual server multi-channel configuration is powered by RedHawk real-time Linux.



“ We value our longstanding customer relationship and we're very excited to see our unique strengths in correlated training in all wavelengths including OTW, NVG and IR are being exercised in this cooperative solution with Concurrent. ”

Patrice Commune, President, Presagis

“ Luke's repeated selection of the Presagis/Concurrent IG solution proves, once again, our ability to deliver high-fidelity, high-performance COTS visuals and value for the simulation and training industry. ”

Ken Jackson, VP of Special Systems, Concurrent

Visit www.presagis.com

Concurrent computers drive vital NASA communications system

Concurrent's relationship with NASA goes back to the mid-1980s, when NASA engineers began trying to devise a way to streamline communication channels between flight controllers and astronauts. More recently, Concurrent computers have been driving a mission-critical communication system for the shuttles and the International Space Station – enabling flight controllers and astronauts to talk while on missions, and during training. The system is also used by astronauts to communicate with their families back here on Earth.



Flight directors Steve Stich (left) and Norm Knight monitor data at their consoles in the space shuttle flight control room of Johnson Space Center's Mission Control Center.

NASA implemented its Digital Voice Interconnect System (DVIS) to digitally route calls, saving considerable time and money. Concurrent's contribution involved supplying the real-time OS on Concurrent's Model 3212, first generation 3200. The system was deployed with Concurrent's help circa 1990, and since then it has been central to every shuttle launch, every shuttle training session, and to the continuing operations of the space station. DVIS then upgraded to the 3200-400 platform in 1993. Most recently, the systems were upgraded to the new third generation 3200-2000 platform. All of these upgrades were possible without any change to the customer's application software.

“ The feedback has been very positive. If this system doesn't work, the shuttle doesn't fly. NASA depends on real-time, fault-tolerant systems and Concurrent is there to protect their software investment through our technology insertion. ”

**Lee Brueni
Concurrent Senior Software Designer**



ImaGen selected for tank simulator

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critical role in strengthening the Korean defense posture by developing the K1/K1A1 tank and its family of vehicles. Hyundai Rotem, a worldwide leader in the advanced defense industry, specializes in the design and integration of land weapon systems and in the development of advanced armored systems.

The K-Series Tank Platoon Simulator (KTPS) is the first virtual tactical tank simulation trainer developed under the R&D program of Korea's Defense Acquisition Program Administration.

“ With a need to upgrade from older, more costly image generation technology, we evaluated multiple PC-image generation systems and found Concurrent’s ImaGen to be the best technology and value available on the market. ”



**Hyun Joon Ko, President
KCEI Co. Ltd.**

Visit www.kcei.com

Please visit us at the following events:

May 27 - June 1, 2008 ILA Berlin Air Show Berlin, Germany	
June 10, 2008 Real-Time & Embedded Computer Conference Expo Denver, CO	
June 10-12, 2008 ITEC, Booth #A108 Stockholm, Sweden	
December 1-4, 2008 I/ITSEC 2008, Booth #3501 Orlando, FL, USA	

For more event information, go to
www.ccur.com/company_events.aspx

Concurrent expands PC-IG visual rendering software product line

With the recent signing of a worldwide reseller agreement with Diamond Visionics, Concurrent now directly offers GenesisIG visualization software to customers worldwide.

Better yet, the software fully integrates with our ImaGen PC-IG systems powered by RedHawk real-time Linux, enhancing real-world deterministic response and affordability.

The combination of GenesisIG running on the ImaGen visual server has been – and will remain – a winning system on the world simulation market. Leveraging the latest in video card technology, GenesisIG visualization software creates a virtual world at run-time directly from source data. It automatically synthesizes textures for areas where imagery is not available, eliminating the need for off-line modeling of terrain.



As part of this offering, a software use license includes worldwide geo-specific elevation data, vector data and geo-typical terrain surface data (based on land use classification). Also included are two geo-specific areas, with Diamond Visionics imagery. Terrain detail is distributed automatically to ensure consistent frame rates.

Visit www.diamondvisionics.com



News To Keep You Current

New Concurrent website: Fast, intuitive and very attractive

What's blue and white and read all over? Right, Concurrent's new website. Launched in March, the site features stunning Flash graphics that succinctly show the company's robust product offerings. But more important, the site makes everything easier for users. Content is only a click or two away, and everything is logical and well organized in a package that manages to be, at the same time, friendly and thorough. We invite you to visit our new website, www.ccur.com!

“ It's easier for users to find what they need when they need it. That means we are responding to customer needs faster. Service inquiries, product questions or even



technical sales questions – now it all happens faster and more logically. ”

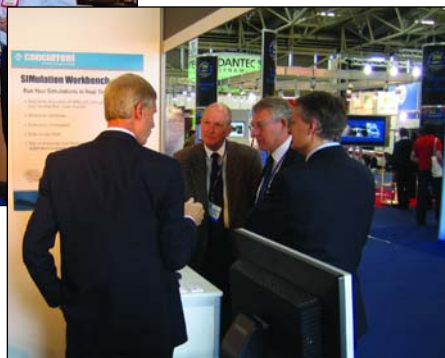
**Gary Beerman
Director of Worldwide
Real-Time Marketing**

Exhibits

The Concurrent team is on the road around the globe presenting our solutions for real-time applications. We hope to visit with you soon in person!



The Concurrent team at The 2007 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)



Engaged at AEROSPACE TESTING EXPO EUROPE 2008 in Munich, Germany



Tech Talk



Embedded Linux

Is RedHawk Linux an embedded operating system?

*Vince Hauber
Sr. Product Manager*

Let's first define "embedded." In the broad sense of the term, any device or appliance that contains a controlling computer can be considered to be an embedded application. We typically think of embedded apps as small, such as a cell phone or iPod, but there is really no size limit. A copy machine, jet aircraft and an office building are examples of embedded apps. A desktop PC or a server in a financial data center is not an embedded computer, because it is not tasked with controlling an appliance.

Although RedHawk has historically been targeted at large real-time multiprocessing applications, it currently serves many embedded solutions. Examples of RedHawk embedded apps are the U.S. Navy's Aegis Weapons System, an MRI machine from Siemens Medical Systems and the Subaru Telescope on Mauna Kea in Hawaii.

Will RedHawk support small form factors and non-x86 platforms?

A major RedHawk Linux enhancement in our roadmap is support for PowerPC/Freescale and low power Intel processors, both popular embedded processor architectures. Other features include reduced RedHawk memory footprint to address smaller hardware platforms, tools for remote debugging and target Flashing, and Eclipse IDE support.

What is RedHawk's major value-add in embedded applications?

RedHawk's major real-time value continues to be in multi-core applications where processor shielding can achieve guaranteed interrupt response. This RedHawk value-add will become increasingly beneficial to the industry as embedded projects use more and more multi-core CPUs. RedHawk will be an ideal embedded operating system in small to large real-time applications – any application that runs using AC power.



Something to shout about...

RedHawk™ Linux® Version 5.1

- NUMA real-time performance
- 2.6.23 Linux Kernel
- Red Hat® Enterprise 5.1 compatibility
- Latest AMD® and Intel® chipsets
- Improved kernel tracing
- Optimized NVIDIA® graphics drivers
and more...

Now available!



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